

## NATIONAL CONFERENCE ON FIRE PREVENTION

For more than a decade the loss of property in the United States due to fires has been steadily mounting year by year. During this period an average of 10,000 persons have been burned to death or have died of burns annually. In the first nine months of this year fire losses reached the total of nearly half a billion dollars, with the prospect that final reports for 1946 will show this year to have been the most disastrous in our history with respect to fire losses.

Additional millions must be added to the nation's bill because of forest fires which, in 1945, accounted for the destruction of more than 26 million dollars worth of timber, a precious national resource. Also must be added the enormous sums spent in fighting and controlling fires.

This terrible destruction of lives and property could have been almost entirely averted if proper precautions had been taken in time. Destructive fires are due to carelessness or to ignorance of the proper methods of prevention. These techniques have been tested, but they must be much more intensively applied in every State and local community in the country.

The President has, therefore, decide to call a National Conference on Fire Prevention, to be held in Washington within the next few months, to bring the ever-present danger from fire home to all our people, and to devise additional methods to intensify the work of fire prevention in every town and city in the Nation.

He has appointed Major General Philip B. Fleming, Administrator of the Federal Works Agency and of the Office of Temporary Controls, to serve as general chairman of the conference. General Fleming, who served in a similar capacity during the President's Conference on Highway Safety last May, already is at work on preliminary arrangements for the meeting, to which will be invited State and local officials who have legal responsibilities in the matter of fire prevention and control, and representatives of non-official organizations working in this field.

The new impetus given to the prevention of traffic fatalities by the Highway Safety Conference already has resulted in saving several thousand lives, and the benefits will continue to be felt as the techniques adopted by the conference are increasingly applied. The President is encouraged to hope, therefore, that a similar attack on fire losses will yield corresponding benefits.

Indeed, that the taking of proper precautions can stem this staggering drain on our resources is well illustrated in our experience with the Nation's forests. Although the acreage of our unprotected forest lands amounts to only 25% of the acreage of our protected forests, the losses of the former in 1945 exceeded those of the protected tracts by more than 20%.

The President said: "I can think of no more fitting memorial to those who died needlessly this year in the LaSalle Hotel fire in Chicago, the appalling disaster at the Wincoff Hotel in Atlanta, and the more recent New York tenement holocaust than that we should dedicate ourselves anew to ceaseless war upon the fire menace."



# ***PROGRAM***

## **THE PRESIDENT'S CONFERENCE ON FIRE PREVENTION**

Washington, D.C.  
May 6, 7, and 8th, 1947

*Departmental Auditorium on Constitution Avenue  
Between 12<sup>th</sup> and 14<sup>th</sup> Sts. NW.*

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry Truman*

# Conference Organization

## GENERAL CHAIRMAN

Maj. Gen. PHILIP B. FLEMING, *Administrator, Federal Works Agency*

## EXECUTIVE DIRECTOR

A. BRUCE BIELASKI, *Assistant General Manager, National Board of Fire Underwriters*

## COORDINATING COMMITTEE

### CHAIRMAN

W. E. REYNOLDS, *Commissioner of Public Buildings*

O. J. Arnold, *President, Northwestern National Life Insurance Co.*  
Frank Bane, *Executive Director, Council of State Governments.*  
Paul Betters, *Executive Secretary, United States Conference of Mayors.*  
Ernest B. Brown, *President, Ernest W. Brown, Inc.*  
Frank A. Christensen, *President, National Board of Fire Underwriters.*  
J. H. Craig, *Chairman, Fire Marshals' Section, National Fire Protection Association.*  
Dr. Ned H. Dearborn, *President, National Safety Council.*  
Charles A. Delaney, *President, International Association of Fire Chiefs.*  
Robert E. Dineen, *President, National Association of Insurance Commissioners.*  
Jas. R. Edmunds, Jr., *President, American Institute of Architects.*  
Wallace J. Falvey, *Chairman, Advisory Committee, National Conservation Bureau.*  
Hovey T. Freeman, *President, Manufacturers Mutual Fire Insurance Co.*  
A. V. Gruhn, *General Manager, American Mutual Alliance.*  
W. K. Jackson, *President, Chamber of Commerce of the United States.*  
Leroy A. Lincoln, *President, Metropolitan Life Insurance Co.*  
W. E. Mallalieu, *General Manager, National Board of Fire Underwriters.*  
Earl D. Mallery, *Executive Director, The American Municipal Association.*  
James H. Mooney, *President, Building Officials' Conference of America.*  
James H. Park, *President, Pacific Coast Building Officials Conference.*  
Curtis W. Pierce, *President, National Fire Protection Association.*  
George J. Richardson, *Secretary and Treasure, International Association of Fire Fighters.*  
Mrs. Pearl Wanamaker, *President, National Education Association.*  
Guy T. Warfield, Jr., *President, National Association of Insurance Agents.*  
Frank M. Whiston, *President, National Association of Building Owners and Managers.*

## *Objectives*

The OBJECTIVES of the Conference are to emphasize to the public the ever-present danger of fire to human life and material resources and to intensify the work of fire safety in every community. Essential to the accomplishment of such objectives are:

1. Universal acceptance by the highest officials of the United States and municipalities of their direct responsibility for fire safety. The acceptance of the same principle by Federal executives charged with the responsibility for Federal properties is requisite.
2. Public support from all possible sources behind such officials in accomplishing the enactment and enforcement of adequate laws and ordinances for fire prevention and fire protection.

## *Program – Tuesday May 6, 1947*

### **MORNING**

- 9:00 A.M. Registration. Departmental Auditorium Lobby.
- 10:00 A.M. Music. U.S. Marine Corps Band, Maj. William F. Santelmann, USMC, *Leader*.
- 10:30 A.M. Call to Order. Maj. Gen. Philip B. Fleming, *General Chairman*.  
Invocation. The Rt. Rev. Monsignor John J. Russell, *Pastor*,  
*St. Patrick's Church, Washington, D.C.*
- 11:00 A.M. The President of the United States.  
Introduction of Committee Chairmen.  
Roll Call of States.
- 12:00 NOON Recess.

### **AFTERNOON**

- 2:00 P.M. Committee Meetings. [See page 6.]

## *Program – Wednesday May 7, 1947*

### **MORNING**

- 9:45 A.M. Music. U.S. Navy Band, Lt. Comdr. Charles Brendler, *Leader*.
- 10:00 A.M. Call to Order. Maj. Gen. Philip B. Fleming, *General Chairman*.  
Invocation. Rev. Fredrick Brown Harris, *Pastor, Foundry*,  
*Methodist Episcopal Church, Washington, D.C.*  
Addresses.  
Arch N. Booth, *Manager, Chamber of Commerce of the United States*.  
Hon. Robert E. Dineen, *President, National Association of*  
*Insurance Commissioners*
- 10:30 A.M. The Attorney General of the United States.  
Dr. Frank W. Cyr, *Professor of Education, Teachers College*,  
*Columbia University*  
Dr. E. B. Norton, *Deputy Commissioner, United States Office of Education*.

11:00 A.M. Report. Committee on Fire Prevention Education. Dr. H. C. Byrd, *Chairman*.  
Discussion.  
Addresses.  
Sherman K. Ives, *The National Grange*.  
Percy Bugbee, *General Manager, National Fire Protection Association*.  
James R. Edmunds, Jr., *President, The American Institute of Architects*.

11:45 A.M. Report. Committee on Building Construction, Operation and Protection.  
Albert C. Fuller, *Chairman*.  
Discussion.

12:30 P.M. Recess.

## AFTERNOON

2:00 P.M. Addresses.  
Charles A. Delaney, *President, International association of Fire Chiefs*.  
George J. Richardson, *Secretary and Treasurer, International Association of Firefighters*.  
Maj. Gen. Harold R. Bull, USA, *Office of the Secretary of War, War Department*.  
Lyle F. Watts, *Chief, Forest Services, United States Department of Agriculture*.

2:45 P.M. Report. Committee on the Firefighting Services. Maj. Gen. William J. Donovan, *Chairman*.  
Discussion.  
Addresses.  
James T. Nicholson, *Executive Vice Chairman, The American Red Cross*.  
William E. Mallalieu, *General Manager, The National Board of Fire Underwriters*.  
O. J. Arnold, *President, American Life Convention*.

3:30 P.M. Report. Committee on Research. Woodward H. Brenton, *Chairman*.

## *Program – Thursday May 8, 1947*

### MORNING

9:45 A.M. Music. U.S. Army Band, Captain Hugh J. Curry, U. S. A., *Leader*.

- 10:00 A.M. Call to Order. Maj. Gen. Philip B. Fleming, *General Chairman*.  
Invocation. Rabbi Norman Gerstenfeld, *Minister of the Washington Hebrew Congregation, Washington, D.C.*  
Addresses.  
J. H. Craig, *Chairman, Fire Marshals' Section, National Fire Protection Association*.  
Herman C. Wilson, *President, National Institute of Municipal Law Officers*.  
Hon. George Neuner, *Attorney General, State of Oregon, representing the National Association of Attorneys General*.
- 10:30 A.M. Report. Committee on Laws and Law Enforcement. Hon. John C. Cox, *Chairman*.  
Discussion.  
Addresses.  
Mrs. Oswald Bates Lord, *National Chairman, Civilian Advisory Committee of Women's Army Corps*.
- 11:15 A.M. Report. Committee on Organized Public Support. W. Walter Williams, *Chairman*.  
Discussion.
- 11:45 A.M. Presentation of Action Program. W. E. Reynolds, *Chairman, Coordinating Committee*.  
Addresses.  
Hon. George W. Welsh, *President, United States Conference of Mayors*.  
Hon. Clarence W. Meadows, *Governor of the State of West Virginia, Representing the Council of State Governments*.  
The National Anthem.  
Adjournment.

# *Committee Meetings*

## ***BUILDING CONSTRUCTION, OPERATION AND PROTECTION***

**Chairman:** Albert C. Fuller, *President, Fuller Brush Co., Hartford, Conn.*

**Secretary:** George N. Thompson, *National Bureau of Standards, Washington, D.C.*

**Meeting Place:** *Room 43, Natural History Building, Constitution Avenue at Tenth Street NW.*

## ***FIREFIGHTING SERVICES***

**Chairman:** Maj. Gen. William J. Donovan, *Donovan, Leisure, Newton and Irvine, New York, N.Y.*

**Secretary:** Horatio Bond, *National Fire Protection Assoc., Boston, Mass.*

**Meeting Place:** *National Archives Building, Auditorium, Pennsylvania Avenue and Seventh Street NW.*

## ***FIRE PREVENTION EDUCATION***

**Chairman:** Dr. Harry C. Byrd, *President, University of Maryland, College Park, Md.*

**Secretary:** Dr. J. J. Ahern, *Illinois Institute of Technology, Chicago, Ill.*

**Meeting Place:** *Room N, U. S. Chamber of Commerce Building, 1615 H Street NW.*

## ***LAWS AND LAW ENFORCEMENT***

**Chairman:** Hon. John C. Knox, *U.S. District Judge, Second District of New York.*

**Vice Chairman:** Hon. Louis Johnson, *Attorney at Law, Washington, D.C.*

**Secretary:** Charles S. Rhyne, *National Institute of Municipal Law Officers, Washington, D.C.*

**Meeting Place:** *Room A, Departmental Auditorium, Constitution Avenue between Twelfth and Fourteenth Streets, NW.*

## ***ORGANIZED PUBLIC SUPPORT***

**Chairman:** W. Walter Williams, *President, Continental, Inc., Seattle, Wash.*

**Secretary:** George G. Traver, *National Board of Fire Underwriters, New York, N.Y.*

**Meeting Place:** *Room B, Departmental Auditorium, Constitution Avenue between Twelfth and Fourteenth Streets, NW.*

## ***RESEARCH***

**Chairman:** Woodward H. Brenton, *President, Brenton Bros. Inc., Des Moines, Iowa.*

**Secretary:** Alvah Small, *President, Underwriters Laboratories, Inc., Chicago, Ill.*

**Meeting Place:** *Room F, U.S. Chamber of Commerce Building, 1615 H Street NW.*

# *Information*

**ALL SESSIONS** of the Conference will be held in the Departmental Auditorium on Constitution Avenue between Twelfth and Fourteenth Street NW.

**COMMITTEE MEETINGS**, open to all who are registered for the Conference, will be held on the afternoon of May 6, at locations shown on page 6.

**COMMITTEE REPORTS** will be available at the registration desks and at the respective Committee meeting rooms.

**TELEPHONE** facilities are available in the main lobby of the Departmental Auditorium.

**LUNCHEON.** The Departmental Auditorium Cafeteria, in the basement (stairway from the lobby), is open from 1:00 to 2:00 p.m. to persons attending the Conference.

All persons attending meetings will be subject to the rules and regulations of the Public Buildings Administration pertaining to fire protection and maintenance of order, and they will be required to comply with all instructions given by the guard force. [Exit diagram on the reverse of this page.]

## **SMOKING IS PROHIBITED IN THE AUDITORIUM**

### **CONFERENCE STAFF**

A. BRUCE BIELASKI  
*Executive Director*

LEWIS A. VINCENT  
*Assistant Executive Director.*

William J. Chattin  
*Technical Assistant*

John L. Werheim  
*Technical Assistant*

Douglas H. Timmerman  
*Conference Arrangements*

John B. West  
*Technical Assistant*  
Russell R. McGuire  
*Publicity*

Hester M. Bell  
*Secretary*

### **STAFF CONSULTANTS**

A. C. Hutson  
R. E. Wilson

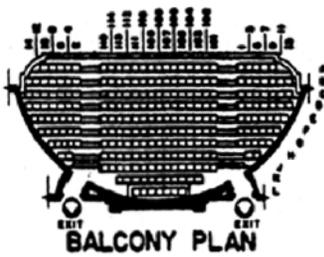
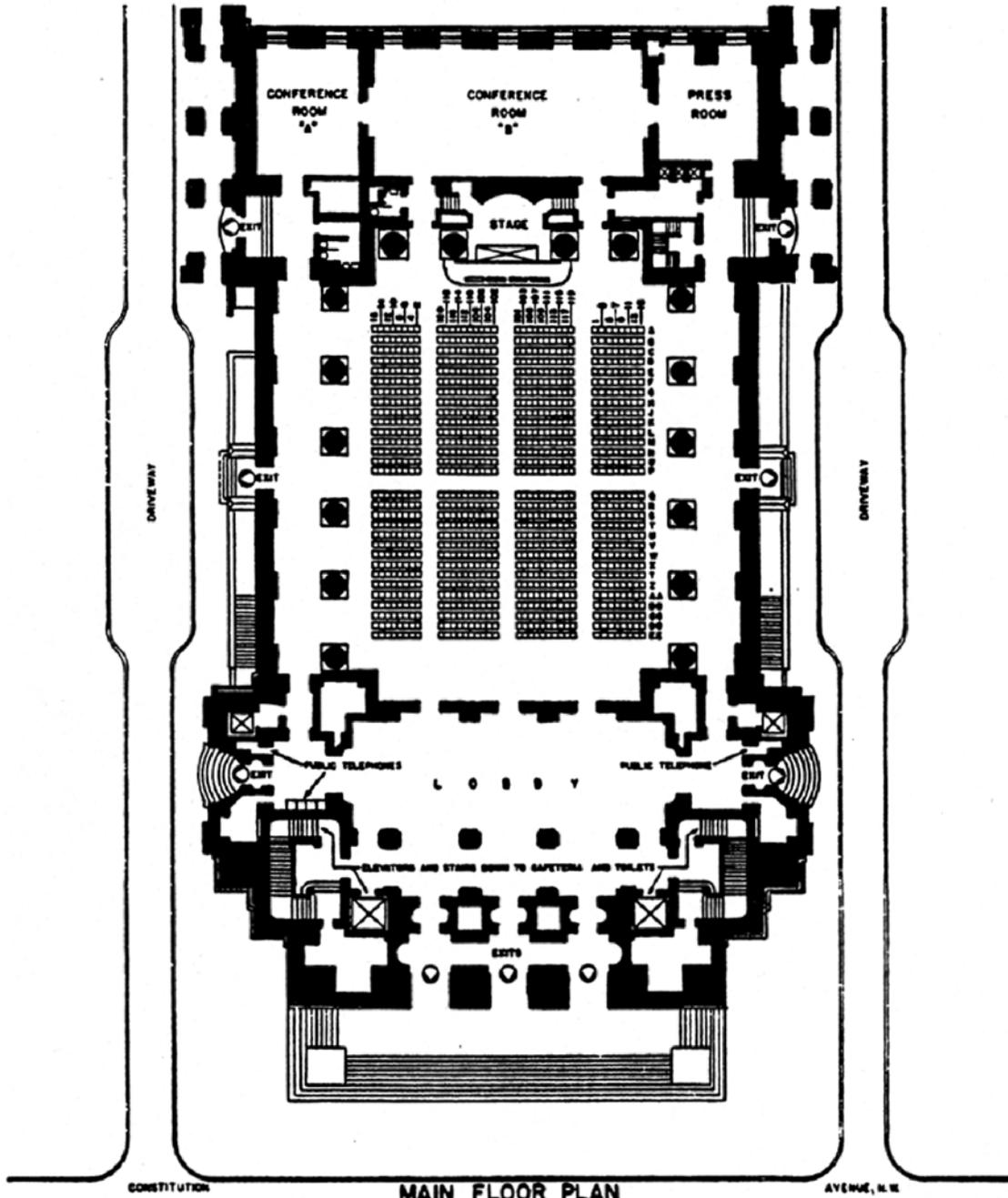
F. C. McAuliffe

R. E. Truman  
R. E. Verner

# EXIT DIAGRAM

## DEPARTMENTAL AUDITORIUM

Constitution Avenue Between 12<sup>th</sup> and 14<sup>th</sup> Streets N.W., Washington, D.C.



# Proceedings

The President's Conference on

## FIRE PREVENTION



May 6-8, 1947



Departmental Auditorium

Washington, D.C.

**THE WHITE HOUSE  
WASHINGTON**

JANUARY 3, 1947.

DEAR GENERAL:

The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.

Accordingly, I am calling a national conference on fire prevention to be held in Washington within the next few months to bring the ever-present danger from fire to the attention of all our people and to devise additional methods to intensify the work of fire prevention in every community in the Nation.

I would like to have you, as Administrator of the Federal Works Agency, head up this conference and I suggest, as a first step in the program, that you call into consultation in the near future appropriate representatives of the interested involved, both private and public, with a view to laying the ground work and preparing the agenda for the conference.

Very sincerely yours,

A handwritten signature in black ink, appearing to read "Harry Truman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Major General Philip B. Fleming,  
Administrator,  
Federal Works Agency,  
Washington 25, D.C.





*“It is the clear responsibility of every State and local official, and every citizen, to aggressively support this national war against the growing menace of fire.”*

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# Tuesday Morning Session

*May 6, 1947*

THE President's Conference on Fire Prevention convened at 10:30 o'clock at the Departmental Auditorium, Washington, D.C., Maj. Gen. Philip B. Fleming, General Chairman, presiding.

**Chairman Fleming.** Will the meeting please come to order?

I shall ask the Right Reverend Monsignor John J. Russell, Pastor of St. Patrick's Church of Washington, to offer the invocation. Monsignor Russell!

**Rt. Rev. Monsignor John J. Russell.** O Lord God, our Creator, Who gave to mankind the element of fire to afford light and heat on the earth, give us the grace to use this precious gift with care and caution, lest it wreak destruction and cause misery, suffering, and death. Let us remember that this element is spoken of in sacred Scriptures both as a symbol of Thy holiness and justice and also as a symbol of Thy wrath.

O heavenly Father, from Whom comes every good and perfect gift, let us use all Thy gifts according to Thy will so that Thy justice will not require that we suffer from Thy wrath. We beg Thy divine blessing on all who are here gathered on the call of our Chief Executive to consider ways and means to prevent suffering and loss from fire. We beg Thy divine wisdom to direct their deliberations, that their plans and purposes prove fruitful and beneficial to all the people of our nation.

Grant that we who humbly call upon Thy aid may so live as to have a claim upon Thy fatherly care and understanding mercy. Let our claim upon Thy mercy be the fact that we try to live as Thy creatures, observant of Thy laws, obedient to Thy commands, submissive to Thy will.

We ask Thy blessing upon this first session and those that are to follow. In the name of our divine Saviour, Jesus Christ, our Lord. Amen

**Chairman Fleming.** Thank you, Monsignor Russell.

We benighted citizens of the Nation's Capital, as you doubtless know, like convicted criminals, lunatics, and imbeciles elsewhere, are denied the right to vote. Our city ordinances are enacted by a city council up on the Hill, which is elected by everybody in the United States but ourselves and governed, very efficiently, I might say, by a Board of Commissioners appointed by the President and confirmed by the Senate.

So, while we have no mayor, we have something just as good in the person of the President of that Board, and I dare say that if, like the rest of you, we could actually vote, the gentleman would be overwhelmingly elected to head the District Government by those of us who are



**MAJ. GEN. PHILIP B. FLEMING**  
General Chairman of the Conference

neither crooks, idiots, or imbeciles. It is not any person we object to, but the principle of the thing.

I have the honor to present the Honorable John Russell Young. [*Applause.*]

**Hon. John Russell Young.** The way General Fleming worded his introduction sounded like he was opening a political convention here instead of opening a fire conference.

General Fleming and distinguished guests, and ladies and gentlemen, as the President of the Board of District Commissioners, it gives me real honor and pleasure to welcome you to the Capital city. The stated objectives of your Conference are to emphasize to the public the ever-present danger of fire to human life and material resources and to intensify the work of fire safety in every community. To these I subscribe most heartily, and I wish your Conference every success.

We in your Nation's Capital share with the President of the United States his deep concern over the fact that America's fire losses are increasing. The death toll is mounting steadily, and according to fire experts, if losses follow the same trend as they did after World War I, the destruction will reach, I am informed, at least \$1,000,000,000 a year by 1953.

I might say that we in Washington have spent considerable time amending our fire laws regarding office and public buildings and theaters, and they have not yet been promulgated. They have been studied by citizens' committees, representative citizens' organizations, and real estate authorities, as well as our experts in fire safety, the police and fire departments.

For the 12-month period, April 1, 1946, to March 31, 1947, the District of Columbia had a reduction in fire loss of 35.9 percent over the previous 12 months, whereas the country as a whole had approximately a 40 percent increase over the same period. We are very proud of those figures; not only do we feel proud of our own fire department, but we cannot take all the credit, because I really believe that the early fathers of this National Capital had vision enough to give us wide streets and sprinkled around enough reservations throughout the city to give what we call fire breaks and to keep down the size of the buildings. So we think that the physical layout of the city has had a great deal to do with our good luck and good fortune regarding fire losses.

This Conference which our President has called is the first organized national effort to combat the great scourge of fire. We, in Washington, took particular pains to improve conditions following the Boston fire and the recent Atlanta fire, as I imagine all other cities have done. We hope that the lesson learned in those tragedies will serve us well.

Your delegates are experts in their fields. Their experience and background will enable the Conference to proceed with the highest degree of accuracy, and its decisions and recommendations will be forged in the minds of your trained experts. I know that I speak not only for the District of Columbia but for every section of the Nation when I say that it is the fervent prayer of every American citizen that the results of your deliberations and the final

answer of your Conference will prove beneficial to our nation in protecting the lives and property of its citizens from the devastation of fire.

Ladies and gentlemen, again, on behalf of the Commissioners of the District of Columbia, I wish you success in your vital undertaking and assure you cooperation and hospitality during your stay in Washington.

So, Mr. Chairman, ladies and gentlemen, it has been a pleasure to have addressed you and welcomed you to our city. [*Applause.*]

**Chairman Fleming.** Thank you, Commissioner Young.

The President will be here to speak to us at 11 o'clock. I will ask you to remain seated until then, and I think maybe the Marine Band will give us a little entertainment while we are waiting.

*{The Marine Band played an interlude of selection}*

**Chairman Fleming.** Ladies and gentlemen, the President of the United States! [*Applause.*]

*{The President entered and was photographed}*

**The PRESIDENT.** It is a pleasure for me to have the privilege to come over here and discuss with you this morning some things in which I am intensely interested.

The Nation has been shocked by a long series of spectacular fires in the last few years – particularly in the last few months – which have resulted in such great loss of life and such widespread misery. Just the other day, the Texas City disaster drove home anew the lesson that we must find ways and means to combat the ever-present danger of fire and explosion. The great hotel fires of last year again showed that we cannot afford to entrust our citizens' lives to unsafe buildings.

But these fires which make the headlines are only a small fraction of the total. Thousands of lives are lost annually and tens of thousands of people are injured in the many less spectacular fires which occur hour after hour, day after day, throughout the year.

This Conference brings together for the first time the highest officials of municipalities, States, the Federal Government and national groups interested in fire prevention and in saving lives from fires. We are approaching the fire problem on a truly national basis.

Our first concern is for the lives of our people, especially those of young people. Fire strikes hardest at youth. Two thousand children, on the average, die every year from burns, and thousands of others are scarred and injured for life. This toll must be reduced.

Next in importance is the fact that we as a nation cannot continue to ignore the staggering destruction of goods, natural resources, buildings and other property by fire. During the last 12

months fires destroyed more than \$560,000,000 worth of our wealth. The loss for 1947 will be more than three-fourth of a billion dollars unless we can reduce the present fire rate.

No dollar value can ever be put on the irreplaceable things which fire destroys. Who can account the value of a human life destroyed by fire? Who can say what a fire costs when it destroys thousands of tons of food sorely needed here and abroad? What is the value of a house, the burning of which makes a family homeless during this housing shortage? Who can put a dollar value on a burning forest?

The fire loss, in lives and in property, which occurs annually in our forests and rural areas makes up a highly important part of the annual toll. Such destruction of our precious natural resources is of concern to each of us.

Who can say what fire costs the Nation when a single fire in one factory can result in lost jobs and lost wages for hundreds of workmen, reduced savings, and reduced volume of trade throughout a community?

These are some of the tragic consequences of more than 830,000 fires that occur annually in the United States. It is for this Conference to determine the causes of this destruction and map out a program of preventive action. We must use all our experience, knowledge, and organizational facilities to solve our fire problems.

Great advance has been made in the technical methods of prevention and protection. The concerted effort of all our people is needed in order to make effective the known methods of preventing fires and preventing large losses where fire occurs.

A contributing factor to our fire death toll is our legacy of old construction. Also, we have a complexity of building laws and codes in some communities, and too few in others. In many communities, these laws are outdated, and the responsibility for safety from fire is not clearly defined.

We have wide areas in the Nation with inadequate fire protection. Our forests need to be safeguarded against the thousands of fires - most of them set by human carelessness - that sweep over millions of acres annually. Our rural areas must have improved and better coordinated protection.

We also have entered upon a new era of scientific and industrial development, with the accompanying special hazards of new chemicals and industrial processes. Many of these hazards are not yet widely understood. For the protection of our industrial plants, we must see that fire prevention keeps pace with scientific research.

The recent war showed us that we had grave shortages of experienced firefighters both in our armed forces and in our civilian life. The question of using some of the training methods developed during the war and the National Guard facilities for the training of firemen is certainly to be considered if we are to provide our cities and our armed forces with the skilled firemen we need.

I want to pay a tribute to our firemen. Were it not for their bravery and their willingness to sacrifice, our death toll would be much higher and our losses even more appalling than they are today. I hope that this conference will help to produce conditions that will make our firemen's dangerous work less necessary, and their services, when needed, of even greater effectiveness.

There is also to be considered the matter of personal responsibility for fires. This is not a new problem, for it is recorded in the Book of Exodus more than 3,000 years ago:

*"If a fire break out and catch in thorns so the stacks of corn, or the standing corn, or the field, be consumed therewith, he that kindled the fire shall surely make restitution."*

The conference might well consider the strengthening of the present laws having to do with negligence.

These are but a few of the problems that face us. I know that you will try to find practical solutions that will save lives and resources.

Safety from fire should not be a topic for discussion during only one or two weeks of the year. It is definitely a year-round public responsibility. I believe that the highest State and municipal officials must assume greater responsibility for leadership in this field. We in the Federal government can give aid within the framework of existing agencies. But the impetus must come from the States and from every community and every individual in the land.

Your public officials at home are going to need the expert help which you in attendance at this Conference can give them. And you must provide part of the leadership in your own communities for any public support to be given to your local officials and fire departments.

Just a year ago, I called a similar national conference to consider the shocking toll of highway traffic accidents and to work out an effective program to meet that problem. General Fleming was also Chairman of that Conference. Since then we have seen a reduction in deaths and injuries from traffic accidents that has more than justified all our efforts. We can fight the fire problem in exactly the same way.

I deeply appreciate your acceptance of my invitation to come here. In working out a plan which will reduce the fire menace and cut down the toll of death and destruction, you will be making a most valuable contribution to the welfare of our Nation. You may have my pledge of help, during the period of this Conference, and in the days to come.

I would like to call your attention further to just a few things in which you should be vitally interested. We have an appalling situation in this country, brought about by negligence and carelessness for the most part. There are 23 million people in this country who have been physically injured in some manner, either in automobile wrecks, in fires, in the home, or in other places, and most of these people were unnecessarily injured.

Now, we are trying to start at the source to see if we can't cut down the immense toll which negligence and accidents take from the citizens of this country. Imagine 23 million people with eyes out, arms off, legs off. It is terrible. We are rehabilitating our soldiers who were injured in

the war. We are teaching those without legs how to walk, and we have legs invented that are almost equal to the natural article. Nothing is ever equal to that, but these are almost. They have artificial arms for those men.

But the 23 million are the cares of the local communities. They are the cares of their families. You can help prevent that, you can help cure that awful situation. As the result of the conference on automobile accidents last year, we estimate we have saved 6,000 lives in this past year. It was well worth the effort, but it still isn't enough. [*Applause.*]

I sincerely hope that you will earnestly go to work on this other phase, this unnecessary loss of life by fire, and will make a contribution at least equal to the one that was made by the effort to stop automobile accidents. Lots of these things are absolutely unnecessary, in fact most of them are. Most of them are due to carelessness. Most of them are due to the fact that people are ignorant of what to do in an emergency. Let's teach them. Let's cure this situation.

With this organization, and with the one we have been working with on the automobile situation, and with others which we intend to call in, I think we can cut that 23 million down, instead of increasing it. I want to see all of these people rehabilitated and given their places back in society. We can do that too, and that is partly up to you.

I am immensely interested in the health and welfare of the people of this country, and you will find that this all fits in a pattern which is covered in the health message which I sent to the Congress last year, and which fits in with these meetings to prevent accidents which we have been having. I appreciate very much, more than I can tell you, your interest and your help in trying to get this awful situation cured. Thank you very much. [*Applause.*]

*{The President left the room.}*

**Chairman Fleming.** Ladies and gentlemen, that was a very inspiring message from our President. I am sure you will all take it to heart.

On Thursday of this week it will have been exactly a year since there assembled in this auditorium some 2,000 men and women representing every State in the Union, who had been called together by the President of the United States. That gathering was not quite as handsome as this one, but I am sure it was no less zealous. It was an assembly called to devise ways and means to cut down the enormous loss of life in traffic accidents, which at that time was rising sharply.

The most tragic year in the history of motoring was 1941, when the death toll exceeded 37,500. During the war, largely because of gasoline rationing, traffic fatalities declined, but just as soon as gasoline rationing was terminated with the surrender of Japan, the death curve started up again. By the end of 1945 people were being killed at such a rate that it was apparent that the toll of 1941 would be exceeded in 1946 unless heroic steps were taken in time.



**W. E. REYNOLDS**  
Chairman of the Coordinating Committee

The President was appalled. He realized that there was very little the Federal Government could do to check the loss of life except, perhaps, to provide some needed leadership. The problem, though it has its national aspects, was a local one. The people were being killed in the cities and towns and on the rural roads, and it was obvious that the remedy, if any were possible, would have to be applied in the local communities.

So the President called a Nationwide conference, bringing together the best minds in the highway safety field, to meet just at this time of year at the start of the touring season, when the danger would be greatest.

In advance of the Conference, committees were appointed to consider specific aspects of the problem. For example, there was the problem of the licensing of automobile drivers. These regulations were most diverse, varying from State to State, so that a man denied a license to drive in one State as totally unfit usually had no trouble getting a license in some other State.

There was the problem of traffic laws and regulations, which also were most diverse. Some of them has been adopted back in the horse-and-buggy days and never revised to meet the necessities of an automotive age.

There was also the problem of traffic law enforcement, the problem of education for safety in the schools, the problem of engineering. Many of our highways developed from old Indian trails and will have to be rebuilt to make them capable of moving today's vastly greater volume of traffic at requisite speeds and do it in safety.

The various committees brought in their recommendations, which were considered by the conference and adopted with some minor modifications. The recommendations were then consolidated into an action program, which each of the delegates took home with a resolution to apply it in his own State and in his home community.

Within a month the effects of the program were beginning to be felt. As one community after another mobilized its police forces, its courts, its schools, its lawmakers, its civic groups, the traffic death toll began to go down all over the country, and when the year ended, six thousand men, women, and children, who would have perished if the fatality rate of the early months had persisted, were still alive. We will do even better this year, as more and more communities put the action program into effect.

But while we were making these very respectable gains with respect to traffic fatalities, deaths by fire, unquestionably the most horrible of all deaths, continued unabated. Last year more than 10,000 persons were killed by fire in the United States, to say nothing of a property loss of more than half a billion dollars. The alarming thing is that these losses have been increasing year by year for more than a decade.

The other evening in a radio broadcast I tried to lift those figures from the realm of cold statistics and drape them with their moving significance. I pointed out that the lives lost by fire in 1946 were 20 times as many as were snuffed out in the Texas City disaster, which stunned the Nation less than a month ago. Statistically, the 1946 fire toll was equivalent to the destruction of such a

city as Jamestown, N.Y., and the loss of every man, woman, and child in it, or as great as though an atomic bomb had wiped out a city the size of Shelbyville, Ind.

Or take that \$560,000,000 property loss. That is a lot of money. It is enough to build for 56,000 of our war veterans and their families a \$10,000 home apiece.

Incidentally, while we worry about the housing shortage, we stand complacently aside while tens of thousands of existing homes go up in smoke every year. It is a sum that would go far toward equalizing educational opportunities for all the children of America. If equally apportioned, it would be enough to give every teacher in the country a \$500 raise. It would pay the entire bill for our assistance to Greece and Turkey, with enough left over to feed 1,000,000 hungry people for 2 years. In the first few months this year the loss has been running above even the record-breaking destruction that occurred in the early months of last year.

The results of his Highway Safety Conference were such as to encourage the President to believe that a similar attack on the fire menace would yield corresponding benefits, and he called this Conference into being.

In the attack upon traffic accidents we found that there are three "E's" that seem to hold the keys to success. They are Education, Enforcement, and Engineering: Education of the motorists and the pedestrians to a point where each will accept the full consequences of his actions; Enforcement of existing traffic rules and regulations without fear or favor; better Engineering of our motor vehicles and of our highways.

We shall, I think, find the three "E's" of Education, Enforcement, and Engineering pointing the way to success in the fire prevention field also: Education of the people and especially of the children with respect to the best methods of fire prevention and control, better Enforcement of fire-safety rules and regulations, and better Engineering of our buildings.

In the latter connection we are going to have to review our existing building codes. The only purpose that any building code can serve is to safeguard the public health and safety. Yet existing codes are most diverse, varying among the States from the unnecessarily rigid to the criminally lax. Most of the codes are at least a quarter of a century old, and few have been revised to take account of new materials and construction techniques.

I have no doubt that the Winecoff Hotel in Atlanta conformed to the code requirements at the time it was built. But the procession moved on, and the Winecoff did not.

We have learned a great deal in the last twenty-five years about fire prevention, and all over the country we face the problem of bringing thousands of older buildings – hotels, hospitals, theaters, apartments and rooming houses – up to the standards of safety we now know to be essential if we are not to have more and more Winecoff disasters as time goes on.

The President has given us our instruction, and we know the nature and importance of the job ahead of us. We have assembled here from all parts of the country, and although many of us

came as strangers to one another, I am sure that we shall leave here on Thursday as fast friends, linked together in a great humanitarian undertaking.

I wish time permitted me to introduce every one of you to the Conference individually. Since that is manifestly impossible, I am going to do the next best thing; I am going to call the names of the States in alphabetical order, and when the name of your State is called, will you please stand up so that we can get a good look at you and express our appreciation for your presence?

*{Chairman Fleming called the roll of the States.}*

**Chairman Fleming.** You will observe that in planning the present Conference we have followed rather closely the same pattern that was used for the President's Conference on Highway Safety last year. Just as the traffic problem naturally divided itself into separate, but still related, phases of education, engineering, law enforcement, and so on, the fire prevention problem also called for expert study in the fields of law enforcement, building construction, firefighting services, education, research, and organized public support. The various committees that have jurisdiction over these matters have long been at work, and it is our hope that before the Conference ends they will have completed their deliberations and will be ready to report their recommendations to us.

Up here on the platform you see a few of us who happen to be identified with the Federal Government in one way or another, but I hope you will not be misled on that account into thinking that this is a United States Government Conference. In reality it is your Conference, the people's Conference, and we are here only to be of such assistance as we can in your deliberation.

If fire could be prevented by presidential fiat or by an act of Congress, that would have been done long ago. They can only be prevented by coordinated effort of all the people acting through the various agencies of State and local governments. We realize, therefore, that any program we adopt here will be of little avail unless the people of the country take it to heart and apply it in their own communities. When we have done our work, we shall have to turn to our legislators, city councilmen, mayors, police and fire chiefs, and civic leaders to carry on from there.

We are using about the same pattern for this Conference as we did for last year's, because we have found it convenient and expeditious and also, I think, because the problem of preventing automobile accidents and the problem of preventing fires have much in common. Both fire and traffic accidents are due in the first analysis either to human carelessness or to ignorance of the means by which they may be prevented; both involve the matter of effective legislation and intensive law enforcement; both must be combated by education, and neither can be eliminated without broad public support.

The chairmen of our committee are the real mainsprings of the Conference; it is they who make it tick.

The Committee on Laws and Law Enforcement has been exploring the question of State laws that will provide minimum standards for fire safety and which will facilitate the adoption of

municipal ordinances to augment such minimum standards. The legality of so-called retroactive features of laws and ordinances pertaining to fire safety has also been carefully considered. In other words, how can we require the owner of a building, which conformed to the building code in existence at the time it was erected, make such alterations as are necessary to meet the higher code requirements of today.

The chairman of this important committee is a native of Pennsylvania, who was graduated from Waynesburg College in 1902, studied law at the University of Pennsylvania and Columbia University. He served as assistant United States District Attorney for the Southern District of New York from 1913 to 1918 and has been Judge of the United States District Court of the Southern District of New York since 1918.

He is widely known in the legal profession as a writer and lecturer on legal ethics and medical jurisprudence, and is the author of; "A Judge Comes of Age" and "Order in the Court." The Honorable John Clark Cox. [*Applause.*]

*{Judge Knox stood and acknowledged the introduction.}*

**Chairman Fleming.** When I was a boy, I was taught, both at home and in school, that it can be very dangerous to play with fire, and I think that in a great many schools today some instructions is still given in fire prevention with more or less regularity. I do not know how widespread such instructions is or how effective it is. It would seem that if it were as effective over the last 25 or 30 years as it ought to have been, we would not today be witnessing the roasting to a crisp of some 10,000 of our fellow citizens every year.

In any event, the exploration of the facilities in our schools in our schools and colleges for teaching fire prevention is the province of your Committee on Fire Prevention Education.

The chairman of the Committee is a native Free Stater, a graduate of the University of Maryland, an outstanding athlete, and a football coach of considerable attainments, as I discovered when I was at West Point. He has been a professor of history, holds honorary degrees from Washington College, Dickinson College, and Western Maryland College. He is a member of various learned societies, too numerous to mention, and of various fraternities. Since 1936 he has been president of the University of Maryland.

Dr. Harry Clifton Byrd. [*Applause.*]

Appropriately enough, the chairman of the Committee on the Firefighting Services is a fighter himself from 'way back. A native of Buffalo, a lawyer by profession, once United States District Attorney for the Western District of New York, candidate for Governor of New York in 1932, former Assistant Attorney General of the United States, Chief of Staff of the Twenty-seventh Division in the First World War, he holds the Congressional Medal of Honor for valorous conduct in action, the Distinguished Service Medal, the Decoration of the Legion of Honor, and the Croix de Guerre with palm and silver star. In the Second World War he served as Director of the Office of Strategic Services, whose contribution to victory is one of the most amazing and stirring chapters in our military annals.

Maj. Gen. William Joseph Donovan, unfortunately cannot be here this morning. He was here yesterday but was called unexpectedly to Rochester, but will be back later this afternoon and certainly will be here for tomorrow's sessions. [*Applause.*]

Research has an important part to play in any attack upon the fire menace. We need research not only into the fire-resistant qualities of various materials and into the safest possible construction techniques, but we also need research into the problem of why human beings behave as they so often do when a fire breaks out. We are all familiar with the story of the absent-minded professor who, when his house caught fire, threw his wife into the wastepaper basket and saved a bottle of ink instead.

We shall never know how many people dashed themselves to death on the pavement below because of the sudden wave of hysteria that swept through the Winecoff Hotel with even greater speed than the flames themselves, but we know of a number who owe their lives to the fact that they kept their heads and used the precautions dictated by ordinary common sense.

The chairman of our Committee on Research is an outstanding banker, and if this fire prevention problem has been researched with as much cautious care as bankers use in researching your resources when you go to apply for a loan, we may be sure that the job has been thoroughly done. The fact that he comes from my own native State of Iowa is not the least of his recommendations.

Born at Dallas Center, Iowa, he is a graduate of Iowa State College; former president of Iowa-Des Moines National Bank & Trust Co.; at present president of Brenton Brothers, Inc.; a director of eight Iowa banks; president, treasurer, and director of Wood Brothers Thresher Co.; and trustee of Grinnell College.

Mr. Woodward Harold Brenton. [*Applause.*]

Our Committee on Building Construction, Operation and Protection was assigned a task with which we in the Federal Works Agency have had some experience. Our Public Building Administration has constructed and it maintains and operates thousands of buildings for the United States Government, so I think we can claim to be the world's biggest landlord.

I might say in passing that we have not had a really destructive fire in any of our Government buildings within my recollection, nor has a single life been lost due to fire for many years. We profess to be good housekeepers. We do not clutter up our basements with waste paper, and we do not leave oil-soaked rags lying around in the furnace room. But while we very modestly think we are pretty good, we know that we shall pick up some useful ideas from the Committee on Building Operation, Construction, and Protection.

The chairman of the Committee is known to all of us by name, and our wives and daughters have made the pleasant acquaintance of his representatives at our front doors from time to time, and it has been a mutually profitable acquaintanceship, I understand.



**A. BRUCE BIELASKI**  
Executive Director of the Conference

He was born in Kings County, Nova Scotia, and has been a citizen of the United States since 1918. He established the Fuller Brush Co. at Somerville, Mass., in 1906 and is now its president and chairman of the board. He is a director of the National Better Business Bureau, a member of the board of trustees of the Committee on Economic Development, and a member of the American Society of Sales Executives.

Mr. Alfred Carl Fuller. [*Applause.*]

I have already emphasized the importance of public support for our activities. I believe it is true to say that any success we may attain in cutting down the national fire loss will be due to the kind of support we get from the press, the radio, from civic groups, and other representatives of the public. A poor plan of fire prevention might succeed if it were given adequate public support; even a perfect plan will fail if the public is not solidly behind it.

The Chairman of our Committee on Organized public Support is Mr. W. Walter Williams. He is en route to Washington and will arrive tomorrow morning. He regrets, as I am sure we all do, that he was not able to be here for this opening session. Mr. Williams is known throughout the West as "the first citizen of the State of Washington."

He is a graduate of the University of Washington and is president of Continental, Inc., of Seattle. That is probably important, but it is rather in the field of public service that he has won outstanding distinction.

Mr. Williams is a member of the board of trustees of the Committee on Economic Development, has been president of the Seattle Chamber of Commerce and of the Rotary Club, was chairman of the Washington State Defense Council, headed the Washington State Branch of the National Foundation for Infantile Paralysis, was president of the Washington State War Fund Organization, and is a past president of the Mortgage Bankers Association of America.

Now, Mr. Bielaski, I believe you have a couple of announcements to make.

{*Announcements.*}

**Chairman Fleming.** Thank you, Mr. Bielaski.

The Conference stands adjourned, then, until 10 o'clock tomorrow morning in this room.

{*The Conference adjourned at 11:45 A.M.*}

# Wednesday Morning Session

*May 7, 1947*

THE Conference reconvened at 10:05 A.M., Chairman Fleming presiding.

**Chairman Fleming.** The Conference will please come to order. I will ask the Reverend Fredrick Brown Harris, pastor of the Foundry Methodist Episcopal Church of Washington, to lead us in prayer.

**The Reverend Fredrick Brown Harris.** Our Father, God, Who hath made and preserved us a Nation, our fathers trusted in Thee and were not confounded; in Thee we trust. Thou hast taught us to love truth and beauty and goodness. May Thy truth make us free, free from littleness and pettiness and from pride and prejudice and from all the ugly sins of disposition. Lift us, we pray Thee, above the modern storm of material things into the holiness of Thy beauty so that even the common task and the trifling round may be edged with crimson and gold. Lead us in the paths of righteousness for Thy name's sake.

Enrich us, we pray Thee, with those durable satisfactions of life so that the multiplying years may not find us bankrupt in those things that matter most, the golden currency of faith and hope and love. And in these crucial and creative days help us, we pray Thee, to give the best that is in us against the wrong that needs resistance and for the rights that need assistance and for the future in the distance and the good that we may do. In Thy name we ask it. Amen.

**Chairman Fleming.** Thank you, Dr. Harris.

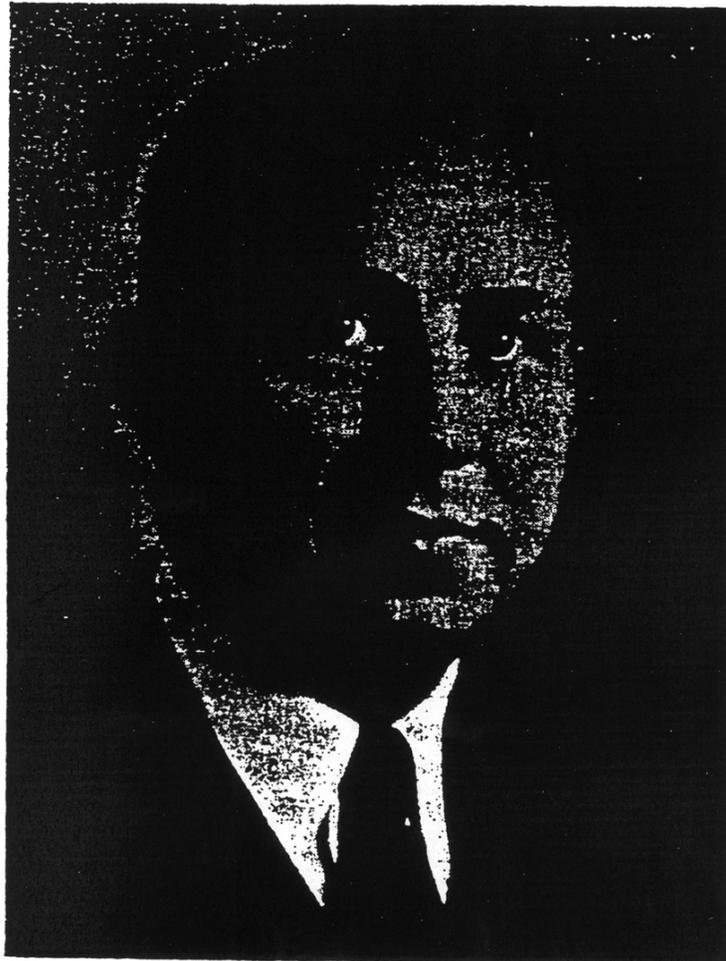
We have a rather crowded program this morning, and there are a good many gentlemen who have much to contribute to our deliberations and from whom we wish to hear. I shall ask, therefore, that our speakers limit themselves to about 10 minutes. I am sure that will be easy for them, for they are all busy men, who are accustomed to make their words count.

I believe there is a kind of truism, among the clergy anyway, that few souls are saved after the first fifteen minutes of exhortation. There is an old story about Mark Twain, who for the first 5 minutes of a sermon was so powerfully moved that he decided to put a \$5 bill on the collection plate. After the first 15 minutes he began to feel that perhaps a \$1 contribution would be sufficient. After 20 minutes he had cut down the size of his offering to a half dollar, and when the minister had spoken 45 minutes and the collection plate came around, instead of putting in his half dollar, Mark took out a dime. [*Laughter.*]

We are not going to pass any collection plate here, but we will appreciate brevity.

The Chamber of Commerce of the United States has a vital interest in fire prevention. Fire is one of the greatest potential enemies of any business enterprise. I am told that more than 50 percent of any business concerns that suffer a fire loss of \$1,000 or more are entirely out of

business in a year. Man-hour loss because of a fire is a terrific drain upon production, and in these days we very badly need production.



**W. WALTER WILLIAMS**  
**Chairman of the Executive Committee**

I have the honor to introduce Mr. Arch N. Booth, manager of the Chamber of Commerce of the United States. Mr. Booth is a native of Wichita, Kans., and has been active in the Chamber of Commerce work for 17 years.

Mr. Booth. [*Applause.*]

**Mr. Arch N. Booth.** General Fleming, ladies and gentlemen, what can we say this morning to rededicate ourselves to this important responsibility and to stimulate ourselves to greater vigilance and better efforts in every community in America.

Perhaps I could win your interest and come to the crux of the subject with a picture. The "Picture of the Week" in last week's Life Magazine dramatizes the wretched story of human carelessness and of preventable fires. It was a picture of what was left of the luxurious French liner, *Normandie*. Standing at the foot of West Forty-sixth Street in New York – one of the largest and most palatial ships ever built flounders in the mud of the North River. The wreckage has stood there since that grievous day 5 years ago when this great ship became the victim of one man's careless disregard for elementary fire hazards.

Today the *Normandie*'s insides are bared as wreckers hack her to pieces for scrap. A life span of almost inestimable value was brought to a quick and tragic end by a man with a blowtorch. A \$55,000,000 loss is represented in this great hulk – a loss made inestimably more costly because it deprived this Nation of troop transportation facilities throughout the war, and because of the countless hundreds of thousands of man hours of labor diverted from critical war jobs, wasted, trying to salvage and rehabilitate her. All caused by the astounding carelessness of one man using an acetylene torch in the presence of inflammables after he had temporarily discarded an asbestos protective curtain.

The story of the *Normandie* is a tragedy compounded out of sheer human perversity. It portrays graphically the problem that we have met to reduce.

Man's early discovery that fire generated by a lightning bolt could be used for human comfort started the human race on its way to civilized living. Man soon discovered, too, that fire has its destructive as well as its constructive uses. We are here today to talk about means to checkmate this modern Moloch which devours our people and devastates our property.

For more than 25 years the Chamber of Commerce of the United States has taken an active part in promoting fire prevention in the cities, towns, and countryside of America. Our meeting today had its predecessor 25 years ago. The forerunner of this conference which you are here attending was the decision of the National Conference of Governors at that time to enlist the support of local business leaders in a Nationwide fire prevention effort.

Do you remember the situation at war time? Many of you in this audience will recall that following the close of World War I, fire losses throughout the country were mounting rapidly. The rise was quite comparable to that which has taken place in the last several years, and by 1922 it had passed the \$500,000,000 mark. The governors of the various States, the Mayors, the State Fire Marshals, the Fire Chiefs, and other State and City Officials were alarmed. What could be done about it?

The Conference of Governors studied preventive measures, but in all their plans two basic weaknesses stood out. First, was the rapid turnover in the official life of public officials. Second, was the difficulty of obtaining general public support for the needed far-reaching measures, such as the amendments to building codes, the financing on increased firefighting facilities, the extension of fire prevention education, and other similar projects.

After careful study and consideration of what could be done, the Governors' Conference asked the President of the United States Chamber of Commerce to call a meeting of all national

organizations which had a direct interest in fire prevention work and were willing to join with businessmen in implementing a program. The national chamber was asked to try to persuade every local chamber of commerce to set up a permanent fire prevention committee to carry out a year-around campaign to reduce fire losses.

So a new organization was set up. Thirty-six national organizations joined with the national chamber in forming the National Fire Waste Council.

The national chamber does not endeavor to originate technical knowledge or to establish standards of fire safety. Those functions are supplied by its cooperating organizations which are joined with it the National Fire Waste Council. The chamber's job is an organizing, stimulating job to put this vast store of technical information into use.

The businessmen's organization in each community is the local chamber of commerce. In the local chambers throughout the country the businessmen concentrate their interest in the broad projects for the good of the community. Fire prevention is an important one of these. More than 2,100 local chambers of commerce are banded together in the Chamber of Commerce of the United States. It was to these local chambers, therefore, that the national chamber turned in 1922 to put into effect plans started by the Governors' Conference.

Twenty-five years is a long time in a rapidly growing country. Let's see what's happened during that time: First of all, the population of the United States grew from 109,000,000 to 142,656,000.

Secondly, the number of cities having more than 50,000 population grew from 144 to well over 200.

Third, the cities having more than 100,000 population grew from 68 to well over 100.

The Census figures for 1947 are not available. During that period the number of local chambers in the local membership of the United States Chamber more than doubled. This is only a bird's eye view of what has happened but it illustrates how the problem of fire prevention has grown as the country has grown.

Fire prevention is not a theoretical idea. On the contrary, it is intensely practical. The experience of community after community demonstrates that the application of certain well-established techniques will sharply reduce the number and severity of fires.

The cooperation of municipal authorities, particularly fire department officials, is, of course, a prime requisite. But in my experience that has been the easiest part of the job. There are good public officials and bad ones in this country. The good ones are cooperative, responsible, dependable, and easy to work with because of their deep sense of public responsibility. There have been some woefully bad examples of the handling of public responsibilities with respect to the preventing of fires. There is only one way to handle public officials who are faithless to their trust; namely – get rid of them, and rapidly.

More than 1,300 of these local chambers of commerce have fire prevention committees and are carrying out year-around fire prevention programs. As a further stimulant, as well as to encourage and reward meritorious effort on the part of the local chamber committees, the National Fire Waste Council conducts an Annual Inter-chamber Fire Waste Contest.

Only last week at the annual meeting of the United States Chamber, awards were made to the winners in last year's contest. The winners were Chicago, Cincinnati; Tulsa, Okla.; Newton, Mass.; Mansfield, Ohio; and Beatrice, Nebr. The grand award for the best all-year-around local fire prevention program put on by any city was won by Mansfield, Ohio.

I would like to point out that Mansfield, Ohio, reduced its fire losses from \$4 for each resident to about 80 cents per capita. This reduction was made by businessmen and city officials working together in the chamber of commerce.

The improvement of building codes and their administration is one fire prevention field in which the national chamber has been active. The control of building construction to protect the public safety is traditionally a local function. It is amazing how many different paths have been followed by municipal officials in attempting to reach a common goal. A building code is a complex instrument, and the amount of time and expense involved in revising it has a distinct tendency to discourage its frequent modernization. Efforts to promote greater uniformity and flexibility among building codes have been carried on for many years. Progress has been made, but much still remains to be done.

Last November the national chamber was host to a meeting of the Construction Industry Advisory Council made up of over 100 national trade and professional organizations with a direct interest in construction. The discussion at the meeting disclosed that any attempt to evolve a single model code applicable and acceptable to all parts of the country is difficult.

Nevertheless, we believe that the effort to bring about more uniformity will get results, and the national chamber now has a continuing committee working along these lines.

I have given you something of the background, objectives, and methods of operation of the national chamber's fire prevention activities. After 25 years in this work the results in individual cities, where a conscientious effort has been put forth, have been most encouraging. It proves to us quite conclusively that where public interest is aroused and where a definite program is carried out under competent leadership and backed up by broad public support, the number of fires can be reduced.

We in the Chamber of Commerce of the United States are heartened by the interest which the President of the United States has shown in this critical national problem. We were glad to see him call this national conference with its committees to review again our standards of fire protection and fire prevention and the machinery through which they are being made effective. It is my understanding that this conference is not to create any new organization or to try to bring the existing ones under control of the Federal Government, but rather to assist them to get better results.

The national chamber and the National Fire Waste Council will continue, in fact will give renewed impetus to their efforts in this direction. I want to assure you of our deep interest and our very sympathetic cooperation. Fires, like certain diseases that plague the human race, can never be entirely prevented. But that does not mean that we are to accept them with complacency. We must fight them as Churchill said England would fight the dictator enemies – wherever they appear and as long as they persist. Thanks you. [*Applause.*]

**Chairman Fleming.** That you, Mr. Booth.

**Chairman Fleming.** Yesterday, when I was calling the roll, I neglected to call our neighbor from the North. We have a delegation here from Canada headed by Mr. Claremont, who is the Fire Commissioner of the Dominion of Canada. I am going to ask, if they are here, if they will please arise. [*Applause.*]

*{The delegation from Canada stood.}*

**Chairman Fleming.** A wise man takes out insurance on his home or business, but only a foolish man would boast that such a policy alone had completely protected him against fire. There is no sure protection against fire, except to see that fire does not start in the first place. For most of us fire prevention is something that we only occasionally think about, but I am sure it must be uppermost in the minds of our State Insurance Commissioners at all times.

I have the honor to present the Honorable Robert E. Dineen, president of the National Association of Insurance Commissioners. Mr. Dineen. [*Applause.*]

**Hon. Robert E. Dineen.** General Fleming and ladies and gentlemen, as the representative at this Conference of the National Association of Insurance Commissioners, I should like to tell you something about the interest which the members of our association have in fire prevention.

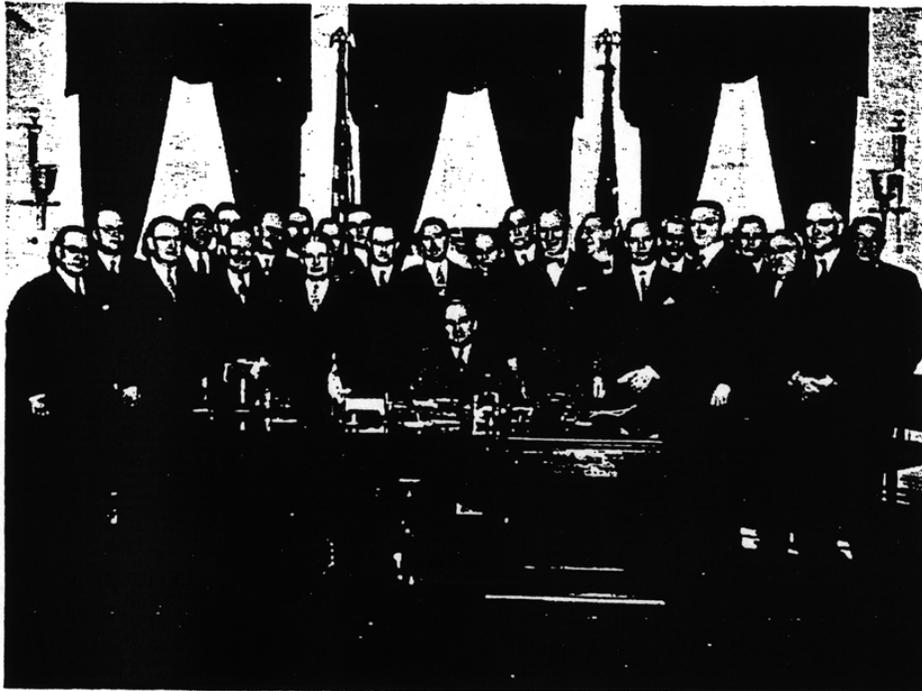
In our official contacts with the public the after effects of fire are brought to our notice in compelling ways. The loss of life and human suffering which are so often present make demands upon our life, accident, and workmen's compensation insurance companies. We are made aware of the further loss which the public sustains by fire directly through the waste of its wealth and indirectly through loss of services which the destroyed property has rendered to the community.

In our official capacity as supervisors of insurance in our respective States many of us are required by statute to pass upon the rates charged for fire insurance. We do so, of course, as the representative of the public, and we must measure fire insurance rates against standards established by law. The standards of the individual States are essentially the same in intent but vary in form.

In my own State of New York the rates may not be inadequate, excessive, unfairly discriminatory, or otherwise unreasonable. This responsibility makes us, as administrators, keenly aware of the steadily increasing loss from fire which must be spread over all policyholders. I wonder whether policyholders are equally aware that every loss by fire

inevitably is reflected in the rate structure, increased by the expense required to transact the fire insurance business.

The most graphic description of insurance is that it spreads the losses of the few among the many. Fire insurance companies are not equipped, as so many think, with magical power to absorb the losses of others. Common sense tells us that they are simply a means by which private enterprise, by paying a premium, is relieved of the individual risk of economic destruction by fire. That premium represents the policyholder's share of the aggregate fire loss and the cost of carrying on the business of insurance. Just as surely as every loss tends to raise the cost of fire insurance, every fire prevented tends to reduce the cost.



**THE COORDINATING COMMITTEE OF THE PRESIDENT'S CONFERENCE ON  
FIRE PREVENTION, AT THE WHITE HOUSE**

The logic of this statement is deeply impressed upon Insurance Commissioners, who must see that justice is served in distributing losses among insurers. It must be equally impressed upon the insured, who pays the bill and will most benefit from loss prevention.

The opportunity to save money on fire insurance premiums by taking steps to prevent or minimize fire losses has long been directly extended to industry. Practically all business properties are rated according to the particular hazards of the operations performed, the construction of the building, its exposure to other structures, the quality of house keeping in the plant, and other factors which increase or reduce the hazard.

Insurance agents and brokers in cooperation with their policyholders have for scores of years made great efforts to improve the physical characteristics of their risks, recognizing that in so

doing they were making direct savings in insurance premiums while reducing the possibility of a destructive fire.

The widespread installation of automatic sprinkler systems is an illustration of an improvement which has come about, it seems, as much because of the sizable savings in insurance premiums as through recognition of its effectiveness in preventing small fires from becoming big ones.

The granting of an economic reward for fire prevention measures and good experience is today as implicit in the regulation of fire insurance rates as it is in rate making. This reward cannot be achieved by horizontal rate increases or decreases.

Over 30 years ago the late Mr. Justice Brandies in a railroad rate case, commenting on a horizontal increase therein sought, described the method of revising rates horizontally as "unsound, largely illegal, and undesirable." Speaking for the New York Insurance Department, it is our philosophy that rate structures should be responsive, flexible, and geared to the extent possible to the classified loss experience. There is general acceptance of this principle, I believe, among State insurance departments.

The horizontal rate change does not and cannot do justice to the individual loss experience of the separate classes. We know that as a rule rate levels follow broad general trends, but the suggestion that all classes rise and fall comparably is unfounded. Tying the rates directly to the losses serves as a continuing reminder to the public that they pay the bill.

The system makes certain demands on the fire insurance industry in the keeping of detailed statistical records and in the periodic readjustment of rate manuals. The industry has willingly undertaken these tasks in the interest of placing a proper share of the load on each class.

It should be noted that the important classification of occupancy hazards on which fire insurance loss statistics are based has been completely revised within the last year as a result of parallel studies by the National Association of Insurance Commissioners and the industry. There are projects under way with the purpose, in part, of effecting a further improvement of rate structures, including the establishment of uniform accounting classifications of expenses, improvements of the statement form, and a reconsideration of the formula for determining underwriting profit.

Many States have already had extensive experience in the supervision of fire insurance rates, and the impetus given to the enactment of rate regulatory bills for the last two years will add to the already large number of Insurance Commissioners who have this responsibility. Congress itself has taken action in this direction in connection with its ward in the District of Columbia, having enacted in 1944 Public Law 327 of the Seventy-eight Congress, which calls for the regulation of fire insurance and related rates in the District of Columbia.

The public is entitled to the most scientific approach to the spreading of fire insurance costs that can be devised. It continues to be the function of Insurance Commissioners to represent the public in rating matters and to be moved only by the highest considerations of equity and fair dealing. It is my sincere hope that the painstaking effort put into this Conference by those who

have planned and participated in it will stimulate the process of education by which the public is informed as to the rewards in lives and money saved which will flow from fire prevention.

The value of impressing upon the public the benefit of fire prevention has long been understood by the fire insurance industry. The principle has been accepted by our legislatures in the enactment of wise rate-regulatory laws which make possible the rewarding of loss prevention and by the States in their administration of these laws. It is in the continuation and development of our educational efforts, I believe, that the public will best be served, and this Conference should contribute notably to that endeavor. Thank you. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Dineen. Ladies and gentlemen, it is my privilege to present the Honorable, the Attorney General of the United States. [*Applause.*]

**Hon. Tom C. Clark.** General Fleming, ladies and gentlemen, I do not know whether I was introduced or not. I just had a meeting with the Commissioner here. He and I are old friends, and I had not seen him for some time.

When I started over here this morning, I was told a very fine series of speeches had been prepared for me and for you by my office. I looked over the front page of one and it started out about Mrs. O'Leary's cow. [*Laughter.*]

Bruce Bielaski, who by the way is a fraternity brother of mine, is here and I notice another fraternity brother, in fact, he is the vice president of my college fraternity. So it is sort of old home week here for me today.

In one speech the writer mentioned Mrs. O'Leary's cow being responsible for the Chicago fire. It was prepared by a graduate from the University of Chicago. As I read it a little further, I thought perhaps we had made quite an advancement since Mrs. O'Leary's day, but we have not progressed too much with reference to fire prevention. We have not held enough conferences and meetings; therefore the national spotlight has not been trained on fire prevention as it has on health and other safety measures.

Then there is another speech that was prepared by a Californian, and he started out with the San Francisco fire. I suppose that if I had a writer from Texas, he would have started with the Texas catastrophe last month.

But after chatting with Bruce and seeing Brother Brenton here and hearing Mr. Dineen, I preferred to talk with you informally this morning. If any of you want to read these speeches, come up after the meeting and I will leave them here with Bruce. [*Laughter.*] I will assure you that they are pretty dry. I read one of them while riding over in the car.

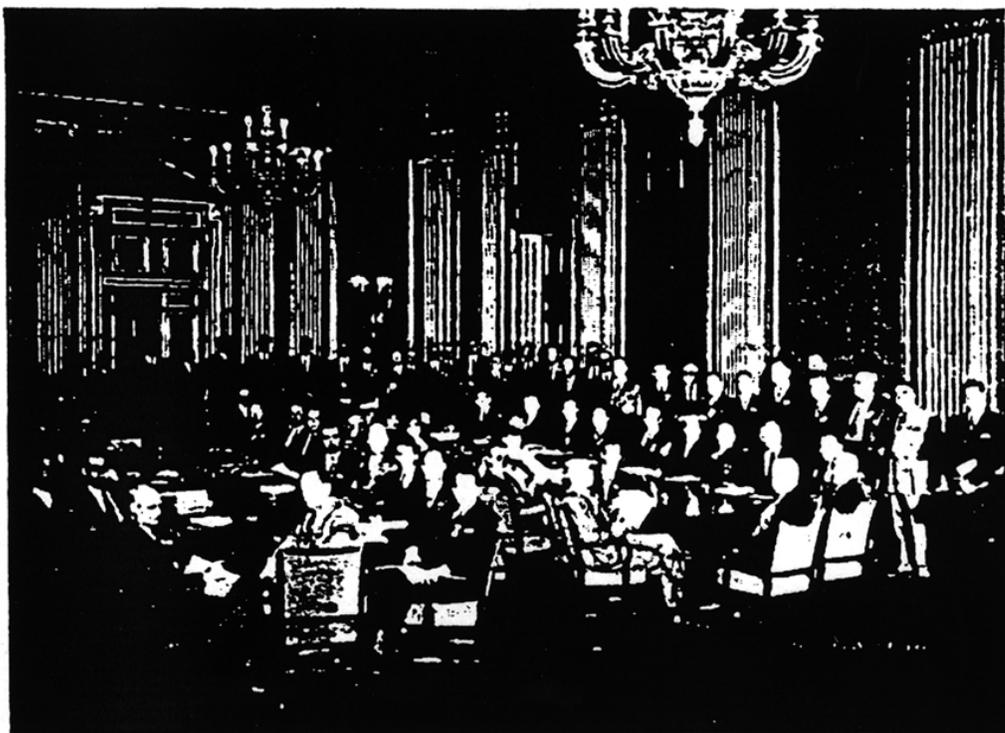
Seriously, I think that the President in calling the first National Conference on Fire Prevention has rendered a great service to our country. We have much talk with reference to the holocaust of war. We hear about World War I, and we hear about World War II, but we do not hear so much about the battles of the fire and smoke and of the catastrophes that strike us every day in these United States.

Oh, we read about them possibly in the local newspaper. If a disaster reaches such proportions as the one that hit Texas City last month, then, we read about it throughout the United States. But we never think of the 10,000 souls who lost their lives last year by reason of this battle, although we think very often of the Battle of the Bulge, or of Guadalcanal, and we think of the other battles around the world. We think not enough of the battles of the firemen and the others who have done all they can and are doing all they can each day trying to prevent this enormous loss of life occurring in America by reason of the negligence of its citizens.

We hear little of those who are maimed or are injured in fires. The reason is that we have never given the problem our attention on a national basis. For example, one drives down the street and has had a drink or two and he is a little tipsy – nearly every State in the United States has a law that he may be prosecuted under, not only for driving while intoxicated, but if he were to hit someone and it would result in the latter's death, he may be prosecuted for negligent homicide.

Under the Federal Fugitive Felon Act anyone charged with the crime of arson within a State would not be subject to that act, as that particular crime is not mentioned or spelled out in that law. As to whether it should be spelled out, is a matter for the Congress to decide. I think that you ladies and gentlemen who are most familiar with this subject and who have evidenced such interest in it by coming here should give this your very serious consideration.

I well remember, when I was civil District Attorney in Dallas, Tex., I thought a very fine plan to prevent fires was inaugurated there. An Assistant District Attorney was assigned to the fire



**COMMITTEE ON ORGANIZED PUBLIC SUPPORT**

department. He was a young, energetic, unmarried man, and he lived at the central fire station. Whenever an alarm sounded, Owen George was very often on the fire truck going out, and he was one of the first to arrive at the scene of the fire. He was able in the case of arson to see personally what the condition of those burned premises were. He was able, perhaps, to contact someone who might have been connected with the fire, or contact witnesses who lived in an adjoining building or who were passing by at the time.

We found that through Owen George's activities in Dallas, arson was practically obliterated in the county. The reason was that he was there on the spot almost when such an offense was committed, and by piecing together the evidence he was able to secure convictions. Potential arsonists feared the law.

Perhaps that method is used in other sections of the country. If not, I think that it would serve as a very fine practice throughout the United States, particularly in the larger cities, because you will find that if you have someone who really is on the job with reference to this type of crime, you can bring those to justice who violate that law. There is no better way to prevent such operations than through strict enforcement of the law.

As you well know, it is difficult to win an arson case. It is hard to win it because most of the evidence is burned up. But if you had someone there on the job who had that specific task to perform, I think you would find that it would be most helpful.

As Attorney General, I think that you should also turn toward securing stricter laws with reference to fires – laws that may deal with those who are negligent in causing fires, because most fires, I am sure, are caused by the negligence of some person. If you could devote your attention to educational campaigns to point out the enormous loss that is occasioned by reason of fires, it would be most helpful.

I am told that every man, woman, and child in the United States lost \$4 last year by reason of damages in fires. In December every man, woman, and child lost 40 cents in that month by reason of fires. I am sure that last month it must have been heavier than that by reason of the unfortunate catastrophe in Texas City.

If we could avert these disasters, it would not only be a great saving in money, but it would be a great saving in lives and a great saving in the physical handicaps that follow. And so this morning I wish to concentrate on three things:

One. Education: If you could educate the public, educate the children in the schools – there is no better place in all America to focus the attention on this problem than in the school systems of America.

Two. The tightening up of State and local laws. Fire prevention is a community problem. If you could, through the Council of State Governments, bring about a strengthening of State laws and municipal ordinances with reference to fire prevention, it would help immensely.

Three. Give study to that aid the Federal Government might render by reason of the Fugitive Felon law or any other Federal statute.

Let me say that the office of the Attorney General stands ready to assist you in any way possible. Of course, we handle only Federal laws. However, we would be happy to talk with your representatives at any time with a view to trying to help in this great undertaking started here yesterday by the President of the United States.

Let me say that I am glad to be here to lend my support to this very worthy cause. I wish you well, and I do hope that if I can serve, or if the Department of Justice can serve, you will call upon me without any hesitation. Bless your hearts and goodbye. [*Applause.*]

**Chairman Fleming.** We are greatly indebted, I am sure, to the Attorney General for that inspiring talk, and I think we are all glad that he threw away those two speeches and made his own.

A particularly tragic aspect of our staggering national fire loss is the large number of persons burned to death in rural areas, especially the children who have died in flames. Rural schools present a particularly difficult problem. They are usually situated beyond the reach of the organized firefighting forces, and all too many of them are structurally so unsafe as to be a menace in themselves.

Our next speaker is a native of Nebraska and has been a county school superintendent; now professor of education at Teachers College, Columbia University, he is internationally recognized as authority on rural education.

Ladies and gentlemen, Dr. Frank W. Cyr. [*Applause.*]

**Dr. Frank W. Cyr.** General Fleming and members of the President's Fire Prevention Conference, I feel particularly favored this morning in talking to you about fire prevention in the schools immediately following the emphasis of the Attorney General of the United States on the importance of education in the schools in solving this problem of fire prevention, and on the importance of fire prevention in rural areas.

We have a long way from the time when men first discovered fire. At first it must have been considered an almost supernatural power, to be used with care and yet to be preserved at all costs. Uncontrolled fire was a brutal force, but we learned to control it, and it became a servant of mankind.

A servant? Yes – but one that assumes many new and varied forms. New inventions, new chemicals, new technical processes, even new types of clothing and house furnishings, have often amazed us by their capacity in turning a docile servant into a roaring maniac. It takes greater alertness, deeper understanding, and wiser precautions to live in the modern world. The human qualities of alertness and understanding, the sentinels of safety, can be developed and improved through education.

If one were to take the title of my talk, "The Schools and Fire Prevention," at face value, he would probably get the impression that I am advocating a campaign for preventing school fires, but this is not my purpose. Although several destructive fire tragedies in this country have involved schools, nearly all the major school fires occurred years ago.

Most of the loss of life from these fires was caused by the poor structural or even freakish designs of the school buildings themselves. Believe it or not, those early school buildings often had several stairways leading down to a single central hall or doors and exits were hinged to open inward instead of outward. Of all the fires that occur in the United States each year, less than 1 percent are public school fires. This fine record not only means saving lives but can also mean substantial saving of public funds in fire losses and in insurance costs.

This safety record of the schools is no accident. The supervision of State departments of education over the construction of school buildings and the professional progress of school architects, who year after year have produced designs that have improved school buildings both in simplicity and safety, have played important parts in achieving this record. Also, there has been excellent cooperation between school authorities and fire departments for the elimination of fire hazards.

Improved training of teachers and administrators has resulted in a recognition of the importance of fire drills and of teaching children how to behave in case of a panic. In fact, practically all of the formal training that any of us here today has ever received in how to evacuate a building was given to us through school fire drills. It is because of the public schools' excellent record that I speak today on the Schools and Fire Prevention.

In what better place could we give the youth of today a program of fire prevention education than in the relative safety of the school environment. In view of the importance of public school education in Nationwide fire prevention, what are the major responsibilities of the schools in the years ahead?

First, the public must join with school administrators and boards of education in providing the funds necessary to put our present school buildings in first-class condition. During the war years it was necessary to postpone many repairs and replacements, which hastened deterioration of many school buildings. These conditions must be corrected, and soon.

Second, educators, architects, builders, and fire departments should continue to cooperate toward the end that every new school building will be constructed in accordance with the best practices for safety and fire prevention. If new building materials or methods of construction are to be used, they should be thoroughly tested in advance so that schools will not be serving as guinea pigs. The place to test materials is in the testing laboratory and not in the construction of school buildings. It is equally important that school custodians be trained to keep these new buildings free from fire hazards.

Third, the schools, all schools, must undertake a program of teaching children and youth about fire prevention and fire protection. This instruction should not be in terms of the school environment alone but should deal with lifelike situations in homes, factories, and public places.

The crowded conditions in many of our fast-growing suburban areas have placed thousands of people in housing situations in which they need and should have a practical knowledge of fire prevention and the ability to behave wisely under panic conditions.

On the other hand, the great losses from forest fires in sparsely populated areas demonstrate another need for fire prevention education. Forest fires in the United States burn over an area nearly as large as the State of New York every year, destroying timber and property, watersheds and water supplies, ranges and wildlife, and scenic and recreation areas. Of the 210,000 forest fires annually, 9 out of 10 are caused by man. This is but one illustration of the fact that the education of people is essential to the prevention of fires.

Fourth, the organized teaching profession has a responsibility through such organizations as the National Commission on Safety Education of the National Educational Association to bring together the best materials, thought, and practice in fire prevention education and to make these materials available to teachers in communities the country over. Particular effort should be made to reach teachers in rural communities who lack means to develop their own materials. There are several types of national organizations, official and unofficial, which have active working programs and materials on fire prevention education available to teachers.

Fifth, the schools can build community understanding and appreciation of fire hazards and preventive measures. Schools are the logical community centers where citizens may convene to discuss the local needs for firefighting equipment and services, procedures in enforcing sound building codes, and the development of public understanding and support needed for sound fire prevention measures.

Many of you are primarily interested in the technical phases of fire prevention and fire protection. You have a responsibility to assist educators in developing the most effective programs. It is principally the job of the educator to decide how fire prevention should be taught as part of the school program, but he needs your technical assistance and support.

It is equally important that you seek the assistance of educators in planning and organizing your own fire prevention programs on the State and local levels. Today, as never before, the cooperation of all groups concerned is essential to the successful solution of our problems.

What all citizens need to gain through education is the down-to-earth working knowledge of the techniques and procedures of effective fire prevention. We need to gain the necessary skills, habits, and attitudes to enable us to control the innumerable fire hazards in modern life.

In the area of firefighting services the training or education of firefighting personnel has made tremendous strides forward. Perhaps in many communities the school laboratories and other facilities could be used in advancing still further the technical skill and knowledge of the public firefighter. In building construction and operation and protection education plays a strategic part in training the trained personnel needed for these specialized activities.

The development of sound fire prevention laws and the enforcement of these laws depend almost entirely for their effectiveness on an informed public. Here, again, education will be a dominant

factor in enlightening the public. The role of education in fire prevention is indeed a major one demanding the serious attention of school teachers, administrators, and the public. What the school teaches us will in many instances be carried into the home by the pupils. The day-in and day-out education of our children, 25 million of them, in school about 6 hours daily can be depended upon to create in the American public an acute awareness of essential facts about fire prevention.

Through no single group can the whole job be done. To reduce our national fire losses substantially will require the combined efforts of all. In these combined efforts the public schools can and should play a major part, both in the education of each generation of children and in the education of our adult population.

I wish to make a special plea for the needs of that half of our school children who live in rural America. Too often our national programs neglect consideration of rural life. In these areas where building codes and firefighting services are less well developed, and often absent, the need for fire prevention education is greatest, and I was delighted yesterday with the emphasis on the importance of this problem in rural areas in the speech of the President of the United States.

It is because of the desperate need in rural areas for educational services of all kinds that many of us are fighting for adequate Federal aid for education which will equalize educational opportunities for all American children.

Only through education, and lots of it, in the years ahead, will we be able to raise human knowledge and understanding to a level equal to that of our incredible technological advance.  
[*Applause.*]

**Chairman Fleming.** Thank you very much, Dr. Cyr.

Now we shall continue on this subject of education from another point of view by hearing from Dr. E. B. Norton, Deputy Commissioner of the United States Office of Education. Dr. Norton.  
[*Applause.*]

**Dr. E. B. Norton.** General Fleming, members of the Conference, while experiencing the most critical shortage of materials, manpower, and housing facilities of all kinds, we learned that our fire losses in 1946 topped the record of recent years and that of 1947 moves rapidly toward the tragic prospects of exceeding 1946 in losses from fire. Careless people cause destructive fires! People can learn to be careful!

The implication for education are unmistakable and inescapable. Without delay widespread, concerted, intelligent, and vigorous effort must be put into programs of instruction that will develop fire hazard consciousness, fire prevention habits, firefighting skills, and fire safety knowledge and practices.

To those who hold that the primary function of the school is to teach the so-called fundamentals – reading, writing, and arithmetic – and who fear the schools will neglect these essential subjects by paying too much attention to the study of such problems as fire prevention, let me say that I ,

too, believe that there must be no neglect, but rather than an ever-increasing efficiency in teaching the fundamentals and in their mastery by students.

I know of no better way, however, to teach reading, writing, and arithmetic than by a frontal attack problems of significance to the individual learner and of the importance of his family, community, and Nation. To an alert teacher, who really wants to teach her pupils to read and to write and to calculate, an unsolved important problem is a godsend. Able, imaginative, resourceful teachers use personal, family, and community problems to motivate the learning process and make it purposeful. Let us give our children something about which to read and write and calculate with a purpose. Fire prevention education offers a dramatic opportunity to that end.

I shall not take the time here to describe or even to enumerate the very many ways in which the United States Office of Education is rendering technical service in this field of education. Its valuable services are channeled through State education agencies to the local school systems of the Nation. They are provided without any attempt to control or prescribe the educational program, which is a State and local responsibility and must remain so.

The Office of Education is definitely opposed to any idea of Federal control of education. We are concerned with assistance in the vocational training of firemen and other public service employees, who aid in the planning of safe school plants and equipment, with improved plans for maintenance and operation of school facilities, with increasing degrees of safety, and with consultative services to those who are responsible for the development of adequate courses of study.

Today this Conference will receive an excellent report from its Committee on Fire Prevention Education. That report is challenging in its point of view, replete with suggestions, and forthright in recommendations for action at all levels of education in all kinds of schools, school systems, and educational institutions.

This Conference will undoubtedly conclude and state in strong and definite terms that education is a vital factor in the solution of this national problem of fire prevention. Education is recognized as a vital factor in the solution of every problem that is of such magnitude and national significance as to justify the calling of a President's Conference for its consideration.

That leads me to say that if education is to function effectively as a vital factor in the solution of this and other vexing national problems of this complex age, national financial support must become a vital factor in the development of the kind of education demanded by these times.

In the area of excess population and little taxable wealth in this country thousands upon thousands of children are out of school, and thousands upon other thousands of them are taught by inadequately paid, poorly trained, and generally unqualified teachers with little equipment in buildings that are themselves hazardous firetraps.

Moved by economic pressures as destructive fire is driven by the wind, people from these areas of excess population and meager educational opportunity migrate throughout the Nation. Here,

also, the implications are unmistakable and inescapable. Let's recognize our national stake in education.

Our World War II enemies demonstrated the tremendous power of the educative process misdirected to evil purposes. Long before they could threaten the security of the world with their mechanized might, they had to condition the thinking of generations of their youth. By a system of education lavishly supported, effectively organized and misdirected to evil purposes, they regimented the minds, militarized the spirit, warped the purposes, fixed the ideals, and determined the loyalties of whole generations of their youth toward ill will and hatred and aggression and warfare. They distorted the facts of history and geography and biology to teach false ideals of racial superiority and to teach their idea of their divine mission to conquer and rule the world.

Thus it was largely by the process of education that they came to threaten the security and freedom of the free peoples of the world. When we rose in our might to check the aggressor and to win a military victory, we had to depend largely upon the education of our people for national security. Our armed forces became primarily training forces. We were inclined to think of them largely as fighting forces, but, I repeat, they were primarily training forces, millions of men women undergoing hour after hour, week after week, month upon month of intensive and often grueling educational experiences to train themselves for a relatively few hours of combat duty.

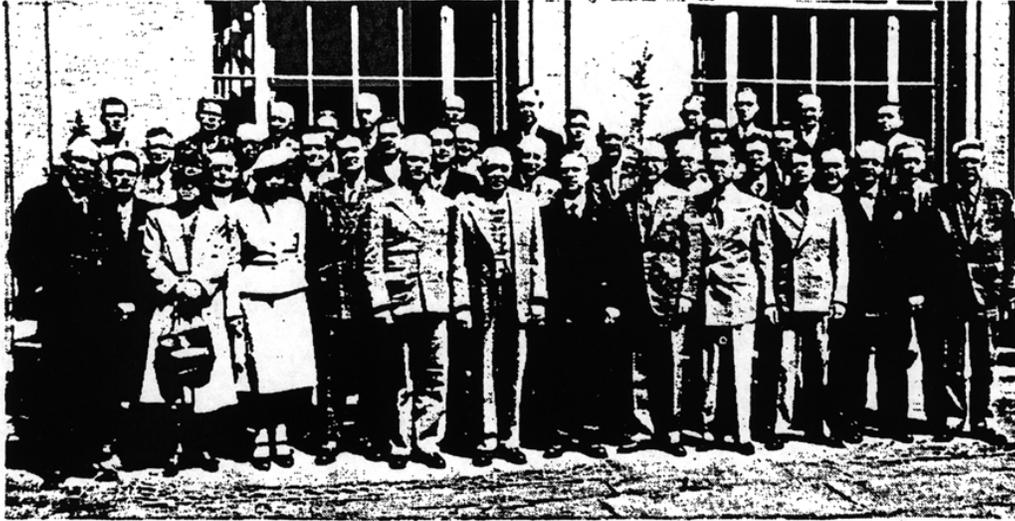
Without counting the cost, during the war we made all of the financial investments necessary to a successful total war effort. The national stake was survival. That investment involved pouring increased millions upon millions of dollars into an intensive educational program designed to achieve military victory, victory that would have been impossible without a full utilization of the power of the educative process.

This Nation has never yet tried the full power of the educative process in the achievement of the countless nonmilitary peace-time victories that are essential to the preservation of a virile democracy. Are we concerned with education for the prevention of disastrous fires? Of course, we are; and for the prevention of juvenile delinquency and for the prevention of disease epidemics and for the prevention of crime and for the prevention of poverty and ignorance.

Then let us enlist in another prevention program, the prevention of the threatened breakdown of our public school system due to inadequate financial support. [*Applause.*]

**Chairman Fleming.** Now that we have these two excellent talks from eminent educators, this seems to be a particular good point on the program to hear the report of the Committee on Fire Prevention Education. With that purpose I introduce Dr. H. C. Byrd, chairman of the committee, and president of the University of Maryland. Dr. Byrd. [*Applause.*]

**Dr. H. C. Byrd.** Mr. Chairman, members of the Conference, it, of course, is manifestly impossible to read this entire report. Copies of it were sent to members of the committee sometimes ago, and copies of it were distributed yesterday to members of the Conference.



**COMMITTEE ON FIRE-PREVENTION EDUCATION**

When this committee was organized, it was first broken into subcommittees. Each of these subcommittees had a certain job to do. After these subcommittees had prepared their reports, after days and weeks of intensive study, we called a general meeting of the committee. That committee met 2 or 3 weeks ago and for the better part of the whole day tried to coordinate and brief as much as possible the report of the subcommittees.

Yesterday, another meeting of the committee was called to go over the work of the previous meeting of the committee. Yesterday, in addition to members of the committee, about 140 members of this Conference attended that meeting. The report was thrown open to general discussion. I suppose that the great majority of those present made talks. We did not change materially the report as it was presented to you in writing yesterday. We did, however, amplify some of the expressions in the report of a more or less inconsequential nature.

For instance, where it said "heating systems," we changed that to read "heating, ventilating, and air conditioning systems." Where it says, for instance, that "thousands of farms go up in smoke every year," we thought it was a little difficult to understand how a farm could go up in smoke, and we changed that to read "farm buildings and produce go up in smoke every year."

There were three emphases placed in the report yesterday that were not present before to the extent that the committee felt, and all those others present felt, should be. We emphasized in a sentence or two, and by making another paragraph, the need for the schools to keep the closest kind of liaison with the firefighting agencies or fire protection agencies in their communities.

We emphasized further that the school systems of the States and the counties and the schools individually should make every endeavor possible to ally themselves with all of those organizations: the fire chiefs, the insurance educational organizations, the educational organizations connected with industry, and all sources which prepare materials of this nature of an educational value.

We emphasized further the need for adult education, how to reach out into industry, how to reach out to the people out of the country, to acquaint them with these facts.

Then, after that motion was made for the adoption of the report, the 175 or 180 or so men and women who were present and who took part in the discussion yesterday unanimously passed the report and adopted it.

Now, Mr. Chairman , on that basis I move you, sir, that this Conference adopt the report of the Committee on Fire Prevention Education. [*Applause.*]

**MR. Clarence J. Muth** (Milwaukee Association of Commerce). Mr. Chairman, in offering a second to that motion may I also express the confidence of this Conference in Dr. Byrd and his excellent committee for its very fine support.

*{The question was put to a vote and was carried unanimously.}*

**Chairman Fleming.** We have had some discussion of the rural scene from the educational standpoint, and we shall continue by hearing from another authority on rural life, Mr. Sherman K. Ives of the National Grange.

Mr. Ives comes to us from Thomaston, Conn. He is a member of the board of directors of the National Grange Monthly, a member of the executive committee of the Connecticut State Grange, and secretary-treasurer of the National Federation of Grangers Insurance Companies. Mr. Ives. [*Applause.*]

**Mr. Sherman K. Ives.** General Fleming, ladies and gentlemen it is indeed an honor and a privilege to speak a few minutes to you today on behalf of the National Grange, America's oldest farm organization, as well as being one of the largest and most active of such organizations.

The Grange was founded a little over 80 years ago, and one of the objectives, as stated in its declaration of purposes, is buying together, selling together, and in general acting together for the mutual benefit and protection of its members.

One of the first things that the Grangers started acting together on was in fire insurance. We have today 36 State Grange organizations, as well as members in other States and Alaska. In those 36 States we have 65 Grange-operated fire insurance companies. It is, therefore, a subject, this matter of fire prevention, that is of vital interest to our organization, and we are very glad to participate in this Conference and contribute anything we can from our experience.

A few years ago I was listening to the radio, and Eddie Cantor and Jimmy Wallington were discussing fire insurance. Eddie said, "If I had a house worth \$5,000 and I insured it today for \$10,000 and it burned up tomorrow, what would I get?" Jimmy Wallington said, "You would get about 10 year." [*Laughter.*]

The matter of arson has already been spoken of, and it is probably more successful in rural areas, due to the lack of fire protection, than in other areas. However, we do have in most States pretty

good laws on arson and also laws that no one can collect more than the actual value of his property, and for these reasons arson is not a frequent cause of fire losses.

One of the frequent causes of fire losses in rural areas is lightning. There is an old saying, which you have all heard, that lightning never strikes twice in the same place. I have good personal reason to know that that saying is not true and never was.

My father and mother operated a dairy farm at Goshen, Conn., for 30 years, where I was born and raised, and during those 30 years lightning struck the buildings on that farm seven times. On one of those occasions it struck and burned the main barn at 3 o'clock in the morning. I was only 4 years old at the time, but it made an impression on me that I shall never forget, because it was only by the feverish activity of a bucket brigade of neighbors that our home was saved from burning also, as it caught on fire several times before the barn fell. And I wish to say, if you want to know how fast fire works, that it was just 20 minutes from the time lightning struck until the frame of the main barn fell.

Fortunately, there is something we can do about lightning losses. Twenty-five years ago, when I was a student at the University of Connecticut, our farm engineering professor used to say that lightning rod properly constructed and properly installed were 95 percent efficient. I think that may have been improved now. Only last week I talked with a man who has been in the business of installing lightning rods for many years, and he made this statement – I do not vouch for it, only he told me so, and I know he believed it – that right now Connecticut is the first and only State where all the fire insurance companies writing insurance in that State insist on approved lightning rods being installed before they will grant a premium reduction in insurance and where all companies writing insurance grant a uniform reduction for such installations.

When I speak of approved installations, I mean installations which bear the master label number of the New England Fire Insurance Rating Association, which number is on file with that association, which certifies to the insurance companies that those rods were properly constructed and were properly installed.

He further stated that so far the records do not disclose a single instance of a lightning loss where such installations were in existence. I do know that in our own fire insurance company in over 20 years we have had no record of a lightning loss where such rods are on the buildings.

The evidence seems clear that lightning losses can be practically eliminated by properly constructed and properly installed lightning rods. There is still one item that has to be worked out, and that is some method of periodic re-inspection of these installations, for in time they do become defective.

The most frequent losses, however, even in rural areas, are not lightning. The National Board of Fire Underwriters have stated that loss generally can be put into four classes, and that these four causes constitute 76 percent of all fire losses, and this is true in rural areas as well as anywhere else. I am not using their words, but these four causes are mainly carelessness with matches and when smoking; poor installation or care of cooking and heating equipment; carelessness with inflammables; and poor installation or care of electrical wiring and equipment.

How can we correct these items? Some of our companies have attacked the problem by hiring specially trained men to go to the individual farm and try to find these hazards and point them out to the owners and, diplomatically or otherwise, try to have them correct them. I know we have one company in Connecticut that has several men so employed. I know the Grange company of Kansas and one in the State of Washington have done considerable work along this line, and it has prevented a great many fires.

But even this has its limitations. First, the cost of getting the type of man necessary to do this kind of work is heavy. Also, the item of travel in rural areas costs a great deal; and third, and not least important, is the mental attitude of the insured, who in this case are mostly farmers.

The farmers of America have gone along for a long time without being subject too much to building codes or regulations regarding their equipment. They do not take kindly to any uninvited outsider coming onto their place and telling them how their buildings should be constructed or cared for or what equipment they should have or how it should be handled.

Is there any better way, any more effective way, that this work can be done? I believe that there is, and it certainly fits in very well with this report on education. In New York State a few years ago several of the insurance companies, the majority of them Grange companies, decided to try something new there in the way of fire prevention, and I am going to speak to Niagara County, where the most extensive work was done. This information was given to me by R. M. Stanton of Albany, N. Y., who is the secretary of the New York Central Organization of Cooperative Insurance of New York State.

They enlisted there the aid of the schools, 4-H clubs, and various organizations, and they put up prizes for contests. I understand that each child had to inspect at least three farms, and many inspected a lot more. They were given an inspection blank, which listed a great many of the hazards they were to look for, and after they had completed these inspections they had to write an essay telling what they found, what was done to correct them, and what they had learned about fire hazards.

I understand that about 15,000 inspections were made in that county that year. Many of them were duplications, but it was estimated that at least 10,000 different places were inspected.

The insurance companies put up the money for the prizes and printing the inspection blanks, and so forth, and in all, I think, about \$2,500 was spent. But to me this is the most impressive. That year in Niagara County the fire losses were over 35 percent less than they had been the year before; whereas in neighboring counties, where none of this work was carried on, that same year the fire losses increased 2 percent over the year before.

To me this indicates a proven method of fire prevention. I attended the committee meeting yesterday afternoon on fire prevention education and was very much interested in the remarks that were made. Several people indicated that they were in favor of this education of fire prevention in the schools but wondered just how it was going to be done. Here is one way that it can be done.

I also was impressed with one man who was afraid that if you did not use the radio and the moving pictures in this program, all your effort was going to be lost. I am not in disagreement with him; I think we should use those methods of disseminating this information all we can. But you will lose a lot of effectiveness if you do not have these actual inspections, and you will also lose a very important factor in cooperation of both the children and the adults if you do not have this matter of a contest.

All America loves a contest. We need this fire prevention medicine, although the medicine does not have to be bitter to be good. The contest is a sugar coating, if you please. My recommendation is simply that we do everything possible to learn the details of these proven methods of fire prevention, which I have been telling you about, and try to get them to the areas of this country which do not now enjoy them. [*Applause.*]

**Chairman Fleming.** Thank you very much, Mr. Ives.

I now have the pleasure of introducing a man who began working for fire prevention when some of us here were still in short pants or pigtails. For many years he has traveled throughout the United States and Canada, organizing local fire prevention committees and lecturing and writing on fire prevention. He served as consultant on fire education to the International City Managers' Association, is a member of the executive committee of the International Fire Waste Council, is an honorary life member of seven fire chief organizations. Mr. Percy Bugbee, general manager of the National Fire Protection Association. [*Applause.*]

**Mr. Percy Bugbee.** The National Fire Protection Association is grateful to the President of the United States for his recognition of the seriousness of the loss of life and destruction of property by fire and his action in calling public attention to the importance of fire prevention by creating this National Conference.

Fires, like epidemics of disease or crime, can be stamped out successfully only through the collective will and action of society as a whole. The failure of society to prevent fires has been due to the fact that up to now the average American citizen has not appreciated that nearly all fires are due to simple, easily understood acts of carelessness or neglect. Once every man, woman, and child realizes and accepts in daily life the responsibility for simple fire prevention measures, death, injury, and destruction by fire will be substantially reduced. It is worth emphasizing that the failure of society to prevent fires is not due to any mysterious and unknown action of fire. There is hardly any field of scientific investigation where more work has been done than in the field of fire protection and fire prevention. The knowledge as to the causes of fires and how to prevent them and protect against them is available.

Let me pay tribute here to the remarkable accomplishments that have been registered over the years by fire protection engineers and fire preventionists throughout industry, throughout the fire insurance business, in many of our municipal fire departments, and in numerous Federal and State agencies. The work of these men is not spectacular and seldom reaches the public consciousness. Big fires are front page, but a fire prevented is not news.

While it is the worth-while purpose of this Conference to focus attention upon the need for more fire prevention interest and activity, we should recognize and applaud the work that has been done and we should realize that while we are in a period of rising fire losses, the losses have not actually risen in proportion to the tremendous increase in values of burnable goods created during the recent war period. Perhaps the most practical evidence of the effectiveness of the long-range attack upon the fire waste is the steady downward trend in the over-all cost of fire insurance which has been in evidence for the past five decades. We of the National Fire Protection Association feel that a vast amount of constructive fire prevention effort has already been accomplished and we stand ready to increase and intensify our efforts and to cooperate with all other agencies in carrying out the action program developed here in this Conference.

I have two specific proposals to make to this Conference that in my opinion would result in substantial reduction of fire losses. If we examine the record, we find that there are approximately from 700,000 to 800,000 fires a year in the United States and that nearly half of these occur in homes. The majority of deaths and injuries in fires occurs in homes. If every home in the United States could be subjected to a periodical inspection for common fire hazards, these home fires could be cut in half in a year's time. It has been demonstrated over and over again that when home inspections are made by fire departments a very substantial reduction in home fires is secured. Such home inspections can be carried out at no extra cost whatsoever to the taxpayers, and the fire departments that have carried on home inspections have found that they not only reduce the fire losses in homes in their city but that they bring a tremendous amount of good will to their departments. Home inspections by firemen work in large cities and in small ones, and in every city where there is an organized fire department such home inspection procedures, if carried out, would cut this measured source of fire.

Experience also has clearly demonstrated that simple inspections of homes for fire hazards by school children, by Boy Scouts, by Girl Scouts, and by 4-H Club boys and girls, are effective in reducing home fires. Here again there is nothing difficult, expensive, or mysterious to be done. Whenever boys, and girls have been asked to undertake this sort of work, there has been no evidence of reluctance on their part. Why not utilize the spirit and effort of the young people in this great campaign that we are talking about at this Conference? Every boy and girl should be given this opportunity. A concentrated campaign of home inspections along the lines indicated above will reduce home fires, and home fires are our greatest number of fires.

What is the principal cause of fires? Of the 590,000 fires of known cause, on the average we find that 120,000 of them are due to careless smoking. People burning to death because of smoking in bed has become all too prevalent. Every hotel owner will testify to his fire experience with the careless smoker. The evidence clearly indicates that the disastrous LaSalle and Winecoff Hotel fires and the Texas City holocaust of last year were started by the careless disposal of cigarettes.

Up to now we have not attacked successfully this principal cause of fires. The cigarette companies spend tremendous sums of money on radio programs, on magazine and newspaper advertising, on billboard advertising, and the like. Have you ever seen in any of this advertising any words of advice or caution as to the safe disposal of lighted matches and cigarettes? I for one feel that the cigarette companies have an obligation and a public responsibility to help

educate smokers in careful action. I believe that an educational campaign on fire prevention by the cigarette companies would substantially reduce fires and deaths by fires without hurting the sale of their product. Last year President Truman sponsored a National Conference on Highway Safety. The great automobile companies have supported with their interest and with their money that campaign. I suggest that this Conference take action to induce the cigarette manufacturers to accept some responsibility for the education of the public in careful smoking habits so that this principal cause of fires may be reduced.

**Chairman Fleming.** Thank you, Mr. Bugbee.

More than we commonly realize, our health, even our very lives, depends upon the kind of buildings in which we live and work and seek our recreation. Once we thought of the architect as the man whose business it was to design buildings that would be pretty to look at, but he was not always too successful, even in that endeavor, as amply illustrated by some of the older buildings around Washington. Take the old State, War, and Navy Building, for instance.

We now recognize in the architect one whose job it is to build for us structures that will not only be pleasing to look at, but in which we can live and work in comfort and safety.

At this point I must note a slight change in our program. James R. Edmunds, Jr., of Baltimore, until just recently president of the American Institute of Architects, who was to have addressed us this morning, was unfortunately not able to be present. The paper he would give if he were here will instead be read by Mr. Walter A. Taylor, director of the Department of Education and Research of the American Institute of Architects, whom we are very happy to have with us. Mr. Taylor. [*Applause.*]

**Mr. Taylor** (representing Mr. James R. Edmunds, Jr., past president, the American Institute of Architects). The American Institute of Architects welcomes the opportunity to support and participate in the President's fire prevention campaign.

The American Institute of Architects has collaborated for many years with a number of the technical agencies here represented, Mr. Bugbee's organization and others, in the study and development of standards and codes for fire prevention and safety.

Since the inception of this campaign, our organization has urged the broadest scope and interpretation and an emphasis upon safety for human life as the ultimate criterion of codes and actions.

Everyone is of course concerned, at least indirectly, about human casualties and loss of life due to fires. However, it would seem that many codes and proposed standards have been framed primarily to preserve buildings and their contents, rather than human lives. The architect shares fully the concern of the owners, the technicians, and economists over the stupendous financial losses due to fires.

But the architects, among the technicians and design professions, in his approach to any problem, usually gives greater weight to the direct effect upon human beings.

Even with perfectly incombustible structures, we shall probably always have some inflammable contents. Even if the spread of fire could be controlled, unless additional precautions are taken there would still be the danger of loss of life by panic and suffocation, which cause many more casualties and deaths than does actual contact with fire.

Therefore, in our efforts to aid and abet this most necessary and commendable campaign, we shall include and stress all precautions toward prevention of loss of life due to fires. Buildings and contents may be called expendable and may be recoverable; human life is not expendable and not recoverable. The architect, as coordinator of the work of many technicians and specialists, has responsibilities in all technical and design phases of fire safety.

Among the many complex requirements of modern building which he must completely coordinate and specify in advance of construction, he must include fire safety considerations in plan, structure, construction, escapes, alarms, fire proofness or fire-resistance, controls for fire, smoke and gas, built-in firefighting equipment, and so forth.

There is no lack of technical data, as Mr. Bugbee has indicated. Architects and practitioners of some of the other design professions may know quite well what should be done, but these precautions cost the owners money, due either to large dimensions, or better quality of building, or additional equipment.

If, in buildings for competitive use, such as hotels and restaurants, the precautions are not legally required, or are not strictly enforced, the urgings of the architects, or even the conscience of the owner, may not prevail, and the hazards will get by for the reasons of economy.

This is obvious, and it is therefore also obvious that the importance and potential success of this campaign lies in the participation of many large and influential groups outside the architectural and engineering professions, whose interests are solely humanitarian and civic.



**COMMITTEE ON BUILDING CONSTRUCTION, OPERATION AND PROTECTION**

Government agencies which are guiding and setting standards for various types of buildings can do a great deal to improve fire safety by strengthening and emphasizing their requirements.

The officers, directors, and staff of the American Institute of Architects pledge their best efforts to the continuing support of the President's campaign. Individual architects, as citizens and in their professional practice, may be relied upon to use their skill and persuasion in the interest of fire safety; but in many large and important public and semipublic buildings we shall be powerless unless by united effort of all who are here represented, public opinion is aroused to a demand for clarification, enactment, and enforcement of codes which are ready and available in the form of standards and recommendations, awaiting your moral support and legal implementation. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Taylor. I think that excellent presentation has put us in a receptive mood to hear the report of the Committee on Building Construction, Operation, and Protection, which will be presented by Alfred C. Fuller. Mr. Fuller! [*Applause.*]

**Mr. Alfred C. Fuller.** General Fleming and ladies and gentlemen of the Conference, the report which this committee is presenting today is the product of three subcommittees which were commissioned to deal with different phases of the subject. The membership of these subcommittees was scattered throughout the country. The time available for the work was short, and the opportunities for getting together in committee meetings were few. Nevertheless, the work was carried forward with great energy and enthusiasm.

Much credit is due the subcommittee section whose job it was to assemble and digest a large number of suggestions and draft the report. I have reason to be particularly thankful to Mr. George Thompson of the Bureau of Standards, the secretary of this committee.

After the subcommittee made its report, received the approval, it was all combined into one report, which was submitted to the full committee for final action. At a meeting held yesterday afternoon, which was attended by about 150 of the committee and others attending this Conference, a critical review of the report was made, and some final touches were added. It now comes before you for final approval of the work of the committee.

I might say further that there were certain suggestions for editorial refinements and changes and additions, some of which were left to the committee for further work after a stenographer had taken notes of the various changes and suggestions made.

In brief, the committee recommends that greater attention be given by designers of buildings to the recognized standards of construction and strict compliance to established codes and regulations; that governmental officials review the adequacy and extent of existing regulations; that owners and managers of buildings adhere to safe practices and observe standard rules of fire safety; that aggressive action be taken to accelerate the installation of automatic fire protection in new and existing buildings, particularly where safety to life is a compelling factor; that designers, owners, public officials, and the public in general assume their full obligation for the elimination of fire hazards.

In reaching these conclusions, which are supported by further detailed recommendations giving specific measures to be applied, the committee has investigated the part that building design, provisions for fire extinguishment, and arrangement for good housekeeping can play in reducing fire hazards. It has recognized that the problem may be quite different in the case of a new building and an existing one. In the case of the new building it emphasizes that the mistakes of the past should not be allowed to be repeated. In the case of existing ones it points out that measures should be taken to correct major deficiencies, even though they were not recognized as such and were even permitted by law when the structure was originally erected.

Throughout the report emphasis is placed upon the increased sense of responsibility that should be felt by everyone. Needless waste of human life and property values would be stopped. This responsibility rests with designers with owners and managers of premises, with governmental authorities charged with the enforcement of building regulations, and with the public itself.

It is pointed out that there are well-developed standards of construction which, if properly applied, would go far toward cutting down losses. Effective firefighting appliances are available for use. Safe methods of handling building contents, even those of a hazardous nature, are being developed. Thus the means for providing adequate safety are at hand but indifference and carelessness still exist. It is in this field that much remains to be done if we are to have real progress in fire protection.

The committee does not confine its report to generalities. It singles out specific points in building construction that have contributed in the past to fire losses and which will continue to be a menace unless corrected. These include unprotected open stairways and elevator shafts, concealed places, the lack of adequate barriers to spreading a fire in the form of fire-resistive walls and partitions.

In the matter of provisions for fire protection and extinguishment it is equally specific. Special emphasis is placed upon the advantages of automatic sprinklers as a means of dealing with fire before it has a chance to assume serious proportions. The usefulness in old buildings is made evident. Certain fundamentals in operation and maintenance of buildings from the standpoint of fire safety are stressed. These include supervision, organization, education, and training of personnel; good housekeeping; precautions against smoking; care and restrictions in the use of inflammable liquids, open flames, and lights; and the maintenance of building service, equipment, and fire protection appliances. All these things must be done if we are to make progress, but the report comes back again and again to the principle of individual responsibility. If this principle can be fostered, and if the will is created to use the means for fire safety already at hand but too often neglected, we can look forward with confidence to a better record in the coming years.

Mr. Chairman, I recommend and move the adoption of the report.

**Chairman Fleming.** Thank you, Mr. Fuller.

You have all received copies of the report, and Mr. Fuller has very ably told you what it contains and what changes were made in it yesterday. Is there any comment from the floor?

**Mr. Arthur Benline** (representing the Building Officials Council of America and the Building Officials Foundation). Mr. Chairman we wish to second the motion.

*{The question was put to a vote and was carried unanimously.}*

**Chairman Fleming.** We now recess until 2 o'clock this afternoon.

*{The Conference adjourned at 11:50 A.M.}*

# Wednesday Afternoon Session

*May 7, 1947*

THE Conference reconvened at 2:05 P.M., Chairman Fleming presiding.

**Chairman Fleming.** Will the meeting please come to order?

This afternoon we will take up another aspect of fire protection. In other words, we will get right down to cases with the man whose job it is to put out the fires which the rest of us carelessly start.

We expect a great deal of our firemen. We take it as a matter of course that they will respect our property and save our lives, if need be, no matter how many cigarettes we fling carelessly about. The records show that they have not had too much cooperation from the rest of us these last few years. I would not blame them a bit if they took advantage of this present opportunity to lecture us on our bad habits.

I have the pleasure of introducing Mr. Charles A. Delaney, president of the International Association of Fire Chiefs. Mr. Delaney. [*Applause.*]

**Mr. Charles A. Delaney.** Mr. Chairman, ladies and gentlemen, the very purpose of this Fire Prevention Conference clearly indicates the immediate need of action to safeguard and protect human life and property from the destruction of fire. The calling of this Conference is a very commendable act on the part of the President of the United States at this time because of his being burdened almost to the limit of human endurance with the more complex problems of the nation.

The presence of so many individuals who have seen fit to leave their homes and respective business and have traveled long distances for the purpose of attending the Conference clearly indicates that there does exist a widespread, deep-seated interest in actually reducing fire losses to a minimum.

The promotion of fire prevention at local levels has been practiced for many years, and a reasonable degree of success has been attained. However, despite the fire prevention activities in which many of our communities are engaged, and with public officials diligently endeavoring to interest the general public in fire prevention practices, the fire loss experience of recent months from the stand point of both life and property proves that to date we have failed to keep pace with the need for the development of more effective means and methods of dealing with the problem.

We have all observed that following in the wake of tragic death-dealing and devastating fires there is invariably a wave of indignation and concern which swells over the entire nation, the immediate result being that every rational, thinking individual becomes fire prevention minded

and conscious of the possibility that a like tragedy may strike his family, his home, his place of business, or may otherwise have a direct effect on his well-being. But it is regrettable that the enthusiasm is all too short-lived. Except in such cases where there is an immediate and direct effect, the occurrence is soon forgotten.

Because of the numerous fires in which mass destruction of life has occurred, the concern of the public is at present aroused to an extremely high pitch, and we of the fire service are besieged with inquiries as to what measures are being taken in our communities to avoid the tragic experience of the stricken localities.

In many instances various demands for immediate action are being made upon public officials. Therefore, it is most appropriate that we are assembled here in Washington on this occasion, and it behooves us to direct our endeavors toward keeping this spirit of cooperation and enthusiasm alive until such time as the rising trend is halted, reversed, and reduced.

The rising trend of fire losses is not wholly the fault of the fire protection services, public officials, or any of the various organizations having direct economic interests in such losses, though each does have its own weaknesses. The major fault apparently lies in the fact that too few individuals have been made to realize that regardless of our station in life, we each have a responsibility in the scheme of American social and economic structure. Therefore, essential cooperation is lacking.

The vast number of fire chiefs attending this Conference is concrete evidence that the public fire protection services are ready to do their part and discharge their duty in every respect. However, in many instances fire departments are sorely handicapped due to insufficient personnel, obsolete and unreliable apparatus, worn-out fire hose, and personnel discontented because of inadequate rates of pay, undesirable working conditions, unsuitable quarters, and lack of modern appliances for the extinguishment of fire and for the protection of the firefighting forces.

The International Association of Fire Chiefs and other firemen's organizations are wholeheartedly behind this Conference, and we are confident that the reports of the various committees will point out ways and means by which the present difficulties may be overcome and fire prevention made a reality.

I wish at this point to commend the secretaries and chairmen of the various committees for the wonderful job that they have done in assembling the reports of their respective committees. While we do not agree wholeheartedly in everything that they have covered, nevertheless, as a fire chief, I wish to say that there will be something come out this Conference that will benefit the entire nation.

I would like at this moment to again announce the meeting proposed for this evening for the fire chiefs. Yesterday the announcement was made to those who are members of the International Association. However, the meeting is intended for all fire chiefs. The meeting will be in the United States Chamber of Commerce Building at Connecticut Avenue and H Street at 8 o'clock. We hope to have a good attendance. The meeting is one of unofficial nature, but we do feel that

it gives us an opportunity to point out what has been going on among the officers of the association. Thank you. *[Applause.]*

**Chairman Fleming.** Thank you, Mr. Delaney. That was an excellent speech, but I think perhaps you let us off a little too easily. Maybe the next speaker will be less polite.

Mr. George J. Richardson has been secretary-treasurer of the International Association of Fire Fighters, an organization of more than 60,000 members in 800 cities, since 1920. He was born in Winchester, Mass., but removed in 1911 to Vancouver, British Columbia. The following year he entered the Vancouver Fire Department. He was a member of the first firemen's organization of the American Federation of Labor founded in Canada and has served as vice president of the international organization. He has been active for many years in the work of the National Fire Protection Association, the National Fire Waste Council, and in various fire schools. He was a member of the Advisory Committee of the United States Office of Civil Defense and later was sent as an observer for the Army and Navy to the Pacific combat area. He is a member of our Conference Coordinating Committee. Mr. Richardson. *[Applause.]*

**Mr. George J. Richardson.** General Fleming, ladies and gentlemen, first of all, let me express my appreciation to the Conference officials for the opportunity to speak today. I am going to speak on the subject, The Firefighter of Today.

History has many heroes whose martial renown has freed the world, whose daring and wonderful exploits have been responsible for changing the boundaries of nations and, in fact, have changed the very face of the earth.

We have heroes in the fire service, heroes who have given their lives that others may live. Our heroes die with their hearts aglow, with the passion for saving men, women and children; they die because of the carelessness or the criminal greed of others who are willing to make death traps in order that they might reap the harvest of ill-gotten gain. Firefighters who are killed in the performance of their duties have no redress – they are gone. No citizen would knowingly contribute to causing the death of a firefighter, yet many do so unknowingly by their carelessness. With the increase in the number of fire alarms and fires, the number of firefighters killed has also increased. Any action that would prevent the loss of one firefighter's life would justify this conference.

Patriotism and love of liberty and service, the most noble motives that can fire the heart of man, are the ingredients that make up the firefighter of our American fire service. He represents no interest that is private, no privilege that is narrow; he represents no sect, no ism, or no clique. His service is available to the entire community; he responds to a fire in the humblest cottage just as quickly as to one in a palatial home. To us of the fire service he is a firefighter – in other words, a fighter of fire. Yet, strange as it may seem, fire is the friend of mankind and during the progress of the world, fire has been the most important ally in our modern and scientific developments. Fire is that which drives the wheels of commerce; fire is that which lights the highways of civilization; fire is one of the most useful forces in our country today – our very existence depends on the controlled use of fire.

I have the privilege today of representing the firefighters of today; the firefighters whose predecessors had the foresight and vision to form an association known throughout the world as the International Association of Fire Fighters. Today the firefighters from private to chief are members of our association, in over 800 cities in the United States and Canada.

We are here with you today because of the carelessness, the ignorance, the crime, and the neglect of others to take the ordinary safety precautions in the use of fire. The problem before us today is “What to do to prevent fires?” We have all participated in safety campaigns and we all know of the success of the campaigns against the epidemics of the past. Our greatest task is to fight that unsocial thing, that carelessness of man who lives unconscious of the rights and the interests of his neighbor; that man who toys with the great power of fire, irrespective of its effect. Our fight should be against that greed in society that will put shoddy work into its buildings and their materials, and that wretched spirit that would jeopardize the safety of the occupants in order to hear the jingling coins drop into their coffers. Our fight should be directed against the man who “fires to profit” or “burns for cash.” We have many of those types of fires and find great difficulty in convicting those guilty even when they are apprehended.

The problem before this Conference is not a new one. The fact that it is a serious problem is the reason you are here. President Truman is the first President who has had the foresight to do something about the problem of preventing fires with their resultant loss of life and property. He has called this Conference together and has told you of his sincere interest in finding a solution that will reduce this unnecessary loss of life and property.

When the President announced that a conference would be held, the International Association of Fire Fighters immediately advised him that its officers and members were wholeheartedly behind him and that the facilities of our organization, together with the services of its officers, were available to assist him in making the conference a success. Since that time representatives of our Association have collaborated with every committee in preparing the technical and scientific reports that have been presented to the Conference.

President Truman, while a Senator from Missouri, became very familiar with the work and objects of our association. He was one of many Senators who voted unanimously in favor of a bill, which Congress passed, permitting the firefighters of our Nation’s Capital to join our association. He was aware then, as he is now, that when any member of a fire department becomes a member of our association he becomes a member of a labor organization which has in its constitution the provision that “We shall not strike or take active part in any sympathetic strike, since the work of firefighters is different from that performed by any other workers, as we are employed to perform the duties of protecting the lives and property of communities in case of fire or other serious hazards.” [*Applause.*] Because of that knowledge he was familiar with the real courage and fidelity of the members of our organization. He knew that he and all his fellow Americans could depend on the members of the fire service to render every service in an endeavor to find a solution to the problem of preventing fires.

On September 5, 1946, President Truman wrote to the delegates and members of our association:

*I am aware of your organization’s greatest contribution in the field of fire prevention and fire protection. The work of your association in behalf of the members of the fire service of*

*the Nation has been outstanding. The improvements that have been made for the members of the fire service are the direct result of the work of your association.*

The President of the United States is probably more familiar with our organization than many attending this conference, and it is for that reason I mention that our organization is unique as a labor organization, in that strikes are not permitted. You, and every other citizen, have been reading about strikes. We all deplore the necessity for strikes. You have never read where members of the International Association of Fire Fighters were on strike and I am sure you never will. [Applause.]

Back in 1936 our association expelled a local in Canada merely because the members took a vote on whether or not to strike.

The financial conditions of many municipalities and the arbitrary attitude of city officials in some cities have been the cause for some strikes among some public employees. Our members have had the same conditions to contend with and yet, out of loyalty to the public, they stayed on the job and worked long hours at low wages until changes took place in the city administration, or until financial conditions improved.

A few years ago, in a city in Texas, the city officials issued an ultimatum to all members of the fire department stating that they would be fired if they refused to withdraw from our organization. Our association withdrew the charter issued to the members rather than permit the city to remove the fire protection to which the citizens were entitled. I have often wondered who would be to blame if the city had dismissed every member of the fire department and left the citizens to the mercy of any fire that might occur.

Congress today is considering legislation which will regulate certain activities of labor organizations. No matter what action Congress may take, our members will never strike. Our association does not have to worry about any action Congress may take, as our members will not strike. Our organization activities have been above reproach. Our association has never had to employ organizers to go out among the members of the different fire departments to organize them into our association. The 14 vice presidents who are all members of fire departments, as well as the president and secretary-treasurer, act as our representatives to assist the city officials and members of the fire departments in solving the fire service problems of any city. The growth of the organization has been wholly the result of a desire on the part of the members of the fire service to unite their efforts in one organization representative of the fire service. Our organization has met that need as 65,000 members can testify.

The deliberation of this Conference can well point to the manner in which the United States Government, the State governments and all in the field of fire prevention and fire protection can best assist in providing an improved plan of fire prevention. The loss of life due to fire and the number of persons who are injured and crippled as a result of fire is sufficient reason for all to give serious consideration to finding a solution which will prevent its continuation.

The leaders in the fire prevention and firefighting field, together with members of each committee, have been working for several weeks in preparing for your consideration a number of reports. The reports as presented are, to say the least, only a step in the direction of solving the

problem. They represent a compilation of the latest thinking on the subject. Many of you probably will not agree with all the recommendations, or even the phraseology of the reports. As I said earlier, the problem is not new; for many years many organizations and many persons, both in the fire prevention and fire protection field, have done an excellent educational job. That they have not fully succeeded in preventing fires is only an indication of the stupendous task before this Conference. When President Truman invited you to be present, he believed you would contribute something constructive to the Conference. We are all here for the sole purpose of cooperating with the President in an attempt to reduce this unnecessary loss of life by fire. We have the brains, we have the technical skill, we have the practical knowledge and we have the will. On behalf of the firefighters of the Nation we pledge our continued loyalty and fidelity to our President in his efforts to reduce this tremendous loss of life as a result of fire.

**Chairman Fleming.** Thank you Mr. Richardson, for an excellent presentation.

The gentleman whom I will next introduce is an old schoolmate of mine at West Point, from which he graduated in 1914. I was a first classman when he was a little redheaded plebe. He has a long and distinguished military record. He served in France during the First World War and later was an instructor for a time at West Point. In February 1944, he became Chief of Staff, G-3 Supreme Headquarters, Allied Expeditionary Forces, which all of us knew as SHAEF. He is now attached to the Office of the Secretary of War, engaged on problems of civilian defense.

He has been awarded the Distinguished Service Medal, the Oak Leaf Cluster to the Distinguished Service Medal, the Legion of Merit, the Silver Star Medal, the Bronze Medal, and has been decorated by numerous European governments.

It is my pleasure to introduce Maj. Gen. Harold R. Bull. [*Applause.*]

**Maj. Gen. Harold R. Bull.** Your invitation to participate in this Conference gives me an opportunity to express the War Department's appreciation of your purpose to improve the Nation's position in the solution of fire problems so vital to the national welfare and security in both peace and war.

I assume that I was asked to speak because of my recent membership on a special War Department board studying the important problems of civil defense. I shall discuss primarily that aspect of fire prevention. Organized fire prevention, of course, stands high in the demands for adequate solution. With the many eminent specialists in this group who have acquired personal knowledge by profound study of firefighting lessons of World War II, I am certain that you have full information of the terrifying possibilities for this country involved in the future use of fire as a weapon of war.

Let me first merely state what appear to me to be quite evident conclusions. I believe it is worth while to point them out, although I am sure that you realize them.

One. In World War II fire was probably the most devastating of all weapons.

Two. Development of new weapons will increase an enemy's capabilities for fire devastation many hundredfold to a point where paralysis of our own war-making capabilities is a possibility unless we develop and take counter measures.

Three. Entirely outside of any active counter measures of the armed forces to prevent or check such fire attacks on our big industrial centers, lies a vast field of civilian endeavor to mitigate the effects of such hostile attacks if delivered.

Four. The utter and sudden devastation of atomic attack, with many added hazards for the firefighters to cope with, will call for development of some new techniques, equipment, and types of training.

Five. Although there are many other aspects of future modern war against communities, many presenting entirely new problems to be solved by strong civilian defense machinery, one very old one but very much magnified in importance, is fire. Whether it be created by sabotage, incendiaries, conventional or atomic bombs, whether delivered in widespread or concentrated fashion, a terrific task faces us if we are to carry on.

Sixth. No stricken community will ever have adequate resources to meet the threat single-handed yet the local problem is basically a civilian problem demanding solution through strong local civilian organization guided and assisted by State and Federal Government agencies.

Seventh. It is evident that provision of the protection required to meet simultaneous devastating fire attacks on our crowded American communities will make the following demands on our individual citizens and on our various echelons of government:

1. Training of all individuals in the elimination of all of the many unnecessary fire hazards so well known to you, and in immediate-action methods of individual firefighting to suppress and control incipient fires. These missions will call for not only organized training but a disciplined citizenry.
2. Augmentation of local trained firefighting reserves.
3. Development of effective reciprocal or mutual aid arrangements in a manner certain to be effective in emergencies.
4. State support of their communities through emergency control of available mobile fire reserves within the States.
5. Federal emergency support with available means including necessary elements of the armed forces in aid of the civil powers in stricken communities in spite of such undesirable diversion of troops from their primary mission.
6. Standardization of certain fire equipment for flexible employment where the need develops.

Where does the Army come in in this scheme for fire prevention and fire protection in peace and war?

No doubt you are generally familiar with our deep interest in all phases of fire prevention and realize our accomplishments as a result of the "Army safety program" headed by a qualified

safety engineer now elevated to the staff of the Director of Personnel and Administration. The organization extends through each Army and each post and installation and, with your help, has been most effective in developing sound procedures. Also the Chief of Engineers carries the War Department responsibility for procurement of firefighting equipment and for the doctrine and training of Army firefighting units. Our contacts with the great civilian organizations in this field are close and continuous and, I'm sure, mutually helpful in both training and operation.

Outside of the humanitarian considerations in the Government's concern for the lives of its people, the War Department, with its responsibility for the mobilization of our vast industrial power, in cooperation with the Navy, is deeply concerned with any interruption in wartime industrial production and we recognize that "public enemy number one" in this respect may well be fire.

The War Department recognizes also its responsibility to respond in peace and war to appeals for help in situations beyond the civil authorities' ability to control and has under study now the procedures and training and equipment required to insure the prompt response in an emergency of the most readily available forces – Regular Army, National Guard, and Organized Reserves – to meet the additional demands for support of local civil organizations in the event of devastating hostile action by sabotage, bombs, incendiaries, or other weapons which may be used against us.

With this in mind I must say in conclusion that your Convention here in Washington is making not only a great contribution to community welfare and to conservation of our resources but in addition, in each forward step, is strengthening our national security.

Your action now in improving our peacetime fire prevention and firefighting capabilities is truly a great contribution to national defense, and speaking as a member of the Army, another fighting organization, I wish to pay tribute to and salute the courage and heroism and the public service of America's firefighters. [*Applause.*]

**Chairman Fleming.** Thanks you, General Bull, for a very thought-inspiring presentation.

Our pioneer ancestors thought of our virgin forest lands as an inexhaustible and therefore expendable resource and slashed and burned recklessly. We now know that our forest resources are neither inexhaustible nor expendable, and for a good many years increasing efforts have been made to conserve our remaining resources.

That fire prevention pays big dividends is indicated by the Government's forest-management policies. In 1945, which I am told was a fairly typical year, forest fire losses totaled nearly \$26,000,000. But here is an interesting thing. Some form of organized fire protection is provided for some 156,000,000 acres of forest lands, while 127,000,000 acres in State-owned or private tracts lack organized fire protection. The losses on the protected tracts were slightly over one-half of 1 percent, while the loss on smaller area of unprotected tracts was 11.64 percent.

The Chief of the Forest Service of the United States Department of Agriculture is a native of Iowa and a graduate of Iowa State College. He entered the United States Forest Service in 1913 and has made it his career.

It is the present fashion in some quarters to belittle the Government bureaucrats, who, as everybody is supposed to know, lies awake at night thinking up new schemes to squander the taxpayer's hard-earned money. I give you one bureaucrat whose efforts over the years have saved for us and our posterity untold millions.

Mr. Lyle F. Watts, Chief of the Forest Service. [*Applause.*]

**Mr. Lyle F. Watts.** General Fleming, ladies and gentlemen, we forest firefighters deeply appreciate the opportunity to present to this Conference some of the problems which we face. In calling this Conference the President specifically emphasized the urgent need for reducing the drain on our natural resources due to destructive forest fires.

One-third of our Nation's total land area, more than 650,000,000 acres, is forest land, and there are more millions of acres of brush and wild grassland that as range for domestic livestock make a major contribution to the Nation's supply of meat, wool, and leather. Much of all this forest and range land is also extremely important as watershed land. Over all of this huge area of forest and wild land fire is an annual and continuing menace.

This year our forests will be called on to yield us some 37 billion board feet of lumber for homes and other uses. They must yield some 20 million railroad cross-ties, 18 million cords of pulpwood for paper and plastics, 6 million poles for electric power and telephone lines, and a lot of other needed forest products.

We are using up in this country our saw-timber supplies, our biggest and best trees, half again as fast as they are being replaced by growth. It is of the utmost importance, then, that we do not still further upset the balance between growth and drain by inexcusable loss from forest fires, just as important as protecting the forests as a source of water and a regulator of stream flow. Municipal water supplies, hydroelectric developments, and irrigation farming are dependent on forest and wild land for their watersheds. Elimination of fires on watersheds is the basic step in reducing the menace of floods.

Then, too, the forests harbor a large part of our wildlife resources. The recreational values of the forests not only contribute to our physical and spiritual health, but they are of economic importance as the basis of a very sizable industry serving recreation and vacation needs. All of these values are constantly menaced by forest fires.

The direct danger from forest fires runs into many millions of dollars annually. In 1946 fires destroyed enough timber to build 215,000 five-room houses. They destroyed homes, farm buildings, and crops, mills, and other improvements. Ten lives were lost fighting forest fires in 1946.

To these direct losses must be added the vast intangible losses resulting from such things as the decay or deterioration of fire damaged timber, the replacement of desirable tree species by less valuable ones, soil deterioration and erosion, uncertain streamflow and flood damage resulting from fire, the destruction of game and valuable range, loss of scenic value, interruption of travel and of tourist business, and the disruption of industry and employment.

Though difficult to measure in dollars, these indirect losses are by no means theoretical. Los Angeles County in California had an excellent example a few years ago where cause and effect were as graphically apparent as if drawn out on a chart. On New Year's Day 1934 a flood ripped out of Pickens' Canyon destroying 400 homes in the town of Montrose, causing \$5,000,000 in damage, and taking 34 lives. A month or so earlier a forest and brush fire had burned over the watershed above the canyon. Heavy rains occurred over that whole general region, but it was from the few hundred acres of burned watershed above Pickens' Canyon, and only from that burned watershed, that damaging flood waters emerged.

Preventing and suppressing forest fires present their own peculiar problems. Forest fires are mostly outside the sphere of activity of city and municipal fire departments. The problems of time and distance to be overcome in forest country are much greater than in thickly populated areas. The values involved are generally without benefit of fire insurance.

Often, too, the damage amounts to a far greater loss in public values than in financial loss to the immediate owner. The Los Angeles County story I cited a moment ago is a case in point. The brush and chaparral consumed by that particular fire had little or no cash value of itself, but the flood damage resulting from that fire ran into the millions, and from that example we can readily see why it is often as important to protect brush or a scrubby growth from a fire as it is to protect mature timber. The brush or chaparral that many people call worthless may be worth many dollars per acre as watershed cover.

Systematic forest fire control began in this country about 40 years ago in national forests under administration of the United States Forest Service of the Department of Agriculture. It was for the most part a new endeavor, and focused first on the heroic task of controlling fires in the backcountry of the West. From that beginning it has advanced rapidly, until it has become a highly specialized undertaking in many sections and is steadily increasing in efficiency.

At about the same time, private timberland owners began to band together in timber protective associations. In 1911 the first real impetus to protection of State and private land came about through the Weeks law. It recognized the public stake in controlling fires and provided Federal funds to reinforce the efforts of States and private owners. In 1924 the Clark-McNary law greatly enlarged and liberalized these provisions. Under these acts the area of privately owned forest land protection has increased from 61,000,000 acres in 1911 to 319,000,000 acres in 1946. But there are still 120,000,000 acres of privately owned forest lands that as yet received no organized fire protection, and in many places the protection already in force needs greatly to be strengthened.

Responsibility for forest fire protection is now actively assumed by Federal, State, and private agencies. The United States Forest Service protects the largest area of Federal forest land, some 185,000,000 acres, but several other Federal agencies also have a highly important job in protecting wild lands. The National Park Service, the Indian Service; the Bureau of Land Management, Fish and Wildlife Service; and the Bureau of Reclamation in the Interior Department all have large areas of public land to protect. The Soil Conservation Service and the TVA both cooperate in protection work. Even the Army and the Navy have a very sizable forest fire protection job on military reservations.

In 43 States organized protection on non-Federal forest land is a primary job of the State forestry department. Under the Clark-McNary law a total of \$23,000,000 is budgeted for expenditure this year on cooperative protection for State and privately owned forest lands. Of this sum, the States are contributing 55 percent, the Federal Government 35 percent, the private landowner 10 percent.

Around 175,000 forest fires occur each year in the United States, of which only 10 percent are caused by lightning, leaving 90 percent caused by man and, therefore, preventable. The human hazard has more than doubled since the war. People are vacation hungry, and they do constitute a fire risk when they go out in the woods.

Perhaps that applies to some of us, too, you know. We are making impressive progress in the methods of fighting growing forest fires, but it will be far better and cheaper in the long run if we can cut down the huge waste and destruction from careless American habits by checking man-caused forest fires at their source.

This calls for an aggressive, continuing campaign of education. We have under way a Nationwide cooperative forest fire prevention campaign in which the American Red Cross, the Advertising Council, Inc., and many organizations and individuals are cooperating with Federal and State foresters. There are also effective "Keep America Green" programs under way in 20 States. Such education programs need wider sponsorship and need to reach more segments of the American public.

We need more work in the schools. We need to instruct farmers in the care of burning old fields and brush, woods workers and sportsmen on fire safety in the woods. We need to teach millions of smokers how to handle their cigarettes and matches like responsible, grown-up individuals. Our educational work must be coupled, and is, with law enforcement and with State restrictions, excluding the public from highly hazardous areas during periods of unusual fire danger. In general, the State fire laws are reasonably adequate, but in many States enforcement is weak, particularly in the case of laws applying to incendiaries.

Equally important with fire prevention and law enforcement is strengthening of the forces and facilities to combat fires that do start. Organized protection should be extended as quickly as possible to the 120,000,000 acres not now so protected. Existing Federal, State, and private forest fire protection agencies, local, town, and municipal fire departments, should be better coordinated.

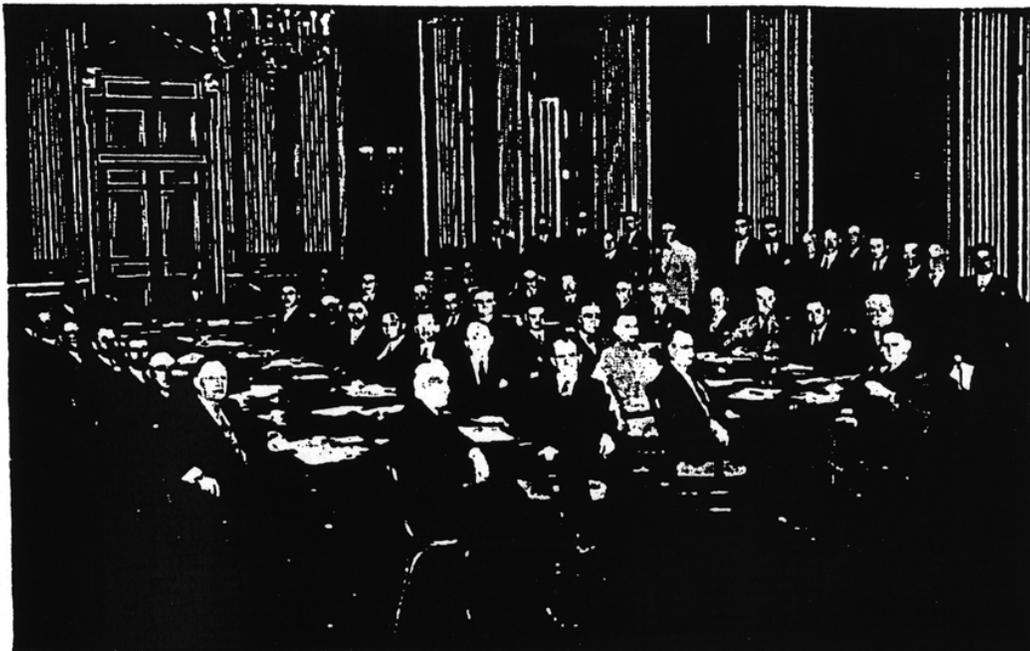
A logical development is the expansion of forest protection into this whole field of rural fire control. In some places this has already been done. There should be continued study and development of forest firefighting equipment, studies of fire weather, research in fire prevention, and in suppression techniques.

Forest fire protection has now developed to the state in many places where, in my opinion, insurance on standing timber is entirely feasible. In order to attain these objectives we must have a better understanding and appreciation on the part of the public of the great importance of our forest and wild land resources - what their protection and wise use mean to the individual in the

way of cheaper lumber, better hunting and fishing, and recreation – what they mean to the Nation in safeguarding water supply, regulated streamflow, steady yield of basic raw materials for industry and employment. If and when every American citizen comes to know how much our forests mean to national welfare and prosperity, we shall have very few man-caused forest fires. I think this Conference might well consider this matter and take the initiative toward making forest insurance a reality. I am asking this Conference to give serious consideration to the Nation's forest fire problem and in its findings and recommendations to give full support to measures which will help reduce the enormous damage and loss caused every year by the red demon of the woods. The Federal, State, and private forest protection agencies, I know, will cooperate to the fullest in effectuating the President's program for fire protection. Thank you. [Applause.]

**Chairman Fleming.** Thank you, Mr. Watts. The last four addresses have most appropriately led up to the report of the Committee on Firefighting Services. Gen. William J. Donovan, who was chairman of this committee and who worked unceasingly with the committee and was here the early part of this week, is unable to be here today to give the committee report, so I am asking Horatio Bond to pinch-hit for him. Mr. Bond. [Applause.]

**Mr. Horatio Bond** (National Fire Protection Association). I am sure that General Donovan is sorry not to be here today, and I am personally disappointed that he is not here to present this report to you. I have greatly enjoyed working with him on this job. I have special affection for him because he was one of the first of the topside military people to accept the importance of the role which fire could play in the war. He helped us get certain technical specialists at a time when they were badly needed, and he sensed, I think, very early fire destruction might be one of the pressures through which victory could be brought about.



**COMMITTEE ON FIRE-FIGHTING SERVICES**

What those pressures are is perhaps illustrated by this Conference. A few disastrous fires in this country during the past year, the LaSalle and Winecoff Hotel fires, for example, and a number of others, have prompted the President of the United States to ask some 2,000 distinguished citizens of the country, who are able to help deal with fires, to come to Washington for the better part of a week to think about what might be done.

It was true that the pressures of fire damage did bring victory. As General Bull has indicated, fire is not only a peacetime but a wartime problem. The destruction by fire of Hamburg, Germany, in the summer of 1943 by Royal Air Forces very nearly knocked Hitler out of the war at that time.

In his address this morning Mr. Bugbee mentioned that a fire which has been prevented is not spectacular. I know that it cannot compete as a spectacle with the picture I have of a fire here in Washington just a few years ago. The fire was in Hahn's Shoe Store, and the pictures showed it enveloped in smoke. Four high pressure hose streams from aerial ladders are shown in the pictures; another from a water tower; four or five more from deck guns; and probably many others, that did not show in the pictures, from hand lines inside the buildings. These plus an array of apparatus, hose lines like spaghetti in the street, 300 firemen at work on a five-alarm fire, produced a real spectacle.

In presenting this report of the Firefighting Services Committee I am making these remarks simply to draw a few lines of perspective.

Nearly all of the current large fires are those involving a single property and, therefore, are not conflagration in the sense of a sweeping fire. There have been some forest conflagrations and waterfront conflagrations, but the day of the great sweeping fire involving dozens or hundreds of buildings in our city areas, is largely past. It has been about 25 years since we have had a conflagration of the sort involving a loss of as much as \$10,000,000, and no conflagration to match those of Chicago in 1871, Boston in 1872, Baltimore in 1904, or San Francisco in 1906.

It is proper to mention these, because the greatly reduced chance of conflagrations is due to the development of our municipal fire and water departments. Improvements in building construction, especially the general exclusion of wood-shingle roofings, of course, has helped reduce the chance of conflagration, but I am addressing these observations to the effect of the improvements in firefighting facilities.

Estimates of fire losses available to us are expressed in dollars, and you do not need me to tell you that the dollar today is not what it was even 5 years ago. In dollars the 1946 estimated loss was about the same as that of 1926. In terms of relative destruction the 1946 loss is only about 77 percent of that of 1926. The estimated losses in 1946 increased in dollars 16 percent over the previous year. In terms of relative destruction this increase was less than 5 percent.

A better picture of the spectacular progress which we have made against first comes from a consideration of the amount destroyed in comparison to the total amount of property there is to burn. The amount of property which could burn has greatly increased since 1926, yet even the distorted dollar values show that we are burning, currently, a little less than then. The amount

this year will be only a fraction of the total which might burn. Add in your mind to the normal increase in building since 1926 the huge expansion of the war years, and you can see the extent of the accomplishment.

There is more and more to burn every year, yet less and less of it is burning.

The report before you has been prepared on the basis of ideas supplied by members of the committee. These were developed at meetings of four working subcommittees early in April. A meeting of the full committee was held on April 14, and following that meeting the draft which has been circulated here at the Conference was prepared. It was reviewed yesterday at a very fully attended meeting and was given extended discussion. The numerous items in the action program in the report were approved. At the same time a number of changes were made which will appear in the published report. Practically all of these were of an editorial character, none of which change any fundamental parts of the program recommended.

Mr. Chairman, I move the acceptance of the report by the Conference and the approval of the Action Program for the Firefighting Services as presented in the report. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Bond. You have all had copies of the report. Mr. Bond has explained to you the very slight changes in it, except some editorial work. Is there any second to this motion?

*{The motion was seconded by Mr. Frank McAuliffe, was put to a vote, and was unanimously approved.}*

**Chairman Fleming.** The American Red Cross is the one organization to which we all turn in time of disaster. After the devastating tornadoes that swept portions of Texas, Arkansas, and Missouri this spring and at the Texas City calamity in April, it was the Red Cross that was first on the scene to hold out a helping hand to the afflicted. In reality that was the helping hand of all the American people, for the Red Cross is a democratic organization supported by all the people and serving all the people in time of need.

The executive vice chairman of the Red Cross is a native of Boston and has a distinguished record in social work. Principally, however, he has made the Red Cross service his career, and it was he who handled the negotiations that brought the Red Cross into Holland to succor the afflicted at the German invasion of 1939.

Mr. James T. Nicholson. [*Applause.*]

**Mr. James T. Nicholson.** Mr. Chairman, ladies, and gentlemen, the dean of a well-known women's college, realizing that he could not do anything about the smoking on the part of the girls, addressed them one morning and said, "I am not going to sermonize or moralize about smoking, but I want to tell you that you neither smoke as ladies or gentlemen," and I suspect that in what he said a lot could be made to apply to most of us.

It happens that my father was a firefighter in a volunteer fire department many years ago. He took his job very seriously, and he instilled in me certain habits with respect to fire prevention that still control certain of my actions. I paid the penalty somewhat the other day, because just after a 15-cent shine, as habit, I threw my butt onto the sidewalk and then proceeded to step on it and grind it out, only to find that I had stepped into a mud puddle. But my discomfiture was not as great as the experienced from the glares of the butt snipers in Frankfurt a year ago with General Bull and in Cairo, Egypt, particularly.

I am indeed glad to bring you a message from the American National Red Cross and to assure you of wholehearted Red Cross support in the Nationwide fight to prevent destruction of lives and property by fire.

Many may not realize it but, from its inception, the American Red Cross has been a fighter for the prevention of fires and of fire hazards and with considerable cause. Sixty-six years ago, in 1881, the newly organized American Red Cross numbering only 250 members answered its first disaster call – a call to take help to homeless sufferers in the great forest fires that were sweeping Michigan. Word came to the small Red Cross group that thousands were fleeing before the flames; that many were dying in the ashes of their hard-earned homes.

That was the first test – a test by fire – of the ingenuity and purpose inherent in the hearts of those first American Red Cross disaster workers. Sixty-six years ago, communications and transportation, as I need not point out, were not as fast as they are today – yet many boxes of supplies, nearly \$4,000 in cash, as well as volunteer help was rushed to the Michigan area.

That was the organization's baptism in disaster work.

In the past 10 years we have given help in rehabilitation and disaster occurring on an average of one every 2 days. And ever since that time, it has been a major Red Cross responsibility to relieve the human suffering and misery caused by fires – and, through educational prevention programs, to help reduce the number of fires.

The Red Cross congressional charter states – and I'd like to quote – that we must “continue and carry on a system of national and international relief in time of peace and apply the same in mitigating the suffering caused by pestilence, famine, fire, floods, and other great national calamities and to devise and carry on measures for the prevention of the same.” And I would emphasize the last phrase. I can think of no gathering where the question as to what the Red Cross actually does about fire prevention could be better asked – and answered – than at this Conference.

First, because nearly 9 million Americans have completed Red Cross accident-prevention and first-aid courses within the past 7 years. Take first-aid courses, for example. We cannot teach how to treat a burn without giving counsel about preventing fires, the cause of so many fires, getting out of burning buildings, and turning in alarms. We cannot teach accident prevention without giving information about common fire hazards and how to eradicate them.

A major part of all Red Cross accident-prevention courses is devoted to reducing the hazards of fires in homes and on farms. Red Cross training objectives in this field – and again I quote – are “to focus upon individual responsibility in the prevention of fires and the elimination of fire hazards – and also to acquaint students fully with the programs of fire prevention as conducted by the state and local communities.”

American Red Cross workers, serving at 581 major fires throughout the United States during the past 7 years, saw again and again the enormous toll of life and property which occurs year after year. Many of these workers are still on the scene of the Texas City explosion and fire; others are in the Texas-Oklahoma Panhandle areas where fire followed tornado. Last year Red Cross men and women served at the Winecoff, LaSalle, and other hotel conflagrations which took more than 270 lives.

Yes, your Red Cross sees at first hand the dire need of greater fire prevention education.

And now – secondly – because the Red Cross works directly with the United States Forestry and the United States Weather Bureau in fire prevention, fire spotting, and disaster preparedness. Early in 1945, special forest fire prevention committees were set up by Red Cross in each of its five area offices. Through its network of 3,754 chapters, the Red Cross has helped circulate films, posters, pamphlets, cartoons, radio skits, and other attention-compelling publicity to schools, libraries, filling stations, lumber companies, railroads, and hotels.

My third and possibly most important point – deals with Red Cross fire prevention work among 19,000,000 young Americans – members of the American Junior Red Cross.

There is where our greatest hope for the future lies. This year seven area training centers, established in cooperation with the United States Forest Service, have enrolled hundreds of Junior Red Cross members in the States of California, Washington, Minnesota, Arkansas, Montana, Virginia, and Georgia. As an important part of these programs for leadership training, veteran forest rangers have presented films and lectures, and have taken the Junior Red Cross fire prevention trainees on field trips. The practical phases of these on-the-ground fire prevention courses have occupied from 3 to 10 hours for each Junior Red Cross member.

This type of Red Cross fire prevention work is, I believe, concrete and well defined. Similar programs are under way in many of our chapters. In Spokane, Wash., for example, several hundred Junior Red Cross members recently went on duty at all filling stations throughout the city. These young people were not pumping gasoline or filling car radiators or wiping off windows. They were performing a simple, courteous service in emptying automobile ash trays, so that the ash trays could be used without possible danger by car occupant. As you well know, cigarettes tossed carelessly from car windows have many times caused tremendous brush and forest fires. As each ash tray was emptied, a small sticker was attached to it, reading: “Use the Ash Tray – Prevent Forest Fires.”

Again – this time in Salt Lake City – all boys and girls belonging to the Junior Red Cross pledged themselves to act as voluntary fire spotters for the city fire department and for the United States Forest Service. Numerous instances have already been quoted in official reports

showing that alarms turned in by these young people prevented potentially large fires from gaining headway.

Many other Red Cross chapters and Junior Red Cross groups could be cited for their practical, down-to-earth programs of fire prevention. Their projects may vary in some degree, according to locality, but the same over-all purpose inspires each of them.

And that, at least in part, is what the American National red Cross is doing in this Nationwide campaign for increased fire prevention education.

We are pleased that President Truman has asked the Red Cross to participate in this great conference. We are delighted to be an active partner with all of you and with other national and community groups who are striving toward a common goal. Working together, I'm sure we can achieve a safer America – a more alert America, constantly on guard against the needless loss of life and property from preventable fires. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Nicholson.

The next speaker is a gentleman who has developed such a distaste for fire in any shape or form that I am told he even eats his food raw. [*Laughter.*] A fire anywhere in the United States is certain to cause him acute distress.

I have the honor of presenting, not introducing, Mr. W. E. Mallalieu, general manager of the National Board of Fire Underwriters. Mr. Mallalieu needs no introduction to any audience interested in fire prevention. [*Applause.*]

**Mr. W. E. Mallalieu** (general manager, the National Board of Underwriters). General Fleming, ladies and gentlemen, as I think of the inspiring and challenging address President Truman delivered from this platform yesterday, filled with sincerity and sympathetic understanding of the problems of this Conference, and as I think of the addresses and papers presented here, the main thought in my mind is: What an opportunity we have to make our America a better and safer place in which to live! [*Applause.*]

Fire waste in the United States constitutes a problem of paramount and far reaching importance. It vitally affects the economic future of the Nation.

During the 81 years since the National Board of Fire Underwriters was founded it has fought a relentless battle against fire.

From a small beginning the fire loss has increased almost annually despite the combined efforts of many companies and organizations to arrest it. During that time many cities have been almost burned out. The tragedies of Chicago, San Francisco, Atlanta, Chelsea, and scores of others have kept the sky red with the glow of conflagration.

Over the past half century we have made great technological progress in fire prevention. The principles involved in eradicating the conditions that breed fires and in preventing the spread of

flame and toxic gases are well known. We have worked out safe methods of handling and storing a vast number of highly flammable and explosive products. We have devised measures which make hazardous industrial processes relatively safe to human life.

Yet in the past few years we have seen the fire loss growing. We have seen the numbers of fires increase steadily until, a survey conducted by this Conference tells us, they now average more than 800,000 fires per year in the United States. Our dollar fire loss is at an all-time high.

However, compared with the amount of property at risk and the increased wealth of the country we have undoubtedly made substantial progress in protecting our Nation from fire.

And who can say how much greater devastation would have been visited upon our cities or what the cost would be in human life, if we had not developed sound principles of fire prevention?

Yes, we've made great progress. Progress that can be measured and counted in the tens of thousands of lives saved, and hundreds of millions, perhaps, billions of dollars worth of property preserved to serve the Nation and the world.

But this progress is not enough. We still burn too much and destroy too many lives.

If history repeats itself – should the upward trend of fire losses follow a curve similar to the experience after World War I and continue to rise for nine consecutive years, we will soon be confronted with billion-dollar losses instead of half or three-quarter billion-dollar destruction.

At the present rate of increase, fire losses for 1947 will hit three-quarters of a billion dollars. Projecting the same rate of increase into the future, the shocking figure of \$1,000,000,000 will be reached by 1950 – just 5 years after the conclusion of World War II, as compared to 8 years after the termination of World War I when the greatest fire loss of that period occurred.

To me it is unbelievable that we have allowed this situation to exist or that we will tolerate its continuance without mobilizing all the talent and ingenuity, energy and resources this great country possesses.

Rightfully we have always prided ourselves upon our American spirit of accomplishment – our will and our ability to get things done. Our people have wrested a great Nation from the wilds of an untamed continent. We have built upon an economic system of free enterprise, based on individual initiative, which has achieved a productivity and resulted in a standard of living which is the envy of the rest of the world.

We have succeeded in solving, or at least mitigating, most our great social problems such as contagious disease, sanitation, and crime, by the effective application of the developments of science and technology. But each year we continue to sacrifice to fire thousands of lives – innocent men, women and most tragic of all, children – burned to death or maimed and cripple for life. We have permitted and continue to permit the wanton, profligate destruction of billions of dollars in irreplaceable natural and created wealth.

For years we have endeavored to meet this problem by general education and by the adoption of restrictive fire codes, but today it is apparent that nothing but the whole hearted cooperation of all interests in our national life can control the loss of life and property due to fire. Reviewing the tragic years that are past, we look hopefully into the future. We have gone far. We have accomplished splendid results in the education of our people to the hazards which are developing in everyday life. With the help of specialists and the cooperation of different interested organizations we have been able to solve many of the critical fire conditions introduced into modern society. Safety standards and regulations have been developed and in many cities have been accepted which have proven of lasting value. Building codes have been adopted – but the best building code in the world depends entirely on proper enforcement.

Let me direct your attention for just a moment to what has been accomplished in other fields. These are achievements which should be an incentive and a spur to us to strive to do as much in fire safety.

According to statistics compiled by the Metropolitan Life Insurance Co., diphtheria took a toll of 125 lives per 100,000 population in 1885 while in 1945 this death rate had been reduced to 1.2 per 100,000.

In 1885 typhoid accounted for 50 deaths per 100,000 population while in 1945 deaths from that great killer had been practically wiped out – reduced to a mere 0.4 deaths per 100,000.

Even against our greatest killer, tuberculosis, we have made remarkable progress. In 1885 approximately 200 died of this disease out of each 100,000 population while in 1945 this rate was only one-fifth of that frightful toll – 40.1 deaths per 100,000.

How have those miraculous results been accomplished? Simply because as a people we recognized the hazards which faced us and were willing to pay the price – in money, in effort and in perseverance, to make the unrelenting fight necessary to bring them under control. We applied the latest scientific and technical knowledge to the problems. We took the preventive measures necessary to eliminate or control the breeding places of the germs responsible for those diseases. We enforced protective measures to safeguard our people against these scourges.

Why can't we as a Nation attack the fire menace with the same spirit of determination? Why can't all of us – Nation, State, and municipalities – work together, using every resource at our command to take those corrective measures which are necessary to control fire hazards? Why can't we apply to this great problem the wealth of knowledge, experience and scientific information available?

The great price which we are paying each year in innocent lives and irreplaceable wealth demands that we do so – now!

In calling together this Conference, President Truman has shown the initiative and leadership essential to the approach to this problem on a truly national scale. I regard this President's Conference as perhaps the most significant event in our country's long fight against fire menace. It will enlist great new forces in the fight against preventable destruction. With the more

general acceptance by public officials of responsibility for fire safety in their respective jurisdiction, the promise of greater progress in the future seems assured.

We are facing an era of constantly growing fire hazards brought about by the discovery and widespread use of new and increasingly hazardous chemical compounds. The Texas City disaster on the very eve of this Conference has highlighted the problems of the future. We must speed up our research. We must apply the latest scientific knowledge and technological developments to the conquest of fire in the same manner that scientific tools were used in our victory over contagious diseases. We must attack the fire problem on every front with the same determination that characterized those campaigns against disease.

The organization which I have the honor to represent has been engaged in the fight against fire for over three quarters of a century. I pledge to this Conference that we will not only continue that fight in the days ahead but will intensify our efforts. We will do all that is within our power to help to make effective the recommendations which are promulgated by this Conference. The true success of our effort, however, will depend not alone upon the trained men leading our fire departments and the intelligent efforts of our public officials in the States and municipalities, but upon the fire consciousness of the general public. To all of them I now appeal. The opportunity, ladies and gentlemen, is yours! What an opportunity! [*Applause.*]

**General Fleming.** Thank you very much indeed, Mr. Mallalieu. That was really most inspiring.

It would be surprising if with some 10,000 lives being sacrificed to fire each year in the United States the life insurance companies did not feel that they also had a very considerable interest in fire prevention. I imagine the life insurance people would be quite happy if all of us could just keep on living forever. Unhappily, that does not yet seem to be quite possible, although within a generation the average life span has been almost miraculously increased. A boy baby today can expect to live to an age of 62 at least, while a girl baby may look forward to more than 67 years on this mortal soil. Maybe the girls are tougher. They can expect to live that long barring automobile accidents and fires.

The accidents that have the growth of mechanization have replaced as outstanding killers a number of diseases once considered fatal. For a decade or more we have been losing ground in our battle against fire. That is curious when you come to think of the extreme difficulty of controlling disease compared with the relative ease with which fires can be prevented if we only set ourselves to the task.

It is my privilege to introduce Mr. O. J. Arnold, an old friend of mine from Minneapolis, president of the Northwestern National Life Insurance Co., who has long been a leader in insurance association work. Mr. Arnold. [*Applause.*]

**O. J. Arnold.** As others here have pointed out, the recent holocaust at Texas City provides a grim backdrop for this Conference. At the same time it dramatically points up the need for an all-out attack on the disastrous fire toll for which this meeting is the kick-off. When we review the appalling costs of this conflagration, we may even agree with the unknown ancient who first said "It is later than you think." Had such a Conference as this been held a year ago, and had it

perchance prevented the spark which set Texas City aflame, what a contribution that would have been to the well-being and happiness of the American people!

Such a contribution would not have been measured wholly by the property losses which would have been avoided had there been no catastrophe. Nor would it have been measured by the indemnity for the human lives lost, whatever that figure may prove to be when the life insurance payment figures are finally available. Far more important than the immediate economic costs of any disaster, huge as they are, are the personal losses to the families of the dead and the continuing loss to our society of the contributions they would have made in their life's work. Who can say what these Texas City losses will eventually add up to? There may have been among the fatalities a scientist who would have found the cure for cancer, a potential statesman whose leadership would have hastened harmony and understanding among all the nations, a musician destined to write the modern folk songs of America. There must have been, among the dead, men who would have produced children with qualities of mind and spirit which the nation urgently needs. These are the irreplaceable values – human lives as well as economic values – which are snuffed out in the flame and gases over Texas City. These are the more important of the values we seek to conserve in the program launched here.

We in the life insurance business believe that any business holding the important place which life insurance does in the national economy has a responsibility to promote the welfare of the people as a whole, as well as of its policyholders. We believe that is good business as well as good citizenship. And speaking for the life insurance companies, I do not hesitate to say that keen as our interest is in conserving life in order to reduce mortality rates, our business as a whole is aware, too, of these human values and of the long-range contribution they make to the general welfare. Because of these human values, the desire of the life insurance business to have this Conference point the way to conservation of life through fire prevention is deepened and strengthened.

The human race has, from early tribal days, attacked its worse scourges by calling a council of war and planning a full-scale attack. That is why this Conference gives encouraging promise of real accomplishment. Intelligent thought and planning lie behind this meeting. I take personal satisfaction in the fact that your Chairman, General Fleming, to whom much credit must go, is an old acquaintance of mine, dating back to the years when he headed the upper Mississippi River development project which has meant so much to those of us who live in that area. General Fleming, in his public expression on the subject of fire prevention, has emphasized the three E's – Education, Enforcement, and Engineering – as the keys to the problem, and he wisely puts education first. That is where, in my opinion, the best chances for success lie in combating the fire menace.

Perhaps many of you noted the Metropolitan Life Insurance Co.'s survey of catastrophic accidents over the past 10 years, released by grim coincidence on the very day of the Texas City explosion. That survey concludes that almost 90 percent of all catastrophic accidents, and more than three-fourths of the resulting deaths, are the result not of natural disasters but of human failures.

Human failures – carelessness, if you will – lie at the bottom of most fire tragedies. Surely that is apparent on every hand. And carelessness will yield only to education – persistent, persuasive education as to what causes fires and how appalling can be the consequences of failure to observe preventive measures. Only when the people as a whole appreciate these facts will we get really effective action on a broad scale.

Over the years I have found that people will do the things they should do, if they understand they are desirable for them and for the public good. They will get vaccinated against smallpox – and deaths from smallpox have been reduced to an almost negligible figure. They will contribute generously to worthy causes such as the fight against heart disease, cancer, and polio – yet polio, for example, even in an epidemic year, claims only a fraction of the deaths which fire claim. They will take preventive health measures. In my own city of Minneapolis, we are this very week launching a community-wide program in cooperation with the Federal Government, to X-ray the chest of every adult in the city, in order to disclose signs of tuberculosis and other chest ailments such as enlarged hearts and cancer. We may not achieve this goal 100 percent, but the public reaction to the idea of taking a dramatic step toward making Minneapolis the healthiest city in the country is phenomenally good. Six months ago I would have been extremely skeptical – now I am confident this ambitious goal is attainable. Yes, people will respond to intelligent programs of education.

Finally, I present my one and only recommendation to the members of this Conference. It is this: that we add a fourth “E” to General Fleming’s three E’s – Education, Enforcement, and Engineering. The fourth E is Example. Each of us in this auditorium is present because he or she has some special responsibility in the war against fire disaster. Each of us has some influence in our community. If each of us will, when we get back home, provide an example for our fellow citizens by practicing the commonsense rules which we all know will reduce the local fire toll, we will be using one of the most effective tools of education. If we are fire prevention conscious, and let that fact be known by our example, others soon will be. If we are not, how can we expect others to be? If we start with ourselves, we shall have taken the first small but necessary step toward our long-range goal.

**Chairman Fleming.** Thank you, Mr. Arnold. I want to say that I am all for that last “E” the fourth one. I hope you will all take that back with you.

I am told that the Committee on Research has its report ready, and to present the report I call on Mr. Woodward H. Brenton, Chairman of the committee. Mr. Brenton. [*Applause.*]

**Mr. Woodward H. Brenton.** Mr. Chairman and members of the Conference, to make my position perfectly clear, I want you to know that I stand before you merely as spokesman for a group of very able men who have been serving as members of this Committee on Research. As a layman, I want to tell you about how greatly I appreciate watching these men work and seeing their skill and ability on this subject and, more than that, observing their seriousness in trying to solve this important problem. Right now I want to thank those men, especially Mr. Alvah Small, for the heavy burden he has carried in connection with this committee as secretary of the committee.

You have all seen the report of the committee, which was prepared after a number of conferences and was made available. Yesterday afternoon the committee had a 4-hour session. A number of changes were made in the report, but for the most part they had to do with clarifying it and making more complete the original intention of the members of the committee. There are four major matters which I feel, however, should be called to your attention before presenting the report.

In the first section of the draft which was made available to you, in the recommendation of a central place for availability of information for fire prevention, the word "authority" was used. Since there was no intention toward the establishment of any authority, the wording of this section has been changed.

The second matter I wish to call to your attention is in the section dealing with the treatment of habitual fire setters. The wording was changed to give due respect to the rights of the individual.



**COMMITTEE ON RESEARCH**

In the section on Navy firefighter schools it was first recommended that the Navy firefighter schools be made available. Since this original recommendation was made, the Navy has announced its willingness to make these schools available; therefore, the wording of this section was changed.

The one addition that was made to this report is an additional section. I will read the conclusions of that section contained in one sentence:

*The Committee on Research believes it appropriate to recommend to the Conference that it go on record asserting its support and endorsement of National-State-local government and civilian programs for fire prevention.*

Mr. Chairman, I want to recommend and move the adoption of this report of the Committee on research. [Applause.]

**Chairman Fleming.** Thank you very much, sir.

**Mr. Walter Williams** (Seattle, Wash.). I second the motion.

**Chairman Fleming.** We are happy to have in the audience today Mr. S. H. Ingberg, Chief of the Fire Resistance Section of the National Bureau of Standards, who tells me he would like to comment briefly on the report of this committee. Will Mr. Ingberg please come up on the stage so that he can speak into the microphone and be heard by all of us? He is a very distinguished man in this particular line. We are very happy to have him here. [Applause.]

**Mr. S. H. Ingberg.** Far from being distinguished, I feel very humble, particularly in this company. I have spent some years in fire-loss prevention, and I really have not felt that I made more than a very, very feeble start.

One of the objects and outcome of research in fire loss prevention should be establishment of its more important fundamentals on a broad and secure basis. These cannot be said to be as well developed or established as those for structural, mechanical, electrical, and safety engineering. While acknowledging the greater complexity of conditions that affect the fire loss, it should be possible to make more effective use of the loss experience in establishing basis of evaluation of hazards for given conditions and the application of appropriate protection measures.

The outlay required for protection should be proportionate to the reduction in the fire loss that can be achieved thereby. Where life loss is not involved, it is questionable whether it should exceed the expected saving. Even where protection of life, as well as property, is a consideration, an evaluation on the above basis will give significant information.

The annual cost of loss prevention measures can in general be taken as the sum of recurring items, such as fire inspection, fire brigade, and watchman service, plus a percentage of the initial cost of fire protection equipment, the latter to cover interest on the investment, depreciation, and maintenance. In arriving at estimates of possible reduction in fire losses for given outlays, due account must be taken of the degree of effectiveness of the measures provided, and an outlay for given measures equal to the expected loss for the unprotected condition is justified on the basis of saving of property only, if such measures, as judged by the experience record, will reduce the loss to a comparatively small percentage thereof.

Considerations such as the above should assist materially in the application of rational analysis to the evaluation of specific conditions from the standpoint of hazard and required protection. Possibly, as an outcome of further study, a case book might be developed, listing on one side the factors having a bearing on the hazard, such as construction, occupancy, and public protection,

and on the other, the more applicable protection measures. If of sufficient range and suitability arranged and indexed, such a compilation might prove very helpful in the initial appraisal of given conditions.

An approach such as the above should assist in preventing the proposal of a miscellany of measures on the chance that some of them may be effective. It would also be helpful in offsetting the tendency to indicate a too limited range in protection measures, where others might equally or better apply. The essential difference between fire protection engineering and promotion of the various devices and services by which it is in part implemented is the ability to truly appraise the hazard and recommend the most economical and effective measures for the conditions presented.

It should be recognized that a high degree of protection is attainable with a combination of conditions or measures, none of which by itself may rate as of highest effectiveness. In this connection I will cite the fire loss record of the Government building plant for Washington and vicinity. The value of buildings and contents subject to fire loss, not including any valuation on records, is near \$1,000,000,000. The average annual fire loss for the past 15 or 20 years has been less than \$10,000. This gives an annual loss rate of no more than 1 cent per \$1,000 of value exposed. This compares with a national average of the order of \$2 and, for the better improved risks, of 20 cents per \$1,000.

The construction is superior for nearly all buildings but for some of the leased properties. The occupancy conditions present a general range from light to medium fire hazard, with only relatively small areas of high hazard. Inspections for fire hazard are made more or less regularly but, otherwise, there is no central control of occupancy conditions. Incombustible furniture and filing equipment are used to a considerable extent, but some areas present a considerable fire hazard from record storage in combustible shelving. Standpipes, hand extinguishers, and watchman service are provided for nearly the whole property. Automatic Sprinkler and automatic alarm equipment cover less than 1 percent of the total. While the property with very little protection might not be considered a bad insurance risk, with what is provided it quite apparently represents an extraordinarily good one.

The above is presented only as an example of the possibilities of fire control by appraisal of conditions and application of protection and management measures that have significant bearings on the fire loss, more general recognition of which may assist in furthering the general objectives of the Conference. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Ingberg. We still have before us the motion of Mr. Brenton that this Conference accept the report of the Committee on Research. It has been seconded. Is there any further discussion?

*{The question was put to a vote and was carried unanimously.}*  
*{Announcements.}*

**Chairman Fleming.** We will now recess until 10 o'clock tomorrow morning.  
*{The Conference adjourned at 4 P.M.}*

# Thursday Morning Session

*May 8, 1947*

THE Conference reconvened at 10:15 A.M., Chairman Fleming presiding.

**Chairman Fleming.** The Conference will please come to order. I shall call on Rabbi Norman Gerstenfeld, minister of the Washington Hebrew Congregation, to offer the invocation.

**Rabbi Norman Gerstenfeld.** O Thou Who are the seat of our hopes, the tower of strength of our souls, the guide of our hands, the vision of our courage, and the love in our hearts, help us to save our generation from the terror that cometh by night and the arrow that flieth by day, from the pestilence that walketh in darkness and the destruction that wasteth at noonday. Shield our children from the devouring fires of destruction and our dear ones from the thoughtfulness of themselves and others that would add to the devouring flame.

Fill our hearts with Thy wisdom and understanding, for except Thou keepest the city, the watchman waketh but in vain. Amen.

**Chairman Fleming.** Among our guests today is one very distinguished one, whose arrival in this country is fortunately timed so he can observe our deliberations today. He is Dr. S. H. Clark of the British Fire Research Organization maintained jointly by the British Department of Scientific and Industrial Research and the British Fire Officer's Committee. Dr. Clark is director of this new British Fire Research Organization and will be in this country for several weeks to come. He will undoubtedly have the opportunity to see and talk with various ones of you as he gets around. I am glad to welcome him and will ask him to stand up for a moment so that we may greet him. [*Applause.*]

*{Dr. Clark stood in recognition of the applause.}*

**Chairman Fleming.** Maj. Gen. Alden Waitt, Chief of the Chemical Warfare Service, through Col. L. M. Johnson, Chemical Warfare Service, wishes to announce that the Chemical Warfare Service will be happy to conduct tests at Edgewood Arsenal on the gas travel and characteristics of propane and butane gases in the air due to leaks from tanks. All information on this subject will be given out by the Chemical Warfare Service to all interested.

I think I will take just a moment to say a word about the music with which we have been entertained at the Conference. On Tuesday, as you are aware from a glance at your program, we heard the United States Marine Corps Band under the leadership of Maj. William F. Santelmann. Yesterday we had with us the United States Navy Band under the leadership of Lt. Com. Charles Brendler. We are indebted today to the United States Army Band under the leadership of Capt. Hugh J. Curry. These three bands are great national institutions. They have frequently toured the country, and you have probably heard them before.

Ordinarily, when we think of a brass band, we think of stirring marching music. These gentlemen can play that kind of music, too, but you have been made aware of the fact that they also come close to the symphonic ensemble, and I dare say there is not a member of any of the three organizations who could not hold down a chair in any one of the leading symphony organizations of the country. I am sure that I speak for all of you when I express my thanks to Major Santelmann, Lieutenant Commander Brendler, and Captain Curry and their men and express your appreciation for the manner in which they have added to the pleasure of this Conference. [*Applause.*]

For the last 2 days we have been considering various aspects of the fire prevention problem, but we have saved until nearly the last what is by no means least in importance, namely, the legal phase of fire prevention, for I think it is no exaggeration to say that our best techniques for fire prevention and extinguishment will be less effective unless authority exists in law to compel compliance with at least minimum safety precautions.

I have the honor of introducing Mr. J. H. Craig, chairman of the fire marshals' section, National Fire Protection Association. He has served as State fire marshal of Illinois since 1941, and during the war he was the State fire coordinator and State property officer. Mr. Craig. [*Applause.*]

**Mr. John H. Craig.** I am honored to have the opportunity to represent the State, provincial, and city fire marshals at this most important meeting, where the leading authorities in fire prevention work are meeting at President Truman's request in an endeavor to lessen the appalling loss of life and property due to fire.

"There ought to be a law" is the cry that goes up from the public every time there is a major fire disaster. As a result, the various State statute books are cluttered up with laws, some good, some bad, with the question of enforcement often left dangling in midair. The consensus of State fire marshals is that fire prevention laws, rules, and regulations to be effective in holding down the fire loss must be enforced at the local level, with the State offices to be used in an advisory capacity or in special cases requiring State help, or where the local officers are negligent in performing their duty.

In most all States, the State fire marshal laws provide that the officers of cities, villages, towns, and fire protection districts are charged with inspecting and examining buildings and other structures and if a dangerous condition or fire hazard is found to exist shall order the dangerous condition removed or remedied. Willful failure, neglect, or refusal to comply with the order is a misdemeanor punishable by a fine, subject, of course, to the owner's right to appeal the order to the State fire marshal.

These State fire marshal laws set the correct pattern and if every one concerned did his duty, most all fires would be prevented. However, most local officials seem to have little sense of responsibility. The tendency is to ask for an inspector from the State fire marshal office for the most trivial fire hazard conditions, such as burning of trash in an alley by a storekeeper, removal of weeds from vacant lots, rubbish accumulations, defective flues, improper use of electric extension cords, and so forth.

Fire authorities state that 60 percent of all fires are traceable to such simple, but dangerous, conditions. You know how many of the large fires start. Some careless smoker discards a lighted cigarette, the housekeeping condition is bad and contrary to local ordinances, no one bothers about enforcement. Every one should know better – including the careless smoker. The place is soon in flames. Maybe the fire department can control the fire, often it can not. It may be a hotel, a place of public assembly, or an entire community may be wiped out, with the loss of many lives, all because no one bothered about enforcing simple safety standards.

Adoption of uniform minimum codes at the State level would still leave the problem of enforcement with the State. The National Fire Protection association and the National Board of Fire Underwriters have prepared standards and codes that may be adopted by municipalities, covering every local need, such as electrical wiring, building construction, equipment for hazardous processes, volatile oils and liquefied petroleum gases, dry cleaning plants, moving picture theaters, and so forth. The National Board has prepared a booklet of suggested ordinances for municipalities, which would be simple to adopt and enforce.

Every municipality should have a fire prevention bureau, with city ordinances to cover essential problems of fire safety and with proper provisions for enforcement at the local level. Each community differs from other places in matters such as zoning, building regulations and licensing, items of no concern to the State fire marshal. We believe that fire prevention, like charity, must begin at home.

After every session of the various State legislatures, more and more responsibilities are imposed on the State fire marshal. One example is the “model hotel fire safety law” that was formulated by a special committee of State, provincial, and city fire marshals, which will be passed in some form by many States. In my State we are asking for enforcement at the local level, for the reason that there are about 3,000 hotels that would come under the act, many of them in metropolitan areas of Chicago, Peoria, Decatur, Springfield, East St. Louis, and other Illinois cities, which have competent fire prevention bureaus and do an excellent job of fire prevention inspection and seldom call on the State fire marshal office for assistance. We are constantly urging other cities and towns to organize fire prevention bureaus and adopt proper local ordinances.

I know of no other State that has a larger or more able force of field deputy fire marshals than Illinois, or whose legislature appropriates a larger budget from the fire prevention fund, collected from the fire insurance companies at the rate of one-half of 1 percent on all business done in the State during the year. In spite of this, if we were compelled by law to inspect the 3,000 hotels of the State semiannually and make the necessary rechecks and follow-up for compliance, we would not get the job done and I do not think any other State could do the work properly at the State level, especially if we are to carry out the mandates we already have from the law making bodies, which include in Illinois passing on proposals for gasoline service stations, bulk storage plants and garages, dry cleaning plants, liquefied petroleum gases, approval of plans for buildings for schools and places of public assembly, inspecting several hundred private nursing homes, county operated homes, and hospitals for the State Departments of Public Health and Public Welfare, besides the State hospitals, penal, corrective, and educational institutions. Our work includes also the investigation of some 500 fires of suspicious origin; conducting regional fire department instruction schools for firemen; visual education and demonstration programs for

school children and local organizations; cooperation with the State firemen's association and the State fire college; and sponsoring a Statewide fire prevention week program.

No State fire marshal wishes to try to organize a bureaucracy or an army of unqualified employees going about the State confusing the issues, even if funds are available. We prefer to have fewer men who know and like their work, can point out definite fire hazards and use tact, diplomacy and salesmanship, explaining methods of correction and responsibility for non compliance. We have a number of employees in our office who have demonstrated their ability and have been working on their jobs from 15 to 25 years. Their services are invaluable.

If some plan could be worked out to take the fire service out of politics from top to bottom, it would be a great stride toward greater fire safety. It is a disastrous set back to any fire protection program when some competent fire chief or chief of an inspection bureau is discharged just because a new mayor of an opposite political faith has been elected. Politics in the fire service can only promote more and bigger fires.

Summing up, I think we have some real spade work to do on a long range program which will include the following:

1. Local communities must assume and discharge their full share of responsibility for administering and enforcing fire safety.
2. To assist in bringing this about, State fire marshals must devote a major effort toward organizing and improving local controls. This will involve education and training of local inspection personnel both in standards of fire safety and inspection technique.
3. The start must be made now. Cities and villages must begin to take over their ordinary inspection work and build up from there.
4. Chambers of commerce and civic groups must take a realistic view of the fire problem and regard it as a matter of major consequence. Their interest and support are necessary.
5. We can rely on the press and radio to build public sentiment if there is adequate leadership for the program.

I hope it will be the consensus of this Conference to promote, sponsor, and endorse the principle of enforcement of fire safety legislation at the local level.

**Chairman Fleming.** Mr. Craig, we appreciate that address very much. You have really given us something to think about there, especially this idea of taking fire prevention out of politics. On the local level we must look for support and guidance to our municipal law officers.

I have the privilege of presenting Mr. Herman C. Wilson, president of the National Institute of Municipal Law Officers. Mr. Wilson. [*Applause.*]

**Mr. Herman C. Wilson.** General Fleming, ladies and gentlemen, when a lawyer gets up to talk, particularly when that lawyer is a public officer, you have a right to fear and probably expect that you are going to hear a long talk. I am going to surprise you in that respect today.

As spokesman for the city attorneys of the nation and our national organization, the National Institute of Municipal Law Officers, I want to go on record as stating that we are 100 percent back of President Truman in the objectives he has stated for this great Conference on Fire Prevention. We city attorneys fit into this picture because we write the building codes and other ordinances which govern fire prevention programs in the cities of this country, or at least we lend a legalistic touch to the technical knowledge provided by the engineers, building officials, fire chiefs, and other experts in this field before such codes and ordinances receive the final approval of our city councils and mayors.

You are all aware of the fact that a city can only do those things specifically authorized by charter or by statute. A city government is, in fact, just a vast mass of legal powers designed to further the public health, safety, and general welfare. Fire prevention regulations are certainly an exercise of these powers. That they are vital to human safety is a fact which no court can deny.

There can be no doubt that courts will uphold any city fire prevention regulation reasonably designed to prevent injury or loss of life. One of the reasons for the very existence of city government is the need for the exercise of such protection. We start, therefore, with undeniable city legal power to act in this field.

Have cities realized that they have this power? Have they exercised their legal capacities to the fullest extent to cut down on what President Truman so aptly termed the tragic sequences of the 830,000 fires that occur annually in the United States?

The answer to these questions is certainly, "No." This is to me the major finding of the excellent report of the Committee of Laws and Law Enforcement, which Judge Knox will present. While the 16,220 incorporated cities in our Nation all have the legal power to adopt building codes and fire prevention ordinances, less than 2,000 have done so. Until the remaining 14,000 cities adopt adequate building codes and fire prevention ordinances, their city officials can do nothing in this field, for they must be legally authorized before they can act.

It is also true that many of the 2,000 building codes now in effect are antiquated to the point that they are practically worthless. To translate the technical knowledge of the experts in this field into new codes where there are none and into necessary amendments where existing codes are outmoded is our job as city attorneys. That is where we can and will make our greatest contribution to the realization of the objectives of this Conference.

We feel that the report of the Committee on Laws and Law Enforcement offers in condensed capsule form the legal tools with which we can start this task. This report and its recommendations, with which the National Institute of Municipal Law Officers is heartily in accord, will indeed go down in municipal legal history as a landmark work. It will serve as an impetus to all city attorneys, for they will utilize its compiled knowledge in making the legal machinery of their cities adequate to meet the needs of adequate fire prevention.

I can assure you technical people in this field that if you will give us your aid and cooperation, we will do our part in adapting city legal machinery to the lifesaving and injury-prevention goals which all of us hope to achieve through this Conference. I thank you. [*Applause.*]

**Chairman Fleming.** Thank you, Mr. Wilson. You have made a very important contribution to this Conference.

On a State level we must look to our State attorneys general for support of our activities. The Honorable George Neuner, Attorney General of the State of Oregon, speaks as representative of the National Association of Attorneys General. Mr. Neuner. [*Applause.*]

**Hon. George Neuner.** General Fleming, ladies and gentlemen of the Conference, it has been a revelation to me to have the privilege of attending this Conference. I must confess that while I thought that I knew something about fire prevention and fire-law enforcement, little did I realize the magnitude of this subject until I had the privilege of attending this Conference. You speak in millions and billions of dollars of property destroyed by fire, which reminds me of the young schoolboy who came home one day and said, "Dad, how much is a billion dollars?" The father was somewhat occupied and did not give the attention to the son that he should have. Unthinkingly he remarked, "That is a 'helluva' of lot money." The next day the boy came home crying, and the father said to him, "Son, what is the matter?" He said, "Dad, you did not give me the right answer." [*Laughter.*]

It is with somewhat of a feeling of humility that I even attempt to represent or to speak for the National Association of Attorneys General. The personnel of this association is composed of some of the ablest lawyers in the land, many of whom would grace the ermine of our highest courts. Through the Association of the Attorneys General the Council of State Governments, that great organization which has accomplished so much by disseminating and distributing the laws throughout the various States of the Nation, has performed a marvelous service by unifying laws that affect the daily life and conduct of every man, woman, and child in the Nation.

Each State, of course, has its own problems and legal questions. The procedure in one State may not be applicable in another. The attorney general plays an important part in his respective State in construing the statutes, and advising the agencies of the State Government. In some States he is the public prosecutor, while in others he prosecutes only when directed by the chief executive, but in each he is at all times the legal advisor to the State officers.

Would that every attorney general of our organization could have been here and have participated in these deliberations. I know it would have been instructive and would enlighten him to perform better his official duties. I know each would be impressed, as was I, with the President's sincere and timely message delivered from this platform.

From the legal standpoint Attorney General Clark gave us much food for thought. As a prosecutor of some 20 years, one realizes and appreciates that of all of the criminal cases tried throughout the land – I think I am safe in saying that perhaps the same result obtains elsewhere in our State – the crime of arson in its different aspects gets the least number of convictions of all the crimes punishable under the law.

Why? Because, as General Clark stated, the evidence usually is burned up. But it has been my experience that in nearly all of the cases in which the prosecution was successful, it was largely

dependent upon circumstantial evidence, the most technical guarded evidence known to our jurisprudence.

The average person knows little about gathering circumstantial evidence and preserving it so that the prosecutor can go into court with it and satisfy a strict construction of the law, and it follows that the average juror is somewhat prejudiced against circumstantial evidence. Yet to my mind, when the chain of circumstances is complete, it is the best evidence that there is, as I have frequently stated to juries, circumstances do not lie, and witnesses sometimes do. *[Laughter.]*

It is therefore becomes necessary, indeed imperative, that through the legal heads of government – Attorney General, District Attorneys, City Attorneys – that law enforcing personnel must be schooled and instructed in the gathering and preserving of circumstantial evidence. Usually the fireman has his duties to perform and overlooks some very important features in every fire. It requires particularly trained investigators, and schools for that purpose should be conducted throughout the various States, counties, and municipalities in order to have men trained in that line of duty who will get on the job immediately and preserve every bit of evidence available.

In our State, if you will pardon my transgressing from my assigned subject – I can only speak of conditions that obtain in our State – we take pride in our fire organizations. We have a very efficient State fire marshal department. We have many efficient fire departments beginning with the city of Portland, our largest city, down to many of our small municipalities. We have good fire laws, due to the efforts of our national organizations. Our last legislature strengthened our laws to conform with the requirements of your associations.

Under the police power of our State – and I take it, this means in every State – the municipal ordinances must conform to the general criminal laws of the State, and it is necessary for the municipalities merely to pass ordinances reenacting State building codes and covering local details applying to the respective communities. Our legislature has given and will give us the laws necessary to accomplish the desired results.

We in Oregon have serious fire problems. Our State has about 25 percent of the standing merchantable timber of the Nation. When I tell you that in one of our western counties there are about 100 sawmills or more operating throughout the county, each cutting from 10,000 to over 100,000 feet board measure per day, you can appreciate the volume of logging that is entailed and the fire menaces that it creates. But through our effective forestry fire protection association in cooperation with the United States Forest Service we have in the last year reduced that fire hazard to a minimum.

There are also many rural problems, and I take it that the rural problem is the one that generally is most difficult to solve. When you consider the area of our State and the population of the entire State, approximately that of the city of Washington, you can readily visualize the fire problems presented throughout its area.

But your educational program is timely. Your observance and enforcement program is imperative. Your engineering program is also very important, and now it remains for us by

percept and example to contribute our individual efforts in order that the entire program may bring about intended results in education in fire prevention and the enforcement of the fire laws.

It is about the beginning of the fire season in our land at home. The time is now. I believe you may rest assured that the attorneys general as an association, collectively and individually, will play its and their parts efficiently and effectively. We all have a job to do. Let us return to our respective homes and resolve to do it as lovers of this great land, rededicated ourselves to the protection of life and property and firmly do our duty as citizens to our God and country.  
[*Applause.*]

**Chairman Fleming.** Thank you, Mr. Neuner.

The report of the Committee on Laws and Law Enforcement should naturally round out the able presentation of the last three speakers. For that report I call upon the Honorable John C. Knox, judge of the United States District Court for the Southern District of New York. Judge Knox.  
[*Applause.*]

**Hon. John Knox.** Mr. Chairman, ladies and gentlemen, my fellow delegates, we are ready today upon what may be, if we so will, a great occasion. We have come from the East, the West, the South, and the North. We are here for one purpose and for one purpose only, and that is to preserve the heritage that is ours and to see that our fellow citizens may live their lives in peace and safety.

Most of us, I suppose, know something of politics. We have seen life as it is lived, and some of us have sought, and perhaps found, the object of our personal desires. But if this be true, there is one obligation that rests upon each and every one of us, be he a Republican or a Democrat, and that is that each of us should do all that he can do to see that our property is preserved and that human beings be freed from the hazards that can and must be avoided.

The danger that is most threatening to America today is not Communism; it is not Russia; it is not the ascendancy of either the Democratic or the Republican parties; the terror of our lives is the danger of fire. When that cry rings out in the day or in the night, we have no thought of politics. The idea of partisan advantage is something that never enters our minds. We are part and parcel of the common weal. Our only consideration is that each of us may do what he can to minimize loss and to see that humanity is saved from the fire, suffering, and death to which it is now subjected.

In doing this in recent years we have been far from successful. Due to inertia and carelessness we have borne witness to the holocausts of Coconut Grove, the Winecoff, and the Hotel LaSalle. Sobered by this experience, we are here today at the invitation of the President of the United States to see if we cannot evolve a program whereby America, Democrats and Republicans alike, whites and blacks, Jews and Gentiles, can save themselves from the ravages of fire and smoke by which we are constantly menaced.



**COMMITTEE ON LAWS AND LAW ENFORCEMENT**

Ladies and gentlemen, the responsibility that rests upon us is nothing short of tremendous. If any one of us leaves this Conference with the idea that financial considerations should transcend the value of human life, this meeting is a matter of complete futility. Such considerations unfortunately constitute the fundamental problem that confronts us today in bringing about the enactment and the enforcement of adequate fire prevention laws. But human life, as I have said, is far more important than is the cost of the protection that we desperately need and which ultimately we must have.

When we leave here to go to our homes, let us carry the conviction that America's most priceless possession is the humanity that has made us great and that it is the thing that will preserve us from all enemies, foreign and domestic. If this be our conviction we will do all that we can to preserve that humanity together with its worldly possessions.

This convocation to me is a matter of inspiration. It has made me believe that each of us in a very real sense may, if he will, be the keeper of his brother. In the presence of the men who fight fires, standing before persons who from experience know the terror of conflagrations, associating with men and women who succor and give relief to those who suffer and die as a result of fires, I stand very reverently and very humbly. I give to each of them my tribute of respect and gratitude and, may I say, my offer of help.

I know, nevertheless, that whatever happens, whatever may be the results, there is in the background something that is called the law. By chance, I am the chairman of the committee having to do with that phase of the Conference. For days and days, and weeks and weeks, the members of that committee have labored diligently, may I say patriotically, in an endeavor to suggest to States, communities, and municipalities a means and method whereby, by a minimum of expense and imposition, they may serve the interests of our most priceless possession, the preservation of human life.

The report that we have made is available to each member of this Conference, and many of you, I know, have seen and read it. Without going through the details of our recommendations, I may say that they are the unanimous conclusions of the membership of the committee.

Mr. Chairman, I move the adoption of the report of the Committee on Laws and Law Enforcement. [*Applause.*]

**Chairman Fleming.** That was a powerful exhortation, Judge Knox. It has been moved that the report of the Committee on Laws and Law Enforcement be adopted by this Conference. Is there a second to that motion?

**Mr. Charles Rhyne** (Washington, D.C.). I second the motion.

*{The question was put to a vote and was carried unanimously.}*

**Chairman Fleming.** And now I have a special treat. Since Tuesday you have been listening to some very important statements, but until now the Conference has been lacking the feminine touch and the woman's point of view.

I now present a lady who was born in Minneapolis not many years ago, as you can see; was graduated from Smith College with high honors; and has won distinction in the field of social work and civic service. She was active in civilian defense all during the war and is now national chairman of the Civilian Advisory Committee of the Women's Army Corps. Mrs. Oswald Bates Lord! [*Applause.*]

**Mrs. Oswald Bates Lord.** Thank you, General Fleming. Ladies and gentlemen, the part I have been asked to play at this Conference has already been beneficial. In doing my homework and in reading how to keep from going to blazes and 13 ways not to burn your home, I have set up a program for my husband this weekend that will keep him very busy. [*Laughter.*]

Our small home in the woods and hills of Connecticut is about to go through a complete metamorphosis, and by Monday I shall ask our local fire chief, who is also the local plumber and electrician [*Laughter.*], to inspect and give our home a medal of merit.

My husband is rebelling a little since I have told him I thought we had better replace our hand-hewn shingles with something more fireproof. There will be no time this weekend for tennis or for the garden.

Education of all kinds starts in the home. How our children turn out depends on the training, encouragement, teaching which they receive at home and the example they are given by their parents and by their guardians. As children have a natural sense of dependency, we utilize this fact in their training, teaching them how to eat, teaching them how to dress, and teaching them discipline, and we adult homemakers feel that we have had all the training necessary. But sometimes I wonder.

Let's wonder today about one of the greatest causes of loss of property and life in homes, fire. And let's discuss what the homemakers of America can do toward reducing this hazard, what they can do by training both themselves and their children. Fire is no fun when it strikes our home, and even the best prepared and best fitted and protected houses can be struck.

As I make this statement, it takes me back to an instance which happened at another White House conference and happened in the Blue Room of the White House. It was a conference on child welfare, and many delegates were gathered. Mrs. Roosevelt was addressing the conference. Suddenly the curtains of the White House went up in a blaze. Mrs. Roosevelt said, "The White House is well protected and well equipped for fires. I want all of your individual attention. I want the conference to continue, and if for some reason the fire cannot be put under control, there are exits, and we shall all leave in an orderly fashion." No one turned their eyes toward the blazing fire, and within a few minutes the fire was extinguished.

What can we homemakers do toward keeping our homes free from fire hazards? First, we must teach our families that an ounce of fire prevention is much better than the fanciest fire engine. Second, we must look for booby traps in our homes, especially in our basements. Do we check and clean our heating systems once a year? Are we sure that kindling, left-over paint, and papers are a safe distance from our furnaces?

Are our fuses a proper size? Does the house have good wiring, and is it well strung, not under rugs and over hooks and in exposed places where wear may make it dangerous? How are our chimney flues and our cooking stoves? Are they well insulated? Have we left around carelessly any old paint or furniture polishing cloths?

I was very much impressed by a story I read in the paper of a 23 year old woman who died in a hospital in Chicago recently from burns suffered when a fire in a broom closet ignited her dress when she opened the door of the closet. The evidence indicated that the outbreak occurred in some furniture cloths, which ignited spontaneously.

Do we always remember to put away our electric irons? Over 90 percent of the electrical fires every year are due to misuse of our electrical equipment, such as irons. Do we have good screens in front of our fire places?

Third, we must avoid doing things that we think will not matter. Too many of us think we can handle the situation and that "this one time will not matter." Therefore, too many people are trying to do their own wiring. Too many people are dry-cleaning at home with combustible liquids that can even be touched off, as you all know, by static spark caused by rubbing materials together. Too many of us are forcing our furnaces to get more heat. Some people put pennies in fuses; some empty hot ashes into wooden boxes; and too many housewives empty the contents of their vacuum cleaner bags into incinerators or stoves, not realizing the power of dust and that even flour dust under the right condition could blow a car up as high as seven stories.

There are those who empty full ash trays after a party into wastebaskets without checking to see if all cigarette butts are out, and there are many who do not realize that the only safe place for

gasoline in inside a car. Too many leave strike-anywhere matches around where children, and even mice and squirrels, can ignite them.

Lastly, there is the bedsmokers' club. [*Laughter.*] The smoker who believes that if he should fall asleep, the tickle of the flame will wake him up before it is too late does not realize that smoldering textiles give off the lethal array of combustible gases that are usually the cause of death of people who smoke in bed.

All of these people who do these things just this one time have helped to initiate something over 350,000 dwelling fires a year with damages exceeding \$100,000,000. We must remember that children are not expected to have judgment, adults are; and in teaching our children, this concept must always be remembered.

Our fire departments all over the country will cooperate in planning and conducting inspections of our homes for fire hazards and will help the communities teach and demonstrate safe conditions and practices in the home, and I hope at this conference that there will be action taken and plans made to outline certain specific programs that the homemaker and the housewife can take part in.

I have put a lot of emphasis on children. Why? Let me remind you of a few figures that most of you already know. Accidents take a yearly toll of almost 20,000 boys and girls under 20, and most of these accidents are preventable. The high proportion of these fatal accidents to children take place in the home, and 20,000 children in one year died of burns that could be traced back to adult carelessness. Last year in January over 7,000 children were known by State agencies to be crippled because of burns.

A child imitates and observes and performs as his parents, and many times a chance a parent takes may be inconsequential as far as the parent is concerned, but to the young imitator it may be fatal.

In closing, let us remember that, as parents and homemakers, our responsibility lies in doing for our children what we should be doing for ourselves, protecting the child, restraining the child, conditioning the child by training, and developing an awareness. Not being able to eliminate all hazardous situations, a child should be taught to recognize a danger and meet it, face bravely situations that cannot be avoided, and encouraged to call for help when assistance is needed.

Before I sit down, I want to remind the audience that since I began talking to you 18 more American homes have burned. Thank you. [*Applause.*]

**Chairman Fleming.** I was right, Mrs. Lord, when I said that our deliberations up to now had lacked the feminine touch. I think our Conference results will be much more fruitful for your having been here.

Now for the last of our committee reports. It almost goes without saying that we shall fail in our objectives unless we have the support of the people. Fire prevention is not just something for

fire departments or city officials or State and Federal officials to do something about. Every citizen has his part to play.

I now call for the report of the Committee on Organized Public Support. I am sorry, Mr. Williams, that you were not able to be with us Tuesday, when I introduced you in absentia. It was a good introduction, and I hope you look it up when you get the transcript. [*Laughter.*]

I present Mr. W. Walter Williams, first citizen of the State of Washington and chairman of the committee. Mr. Williams. [*Applause.*]

**Mr. W. Walter Williams.** General Fleming, distinguished guests, and members of the President's Conference. I wonder if you have not been impressed, as I have been impressed, during these days of the Conference with the very gracious and generous manner in which the General has introduced the various speakers. It suggests to me an incident that transpired in Cincinnati last fall when former Governor, now Senator, John Bricker was being presented to a large audience at the closing session of a convention that I was attending there. The man who was introducing him left absolutely nothing to chance; he took nothing for granted. He had prepared this introduction with a full sheet of typewritten information single-spaced. As he read on, line after line, he just built halo after halo about the head of John Bricker. At long last he concluded, and when John Bricker arose to his feet he stood before the microphone for a moment or two, had an almost angelic expression on his face, then said, "That introduction makes me feel like a lifelong Christian holding four aces." [*Laughter.*]

I rather think that our Chairman has done a job of making all of us feel a good deal like lifelong Christian holding four aces, and I wonder, inasmuch as we are rapidly coming to the conclusion of this Conference, if turnabout would not be fair play, and it would therefore be in order for us to pause just a moment to give this fellow who has been presiding over this Conference a little round of applause in appreciation. [*Applause.*]

I knew you would feel that way about it.

You have heard a series of very interesting talks during this Conference. Those talks have been given by Government officials, including the very highest of our Government officials, the President of the United States. They have included jurists; they have included businessmen; they have included representatives of the firefighting forces; they have included educators; they have included one charming and, according to the Chairman – and I am sure all of us will agree – young lady. In a word, we have had a cross section of the American public represented in the addresses which have been presented to us at this Conference, and all the way through, the thread has been these two points: (1) America is experiencing appalling losses in life and property because of fire; and (2) we ought to do something about it.

We have been listening to these fine addresses – and you will agree that they have been fine addresses – but now we have come to that part of the Conference where we have to do something about it. In a word, we are at the point where we have to take action.

The General referred yesterday to the fact that Mark Twain had pointed out the importance of brevity. Yes, and Mark Twain also indicated that many people talked about the weather, but very few did anything about it.

We are at the point where we have to do something about this thing about which we have been talking and listening for the last two or three days. I think at one and the same time we have a grave responsibility, and a shining opportunity. Who, if not you, who, if not the group represented right here in this room now, would undertake the job or could undertake the job to do it successfully?

At the same time that we have a grave responsibility to discharge to the public, we also have a shining opportunity, because, as we listen to the mounting figures of death and property losses measured in terms of dollars, think of the tremendous opportunity we have for positive achievement to the degree that we can succeed in the program that we are undertaking.

I should like to call upon the members of this Conference to accept, if you please, as a byword, as a watchword, of the Conference, the words that were included in a citation that was given to a young Jewish scientist by the United States Government recently. This young Jewish scientist was a member of the Manhattan Project. The details have not been released by the Government, but sufficient information was given out to tell us that somebody committed a very grave error, and lives were put in jeopardy because of the fact that this error had been committed. This young Jewish scientist, drawing, I suppose, on something that had been inculcated into his character from away back when, acted and as a result of his action he took the full force of the radioactive particles. But because of the fact that he took them, nobody else was injured.

He died, and, therefore, he gave his life in expression of practical service to his fellow men. The citation read, "He took affirmative action," and I can think of nothing better, Mr. Chairman, growing out of this Conference and the deliberations of these two or three days than for each one of us to resolve that he will accept as his slogan, if you please, and as his guide, as we leave this Conference hall and go back to our respective homes, these words, "I will take affirmative action," in trying to carry out the purposes of this Conference.

I am going to read only a portion of the Committee's recommendations, because I think that copies have found their way into the hands of most of you. But without reading the subheads, I think it is important for us at least to have brought to our attention at this time the four main heads. Let me read them to you briefly:

1. It is recommend that a continuing committee be appointed by the General Chairman in order to implement the action program of the President's Conference; provide a gage on progress made in States, cities, and rural communities throughout the country in the months following the Conference; and maintain the interest in fire prevention on the part of the large number of important national, nongovernmental groups represented on the Committee on Organized Public Support, as well as the general public.

2. It is recommend that each of the Governors of the 48 States, the Governors of the Territories, and the Commissioners of the District of Columbia, appoint Statewide fire-safety committees composed of the appropriate public officials, including State foresters and representatives of nongovernmental groups, to explore the fire loss problem in all its ramifications within their respective jurisdictions, for the purpose of setting up practical fire prevention programs tailored to the needs in each particular area.
3. It is recommended that where an effective fire prevention committee does not already exist, the mayors, city managers, or chief executives of all cities, towns, villages, or other municipalities appoint a fire safety committee composed of both public officials and representatives of nongovernmental organizations to carry on a continuous campaign of fire safety throughout the year.
4. It is recommend that each of the National and State organizations represented on the Committee on Organized Public Support be urged to endorse and support within the limits of the objectives set forth in its charter, constitution, or bylaws, the recommendations of the President's Conference on Fire prevention. Each organization should extend the fullest cooperation possible at the National, State, and local levels.

Mr. Chairman, before presenting the motion for the adoption of that committee recommendation, I should like to make this additional statement. Those of us who are in this room do not believe in communism; we do not believe in statism; we do not believe in any kind of totalitarian regime. We believe in the potentialities of the individual. But that at the same time calls upon us to see to it that the individual does his job.

Sometimes I think we are inclined to think that, "Well, I as an individual cannot do very much." Let me give you just a grand example to show how wrong you can be in that belief. Three or four years ago, after the war had got well under way, the Boeing Aircraft Co. in Seattle was having a great deal of difficulty in recruiting employees to turn out its B-17's and B-29's, and so after having exhausted the orthodox methods of recruitment, it called upon the Army and the Seattle Chamber of Commerce to help solve the problem, and here is what they did.

They called together a huge mass meeting at the stadium of the University of Washington. That stadium ordinarily would hold perhaps 45,000 people. On this particular occasion the outpouring of the public was so great that by loudspeaker each person was asked to crowd over so that three people could sit where two would normally sit, and so I suppose it is safe to say that there were 60,000 people gathered there that evening.

The Governor of the State was there, the mayor was there, we had other dignitaries there. Gen. Hap Arnold was there and gave a half-hour radio talk on a national hook-up. It was a great occasion. But perhaps you will understand why the outpouring when I tell you that Jerry Colona was there, and Frances Langford was there, and Bob Hope was there. Need I say more?

Yet in spite of the attractions and the grandness of that program, there was a young fellow who was wearing the khaki of Uncle Sam's Army who stole the show. Just about the middle of the program he stood out there in the open end of that horseshoe stadium, which had as its backdrop beautiful Lake Washington and the Cascade Mountains, and standing there in a simple, nonrational style he said, "I want to say a few words to you about the purchase of war bonds." Then he went on to say, "Perhaps you think that the purchase of a \$25 bond does not amount to much. I want to see if I can prove that you are mistaken. I wish every one of you would take a match out of his pocket. I am going to wait just a few moments, then I am going to ask that those floodlights be turned out, than I am going to ask that each one of you light his match."

Suddenly the lights went out and there was the most dazzling spectacle that those people who were there that night ever saw in their lives. A solid, blazing mass of light in a horseshoe made up of 1 match plus 59,999 others!

Do you think he drove home his point? I'll say he did! Twenty five dollars multiplied by 60,000 is a pretty tidy little sum, so he drove home to every individual there the lesson and the fact that the individual and the activity on the part of each individual do count, and I ask each of you not to forget that as you leave the halls of this conference room and go back home.

I listened the other day to a British war correspondent who had just come from England. He was apparently quite a high-up one, because he was a member of the King's entourage that went into Coventry just after that bombing. As they walked through the city with its rubble, mess, and smoke, they were very much depressed. Just as they were leaving the city, this ace correspondent pointed out the fact that the wind somehow or other came along providentially and blew away the smoke and illuminated a sign which was posted across the church which had been miraculously spared. The words on that sign were, "It all depends on me."

This Conference is about to break up, but I am calling on you, each and every one of you, to remember this. The Conference will have been futile, as the judge said a moment ago, it will have been a dismal failure, if we have merely come here to listen to a series of speeches. But if we go home pledged within our own respective souls that we really mean what we are talking about as we have sat here for these three days, and that each of us is going to do something about it; if we become possessed of the fact that, like the young man who pointed out that a \$25 bond does, after all, not mean much, that as individuals we do count and can do something positively and effectively at home; and if we will also accept the challenge, as in the words of the Coventry church sign, that "It depends on me," whether the job is going to be done at home or not, then this Conference will not only not have been a failure, but it will have been a glorious success, because this group of 1,000 or 1,500 men and women will go out to the four corners of the United States of America, and the expression of what is in their souls, because of what they have learned here and because of what they are determined to do back in their own home quarters, will produce tremendous results.

So, Mr. Chairman, as I move the adoption of this recommendation, I am going to call upon each one here not merely to give a perfunctory "aye," but to vote by rising, not merely to approve the recommendation, which I am assuming, but to express by that rising vote that each one is

pledging to himself that he will go home and do a job to carry out the purposes of this Conference.

Mr. Chairman, I move the adoption of this recommendation.

*{The delegates stood and applauded.}*

**Chairman Fleming.** I think we all understand now why he is called the first citizen of Washington. You have heard the motion. Is there a second?

**Mr. J. W. Vincent** (Cincinnati, Ohio). I second the motion.

**Mr. Howard Welty** (Oakland, Calif.). Mr. Chairman, I am representing the secondary schools of California. This is the time, it seems to me, for us to take appropriate action on a matter on which we failed to act yesterday. Mr. Percy Bugbee, speaking for the National Fire Protection Association, told us that 120,000 of the 800,000 fires annually occurring in this country came from the carelessness of smokers, and he made a suggestion at the end which we failed to take action on, that we ask the tobacco companies, who profit by the sale of cigarettes, to join their immense strength to ours in bringing to the attention of smokers all over our country the things which they do and should not do. I am sure that the tobacco companies would welcome from us the suggestion that they join in this great national campaign for public welfare. They will spend thousands of dollars in advertising to teach the public to smoke Camels, but they say nothing against taking a Camel to bed with you.

Mr. Chairman, with that in mind I move that this Conference urge upon the tobacco companies manufacturing cigarettes the carrying on of a Nationwide campaign of education against the carelessness of smokers, not only as a civic privilege of cooperation and a matter of public welfare, but as an imperative duty arising out of the hazard to life and property created by and in direct proportion to the growth and success of this great business enterprise.

**Chairman Fleming.** I wonder if everybody could hear that. Maybe I had better read it up here.

**Mr. Welty.** I am not sure that you can, but I think I could make them hear it, Mr. Chairman.

**Chairman Fleming.** Did everybody hear that? No, they did not. Will you step up here?

*{Mr. Welty came to the platform and repeated his motion.}*

**Mr. Lewis McBain** (Massachusetts). Mr. Chairman, I would like to second that.

**Chairman Fleming.** We have no time this morning to discuss it; I will put it to a vote.

*{The question was put to a vote and was carried unanimously.}*

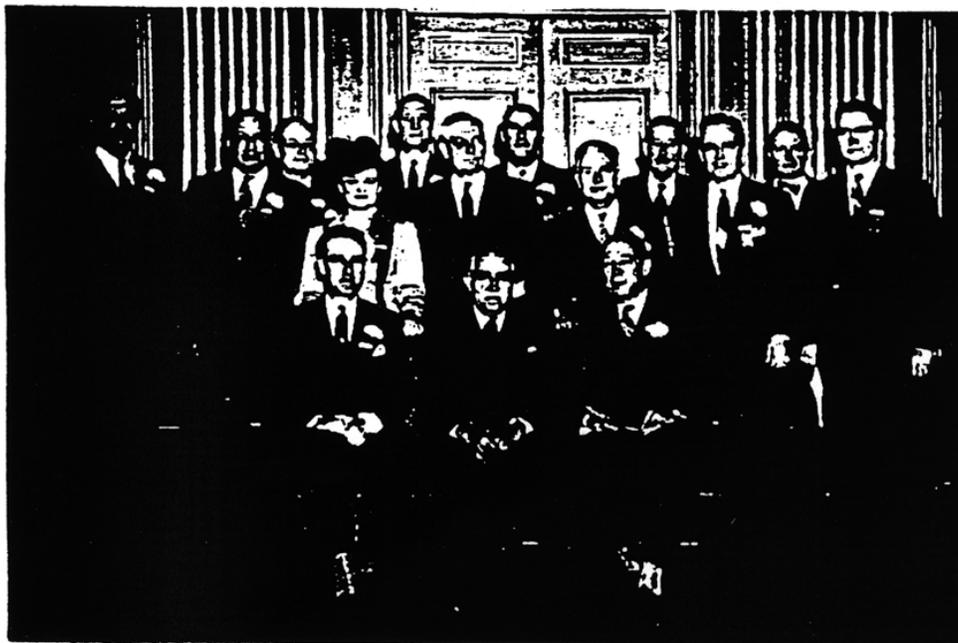
**Mr. Leroy Gates** (Nyack, N.Y.). Mr. Chairman, may I have the privilege of the floor? I see that according to the program there is no further opportunity for discussion from the floor. This should be a note on which the Conference should close. I present it now in lieu of later.

Today is the sixty-third birthday of the gentleman who occupies the position of the President of the United States, and in deference to the initiative and foresight on his part which called this Conference together, and the attention which he has given to us personally here, I move you, sir, that this Conference send him congratulations, felicitations, and our best wishes, our heartiest wishes, for many more years of life and happiness.

**Chairman Fleming.** He has moved that, because this is the President's birthday, because of his interest in this program of fire prevention, this Conference send him its congratulations, felicitations, and wishes for many more happy birthdays. All in favor signify by saying "aye."

*{The motion was put to a vote and was carried unanimously.}*

**Chairman Fleming.** Now we are ready for the presentation of the action program which will, we trust, summarize our conclusions and lay the groundwork for future action back in our home communities. I regret to report that Mr. W. E. Reynolds, Commissioner of Public Buildings and chairman of the Conference Coordinating Committee, who was to have presented the program, is absent because of illness. He is convalescing nicely and should be able to return to his desk shortly.



#### CONFERENCE STAFF

Seated, left to right: Lewis A. Vincent, Maj. Gen. Philip B. Fleming, General Chairman, and A. Bruce Bielaski.

Standing, left to right: Russell McGuire, John L. Werheim, R. E. Vernor, Hester M. Bell, John B. West, R. E. Truman, F. C. McAuliffe, R. E. Wilson, William J. Chattin, Douglas H. Timmerman, George G. Traver, and Wendell Sether.

Before he became ill, Mr. Reynolds did much hard work on preliminary arrangements for the Conference, and I feel that much of the success of the meeting is due to his efforts.

To present the program of Mr. Reynolds, I have the pleasure of introducing the Honorable Louis Johnson of Clarksburg, W. Va., a member and vice-chairman of the Committee on Laws and Law Enforcement, a former national commander of the American Legion. Colonel Johnson holds a Legion of Honor decoration for services in the First World War. He served as Assistant Secretary of War from 1937 to 1940 and was then my boss, and was personal representative of the President in India in 1942. Colonel Johnson. [*Applause.*]

**Hon. Louis Johnson.** Mr. Chairman, gentlemen of the Conference, mine is an easy task. I wonder first, though, if those of you who are here realize what an impact your Conference and your deliberations have had upon the Nation.

I returned last night from the West. In the press and on the radio there has probably been fuller coverage than anything of like type in the history of the country.

You have had these six reports, reports upon which much time and effort have been expended. You have had exhortations such as that of Judge Knox this morning which, when you see it in print, you will agree is one magnificent document.

Mine is the privilege of calling your attention to each of these six reports, saying to you that the Coordinating Committee has combined in the document before you all six of the reports. It is called the Action Program. I hope you have looked at it. It gives you the message of the President on the first page and of our esteemed and able Chairman on the second page, and goes on through, with the summary and coordination of the six reports.

I want to say to those of you who have not read it that the men who have made this compilation of the six reports assure me, just as in the plan of action, which Walter Williams just presented to you, that nothing is left out in the summary, although where they cross into each other's fields it has been somewhat condensed.

Two additions to the individual reports have been made. I want to read you those two additions, because thereafter I shall move for the adoption, as the plan of action or action program, of this condensed compilation and summary of the six reports.

The two additions are to the research section of the action program, and they read as follows:

1. The need for ready availability of information, complete and up to date, pertaining to the subject of fire prevention, fire protection, fire loss experience, and research development is emphasized. A central library facility would serve this need.
2. While endorsing the national-state-local governmental and private programs for fire prevention and control for our natural resources, the Conference recommends continuous research to improve, where practical, methods of fire prevention and control in these essential States.

Mr. Chairman, gentlemen of the Conference, in order that the waves started already from here may continue in the interest of saving life and in fire prevention, I move you that the report of the Action Program be adopted as presented to this Conference. [*Applause.*]

**Chairman Fleming.** Copies of the Action Program were available to you today outside. I presume most of you have had them and have seen them. Colonel Johnson has explained the small additions made to what you have. Is there a second to the motion?

**Mr. Homer B. Oates** (Wheeling, W. Va.). I second the motion.

*{The question was put to a vote and was carried unanimously.}*

**Chairman Fleming.** The last of the program – and it is now up to all of us to put into effect and make it work. In that endeavor we shall need the support of the mayors and the city managers of our cities.

The president of the United States Conference of Mayors is a publisher by profession. He has a unique distinction. Appointed city manager of Grand Rapids, Mich., in 1929, he consented to serve only on the condition that he would be permitted to waive the \$12,000 salary that went with the job and work for \$1 a year instead. The city very reluctantly, I suppose, met his terms. Grand Rapids, I think I am safe in saying, thus got the highest-class service at the lowest price in the history of municipal government.

Since then our next speaker has been four times elected mayor of Grand Rapids. The Honorable George W. Welsh. [*Applause.*]

**Hon. George W. Welsh.** General Fleming, ladies and gentlemen, might I pay my respects to two of the previous speakers, who, I consider, have made especially important contributions to this Conference? I refer to the genial lady, Mrs. Lord, who, I consider, has given the best exposition of fire prevention that I have heard in a long, long time. I should like to pay my respects to Mr. Walter Williams for that inspiring appeal that he made to get some action from this Conference.

I should like to tell you, General Fleming – and I was glad to hear the gentleman over there make a motion to pay some respect to President Truman on his birthday – it is a refreshing thing after years of the most terrible waste of life that civilization has ever seen, to find a group thinking and paying some attention to the saving of human life.

I am mindful of the fact, General Fleming, that a year ago you also presided at a conference on traffic safety; and now it is fire. I rather imagine that the purpose of these conferences is to focus attention and dramatize, if possible, the need for action along these lines.

It is a significant thing that these conferences are held here in Washington, where the eyes of the Nation, at present particularly, are concentrated because of the activities of our Congress.

Doesn't it seem just a little bit inconsistent, to put it mildly, that while here we are considering the problem of saving human life, up on the Hill last Monday a congressional committee struck from an appropriations bill a sum which is negligible in comparison with the amounts of money that have been spent, a mere \$5,000,000, that wipes out the maintenance of 148 traffic control towers on airports?

This Conference dramatizes the need for fire prevention. General, I should like to ask you – you have flown a good deal – how would you like to land on some of these airports without a traffic control tower to bring you in? And I should like to ask the gentlemen on the Hill, What must we do to dramatize the need for air safety? Must we have four or five crashes and the loss of human life to wake them up?

I would like to suggest to you, General – and I commend you and the committee that has been responsible for the conduct of these conferences – that it might be a good idea to call another conference on air safety.

While we are talking about it, there are many ways that life is lost and endangered in addition to fire, automobile traffic, and airways. Up on the Hill we of the cities are interested in the removal of a cancerous growth that is eating into the vitals of all our great industrial cities, slum areas, breeders of crime and disease, while a nonchalant attitude is taken by our representatives, who state that while it is important, perhaps, that veterans and other citizens be provided with housing, and while it would be a good thing to remove and clean up these slum areas, that is a matter than can wait for another year.

What kind of mental processes must be going on? Are they mindful of what you are doing here? I think the country is, and it seems that under the very figurative noses of Congress they should be alerted to these dangers that frighten the country.

I do not know of any group that is more appropriate to be represented here today than the United States Conference of Mayors. This is strictly a city problem. I am reminded that quite some time ago I saw a copy of the first proceedings of the first Board of Trustees of the Village of Detroit. It was a record of the first meetings of any public officials, of what is now one of the country's great dynamic industrial centers. In that were the first ordinances that were passed; the first paid public officials were hired and their salaries fixed.

Perhaps it will interest you to know that the first ordinances that were passed by the first Board of Trustees of the Village of Detroit were fire ordinances, and they provided that at each house or cottage there should be a ladder with so many rungs on it, a barrel containing so much water; and the first employees were two inspectors to see to it that the provisions of the ordinances were carried out. The first police powers and the first penalties were imposed for violation of those ordinances. It reads somewhat humorously.

I found out that Widow Campbell was fined \$1.50 because she had a couple of rungs out of her ladder. Somebody else's barrel was not full enough of water.

This is strictly a major problem of cities and communities. I was very much interested in the address of the state fire marshal. I have not yet met a fire marshal, as such, who has ever thrown a pail of water or helped a child down a ladder. We had a rather disastrous fire in a neighboring community, and I asked a group of our firefighters, led by our present marshal, to make a study of that fire and come back and tell us what we would have to do in order to be assured that such a catastrophe would not happen in our city. They brought back a very enlightening report, very well done. Summed up, it somewhat paraphrased the great statement of Winston Churchill when he said. "Give us the tools and we will do the job." There was not a recommendation in the report that proper finances could not cure.

I am particularly glad that following me this morning is the distinguished Governor of West Virginia. Your Excellency, I am particularly pleased that you are here, because it rather gives a background to what I think is the real crux of this and many other problems.

It is a rather strange thing, if you stop to think about it, that this Conference is sponsored by the Federal Government, officers of the Federal Government, called on invitation of the President himself. I believe, whether you know it or not, that back of the inspiration to do something along this line comes a recognition that the war emphasized particularly that one of the great strengths of this republic of ours lies in these great industrial communities. More munitions of war were turned out in the state that I come from than perhaps any other spot on the face of the globe. While we were considerably late in getting into the fracas, we demonstrated that the industrial communities of America were capable of producing the munitions of war. We were able to fulfill the plea of Winston Churchill for the tools, adequate and in tremendous quantities, and apparently all at once it has dawned on the Federal Government that anything that is done to aid these industrial communities is a good thing for the country.

I recently made a trip with a delegation of mayors from nine different States. We started in my home town, went to Des Moines, Kansas City, St. Louis, New Orleans, Birmingham, Ala.; Memphis, Indianapolis, Louisville, and Cincinnati. We did it for two or three purposes: First, to focus attention on this thing that is now nationally recognized, the importance of local government, and to perhaps strengthen the hands of the local officials, and, incidentally, to pick up a few items of information.

I know in a general way, as anyone does who has been long in local government, that all municipalities are in legislative straitjackets. There is no more democracy in the great communities of this great republic than there was in some of the countries that we defeated, and it is only a matter of degree in the various states. I thought we were pretty bad in Michigan, but we were not nearly so bad off in Michigan as they are in Iowa.

One of our colleagues, when he got back home to Connecticut, found out that his State was perhaps worse than any he had been into. The great municipalities, starting with New York and going on down the line, are legislative captives, they are starving financially.

You say, "Do a job." I have yet to hear a recommendation of the one thing that would make it possible to do the job. Some speaker this morning suggested appointing permanent fire prevention committees. We have them trained committees, uniformed committees, with

equipment such as it is, who are on the job 24 hours a day. That is were the job is going to be done. Give us the money to engage the men so that inspections at not too long an interval can be made of every home and every building, where the trained eye of a firefighter will go in and point out what is wrong. Give us the finances to equip these men with the kind of equipment that they ought to have, and the job will be done.

I understand that in this audience are representatives of building and construction interests, fire insurance companies. I remember that the gentleman who spoke for fire marshals said something about the tax of \$1.50 a thousand that was applied to fire insurance policies that went into the State coffers. Did you gentlemen ever stop to think that if a proper job was done in these cities and fire losses were less, it would be profitable to you? Why don't you head a movement that will go on these rurally dominated legislatures where all cities are inadequately represented? Why don't you spearhead the movement and ask that a tax be placed on your insurance policies of, say, a dollar a thousand that will be returned to the local fire departments for their use in the local fire departments exclusively in fire prevention and fire protection. I will guarantee you that your losses will be reduced.

The United States Conference of Mayors is presently engaged in a crusade, if you please, to call attention to the fact that most problems come where most people are. This is no longer a great agricultural Nation. We are the greatest industrial Nation on the face of the globe, but we haven't homes to house our people and we haven't adequate fire protection to protect those homes. We do not have adequate voice in our State governments nor in our county governments. We are the geese that lay the golden eggs of taxes, and we are receiving what is begrudgingly handed out to us. We cannot turn around without the consent of a State legislature, and that condition, friends, will not change until those of you who live in these industrial communities recognize the fact that while you think you are American citizens and have the same power that any other American citizen has, you are not as much an American citizens as you would be if you lived in a rural district.

We are asking for just a little bit of this democracy we hear so much about for the communities in which the great majority of the people live. This problem, the problem of traffic control, the problem of preventing further disease and crime in the slum districts, must be done at the local levels.

I close with making the appeal that if you will make it possible for the communities of America to get the wherewithal to get the tools, we will do the job. [*Applause.*]

**Chairman Fleming.** Thank you, Mayor Welsh.

I ought to forewarn the next speaker, who represents the Council of State Governments, that we have designs on him and his gubernatorial election. This Conference already has produced home notable results, although they remain to be translated into action.

Following the President's Conference on Highway Safety last year, we turned to the Governors of the States for further help, and we were not disappointed. We asked them to hold their own statewide conferences paralleling the President's Conference in order to enlist the support of

their citizens and to hand-tailor the Action Program to meet of their own commonwealth. They have very generously complied, and we are going to ask for the same kind of assistance in this great movement to save lives and property from fire.

I have the honor of introducing the Honorable Clarence W. Meadows, Governor of the State of West Virginia. [*Applause.*]

**Hon. Clarence W. Meadows.** My fellow American citizens: I am certain I voice the sentiment of each of you, and as a Governor, that of the Chief Executives of every State in the Union, by paying tribute, first of all, to the President, for his foresight and wisdom in calling this most timely conference. The justification for such is now, more than ever before, apparent to you who have been attending these sessions, and therein lies a responsibility to which I shall refer later.

“So you want to be a fireman?” This question, posed by my mother many years ago as our family stood on the open porch of our home in the small town where I lived, and for the greater part of a memorable night watched the entire business section of that community burn to the ground, made an indelible impression upon my memory.

Was there ever a boy who did not want to be a fireman? That urge seizes most of us in our youth and never quite leaves – no matter how old we may grow. There is something wrong with almost any American who does not possess a secret desire to don the coat and boots and hat of a fireman and go charging down the street to the scene of a conflagration.

A little silly perhaps, but nevertheless, we come by it quite honestly for fire and mankind are closely associated, and have been since this natural phenomenon first enabled man to cope with the wild beasts which menaced his primitive life and its usefulness has been constantly an important part of his progress throughout the ages. Because of his capacity for controlling this phenomenal force in the world about him, mankind succeeded in making his food more palatable, his life more generally comfortable, and he has been able to pass the desolate frontiers which walled in his primitive environment and to occupy regions which must have otherwise remained perpetually uninhabited.

Fire has given to man the refinement of minerals, and generally, an increased utilization of the natural deposits of the bountiful earth in the furtherance of his multifarious needs. The experience with fire which man thus acquired through the ages he has definitely reflected in his superstitions, his religion and his philosophy; and through symbol and metaphor, it has enriched the language with which he strives to give expression to his sentiments.

Therefore, it becomes more understandable why men rush to a fire, not to do anything about it particularly, but just to watch and see what happens.

With the ever increasing usefulness of fire to mankind in making his life more liveable, his wealth greater, and his vision more farsighted through the years, the ingenuity of the human mind, our desire for living together, and the consequent economic and social problems attendant therewith has likewise increased the destructiveness of the very thing which is so beneficial, to

the point where we might well say that the devastating ability of this creation may now outrank the usefulness thereof.

Since you have been here, I am certain you have been assailed from all sides with facts and figures, which perhaps not only astound you, but which I am certain have brought the conviction that something must be done to curtail the annual destruction to life and property directly attributable to fire. I will not burden you with statistics, but when I am told that for the month of March the fire loss was greater than the loss in any previous month since April 1906, when the great San Francisco fire occurred, I must ask you to do something about it. Then with the terrible disaster at Texas City, I have not the slightest doubt but the month of April will be even worse than the month of March. So, with the toll of destruction steadily mounting by such leaps and bounds, it appears beyond contradiction that today is a day for action – emergency action, if you please!

I said a moment ago that we Americans run to a fire to do nothing about it but just to watch and see what happens. My fellow Americans, that is literally just what we have been doing through the years – and nothing more. We can stand on the sidewalk, watch a great building or somebody's little home burn – we can shout instructions to the firemen as to what they should do, and just how they should put it out – but that is about as far as our advice or efforts have ever gone. So you want to be a fireman, do you? If so, you'll have to do better than that.

I think I would speak the mind of so many public officials and just ordinary citizens throughout this land by repeating what I am sure was said years ago back in my home town shortly before the fire I spoke of occurred, when it was said, after buying some of the firefighting equipment then available – “Well, we have the problem of fire whipped now.” Too many people – too many public officials – too many cities place their trust in a fire engine – in a good fire department – and these they should have – but no horse was ever saved by locking the barn door after he was gone, and a fire that has started is definitely much harder to put out than one which never gets started. The real basic answer to this whole problem, as you must undoubtedly realize by now, if never before, is prevention – again let me say it – Prevention! The people of this Nation must awaken to the fact that the public good and welfare require a new set of rules in construction, cleanliness and carefulness. Law making bodies and public officials must assume their just responsibility in setting up building codes, fire prevention methods, fire protection devices, and after having placed such upon the statute books, enforcing the same without fear or favor. The untold thousands of lives and billions of dollars worth of property which have been untimely and most horrifyingly caught up in a swirl of flames and smoke may well be charged to the officials who have winked at the requirements of a building code, safe wiring practices, rubbish disposal, and other things of like nature. Just as it might have been you or me, or perhaps it was John Doe, who flicked a lighted cigarette into a convenient corner; or who left the matches where the children might play with them; or who neglected to turn off the furnace and lit a match to see whether or not his suspicions were correct – yes, we are all guilty to some degree, and that guilt will continue to pile upon each and every citizen in this great nation until we resolutely determine that we will do something besides watch the fires burn.

Perhaps I can turn an even more somber page – at least one which makes me stop and think – think, that is, for the future. Twice within a quarter of a century, we had to arouse ourselves

reluctantly, of course, and turn from our quiet, rather careless ways of peace, to carry fire and sword against peoples arrayed against us and menacing our very existence. Sickening though the thought may be, we would be foolish beyond all past performances to close our eyes to the possibility of another such occurrence. Certainly the general chaotic condition of the world today constitutes a most compelling motive for our recognition of such an unfortunate eventuality.

Since the ancients first found fire useful in combating their enemies, and learned to hurl flaming arrows into the crude fortresses of their foes in battle, mankind has devoted itself more and ever more assiduously to perfecting the weapons of incendiary destruction. This perfection – this development of the diabolical art of concentrating fire in one form or another against an enemy certainly reached its most advanced and deadly exposition in the last global conflict – a war which itself is best comprehended when conceived as a world aflame – crowned by a gigantic pillar of smoke, steam, and flame mushrooming miles up into the air above the blast of atomic energy which just left everything below a field of seared, twisted death and destruction.

Against a repetition of this, we have dedicated our lives and our treasure. The best mind of this Nation, in magnificent disregard of our normal partisan political alignments, are working day and night with the tremendous task of evolving with our allies some means of keeping the word at peace. But even in our commitment to this policy, which is of more fundamental importance to the human race than any other problem which history records, we cannot afford to blind ourselves to the fact that in this unpredictable age, erstwhile allies may overnight become mortal enemies, and that any relaxation of vigilance will inexorably imperil our very existence.

Military leaders and other experts who chronicle the lessons of war and utilize them in the evolution of engines or devices for our protection in any future conflict, solemnly assure us that any assault which may come upon us will most certainly be aimed at the destruction, in a matter of minutes, perhaps, of our greatest center of population, which are also our points of heaviest industrial concentrations. Such an assault we may most certainly anticipate would thrust upon us immediately a battle against fire hardly within our capacity to imagine. Protection against the spread of fire and the control of fire once started would suddenly become the most deadly important task in the way of our survival that perhaps we would ever face. Appalled as we are now by a contemplation of the power of fire to destroy human life and property in a nation at peace, and determined as we should be to mitigate this destruction through a general program of public education, forward-looking laws and strict law enforcement for preventive measures, we can well stand aghast at the prospect which might some day be ours if we should become the target in a renewal of global war waged by powers to whom the fantastic weapons of the immediate past may then be obsolete.

From here on, the problem is ours. Our President has issued the order – it is the duty of every American – individually, officially, and cooperatively – to carry out the command. Will you do it? I believe you will.

As one of the 48 Governors, it will be my high privilege to lay before the Executive Committee of the Governors' Council, which meets in Salt Lake City this coming July, the full recommendations of this Conference, at which time I confidently expect such to be placed on the

agenda for discussion and action on the part of the Governors' Conference itself. I not only anticipate favorable action thereon, but I well know that each of my fellow governors shall not only be highly aware of this matter, but will gladly embrace any workable and worthwhile program, and put it into effect on a State level without delay. Each of you in your respective capacities, whatever they may be, will, I am sure, carry back to your people and to your organizations the same message as shall I, and will there find same hearty reception beyond doubt.

Your Conference can be, and I know will be, a landmark along the great road which has and will continue to lead America and the American people to a better and fuller life. By your action taken here, there will in the years that lie ahead be untold thousands of men, women, and children who will have been spared the torture and horror of death by fire and the general prosperity of all lifted by the savings of the countless millions of dollars of property which have heretofore fed the flames of wanton disregard and destruction.

**Chairman Fleming.** Thank you, Governor. What you propose to do is certainly all and more than we could possibly hope to ask for.

Before we part, I wish to thank all of you, for the President and for myself, for your attendance upon this Conference and for the invaluable help you have given us with your counsel and your advice. As we depart from this auditorium and go our separate ways to our homes, we take with us a program for future action that has been forged upon the anvil of sound experience by the best intelligence in the fire safety field that we could find.

This has been a 3-day Conference, but we must all be deeply aware that to bring that program to life, to implement it in every town and city of the country, it is going to be no 3-day task. It will call for our best efforts 365 days of the year. We have enlisted not for a brief skirmish, but for the whole campaign. In winning that campaign we shall have the satisfaction of knowing that we are saving lives and putting an end to the wanton destruction of our Nation's resources.

Again, I thank you for your assistance and for the consideration you have given your General Chairman. I want to particularly thank the chairmen and members of our committees, the secretaries who have labored long and earnestly, the consultants and staff who helped them, and particularly Mr. Bruce Bielaski, who has done so much to make this Conference a success. [Applause.]

We will now stand up and hear the Star Spangled Banner; then the Conference will be adjourned.

*{The assemblage stood for the National Anthem.}*

*{The Conference adjourned at 12:15 P.M.}*

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 John W. Dunham, *Public Building Administration, Washington, D.C.*  
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*The President's Conference on*

**FIRE  
PREVENTION**



*Report of Committee on  
Firefighting Services*

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

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# REPORT OF COMMITTEE ON FIREFIGHTING SERVICES

## ADMINISTRATION, PERSONNEL, AND EQUIPMENT

Annually there are over 800,000 fires in the United States. Fire departments answer more than a million alarms in all. In addition to the fires in buildings are those brush, grass, rubbish, boats, automobiles, and other vehicles. There are also numerous calls for rescue work and special services.

There are approximately 1,000 fire departments manned by fully paid professional firemen, and at least 15,000 others that are part-paid and volunteer.

Fire departments for the most part are operated by municipalities and are supported principally by taxes on real estate. Fire department expenditures in cities of over 10,000 population were \$3.69 per capita in 1946.

*Support for the Fire Services.* – Cities are currently seeking new sources of revenue to pay the costs of municipal government, including the costs of fire departments. The cost of living is forcing salaries higher; the cost of firefighting apparatus, hose, and equipment is increasing. Cities will be forced in the immediate future to consider every possible economy of operation in the fire department, consistent with an adequate fire defense.

Systems of charges may be employed when a city gives fire department services to unprotected suburbs. In almost all cases, municipalities provide a degree of firefighting service for surrounding territory from which the municipal fire department receives no tax support.

Integration of fire services has received some attention in connection with the problem of fire-defense organization in wartime. No program to bring about such integration has been effectively advanced, and there is likely to be strong opposition from municipalities, which do not want to lose control of a local service.

By such integration there is a possibility of securing fire services better adapted to the areas served; resulting economies are possible; and a better career service for professional firemen might also be provided.

Another approach is to shift more of the burden of fire protection from the public firefighting service to private property. The best protection is that which is built into the building through good design. To name a few items of protection, we have automatic sprinkler systems; automatic fire detection systems supervised by central stations; fire walls; fire doors; stair enclosures, and watertight floors. The provision of private protection is fairest to all concerned, because each property thus pays its way according to its fire protection demands.

***Fire Insurance and Municipal Fire Protection.*** – Through State and regional rating bureaus, the National Board of Fire Underwriters, or other organizations, insurance companies maintain an engineering service that is available for advice on improving a municipality's fire defenses. These insurance engineering services have effectively encouraged cities to maintain strong, reliable water supplies and have promoted good fire departments and other features of municipal fire defenses. They grade municipal fire defenses, including fire departments, according to the Standard Grading Schedule of National Board of Fire Underwriters. This rating affects fire insurance rates in most parts of the country, and provides an incentive to the city to improve its major items of defense. Fire prevention work by fire departments may, under the grading schedule, affect grading relatively little.

***The Fire Department as a Career Service.*** – The majority of fire departments are small, numbering 20 men or fewer. Frequently it is only in large cities that a real career service is offered in the fire department. At present, a man can ordinarily advance only within the department he joins. This is most serious, resulting in the quality of chief officers being fixed, because a city ordinarily does not go outside its own department for new men or officers. A superior fire officer must have very diversified knowledge, much of which is technical. Many officers have become proficient through their own exceptional efforts.

Part of the difficulty is due to a provincial attitude taken by the people of a local community. Of more practical importance is the fact that each city and town has its own salary scale, pension plan, and other benefits that are purely local. A man cannot be brought in without some unfairness to present members of the department; a man cannot leave without some sacrifice of seniority or pension rights.

One method that has been suggested for dealing with this situation is to set up a Statewide system of civil service and pension administration for fire departments. There is an observable trend in that direction. Another suggested method of providing a career service is to integrate fire departments into single services, operated under the auspices of counties or metropolitan fire districts. This can be accomplished without necessarily following county, metropolitan or State limitations in the formation of such integrated departments; but the objective should be to avoid their becoming top-heavy in an administrative sense. Britain had experience with a wartime National Fire Service. Four Australian States have fire departments that cover their entire State. The smallest, South Australia, has 125 full-paid and 77 part-paid men; the largest, New South Wales, 842 full-paid and 3,139 part-paid men.

***Personnel Administration.*** - A substantial number of cities administer matters of recruitment and promotion through a personnel agency, usually a civil-service commission. These commissions enforce suitable standards for heights, weight, age, and moral character for new recruits and establish lines of promotion based on seniority, merit, and examination. While these civil-service commissions are not without their limitations, they offer the best method so far devised to secure fair treatment of men. The principal need is for improvement of the standards they administer.

A basis for personnel administration within a department is often established by a written set of standards for the conduct and action of men and officers. Fire departments should make wider

use of such written standards as guide books covering discipline, care of houses and equipment, general rules of action in administrative matters, and in response and operation at fires. The principal difficulties with such standards are that they are kept up-to-date and that amendments are allowed to become established by custom or usage.

***Salaries and Pensions.*** – There is a wide difference in the scales of salaries paid to fire department members. Some variation is of course due to local living conditions, but on the average, salaries are too low for the type of men and services required.

Pension plans are desirable for all occupations. For the fire department they are particularly important, because they should operate to enable men to retire when they have reached an age beyond which firefighting duty becomes too difficult or dangerous for them. The lack of a satisfactory pension system results in a situation observable in too many fire departments, namely, that the average age of the men is unreasonably high.

***Management Requirements of Fire Companies.*** - The number of men required depends on the number of fire companies to be operated, plus sufficient men for fire prevention work, training, maintenance, and other activities of the department. The number is also affected by the arrangement of shifts and the total hours worked by the men.

The first step in appraising fire department protection in a given city is to determine the number of fire companies needed. The number of men follows from the number of companies and the kind of work they do. The principal units are engine (or pumper) companies, ladder companies, and special companies for salvage and rescue work. Many departments are being called on more and more for special services, particularly companies to man rescue and other emergency equipment, and many fire departments give ambulance service.

In a given city, it can usually be determined whether there are too many or too few companies, but it is not possible to generalize. Similarly, the number of men needed for any given fire company can be determined by studying the work required of that company; but it is not possible to say that four-man, five-man, or larger companies should be the rule.

Economics in the operation of fire departments should be sought only after careful study of the number of companies required.

A city need not be baffled by the problem of securing manpower for the full number of companies it requires. The city should man as many of the required companies as possible with full-paid personnel. For the other companies, manpower may be supplemented by an auxiliary force of trained and disciplined part-time men. Such a program may be especially helpful in cities of less than 30,000 population.

***Working Hours.*** - The fire department is a round-the-clock, 24-hour service. The total number of hours worked depends on the arrangement of shifts. The trend is toward shorter workweeks. This is affecting the cost of fire departments by increasing the total number of men required to man the fire companies.

A fire department that puts into effect a shorter workweek, the three-platoon or similar system, must add men if the same number of companies is to be manned. Unless men are added, the number of companies must be reduced or the manning per company must be reduced. Companies with too few men are not able to give efficient service.

It has long been against the rules of many full-paid departments for firemen to hold other part-time jobs while off duty; but often these rules have not been enforced. During the war, firemen made a worthwhile contribution by working, off duty, in war plants. The war needs no longer exist, and the practice should now be stopped.

***Apparatus and Equipment.*** - Much apparatus, such as pumpers and ladder trucks, is old and needs replacement. Apparatus manufacturers are busy with replacements, the ordering of which was held up by the war. It is likely to be some time before manufacturers can meet these needs.

Practices of some fire departments are slowing up fire apparatus replacements. While there are some differences in apparatus made necessary by climate and topography, there is little reason why pumper and ladder trucks should not be of standard design in all cities. Apparatus specifications usually differ in minor details of body dimensions, arrangement, and equipment. These variations unnecessarily increase cost and delay deliveries.

We urge fire departments that want prompt delivery and a fair price to base their specifications on the specifications for automobile fire apparatus prepared by the Committee on Municipal Fire Apparatus of the National Fire Protection Association or recommended by the National Board of Fire Underwriters. These specifications have been circulated to cities by the U.S. Conference of Mayors. We also recommend that these specifications be brought up-to-date at the earliest possible moment. Work on a revised set of specifications has recently been done jointly by the International Association of Fire Chiefs and the National Board of Fire Underwriters. These will shortly be distributed to the fire service.

There is also a national standard for fire hose, prepared by the National Fire Protection Association, the American Society for Testing Materials, and other bodies, under procedures of the American Standards Association. The most useful form of this standard is one provided by Underwriters' Laboratories, Inc., which will act as the inspection and testing agency for a municipality on hose purchases. Standardization of hose threads on hose couplings and hydrants also merits continued attention.

***An Apparatus Replacement Program.*** - Only a few departments have an apparatus replacement program that is adhered to, and many now find themselves with outmoded apparatus, a condition aggravated by the difficulty of getting apparatus built during the recent war years.

In spite of relatively little mileage traveled, automobile fire apparatus does wear out, because of conditions of service different from that of automobiles in ordinary trucking service. Wear on motors is accelerated by frequent cold starting and by long periods of pumping with motors operating near top capacity.

The life of fire apparatus is also affected by developments in other automotive equipment. It is outmoded when it reaches an age when it cannot compete (in acceleration and stopping, for example) with other motor vehicles on city streets or country roads. Much of the fire apparatus in use today was built in the period before the development of heavy-duty automobile trucks and is now obsolete. We urge city fire departments to get their city councils or governing boards to approve a continuous program for the retirement of old apparatus and for its replacement.

Because of delay in delivery of about 2 years on some items, particularly pumpers and ladder trucks, some fire departments may wish to see whether they can get fire apparatus which was bought for military needs, and which may be declared surplus by the War and Navy Departments.

***Improved Firefighting Methods.*** - The fundamental techniques of fire fighting are the same today as they have been for some time. They principally involve putting water on a fire. Fog nozzles and small hose lines are coming into wider use, and wetting agents (advocated to make more effective use of water) have received publicity. There is an unfortunate tendency for some salesmen and fire departments to become enthusiasts for one technique or improvement. The hard facts are that each of the items is useful, but is not in any sense a cure-all.

Regarding hose lines, it is more a matter of choosing the size of hose and nozzle tip that is right for the particular firefighting job, than it is to say that all fire departments should use large lines, small lines, large nozzle tips, small nozzle tips, fog nozzles, or other equipment. The same comment applies to various chemical equipment: foam, carbon tetrachloride, and carbon dioxide.

None of these items of special equipment are revolutionary in the sense that they permit general abandonment of conventional firefighting techniques. All are important and each may furnish the firefighter with a real advantage in dealing with some particular fire situation. In general, fire departments cannot take full advantage of a large number of special items of equipment and useful appliances, because of cost involved.

Competent firemen agree that the way to fight a fire is to get inside the building, find the fire, and get water on it. When an alarm is delayed, or the building is of excessive height or area, or the material burning radiates heat that will not allow close approach, the fire department must mass hose streams. This situation points to the importance of measures for reducing the height and area of buildings, and for requiring automatic sprinkler protection when the total amount of combustible materials is so great that it is otherwise impossible for firefighters to get water on the fire.

Fire departments often have to fight inside buildings under great difficulties. This task requires training, because under normal working conditions a fireman obtains real firefighting experience only at difficult fires.

***Salvage Operations.*** - The number of fire departments that do salvage operations is increasing. These operations require special equipment and special training. The operations involve the spreading of waterproof covers, removing water used in firefighting promptly, and otherwise protecting against unnecessary water damage. Training salvage operations is carried on in most

firemen's training programs, and there is wide acceptance of the idea. There are a number of large cities where salvage work is not performed by the fire department, and in the country as a whole, there is room for considerable improvement in salvage operations.

***Prefire Planning.*** - Firemen cannot depend on experience alone in firefighting operations. An increasing number of fire departments are resorting to prefire planning of operations at all buildings in the city. Chief officers in most departments are expected to have worked out in their minds the methods to be followed in an attack on a fire in any building, and they supplement this preplanning with actual knowledge of buildings through inspections. Some departments carry it further by sending out entire assignments to a given building, where both officers and men go over the fire possibilities and figure out just where apparatus will be placed, just where entry can be made, where ventilation can be carried out, and what water supplies and private fire protection are available to assist their operations.

These procedures are entirely feasible and will help to prevent disastrous fires by uncovering conditions that make the fighting of the fire impossible. Once brought to light, something may be done to remedy these situations; but they are usually brought to light only by a fire disaster. The Winecoff Hotel fire in Atlanta is a good example of this sort of situation.

***A Proving Ground Needed.*** - Fire departments are alert to the possibility of improving apparatus and equipment. Our Committee adopted a motion that the Conference consider proposing that the Federal government, as a civil defense measure, be authorized to establish a proving ground and a technical and research laboratory available to the various fire departments, with personnel for the operation of this proving ground and laboratory to be recruited from the fire protection profession.

***Water Supply.*** - Most cities provide water for fire protection purposes from their domestic water distribution system. A few of the larger cities also have installed a high-pressure system for fire protection in congested, high-value areas only, with a separate system of mains and pumps.

Domestic water distribution systems should provide quantities of water for fire protection in addition to that supplied for domestic consumption. The amount of water necessary for fire flow depends upon the height, area, type of construction and occupancy, congestion and hazards of the buildings in a particular section, and its determination is largely a matter of judgment and experience. The grading schedule of the National Board sets up a basis for determining the fire flow necessary in high-value districts of cities of various populations.

When a municipality has no domestic water supply system, it must depend on pumpers taking suction from any available water, such as rivers, ponds, and wells. The municipality should make a study of such available sources of water, and provide roads and other facilities for pumpers to reach and pump from such sources without becoming mired. Sometimes even a small brook can be dammed to provide a pool, or to flow into an open concrete tank, from which pumpers may draft.

During the war, many water system improvements were deferred, and for some time water utilities will be busy catching up with extensions and also major improvements.

A plan frequently followed at industrial plants is to store quantities of water close to the buildings to be protected. The idea is that, in case of fire, the water will be right there ready for use. Such storages are for firefighting purposes only and thus are independent of the public water supply. The plan came into use because of the unreliability of the public supply.

War experience demonstrated the need of local storage of water for firefighting. In England and Germany, ground storage tanks or reservoirs were provided in each block in a city. Firefighting water was taken from these storage tanks by fire department pumpers.

Technical bodies should review the traditional principles of water supply design in the light of war experience.

***Preparedness for Disasters.*** - Fire departments are one of the first services called for all sorts of emergencies. At times they have had to deal also with major disasters, such as floods, hurricanes, and earthquakes. During the war, civil defense planning caused some attention to be given to plans for dealing with major disasters. Few of these are currently in force. A few cities maintain active agencies that plan operations to cope with a disaster; but the great majority have no such plans at all, so far as the fire department is concerned.

Fire departments have given little study to the lessons of the war destruction, by fires, of cities in Germany and Japan. The war has been over for 2 years; but no advice has yet come to fire departments from the War Department to indicate what sort of situations may be expected from a sneak atom-bomb, incendiary, or biochemical attack on our cities. Fire departments would welcome guidance about this.

***Fire Department Communications.*** - Delayed alarms are an important factor in fire loss and show up conspicuously among the factors responsible for the largest fires. Consequently, the facilities for fire alarms and for communication within a fire department are important.

The principal requirements of fire department communications are (1) means of promptly receiving calls for fires and other emergencies, and (2) intercommunication between units, particularly between fire alarm headquarters and fire companies.

***Present Public Fire Alarms.*** - The conventional fire alarm system comprises street fire alarm boxes connected electrically to a central fire alarm headquarters. A few cities have boxes well distributed, so that in any part of the city a box can be found within reasonable distance; others have fair box distribution in central districts only.

Fire alarms are sent principally by telephone. The telephone companies do not assume responsibility for fire alarm service, and there are obvious limitations to full dependence on telephones.

Standards for municipal fire alarm systems have been developed by the signaling committee of the National Fire Protection Association and have promulgated by the National Board of Fire underwriters. These standards outline the features necessary in public fire alarm systems. They

call for facilities that provide the general public with a means of calling the fire department promptly and that are dependable, in the sense that they are free from many of the limitations of telephones. These standard systems, where incomplete, should be extended. Public fire alarm systems are appropriate for many small communities that to date have been dependent on telephone service.

**Radio.** - Radio has two fundamental uses in fire department communications: (1) between mobile equipment and headquarters, and (2) for point-to-point service where wire service is impractical. Radio is being increasingly used by the installation of 2-way sets on chiefs' cars and on all pieces of fire apparatus. Radio is particularly useful for volunteer fire services, where a central radio headquarters may be set up to control fire apparatus in a rural or forest territory.

Radio is not intended to replace wired fire alarm systems and fills only one of the two fire department requirements on communications: that of intercommunication between units; and it is not wholly a substitute in this respect for wired systems. No radio development is in sight that will provide for the reporting of fires by citizens; so the installation, extension, or replacement of wired systems should not be deferred in anticipation of a radio system of reporting.

The following radio frequencies are now available to municipal fire departments: 12 channels in the 152-162 megacycle band, 12 channels in the 72-76 megacycle band, and 15 channels in the 30-40 megacycle band. These have only recently become available; the number of radio-equipped fire departments is still small.

In the allocations, channels have been reserved for the exclusive use of short-range walkie-talkie units or pack set radios, so that if they are used on large or simultaneous fires they will not in any way interfere with the regular land-station-to-mobile-radio service.

The Federal Communications Commission has fixed July 1, 1950, as the date when all municipal fire departments shall be established in the 152 megacycle band and shall shift from existing channels, unless a municipality or fire department can make a factual showing of the need for some other frequency.

The 72-76 megacycle and the 30-40 megacycle channels will then be left open for county operation, or for the radio services required by volunteer departments that set up their mutual aid districts or areas covering a combination of volunteer departments.

**Private Fire Alarm Systems.** - Fire departments have long encouraged private fire alarm systems in buildings. With facilities provided in buildings, either for automatic detection of fires or for manual transmission of alarms, there would be fewer delayed alarms that contribute to life and property loss by fire.

The best private fire alarm service is provided by a private central station system under contract with a private company, which not only installs the system but maintains, inspects, and supervises fire alarm, burglar alarm, and similar services.

There are practical reasons why private fire alarm systems are not generally connected to public fire alarm systems. Public fire alarm systems can handle private alarm systems directly connected to them if there are only a few connections; a number of small cities permit them. To give such service, large cities find that they have to provide maintenance and supervision in private properties, and usually they prefer not to do it in competition with existing private companies.

### **Recommendations on Administration, Personnel, and Equipment**

1. That fire departments be regarded as fire prevention as well as firefighting agencies and that substantial parts of their budgets be devoted to fire prevention activities.
2. That ways be explored for meeting the increasing cost a of fire departments.
3. That insurance rating agencies review their gradings of cities to see whether it is possible to provide additional incentives for fire prevention work by fire departments.
4. That ways be explored to remove obstacles that keep the fire department from being a desirable career service, particularly the provincial attitude of cities that prevents men from advancing except in their own small departments; and that the integration of small fire departments into units large enough to provide such a service be studied.
5. That economies in fire departments be sought only after careful study. The approach recommended is that the number of fire companies required be established; that manpower be determined by the needs of the companies plus additional personnel for fire prevention bureaus, training, maintenance, and administration; and that trained part-time firemen be used to supplement fully paid personnel, when total manpower needs exceed what the fire department has funds to provide on a fully paid basis.
6. That replacement of fire apparatus be accelerated; that all fire departments adopt orderly programs for its replacement; that purchase shall follow standard specifications; that the program include special equipment for technical applications, including modern breathing apparatus, fog, foam, carbon dioxide, and other chemical equipment; that efforts to achieve wider standardization of threads on hose couplings and hydrants be continued; that better apparatus and techniques be developed by research; and that a national proving ground and laboratory be set up for the purpose.
7. That fire departments study the operations they are likely to have to perform in fighting fires in all large properties, and thus bring to light, before a fire, the factors that might contribute to life or property loss.
8. That traditional design of public water systems for fire protection be reviewed in the light of war experience.

9. That disaster plans be developed in all areas to cover fire department operations, and that the War Department be asked to furnish guidance regarding fire department requirements in event of sneak atom-bomb, incendiary, or biochemical attack.
10. That public fire alarm systems, where incomplete, be extended, and that they be provided where they are lacking in all communities.
11. That radio be used where appropriate to supplement wired intercommunication systems in fire departments and for rural areas where wired service is impractical; and that advantage be taken of frequencies now available for such service.

## **FIRE PREVENTION BY THE FIRE DEPARTMENT**

Traditionally, fire departments have been considered as firefighting organizations; but today fire departments are recognized as agencies seeking to prevent fires as well as extinguish them. A fire prevented is better than one extinguished. Fire prevention work by fire departments is prompted by the lively concern firemen have for avoiding unnecessary loss of life.

These fire prevention activities are not complex. First, there is a system of inspections. Second, educational campaigns are promoted to encourage sane and safe practices. Finally, for persons who will not voluntarily cooperate, public safety laws are enforced and fires are investigated.

***Inspection Work.*** - It has long been customary for fire companies in many cities to make fire prevention inspections. The practice is by no means general, and it could, with profit, be more widely observed. Present inspection work is often haphazardly and indifferently performed.

In cities that do an effective inspection job, each firefighting company is required to do such inspections. A common objective is to inspect all buildings in a company district four times a year. In a city of 100,000 population, a representative fire company might have in its district 3,500 families in 1,600 dwelling units; 250 small stores and shops; and about 100 large properties, such as industrial plants, warehouses, and public buildings. These figures are helpful in visualizing the job of inspection done by a fire company.

The company inspections are limited usually to common fire hazards and details of maintenance of private fire equipment. The company inspectors report through channels to headquarters, where a fire prevention bureau or chief officer follows them up.

A common operating routine is to assign one man per day to inspection work. The total volume of fire prevention work done, including public relations, depends on the extent to which members of fire companies are expected to get out and make public contacts.

***Educational Campaigns.*** - Fire prevention work is futile, unless all persons are informed about fire safety and are interested enough in it to be willing to take advice in fire matters and to obey fire laws.

Public education by fire departments is handled by the fire chief, by a fire prevention bureau, or in a few cases by a fire department bureau of public relations. Here are a few of the approaches used in educational campaigns.

Of principal importance, most fire departments hold, is work with school children. A number of departments have had success by assigning one or more officers to devote full time to fire prevention work with children. The children's programs include poster and essay contests, school and home inspections by children, demonstrations, plays, parties, visit fire stations, and a wide variety of activities to promote interest and understanding of fire safety by children.

Seasonal campaigns mark the year-round educational programs of fire departments. Fire Prevention Week in October is almost universally observed by cities under fire department sponsorship. A Spring Clean-Up Week is similarly observed in many communities. Special efforts are made at Christmas and on the Fourth of July. At Christmas, safe handling of decorations and Christmas trees in stores and homes is encouraged. On the Fourth of July, children are directed to safe celebrations, public fireworks displays often being featured to keep fireworks out of the hands of small children.

An annual inspection of dwellings is made by many departments, the firemen in some cases contributing a part of their off-time for the purpose. Cooperation by house occupants is voluntary, and the services of the fire department in this sort of campaign are universally welcomed.

More and more fire departments are using the press and radio for education. Both newspapers and radio stations have been ready to use competently prepared material.

Educational work is tied together in most cities through a fire prevention committee, usually sponsored by the local Chamber of Commerce. A few cities have created fire prevention committees by city ordinance. One such is Dallas, Tex. Fire chiefs usually serve as members of such committees. Often they are asked to serve as chairmen; but this course is not favored, as the chief can do nothing as chairman of such a committee that he cannot do in his official position. The fire prevention committee can be used to provide a force, outside of politics, to secure public cooperation.

***Law Enforcement.*** – The legal authority of fire departments is derived from various State laws and city ordinances. Of these, the city charter is important, as it defines the general authority of the city to operate a fire department and establishes the general responsibility of the fire department for fire prevention week. This basic authority is most valuable. Many fire chiefs and fire prevention officers do not fully appreciate the relatively strong position they are in by reason of their responsibility for the public safety in fire matters. It is this broad general authority on which the fire department has to fall back, when it enforces orders, under the general police power, covering matters on which there are no detailed ordinances, or when it deals with situations that must be declared public nuisances.

***The State Fire Marshal.*** - In most States, the authority for fire prevention work, as distinct from the ordinary operation of a fire department, comes from a State fire marshal law. A common provision of the State fire marshal law is that the local fire chief is ex officio a deputy or assistant State fire marshal. In cities protected by volunteer and part-paid fire departments or those that do not have adequate fire prevention personnel, the State fire marshal's office virtually provides them with many fire prevention bureau services. A number of State fire marshals also perform technical services, such as maintaining a laboratory and providing special experts who may be called on by the local fire department. The local fire department is usually pleased to have such support from a State agency that may be independent of local politics.

***Fire Prevention Ordinances.*** - We urge cities that do not have such an ordinance to adopt the recommended ordinance creating a fire prevention bureau, a model form of which is recommended and circulated by the National Fire Protection Association and the National Board of Fire Underwriters. A great many cities have such an ordinance.

There are a wide variety of laws dealing with fire hazard and fire protection matters, which are discussed in the report to the conference on laws and law enforcement. It is desirable, in any city, to assemble in a single compilation all of the laws to be administered by the fire department. This is usually referred to as a fire prevention code. During the last 15 years, a good many cities have adopted comprehensive codes, the general features of which are similar to those in the recommended fire prevention code circulated by the National Board of Fire Underwriters.

***The Fire Prevention Bureau.*** - Many fire departments established a fire prevention bureau at the time that one man at the headquarters was assigned to full-time work on fire prevention inspection. His first duties, of course, were to follow up the work of inspection done by various fire companies of the department.

This Committee considers the proper place for a fire prevention bureau to be in the fire department, directly under the chief of the department. This is the pattern followed in the majority of cities.

The scope of the work of a fire prevention bureau includes all sorts of inspection tasks. In addition to routine inspections and to following up the work of fire companies, inspection work that is difficult or time consuming is usually handled by the bureau. Inspections of a highly technical nature are necessarily made by the bureau.

In addition, the fire prevention bureau handles complaints, and it must be able to solve specific problems referred to it. It often maintains certain technical services, occasionally a laboratory or photographic department. At present, most bureaus are not equipped to give citizens comprehensive fire protection advice; but the day is approaching when they will be able to do this.

***Relationship of the Bureau to Other Agencies.*** - The bureau handles points of contact with other inspection agencies. The work of the bureau may bring it in contact with public jurisdictions, such as those of State fire marshals, State labor departments, tenement-house commissions and the like. It may deal with certain Federal regulatory bodies like the Bureau of

Marine Inspection and the Interstate Commerce Commission. The bureau is a logical channel for such contacts.

It shares a place in the city government with departments for building, electrical, plumbing, health, boiler, elevator, and other inspections. There is some overlapping of jurisdictions, particularly between the building department and the fire prevention bureau. There is need for a clear line of demarcation between the area of inspection covered by each. In general, building departments should be expected to handle new building construction and related matters of structural soundness. Fire departments should handle matters where maintenance is involved, where private fire protection equipment is installed, and where there are features of storage, manufacturing processes, or hazards to life involved that are peculiar to the occupancy rather than to the building structure.

In any case, the important thing is for a clear division of operations, with close coordination between the fire prevention bureau and building department. Some cities place a fire department officer at the building department to review plans for the fire department. Another scheme requires all permits, licenses, and approvals to be applied for at one municipal office, which then sees that the fire, building, and other departments make the necessary reviews or inspections.

For large properties, the owner may be getting recommendations for improvement of fire safety from the fire prevention bureau, insurance engineers, and others. The fire prevention bureau should encourage these and other agencies to consult one another, so that an owner will get the best advice and not be confused by recommendations that differ in details.

***Industrial Fire Protection.*** - The fire prevention bureau, as already mentioned, handles educational and public relations work for the department. One of its task is to keep in touch with the heads of the safety and fire protection departments in industrial plants within the city. The bureau lends support to the fire protection man, to see that details of plant protection are carried out. Perhaps more important, the fire department serves as a clearinghouse for helpful suggestions on fire protection procedures and practices in industrial plants.

***Bureau Personnel.*** - The best features of existing fire prevention bureaus have been described by the foregoing. In the average city, the fire prevention bureau consists merely of a staff of inspectors. In too many fire departments, personnel for the fire prevention bureau is selected from among the physically handicapped members of the department. This is a practice very detrimental to effective work. Few fire departments that have fire prevention bureaus use them to the best advantage. Men are assigned to do inspection work with little natural ability for it and with a definite lack of training and experience.

There is need for a better selection of personnel for fire prevention bureau staffs. In general, the men should be chosen for the work from the younger firemen who have the best educational background. Some men with engineering education and experience are needed on the staffs of fire prevention bureaus. In some cases, fire protection engineers have been developed from among the fire department members, but this has occurred so infrequently as to suggest that one of the major problems in fire prevention bureau operation is to set up conditions that will attract

persons with adequate technical education to the fire department, for eventual employment in the bureau.

Fire departments may be able to develop fairly satisfactory inspectors through training courses. At present such training courses are very few, and it could be recommended that State fire marshals' departments, in cooperation with the firemen's training program of the State and cities, set up courses of instruction that would help to develop inspector talent.

***Routine Investigation of Fires.*** – Quite apart from the business of running down the crime of arson, the routine investigation of fire is the most effective single item of fire prevention work that can be performed by a fire department. Most departments make routine reports on fires, consisting, in the poorest grade of department, of simple entries in a fire record journal.

Investigation of fires, as a fire prevention measure, includes bringing home to citizens their responsibility for allowing a fire to start. This responsibility is too often obscured by the fact that a person suffering a fire is indemnified for the physical losses by insurance. It has never been customary in the United States to try to bring home to individuals the fact that it is an offense against the public safety to have a fire, even a so-called "accidental" one. In spite of this, there appears to be no question that under our common law a person can be held liable for damages to his neighbor's property from a fire that spreads from his own premises, provided the fire was a result of his negligence or the negligence of his servants.

***Effect of Over-Insurance and Over-adjustments.*** - The line between an "accidental" fire and a deliberate fire is sometimes very hard to draw. Close to a deliberate fire is one where the property owner is provided with an incentive to be neglectful.

Some departments feel that much closer cooperation is needed from various insurance people, if they are to keep fire losses at a low figure. The investigation of fires, even where no actual arson is involved, shows that to the extent that insurance companies allow over-insurance or are careless or "soft" in the making of adjustments of losses, frequent fires will be encouraged. Public adjusters, operating on a commission basis, are most often complained of by fire departments as a factor encouraging "over-adjustments."

### ***Recommendations for Fire Prevention by the Fire Department***

1. That the objective of the fire prevention work of the fire department be to produce a situation where citizens are informed about fire safety and interested to the extent that they are willing to take advice on fire matters and observe laws enacted for their safety from fire; that in every city there be created a local fire prevention committee; that the fire department, through a bureau of public relations, or through a fire prevention bureau in the larger cities, provide facilities for education of the general public.
2. That special attention be paid by fire departments to cooperating with school authorities in securing the interest of school children in fire safety; that, in large departments, a number of men especially chosen for the purpose be assigned to work with children and in the schools.

3. That the fire departments proceed to secure public cooperation by inspection and educational activities, of which the following offer examples that have been effectively used and are being used by many progressive fire departments:
  - a. A larger total number of contacts with the public, through firemen doing inspection work on detail from the firefighting companies.
  - b. More effective seasonal fire prevention campaigns, including better programs during Fire Prevention Week, Clean-Up Week, Christmas, and Fourth of July periods; supplemented by campaigns against any local situation, such as rubbish and grass fires, the number of which may be excessive due to lack of public cooperation or to failure to enforce laws.
  - c. An annual dwelling house inspection campaign, partly for inspection purposes, principally to seek public interest and support of fire prevention.
  - d. Promotion of self-inspection work and training in the use of first-aid appliances by employees of business concerns and the occupants of building; the organization of private fire brigades and fire safety organizations in industrial plants, mercantile properties, institutions, and elsewhere as may be appropriate.
4. That all fires be thoroughly investigated to establish the idea of personal responsibility for fire prevention and to bring to the attention of insurance agents and adjusters cases where over-insurance or “soft” adjustments of losses may tend to encourage an attitude of carelessness or indifference of fire in any individual property owner.
5. That all members of the fire department receive training in fire prevention work and be expected to promote fire prevention; that a portion of the permanent staff of every fire department be assigned full-time to fire prevention activities, in large departments through the creation of a fire prevention bureau; that the younger, better educated members of the department be chosen for such work and specially trained for it; that the qualifications of members of the bureau be constantly broadened until these may provide a place where a citizen may go for comprehensive fire prevention advice.
6. That the fire prevention work of the department be clearly defined by an ordinance creating a fire prevention bureau or by a similar legislation; that all municipal fire prevention ordinances be compiled in a single volume to be known as the Fire Prevention Code; that the Fire Prevention Code be kept as complete and up-to-date as possible.
7. That the fire prevention bureau be a division of the fire department under the chief of department so that the chief may properly coordinate all fire prevention activities of the department; that the functions of the bureau be clearly designated, to avoid as far as possible overlap or conflict with building departments and other city departments, fire prevention bureaus being assigned to all work involving storage, manufacturing processes, or hazards to life peculiar to the occupancy, and to installation or maintenance of private fire protection equipment.
8. That the few States not now having State fire marshals consider establishing such an officer or vesting fire marshal powers in some State official; that State fire marshal, through

properly qualified staffs, provide fire prevention bureau service where it is not provided by fire departments; that State fire marshals provide various technical services (photography and laboratories) available to local fire departments; that State fire marshals provide facilities for assisting in the training of fire department personnel assigned to fire inspection and fire investigation work.

## **FIREMEN'S TRAINING**

Organized systematic training for firemen, starting with a few drill schools in fire departments in the United States more than 60 years ago, has made great advances in recent years. As early as 1914, the North Carolina Firemen's Association began a training program at its meetings. In 1916, the International Association of Fire Engineers (now the International Association of Fire Chiefs) endorsed the principle of firemen's training and in 1919 developed a suggested set of standard fire department drill evolutions.

By 1925 the first 3-day course for firemen was held at the Universities of Illinois and Iowa. During this same period, a number of progressive insurance inspection bureaus in middle western States added itinerant instructors to their staffs. About this time, the short courses were also given support by a Fire Service Extension Committee of the Fire Waste Council of the United States Chamber of Commerce.

The short courses, so-called State "fire school" and "fire colleges," were often an outgrowth of fire association and fire chiefs' meetings. They have since become a feature of training in at least 25 States. In the early fire schools or colleges, which were usually operated once each year for a period of 3 to 5 days, demonstrations with apparatus were conducted and lectures were given. Although some of the more progressive members of small town and village fire departments sought admission to drill schools located in the larger nearby cities, the fire colleges were about the only source of help then available to volunteer firemen and members of small departments.

The Fire Department Instructors' Conference, sponsored by the Fire Prevention Department, Western Actuarial Bureau, and the Memphis Fire Department, has been an important influence since 1927, and still is. At about the same time, in 1930, firemen's training had achieved enough importance to be given attention by the U.S. Office of Education in cooperation with State vocational educational offices, many of which took a prominent part in early State programs.

The entrance of vocational education as an ally of the fire services gave many programs a real lift, by providing funds and expert guidance in developing instructors among the fire department personnel practicing in training work, and in arranging the machinery of instruction. In 1937 in-service firemen's training was set up as an integral part of public vocational education, and cooperative training programs were started in 22 States. For the year ended June 30, 1946, some 30 States had one or more State vocational fire instructors; and 1,374 classes were conducted in 780 locations. State training programs gave systematic, measured instruction under competent educational auspices to some 30,000 firemen.

In 1939 the National Fire Protection Association made a survey that traced the growing field of State training programs. Only half of the cities of over 20,000 population had fire department training schools. In 1941 the Firemen's Training Committee of the National Fire Protection Association was organized. In 1946 a joint evolutions committee of representatives of the Fire Department Instructors Conference, the International Association of Fire Chiefs, and the N.F.P.A. Firemen's Training Committee was organized.

During the war, the armed services provided training centers with generous physical equipment for training personnel in the manipulative operations of firefighting. At Coast Guard and Navy centers, the facilities provided mock-ups of ships in which actual fires could be attacked. This did much to add to the "training consciousness" of firemen and should lead to continued demands for training programs in fire departments. The same is true of industrial fire brigades, many of which were organized and trained during World War II, and continue to function as a necessary protective measure in peacetime.

Nearly every State has an organized firemen's training program, and the immediate future for training is very good. In many States the programs are being expanded. Some provide pre-entry instruction for students who expect to enter the fire service. Certain institutions of higher learning have provided well-equipped, permanent training centers. Outstanding examples are at Oklahoma A. & M. College and the University of Maryland.

***Changes in Working and Living Conditions.*** - When industrial and living conditions were simpler, firemen learned through experience on the job. Little attention was given to organized systematic training. However, in recent years demands upon the fire service have made it imperative that all members of fire departments be trained for their work sufficiently to enable them to utilize the results of technical progress. The more complicated living and working conditions become, the more there is to know about fire prevention and firefighting.

There are over 80,000 professional paid firemen and an estimated 725,000 volunteer firemen in America. This makes a total of around 800,000 municipal firemen - that is, persons engaged in protecting cities, towns, villages and small rural communities in which publicly operated fire departments are maintained. However, this figure does not include persons serving in private fire brigades.

According to a report compiled by the National Fire Protection Association for the year ended June 30, 1946, only 30,000 firemen were enrolled in systematic class instruction, not including large city departments that operate their own training programs without outside aid. Making ample allowance for numbers not counted in this survey, there still remains a much too wide differential between the total training program possible and the actual number of firemen now being reached with organized systematic instruction. This means that in great numbers of community centers, very little if any firemen's training is going on.

***A New Concept of Firemen's Training.*** - Only a few years back, many people, including leaders of the fire service, thought of operational training - evolutions and drills with apparatus under a drillmaster - as *the* training program for firemen.

There are three main parts of firemen's training:

1. Basic and technical operational training for the rank-and-file men.
2. Officers' training for those responsible from the administrative, managerial, and supervisory standpoints. Fire officers should be well beyond basic operational skill in connection with fire apparatus, which must be acquired by all rank-and-file firemen. The training of officers largely center around the further development of leadership ability, the satisfactory directing and handling of men, the organization of work of the department, and advanced technical firefighting problems.
3. Instructor's and conference leader's training for those who teach or direct the learning activities of others. Teaching is a profession and a career. Just as there is a fund of information on the proper performance of fire evolutions, there is also a fund of information on sound instructional principles and procedures. These things are not peculiar to firefighting, but to teaching. A good fire instructor must be basically grounded in firemanship and must also be trained as a teacher.

The content of training courses designed for the upgrading and improvement of persons under the three parts of the program just mentioned is, of necessity, quite different. All training should be designed to assist those interested in promotion and advancement.

Informational teaching is never a satisfactory substitute for teaching that is organized and carried out in an on-the-job basis. There is no fully accurate way of measuring just how much a man knows about a given subject – how much he recognizes, understands, or appreciates. In measuring “doing ability”, however, a performance test will reveal whether or not the learner can do a job and how well he can do it.

The need for continuing organized systematic training is clearly apparent to those who have thought the problem through. Firemen do not stray trained. Refresher and “brush-up” instruction is essential, therefore, from time to time, even for experienced men. New men who require training must be added to departments as others leave, and, as the years go by, there is a natural growth in diversity and scope of the activities engaged in by all firemen.

### ***Suggested Statewide Training Programs***

While no two States follow exactly the same pattern of development, there are points of similarity in the programs now in operation in about 40 States. The units discussed in the paragraphs that follow appear in various State programs and may well be considered in any Statewide plan for firemen's training.

***Local Fire Department Training Programs.*** – What local fire departments both paid and volunteer do for themselves is the heart of any Statewide program. Naturally, the size of the local department, the personnel, equipment, apparatus, firefighting tactics and procedures used, and the type of fire department organization are all factors to be considered in determining the training program appropriate for a given department. Every local department should go just as far as it can and then secure such supplementary training assistance as may be necessary.

***Itinerant Instruction.*** - Itinerant instructors, such as are made available through State boards for vocational education and other agencies, travel over the State helping to plan local training programs, offering certain phases of firemen's training themselves, coordinating effort, and guiding further development. To the small outlying volunteer department, this service has already been of great value and has undoubtedly helped to advance training far more rapidly than would have otherwise been the case. City departments might well make more use of itinerant instructors.

***State Fire Schools (or Colleges).*** - These schools serve as clearing houses on practices and procedures and help to keep firemen up-to-date on new materials, equipment, and changes in fire prevention or firefighting tactics. They also stimulate interest and encourage firemen to put forth their best efforts. It should not be expected that the total training responsibility for an entire State can be discharged with a State fire school alone, however good it may be. Only a limited number of men are thus reached for a week or less each year. However, State fire schools serve to interest men in further training and constitute an important unit in the total training.

***Officer Training Courses.*** - Far less has been done up to the present in developing organized systematic training for officers of fire departments than for the firemen themselves. Officer training needs a great deal of emphasis in State programs. Otherwise, the hundreds of men in departments who receive operational training are being given advantages not available to persons with officer responsibilities. Once established, officer schools can be operated on either a Statewide basis or for subdivisions thereof. Some form of officer training is highly desirable, and the scope of such training, based on actual needs, is almost unlimited. Much of it should deal with the successful directing and handling of men.

The basis of all officer training, as in the training of the rank-and-file firemen, is the study of the actual duties, responsibilities, and problems confronted by each individual in his official capacity. More carefully made analysis are needed to reveal the jobs and subjects in which officer training needs are the greatest. Both prospective and present officers should be included in a training plan.

***Instructors Training Courses.*** - Every State needs a reservoir of capable, trained fire instructors. If possible, these instructors should be located in various parts of the State and be available to some extent beyond the service areas of their own departments. The more firemen there are in a State who are trained to teach, the more rapidly units can be added in a Statewide training program and the more men can be reached with a good quality of instruction.

Whenever the available supply of qualified fire instructors in a State is low or becomes low, it is time to qualify other promising individuals who are interested in becoming instructors. Periodically, there is need also for "brush-up" and refresher courses for instructors already qualified, especially when the original training was secured some time ago.

## ***Suggested City Department Training Programs***

The units discussed in the paragraphs that follow appear in many city programs and may well be considered by paid departments.

***Company Schools.*** - Organized systematic training, giving the quickest results, starts with the men who actually answer the calls and fight the fires as they occur. Such schools are ordinarily conducted daily and weekly, for periods of varying length, by the officer in charge of a company, or by designated instructors for a company. The purpose is to perfect the proper handling of tools and apparatus.

There is still great opportunity for more interesting and challenging instruction at the company level. Company schools can be carried on with either of two attitudes apparent on the part of the personnel: the men can go through their work in a perfunctory manner, complying with orders but showing no special interest; on the other hand, the men can look forward to the drills because of their value and the desire to improve, feeling a genuine pride in the organization of which they are a part. With this attitude, men are really improving themselves as firemen and as citizens.

***City Training School.*** - Operating throughout the year and manned by the necessary qualified instructors working under the direction of a chief inspector, the well-organized and well-conducted city training school is effective. Whole companies are often taken out of service, at least annually, to receive training that cannot be done satisfactorily at the company level. Commonly included are drill tower and smoke chamber experience. Some of the new equipment to make this experience more realistic is being patterned after that recently used by our armed forces when training their firefighters. Performance tests, along with informational examinations, check both the effectiveness of the instructor and the learner's grasp of the situation.

Four distinct groups can and do profit from a city training school through organized classes:

1. The *probationary* fireman who gets his initial trial training there before he gets his definite work assignment.
2. The *experienced* fireman who is given an opportunity to improve on specific phases of fire prevention and fire extinguishment. Such training, well given, not only improves his present ability but should, in a measure, prepare him for possible promotion.
3. The *advanced* fireman who is ready, willing, and able to move forward perhaps more rapidly than certain of his associates. Classes to which he is assigned naturally will deal with the more technical phases of ventilation, hydraulics, gases, hazardous materials, and similar subjects. Such men are present in nearly any department.
4. The *specialized* fireman who is selected by supervisors who know his interest and capabilities to take specialized training. In this group are pump operators, first-aid men, inspectors, arson investigators, and the like. Classes are organized to turn out individuals specialized in at least one line of fire work.

***Instructor Training School.*** - As in the Statewide instructor training schools, the emphasis needs to be placed in learning how to teach others, rather than on skill as a fireman, which should already be possessed. There must be schools and classes organized and conducted to improve

the efforts of those who may already be assigned to such responsibility, and to train promising recruits who show evidence of ability as teachers or instructors.

***Officer Training School.*** - What has been said previously with respect to officer training applies here. When company officers, taken in small groups, analyze their responsibilities and duties and receive well-planned instruction from time to time, the whole training program is moved forward. Subjects commonly included are technical firefighting practices, use of protective equipment, the handling of men, and public relations. Trained men need trained officers; and trained officers want trained men working under their direction.

***Chief Officers' Conference.*** - Considerable success has been attained in some cities through the holding of a regular chief officers' or senior officers' conference. Presided over by the chief of the department, these conferences often include his deputies, battalion or district chiefs, the chief instructor and other senior officers. Such a unit, operating as a part of the over-all plan, keeps the training needs to the foreground and keeps officers informed about progress made. As training problems are discussed and future plans made, the total program is kept geared properly to the administrative policies and procedures of the entire city department.

### ***Suggested Small Town and Village Department Training Programs***

The following training suggestions are offered for the training programs that small towns, villages, and communities must of necessity carry on for themselves:

1. Secure the services of State itinerant instructors and other instructors in both planning and execution of the program.
2. Make appropriate modifications of certain of the elements appearing in the Statewide and city programs.
3. Utilize the training resources of adjoining communities for the benefit of several communities in close proximity.

Small departments can be helped the same as larger ones by instructor-training and officer-training courses, made available through a live and going Statewide program, as illustrated. Better Statewide fire training programs naturally mean more service to the smaller fire departments.

### ***Suggested Programs for Private Fire Brigades***

There are numbers of fire departments that are similar to public fire departments, but which protect industrial, mercantile, institutional, and governmental establishments. These range all the way from small private fire brigades to fire departments of substantial size. The armed forces, forest services, and other agencies also maintain firefighting organizations.

In each of these, there are some features of the training requirements that are highly specialized. Examples are the techniques of forest firefighting, and the Navy and Coast Guard programs to train ship firefighters during the war. In some instances, this specialized training also has been

available to persons outside the particular service. This specialized training should not be confused with a complete program of firemen's training.

Private fire brigades and all specialized fire-defense organizations should develop a program commensurate with their specific needs, but embodying most of the features of a complete program, as appropriate for municipal fire departments.

### **Recommendations for Firemen's Training**

1. That continuing, systematic, up-to-date programs of training for firemen are necessary in order that they may discharge their responsibilities in firefighting and fire prevention; that fire chiefs' and firemen's organizations continue to focus attention on and support firemen's training programs; that firemen's training be recognized as one measure of an effective fire department.
2. That every fire department not having a training program establish and maintain one commensurate with training needs, and departments now having training programs in operation continue to develop and improve them; that local fire departments take the initiative in providing training programs, using standard practices and calling upon appropriate outside assistance to improve further such programs from year to year; that city departments cooperate with and assist private fire brigades and the smaller outlying departments with their training programs; that a more adequate supply of carefully selected instructors and conference leaders be developed from within the fire service; that training programs be based on specific needs, as revealed by careful surveys of local situations.
3. That the armed services (including the National Guard), the merchant marine, the forest services, industrial, mercantile, institutional, and governmental establishments and maintain fire departments be encouraged primarily for their own personnel to develop and extend existing training programs, or to provide programs where they are now lacking; that such programs recognize the special needs of the particular department or service, but that in the interests of general efficiency these programs be carefully geared to and in harmony with the programs of firemen's training as carried on in the various States and cities; that where appropriate specialized training facilities are available, provision be made for extending this training to other firemen.
4. That instruction, when offered, be organized around the activities and actual jobs of firemen and that a complete firemen's training program be considered as having several essential parts: training for rank-and-file men, primarily operational; training for officers, of an administrative, supervisory, and leadership nature; training of instructors and conference leaders: and certain highly specialized training for fire prevention and firefighting.

5. That since training of firemen as a public service occupation through vocational education channels as administered by the U.S. Office of Education and State boards for vocational education, with support from both Federal and State funds, has been effective; has increased the number of firemen receiving training; has provided well-planned training for many fire departments; and has generally improved the efficiency of training, the established pattern be continued and strengthened.
6. That the possibilities be explored for the establishment, at training centers such as those now existing or contemplated by certain States, of suitable buildings and other equipment, so that some operational training may include use of equipment in actual fires; that similar centers may be possible in some of the largest cities; that while such training facilities are useful, as demonstrated during the war by the armed services, operational training is only one part of a comprehensive training program; that proposals for a nationally operated center for such training be left open, and for the present, State training programs be developed and strengthened.

## **FARM AND RURAL FIREFIGHTING SERVICES**

The loss from fires on farms and in rural communities in the United States in 1946 was an important factor in our fire waste. A high percentage of the fire loss occurs annually in such areas. In addition to the ordinary fire hazards on the farm, the mechanization and electrification of agriculture has introduced new causes of accidents and fire that make close cooperation necessary between Federal, State, and private agencies in the development of effective organization plans for reducing these fire losses.

The continued prosperity of farmers and other rural property owners and the safety of their families is dependent to an important extent upon dependable, organized fire department service. This service was early recognized as one of the necessary and vital functions of our incorporated cities and villages, and as a result, the development of fire departments has been along the lines necessary to meet their specific needs, until recent years.

Fire protection minded organizations and individuals have now realized that improved roads, modern automobile fire apparatus, and rural telephone service can make available comparable facilities for fire control throughout our farm and rural communities. As a result since about 1920 the development of rural fire departments has increased slowly at first, but with considerable headway during the late 1930's and following World War II. Many States during the 1920's and 1930's enacted legislation to encourage and promote rural fire-control programs. Such legislation has made it possible to place such programs on a more substantial basis than could be done previously.

Rural fire department service is public fire protection furnished to property located outside the corporate limits of a city or village *by specific assignment*, using apparatus designated for such purpose. This includes farm property, scattered suburban dwelling or mercantile property, isolated manufacturing property, or small unincorporated communities. Assignment must be

specific, so that every property owner within a given district will know definitely the procedure to follow in turning in an alarm, and so that *prearranged* fire department service will be immediately available.

In this way, the farmer or other rural property owner, having made prior arrangement and contribution to obtain this service, may have the same feeling of assurance that organized firefighting assistance will respond at his call that the city dweller has always enjoyed.

Common methods used to provide rural fire department service include fire departments supported by subscriptions, service on a fee basis from existing fire departments, and by organization of fire protection districts.

***Fire Protection Districts.*** - Protection is provided by governmental means through the formation of specific fire protection districts, or by authorizing townships or counties to provide fire control service by taxation and other means in their rural areas. By means of legislation, a number of States have provided that one or more townships, or a part of a township, or parts of several townships may form a special fire protection district within which a tax may be levied to provide fire protection. Management of the district's affairs is the duty of a duly elected or appointed board of trustees or existing governmental body. Fire protection for all property within the limits of a county, township, or fire protection district is generally provided by one of the following methods:

1. A contract between one or more established city, village, or private fire departments and the rural governmental body, whereby protection is provided for an annual fee, with the fire departments providing apparatus, equipment, manpower, maintenance, and housing facilities.
2. Provision and maintenance of apparatus and equipment by the rural governmental body, with manning and housing facilities provided by one or more city, village, or private fire departments. The service rendered is then paid for on the basis of a set fee per run, per hour, or per year.
3. Provision of full rural fire department facilities by the rural governmental body, including apparatus, equipment, housing, and personnel. The fire department is then located in one or more villages or communities within the boundaries of the township, county, or fire protection district.

It is generally found that small cities, villages, and communities profit by participating in these plans for the provision of rural fire departments service as much as do the farmers and other rural residents. Such communities may in this way become better equipped to combat the fires occurring within their limits and can also service the rural area without jeopardizing their own protection. Many small communities would be dependent on very inadequate first-line fire department equipment, if it were not for the additional support available for a combined program from the rural area served.

***Rural Fire Protection Legislation.*** - Information contained in a report prepared by Mr. John D. Rush of the United States Department of Agriculture in November 1946, which apparently contains the most up-to-date available on the status of Rural Fire Protection Laws and Programs, indicates that by 1946 basic legislation authorizing rural fire protection under township, county,

or special district governing bodies had been enacted in 38 States. Most of these laws have either been enacted or revised since 1920. Although most of the programs now in operation are based on old laws, amendatory legislation has served to bring such programs in line with the material progress that has been made recently in the field of fire control. Such amendatory legislation gives sanction to those programs formed under the older laws, but requires them to conform as soon as possible to the provisions of the newer statutes. During the decade 1930-39, 12 States adopted or revised laws for the establishment of fire protection districts in rural areas. Because of the local nature of fire protection programs, little data are available to indicate the extent to which programs have been developed in these 38 States. Mr. Rush, in his report, compiled the following approximate data, giving some indication of the progress that has been made:

*California* – At least 250 fire protection districts, some operating on a county-unit basis.

*Illinois* – More than 110 fire protection districts, with a State association. Evidence indicates that by the end of 1947 there will be in excess of 150 such fire protection districts operating within the State of Illinois.

*Iowa* - Township fire protection furnished by at least 400 city and village fire departments.

*Kansas* – At least 20 townships with contracts for fire protection.

*Massachusetts* – More than 50 fire districts serving the thickly populated suburban communities with few farms, but many more township fire departments serving rural areas in which most of the farms are located.

*Minnesota* – At least 208 townships protected.

*Nebraska* – About 30 rural fire protection districts.

*New York* – A total of 1,324 fire districts and a State association.

*North Dakota* – At least 150 townships with some protection.

*Ohio* – At least 408 townships with some protection

*Oregon* – At least 72 fire protection districts.

*Vermont* – At least 25 fire districts serving approximately 1 percent of the farms; but other farms are stated to be served by municipal fire departments.

*Washington* – Approximately 100 fire protection districts.

Enabling legislation has been utilized to some extent to establish rural fire protection districts in Colorado, Idaho, Montana, and Nevada. Some progress in the utilization of State laws authorizing township fire departments, the extent of which is unknown, has been reported in Connecticut, Indiana, Michigan, Pennsylvania, and Wisconsin. The movement to organize county fire departments, consisting of a number of fire companies distributed in various parts of the area under county administration, is, except in a few isolated instances, just beginning. In a few States for which very rough estimates were obtained, including protection provided voluntarily or by law, the proportion of all farms in each State has some degree of fire department protection has been estimated as follows: Connecticut, 50 percent; Delaware, 90 percent; Idaho, 5 percent; Maine, 20 percent; Massachusetts, 50 percent; Maryland, 90 percent; Michigan, 75 percent; Missouri, 15 percent; New York, 80 percent; Rhode Island, 90 to 100 percent; and Vermont, 10 to 15 percent.

State enabling legislation should be provided Nationwide to permit incorporated rural governmental bodies, such as townships, counties, or special fire protection districts to provide

their own fire protection; to contact to give or receive such protection to or from other incorporated governmental units or incorporated private organizations; to provide protection jointly with other units; or to contribute toward the support of other fire departments in return for fire protection service. Such rural governmental bodies should be permitted through State legislation to enact and enforce, by means of qualified building and inspection authorities, regulatory ordinances covering building construction, the safeguarding of hazardous conditions, the installation of private fire appliances, and other fire prevention measures.

***A State Rural Fire Protection Advisory Body.*** – Complete information covering ways and means to provide rural firefighting service and fire prevention activities should be available from an efficient rural fire protection advisory body in each State. Such a body should be capable of giving complete organizational, promotional, and planning advice, based on the specific needs of the community involved, of the communities adjacent thereto, and of the State as a whole. Such advice should be coordinated with the requirements of local fire insurance rating bureaus, where proper rural fire department service is recognized as justification for rate benefits.

The advisory body may be set up to operate as an official State body, under the general direction of a State fire marshal, for example, or it may be a voluntary association. If it is a voluntary organization, it may function through an executive committee selected annually. We recommend that a rural fire protection specialist be employed in the State Fire Marshal's office to extend and improve rural fire protection; we also recommend that a rural fire protection specialist be employed by the State Agricultural Extension Service to stimulate and conduct educational programs in rural fire prevention and first-aid control of fires. We further recommend that the Rural Fire Protection Committee act in an advisory capacity in planning and directing the activities of these two specialists.

(Examples of groups from which representation might be drawn, as appropriate, for the State Rural Fire Protection Committee are: the State Fire Marshal, the State Fire Prevention Association, the State Inspection Bureau, the State Fire Chiefs' Association, the State Firemen's Association, Volunteer Firemen's Associations, Association of Township Officials, the Grange, the Farm Bureau, the Farmers' Union, Stock and Mutual Fire Insurance Organizations, the Agricultural Extension Service, the State Department of Education, the Conservation Bureau, and the State Foresters.)

***A Fire Prevention Program.*** - In view of generally wider distribution of fire companies in farm and rural areas, an effective program to keep fires from starting, backed by law, is possible. Authorities who have the responsibility of carrying out this program should be thoroughly versed in all details of farmstead planning and special farm fire prevention problems. The representatives of various rural interests, such as agricultural organizations, rural educators, parent-teacher associationa, women's clubs, the rural press, local fire insurance agents, forest fire organizations, 4-H Clubs, Farm Bureaus, and similar organizations can be helpful and should be urged to cooperate and assist in the conduct of the over-all rural fire prevention program.

## **FOREST FIRE SERVICES**

Municipal, industrial, and building-site areas, involving structures of all kinds, comprise less than 150,000,000 acres of the land area of the United States, or only about 7 percent. The other 93 percent of the 1.9 billion acres of the United States is in farm and pasture land, open range, or forest. It is outside the sphere of activity of municipal fire departments, and is mostly without the benefit of insurance and specialized protection service.

Forest lands make up one-third of the total, farm lands make up about one-fourth. The remainder is mostly in the form of other wild lands. Each year well over 175,000 fires start on such lands of Virginia. The reported damage is conservatively appraised at 36 million dollars in commercial values. To this must be added the less tangible damages, such as loss of soil in the mountains, increased danger of floods, damage of water supplies, to scenery, and to wildlife. Such damages are of even more public importance.

In referring to the "forest fire" problem in this report, the term is used in the broad sense and is meant to include forest, brush, and grass fires on all wild and uncultivated lands.

***Forest Protection.*** - Responsibility for forest fire protection is now actively assumed by Federal, State, county, and private agencies. The Forest Service protects the largest area of Federal forest lands, consisting of 185 million acres. Several other Federal agencies also have a highly important job of protecting over 150 million acres of other public wild lands.

In 43 States, organized protection from fire on non-Federal forest lands is a primary job of the State forestry departments. During 1946 the State Foresters, together with their cooperating local and private agencies, carried on fire control on 320 million acres of State and privately owned forest land. Protection is also being extended as rapidly as funds permit to an additional 119 million acres that need protection but are not now receiving it.

Under the Clarke-McNary Act of 1924, a total of 23 million dollars is being spent on this cooperative protection program. Of this amount the States are contributing 55 percent; the Federal Government 35 percent; and private landowners 10 percent.

The housing shortage and other critical war needs, and postwar demands for wood products, have greatly increased the pace of woods operations, and have resulted in increasing the danger of fire in logging debris in all forest regions.

At the same time, the property value of forests everywhere is greatly increased and the appraised damage done by fires has doubled.

A further factor is the great increase in other forms of public use. The elimination of wartime restrictions has put increasing thousands of hunters and fishermen back into the woods and has returned former military and war industry workers to residence in forest areas. Vacation travel into forest regions is on the increase and airplanes now take parties into areas remote from ground transportation. All these trends increase the chances of forest fires and are reflected by a sharp uptrend in man-caused fires.

***Fire Prevention.*** - In spite of impressive progress in the success of forest firefighting, the reckless waste and destruction, in the form of huge forest fire losses that still arise from careless American habits, must be reduced at the source. This is a tremendous task, requiring an aggressive and continuing campaign. Examples in this direction are the National Forest Fire Prevention campaign and the “Keep America Green” programs. They must be coupled with some restrictions of use in highly hazardous areas.

***Protection.*** - The numerous Federal, State, county, and private protection agencies need to be strengthened and their efforts more fully coordinated. By such means all land resources would receive a degree of protection consistent with the values represented and the fire liabilities that exist. In this effort, the principle of public values and public responsibility for problems beyond the control of the landowner needs greater recognition, and public financial support should be extended accordingly.

Forest protection agencies are still largely financed on a prewar basis, but costs of labor and equipment have advanced by 50 percent or more.

Labor for firefighting activities is scarce and largely unskilled. Better efficiency is badly needed. Increasing mechanization to replace hand methods and increasing speed of action provide the best prospect for attaining this efficiency. The old problems of time and distance are overcome drastically by parachute firefighters and by parachute delivery of equipment and supplies to the scene of action. Less spectacular, but of equal importance, are many other modern trends in development, such as tractor-bulldozers, special tractor-drawn plows, new fog nozzles and wetting agents to make water more effective, improved radio equipment, and a long list of specialized equipment to fit the firefighting work in each locality.

## **VOLUNTEER FIRE DEPARTMENTS**

Following recognition of rural fire department service as a vital part of the fire protection plan of our Nation, fire officials, the National Fire Protection Association, Government officials, fire apparatus manufacturers, and insurance interests became interested in compiling standards for this important service, since it is a well-known fact that development along carefully thought-out lines, using proved standards as a guide, always produces better results than unplanned growth. Numerous standards for rural fire department service have been compiled by the various interested groups; but those published by the National Fire Protection Association in the pamphlet, “Volunteer Fire Departments for Rural and Small Communities,” combine, through its Committee on Farm Fire Protection, the well-thought-out ideas of each of these groups. The recommendations contained in this publication should be consulted, carefully studied, and followed by all charged with the organization and operation of rural fire departments. In the work of approving rural fire department service for rural fire insurance rating purposes, the various State rating bureaus used published specifications that closely follow the recommendations of the National Fire Protection Association.

To give satisfactory protection, a rural fire department service must consist of the same fundamental facilities that go into the make-up of a city fire department service.

The tendency is to bring volunteer fire departments under public control, as described. Those not under public control should be incorporated, so that individual members will not be liable to damage suits. Private volunteer fire departments sooner or later are likely to call upon governmental bodies to appropriate funds for equipment, maintenance, and other expenses. This tendency should be encouraged, to place fire protection on a more permanent and more practical basis. Laws of some States prescribe the method of organizing volunteer fire departments and require them to be under the direction of some governmental body.

**Alarms.** - Audible general alarm facilities, such as horns or sirens, are generally a necessity where fire departments are volunteer. For a discussion of telephone service, fire alarm telegraph, and radio, see the section of this report on Fire Department Communications.

**Motorized Apparatus.** - There are two principal types of fire apparatus suitable for rural and farm fire department work. One is a triple combination pumper (pumper with hose body containing 2 ½-inch hose and water-tank equipment), and the other is the water tank type of apparatus, or booster type of apparatus that is primarily dependent on the supply carried on the truck.

Specific responsibility should be placed on mechanically inclined fire department members for a regular schedule of maintenance of mechanical apparatus and all equipment. "Preventive Maintenance" should be properly scheduled and accomplished by intensive inspection and proper adjustment.

**Fire Prevention Activities.** - In addition to their regular duties, the department personnel should become a self-constituted educational force to disseminate the fundamentals of fire prevention, as gained from their personal experience in fighting fires and from publications on the subject, which should always be at their disposal.

We recommend that the members of the fire department regularly inspect the premises in their community, in order to locate and secure the correction of all conditions that constitute potential fire hazards. We also recommend that the members of the department tactfully secure the cooperation and interest of property owners in the building of driveways leading to natural water supplies, or in providing ponds or other artificial reservoirs.

Full and complete news of all activities - civil, social, and firefighting should be given to the press. In particular, advice as to fire prevention and fire protection should be frequently published. National Fire Prevention Week should always be fittingly observed with addresses and demonstrations in the local schools, civic organizations, farmers' club, etc.

Fire departments charged with the responsibility of farm fire protection should have complete knowledge of safeguarding special features of hazards prevalent in farm buildings.

***Extent of Running District.*** - The distribution and assignment of rural fire department companies necessary to properly cover a specific district is a matter that requires through study of the characteristics of the property therein. In general, it can be expected that the longer the run by the fire department, the greater the possibility of excessive loss to individual property and of conflagration in congested areas. However, the acceptable distance has gradations depending upon the degree of building congestion, concentration of values and hazards, topography, condition and arrangement of roads, traffic, probable delay due to bridge and railroad operation at roadways, and other obstructions to response. Rapidity of response under unfavorable conditions, in view of the alarm facilities available, is a consideration of special importance where water supplies are limited, as in rural districts. Also the probability of simultaneous fires increases directly with the size and congestion of a specific district.

In recognition of these factors, many rural districts have found it necessary to establish multiple-company operation and arrange mutual-aid agreements to provide effective coverage under all conditions. In all cases, we suggest that the insurance rating bureau having jurisdiction be consulted in planning company distribution and assignment, as recognition of this service for insurance rate consideration may be dependent on these factors.

***Farm Water Supplies.*** - The development of permanent water supplies for fire department use at farm property should be promoted extensively by the authorities in charge of administering the affairs of the district covered and by the fire department members during regular inspections of property.

Wherever possible, provide for the building of cisterns on farms and near rural public buildings, so that fire department pumpers can use them for water supply. Sufficient water supply for at least 1 hour pumping, at not less than a 50 gallon-per-minute rate, should be available. This normally would require a minimum cistern capacity of 3,000 gallons. If a small stream is available, an ample supply of water may be provided by the building of a dam. When building a tank or reservoir, it is well to provide 4,000 gallons total capacity, so as to allow for the tank not being full at all times. Runways and roadways for fire department pumpers to available streams and ponds should be provided.

The publication of the National Fire Protection Association, entitled "Water Systems for Protection on Farms," contains many valuable suggestions for water supply development. The Portland Cement Association has cooperated in the development of plans, blueprints, forms, and methods for the installation for fire protection reservoirs.

The problem of making the best use of all available supplies at each farm should be given intensive study by the rural fire department at its regular training periods. Water supply records should be studied during training sessions devoted to planning the attack at each individual farm.

### ***Recommendations for Fire Services in Farm and Forest Areas***

1. That all States should enact legislation enabling rural governmental bodies such as townships, counties, or special fire prevention districts to provide public firefighting

service; that this legislation also authorize the formation of fire protection districts that may or may not be coextensive with other governmental subdivisions; that the legislation provide for building and fire prevention regulations and their enforcement, including those appropriate for natural terrain and forest areas.

2. That rural fire protection service should be tax-supported, as the fairest means of distributing the cost.
3. That a State Rural Fire Protection Committee be set up in each State to promote and guide a Statewide program for rural fire prevention and protection, including coordination of rural and forest protection services. This may be a voluntary association of the districts, State departments, and organizations and individuals interested, or it may be an official State body.
4. That local fire prevention activities, including public education, be sponsored by all rural governmental bodies that operate organized fire services; that adequate staff be provided on a local, regional, or State basis to carry on fire prevention and building inspections, supervision of natural terrain and forests, and development of fire protection water supplies at each farm property.
5. That special consideration be given to rural youth in fire prevention education, which would include demonstrations, identification of fire hazards, actual training, participation in fire prevention contests, preparation of exhibits at fairs, and firefighting surveys.

## REFERENCE MATERIAL ON THE FIREFIGHTING SERVICES

The following sources are among those that will supply lists of published material relating to the subject of this report:

Case-Shepperd Mann Publishing Co., 24 West Fortieth Street, New York, N.Y.  
International Association of Fire Chiefs, 24 West Fortieth Street, New York, N.Y.  
International Association of Fire-Fighters, American Federation of Labor Building,  
Washington 1, D.C.  
International City Managers' Association, 1313 East Sixtieth Street, Chicago, Ill.  
International Municipal Signal Association, Inc., 8 East Forty-first Street, New York,  
N.Y.  
National Board of Fire Underwriters, 85 John Street, New York 7, N.Y.  
National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.  
Public Administration Service, 1313 East Sixtieth Street, Chicago, Ill.  
Superintendent of Documents, Washington 25, D.C.

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*The President's Conference on*

**FIRE  
PREVENTION**



*Report of the Committee on  
Fire Prevention Education*

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

# 1. A NATIONAL PROBLEM

Faced with a rising fire loss that has been moving relentlessly upward since 1934, this Conference is exploring all the possible solutions to this staggering national problem. In spite of the intense efforts being exerted by all agencies, it appears that the fire loss in 1947 will exceed that of 1946, which amounted to \$561,487,000, the greatest in our recent history.

***The Stake of Young People.*** - The 30 million young people in our schools today have a major interest in the successful reversal of this fire loss trend. They stand to lose even more than our adult population. They rightfully expect us to place in their hands, at maturity, the assets of the richest nation in the world. They do not expect us to destroy these assets by fire. In addition, they are suffering a heavy toll in young lives snuffed out by the thousands of tragic fires, which are rapidly increasing.

***Industrial Fire Prevention Education.*** - While this report is basically an approach to the problem in the field of academic education, great emphasis also needs to be placed upon the importance of adult education as applied to the fields of commerce and industry.

Over 50,000,000 persons who are gainfully employed in the nation are vitally affected by destructive fires which may seriously impair the economy of the country.

It is obvious, therefore, that agencies which represent commerce and industry have a major interest in protecting life and property from the ravages of fire.

An effective community approach to the fire prevention problem should utilize all employee-training facilities of individual industries and community business organizations, and school authorities should cooperate to the fullest extent practical in such action.

The applications of training in the schools, as outlined in this report, are equally effective in industrial education fields, and are especially recommended for study and application by educational directors and administrative officers in those fields.

***Basic Approach.*** - This report is intended to explore ways and means of intensifying instruction in basic fire prevention at all levels of education and in all types of schools – public, private and parochial – and to point up the responsibility we all owe to the youth of the nation. We must not only provide him a safe place in which to study, but must develop safe habits that will enable him successfully to cope with the complexities and hazards of our present civilization.

These activities must apply to rural no less than urban areas. Fire hazards and waste in rural America, it must be borne in mind, present one of our most serious fire problems, because of difficulties of supplying protective apparatus, organizations, building inspections, etc. Any basic educational approach to the fire prevention problem as a whole, therefore, should channel instructions through all school levels, urban and rural, in forms adapted to different levels and to varying conditions. In the some 40 forest States, for example, forest fires are a high hazard, and education in the prevention of forest fires should be part of instructional programs in all schools from elementary to college levels.

Special stress should be laid on providing a continuous program applying to the particular hazards of each season, rather than sporadic outbursts that occur only during fire prevention and clean-up weeks.

## **2. ADMINSTRATIVE RESPONSIBILITY**

The administration of school properties, with respect to fire protection, is a grave responsibility. It is a responsibility directly concerned with the safety of many lives. In addition, it usually concerns property of high value, which the public can ill afford to lose.

Such responsibility definitely is a moral one; and in some instances it is a legal one. Under the program of compulsory education, common to all parts of the United States, parents are justified in expecting public and nonpublic schools to provide a maximum degree of protection for their children.

Parents share a part of the responsibility for maintaining safe conditions; but the responsibility falls principally on those who accept positions of trust in the school system. State officials, and particularly the fire safety specialists of State departments of education, building consultants, county boards of education, and local school boards must accept a heavy share of responsibility for fire protection. Those concerned also range from the board of regents of a university to the teacher of a one-room county school; from public officials in charge of school property to the custodian who tends a furnace.

*All who have accepted school stewardship in any degree are obligated by that degree to establish and maintain fire safe conditions within their sphere of influence.*

Fire protection is involved in the management of all properties of the educational establishment: the buildings, grounds, and transportation facilities. For all three classes of facilities, good management requires the practice of day-to-day precautions that have long proved essential to reduction of many common fire hazards. In addition, there is presented a continuing challenge to ferret out those special hazards, less generally recognized, but of equal or greater seriousness. Finally, it requires thoughtful planning and frequent drilling to insure, in event of a fire, that building or bus evacuation will be prompt and that extinguishing effort will be effective. Any school building that cannot be made to provide reasonably safe evacuation facilities should be abandoned. If the administrator does not know whether his building can be made safe, he should seek the advice of those who do know.

Experience up to now has shown a dearth of fire safety knowledge among responsible people outside of the fire service or the fire insurance business. Fire prevention education has been of limited effectiveness, due, perhaps, to natural reluctance to study a subject about which there seemed to be no immediate personal concern. More effectively than by any other means so far, the rising tide of losses and the comparatively recent series of holocausts have focused attention on the need for fire safe practices in all places of public assembly, particularly in schools.

School officials and their staffs, in increasing numbers, now realize the gravity of the problem and wish for guidance in a continuing program of fire safety.

It is not within the scope of this report to provide detailed information on all fire safety problems that may be encountered in the administration of school properties. However, it is believed that pursuing each recommendation to its complete conclusion will enable the administrator to discharge his responsibility effectively.

## **Recommendations for Action**

### ***We recommend:***

1. That each State department of education take the lead in its jurisdiction in developing fire safe school properties and designate responsibility for successful completion of this task.
2. That the school administrator seek the advice of fire protection authorities and obtain as much authoritative literature as possible, so as to develop an alertness to fire hazards.
3. That vital records of the school be properly safeguarded in a fireproof safe or vault, and a designated member of the faculty be assigned the responsibility for their proper storage.
4. That the school administrator take every action necessary to insure that safe escape, in event of a fire, is a virtual certainty. This requires that the following features be provided in accordance with current, recognized codes:
  - (a) Elimination of unprotected vertical openings, with special attention to open stairways.
  - (b) Provisions of smoke-proof and fireproof escape towers.
  - (c) Adequate exit doors equipped with panic hardware.
  - (d) Effective exit drills, carefully planned with provisions for shutting down hazardous operations and obtaining an accurate roll call.
5. That the school administrator should organize and develop the local program of school plant and fire protection.
  - (a) A committee is suggested with a broad representation of the faculty, which will study and list all existing hazards with the aid of local fire inspection authorities.
  - (b) Particular attention should be devoted to the following features:
    - (1) Heating, ventilating, and air conditioning systems: A prolific source of fire, particularly in old buildings.
    - (2) Electrical systems: Thorough inspection and elimination of overfusing are key points.
    - (3) Storage arrangements: Elimination of unnecessary storage wherever possible; particular attention should be given to the removal of unused or damaged equipment, and all storage beneath stairways or in stair shafts should be prohibited. The remainder of the storage should be confined to incombustible areas.
    - (4) Shops: High-temperature devices and inflammable liquids require special handling.

- (5) Home economics and laboratories: Good housekeeping and proper storage equipment are of paramount importance.
- (6) Cafeterias and kitchens: Grease accumulation and isolation of eating areas from kitchen are key points.
- (7) Auditoriums: Flame proofing of curtains and scenery, and adequate exit facilities, are major factors.

### 3. ELEMENTARY EDUCATION

The modern elementary school curriculum should include instruction in fire prevention; for though fire is necessary to our living, we must learn how to respect its value and to prevent the disasters that occur when it is uncontrolled. The elementary school child may be subjected to fire hazards both at school, at home, and in all places where children assemble. He must be made cognizant of these fire hazards, and he should be trained in the methods by which he and his associates can develop a fire safety consciousness for the good of all. He should be taught in such a way that he will develop habits and skills of safe action in the presence of destructive fires, because safety from fire hazards in the future depends, to a great extent, on the kind of instruction that is given *now* to the elementary school children.

**Objectives.** - The purpose of education and promotional material in fire prevention in elementary schools is to help to educate the elementary school child. The following five aims of safety education, stated in Fire Prevention Education, National Board of Fire Underwriters, 1942, pages 42 and 43, contain fundamental justifications for the inclusion of fire prevention education in a scheme of general education for the benefit of the individual and the community:

To develop safety consciousness which will reduce accidents to a minimum.

To teach fundamental facts (physical, mental, and emotional) which are related to accident prevention.

To develop for the development of safety habits, attitudes, and skills.

To develop character traits which will result in proper attitudes toward law enforcement and good citizenship.

To give to each individual freedom from fear and from conditions which may restrict his enjoyment of life.

In order to reach these educational results with a degree of effectiveness, certain requirements fall upon the elementary school teacher, which may be stated as follows:

1. The elementary school teacher should secure, interpret, organize, and convert for teaching purposes all pertinent school and community elements and experiences that will help elementary school children to develop knowledges, attitudes, and habits of fire prevention.

2. The elementary school teacher should develop ways and means of activating, in elementary pupils, the information on fire prevention that the school has had an opportunity to introduce.
3. The elementary school teacher should understand that one of the functions of fire prevention education is ultimately to produce changes in community attitudes toward fire safety, preservation of life, and conservation of resources and property.
4. The elementary school teacher should recognize the potentially hazardous fire situations of the school plant and school living, and work toward eliminating such situations, as far as possible, by emphasizing good housekeeping habits.
5. The teacher in a small rural elementary school has a special responsibility laid upon him for the protection of his life and the lives of the children under his charge, and should, therefore, receive special guidance and instructions on fire safety.

***Specific Problems Involved.*** - It is apparent that if safety education in the field of fire prevention had been adequately presented in the elementary schools during the past fifteen or twenty years, the loss of children's lives from this cause would be greatly reduced today. This is a very difficult problem for the administrator and teachers of the elementary school to solve; for the responsibility is not on the elementary school alone, but is a task for the entire community. Instruction in the elementary school, nevertheless, can be given in an allotment of time, or it can be related to the teaching of subjects already a part of the curriculum. But regardless of how it is done, it should be done. It is high time that this subject be given more emphasis in the elementary school. "Fire safety is not a problem that can be pushed aside until a convenient time arrives for rethinking the curriculum."<sup>1</sup>

## **Recommendations for Action**

### ***Instruction***

1. Local and county elementary school systems can do much in the education of our children in fire prevention by stressing (or including) it as an integral part of the curriculum. This subject can be studied throughout the school at points or places where immediate needs and problems are present. The elementary school curriculum has such a varied program that the subject of fire prevention can be woven into such subjects as elementary school science, social studies, English, or art, using audio-visual aids when possible.
2. The material to be presented should be two-fold: (a) positive information and (b) preventive information – depending on the age and learning of the elementary school child. Frequent check-ups should be made to see if the child has become conscious of fire prevention and of the need for fire safety.
3. With fire hazards increasing rapidly, there has been a lag in giving the child sufficient instruction to enable him to meet these hazardous situations competently. For example, a few safeguards against common fire hazards are:
  - a. Place oily rags and ashes in metal containers.
  - b. Keep heating appliances away from kitchen curtains.

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<sup>1</sup> Federal Security Agency, U. S. Office of Education, *A Curriculum Guide to Fire Safety*, Bulletin 1946, No. 8, Washington, D. C.

- c. Keep matches out of the reach of small children.
  - d. Disconnect electrical appliances when not in use.
  - e. Use non-inflammable substances for cleaning.
  - f. Keep burning rubbish and leaves away from buildings, fences, or foliage.
  - g. Flammable liquids should never be used for starting fires in the stove.
  - h. Use of gasoline for any kind of cleaning is dangerous.
  - i. Party and holiday decorations must be of fire-retardant materials, and any decorative materials should be kept away from stoves or open flames.
  - j. Paraffine for “home canning” should not be melted on the stove, unless in a vessel of water.
  - k. Fill lanterns or stove fuel tanks outside of closed buildings.
  - l. Flammable liquids should be carried in sealed metal containers, preferably safety cans.
4. The types of fire prevention instruction should be determined by
- a. The type of community (rural or urban).
  - b. The present needs for presenting such materials – this depending on the age and mental readiness of the child.

Such a study, to be most effective, calls for close cooperation between teacher and child; the teacher to guide the learning and the child to offer suggestions as well as to follow those he has received. Observing, taking excursions, and interviewing are a few of the ways by which elementary school fire prevention instruction can be given.

***Cooperation With the Home and Community***

5. To be most effective, an elementary school program of fire safety must extend beyond the limits of the school building and grounds.
- a. Lessons on fire prevention should be given in Sunday schools, motion picture theatres, and all other public places in which children assemble.

In this way full cooperation may be secured in bringing a knowledge of fire hazards to individual homes. The program, if well planned, will enlist the enthusiastic support of all elementary school children. It is these children who more than their older brothers and sisters will bring home the information they gain about the dangers of fire. These elementary school children are also at the impressionable age. The proper information they acquire at this age in preventing and controlling fires will prove of lasting value to home and community.

- b. Fire safety programs should be conducted by church societies, parent-teacher organizations, Boy Scouts, Girls Scouts, Camp Fire Girls, Future Farmers of America, 4-H Clubs, and other groups that are concerned with the welfare of all.

These meetings should feature the work of the local fire department and should explain how the community may help in preventing fires. Local clean-up weeks should be made opportunities to acquaint the entire community with the relationship between cleanliness and fire prevention.

### ***Dissemination of Information***

6. Children should be urged to take home for their parents simple instructions on the removal of fire hazards. Such instructions may be obtained from the sources noted at the back of this pamphlet.
7. Service organizations using the activities of children in the elementary schools, such as the American Junior Red Cross, should be requested to give prominence to this subject in their program literature.

### ***Administration***

8. Committees should be organized for the study and revision of the curriculum in order that fire safety instruction will be up to date at all times.
9. The school administrator should demonstrate active interest, to stimulate teachers and students to greater participation in the fire safety programs.

## **4. SECONDARY EDUCATION**

Education for fire prevention is a sound and defensible addition to the program of the secondary school. If one purpose of the school is to teach pupils to do better those desirable things they are likely to do anyway, then education for fire prevention deserves a place in the program. If common learnings are to be based on practical problems of living, education for fire prevention has ample defense for inclusion. All pupils in the secondary school should have a significant program in fire prevention.

***The People to be Reached.*** - For this program to be effective, it must be kept before the pupils and emphasized every year in grades 7 through 12. In addition, every citizen should have his attention called to fire prevention periodically, if not continuously; for hazardous conditions in the homes, factories, business places, forests, and other land areas must be skillfully corrected if destruction by fire is to be reduced and ultimately eliminated. The program must be community-wide to have its greatest effectiveness.

***Program Development.*** - It is natural for various public and private groups, interested in fire prevention, to develop instructional materials and attempt to introduce these into the schools. These outside agencies are well able to develop valuable aids, as they are in possession of the facts and have a thorough knowledge of problems and conditions. The school policy should be to appraise various proposed programs that are developed by out-of-school agencies and allocate time and emphasis to them according to their relative value. The school authorities should secure a list of the agencies, both local and national, that have prepared worthwhile materials which may be adopted for the instructional program of the school. Attention in this connection is called to the sources of reference material on page 22.

The responsibility for preparing courses of study lies alike with the local, State, and national authorities. State and city departments of education should obtain from every possible source – from educational organizations of insurance companies, from educational directors in industry, and especially from practical fire protection and firefighting – all available material, and from that material organize course material and action procedures. After this material has been placed

in the hands of local schools and other educational authorities and teachers, it will be the responsibility of local authorities to adapt and apply these courses and procedures in a way best fitted to their community needs. Teachers and other educational authorities in local communities should also effect the closest kind of liaison with their local firefighting and protection agencies, especially the fire companies, fire brigades, and any other such groups.

***Type of Materials Needed by Schools.*** - Complete units of instruction, which are closely evaluated in terms of professional requirements, should be skillfully prepared. Without the aid of sound educational advice, no outside agency should attempt to prepare instructional units for even their suggestive value. If this policy is not followed, materials cannot be effectively and widely used. There is need for stimulating sound films of a general character that will arouse and hold the interest of secondary school pupils. Such films may be developed under the best technical conditions, with contents and organization meeting best educational standards. Under no stretch of the imagination should general films be expected to carry the major part of the educational program. Too often, a general film shown in assembly is considered the major means of education, instead of a stimulating introduction for an area of study. Unless a sufficiently large number of prints of a general film are available, the majority of schools cannot use it satisfactorily. For results in instruction, slides and filmstrips are exceptionally effective. The reasonable costs of slides and filmstrips make it possible for every school system to have the supply needed for local use. Slides and filmstrips have distinct advantages, because of the flexible and easy way in which they can be used. Pamphlets that are written for pupils have great value. Care should be taken to write them in terms of youth interests and at appropriate reading levels for those who are to use them. Charts and statistical data should be prepared for pupils also. Statistics and charts are increasing in importance as pupils are taught how to study them and use them.

All of these materials have to be financed. We suggest that this is an appropriate service that interested public and private agencies may offer to schools. However, it should be repeated that the contents and organization of such materials should have the appraisal of competent educators while in process of preparation.

### **Recommendations for Action**

1. The superintendent of schools is the key educational leader in the community and should provide the leadership for developing and instituting a program of education for fire prevention.

There are many pressures on the schools today, and unless the educational leaders keep them in balance, important elements, such as education for fire prevention, may be neglected, while less worthy elements may receive more than their share of attention.

2. Pupils should have a working understanding of State laws and local ordinances that control various agencies and give them responsibility for fire protection.
3. Each student should participate in a survey for fire hazards either in the home, school, or other public building. School authorities should refrain from attempting more than one survey at a time. For example, if a survey of homes were the project selected, it should

tie in preliminary instructions as to hazards in the home, danger spots, pictures of fires, how to extinguish fires in the home in their early stages, escape methods for the home, and a few interesting statistics on home fires. These features, in addition to the completion of an inspection blank with the development of recommendations, will give the students a sound basis for coping with the fire problems of his environment.

4. Careful attention should be given to acquiring the habit of safety in doing common things that the student will be faced with for the remainder of his life. For example, the dangers of smoking in bed should be thoroughly discussed and the safe method of lighting gas appliances should be described and analyzed.

#### ***Relationship to Adult Education***

5. Education in fire prevention is needed continuously by the entire community. If properly organized on the needs of the community, every person, whether he is in school or not, is going to take part in many activities. When young people survey their homes, when fire prevention week is launched, and when demonstrations by the fire department are given, all the people of the community will learn. The school should definitely and deliberately plan activities that will involve the effort and attention of the entire community. If this is done, all the people will be alerted periodically to work for fire prevention. Education for fire prevention fits well into the program of the community school.

## **5. FIRE SAFETY INSTRUCTION IN TEACHERS' COLLEGES**

The ultimate success of the fire prevention education program will depend largely upon the effectiveness of the teachers. The modern curriculum in teachers' colleges is becoming more and more concerned with those essential factors that treat formal instruction and every day living as an inseparable whole. Instruction in fire safety in our schools today is more than ever concerned with the protection of life and property against fire, rather than with the mere acquisition of fire facts. The instructional program in fire safety should provide learning experiences for pupil that will aid them in developing superior knowledge and skills in the elimination of fire hazards and the protection of themselves and others against fire. It should be equally concerned with the development of desirable attitudes that will guide children and youths in their daily activities for the reduction of fire waste.

Instruction in fire prevention and protection should be planned primarily to develop in children behavior that is purposeful and safe in the use of fire and the elimination of fire hazards. If the modern teachers' college is to meet this particular need of child development, its administrators and instructors must keep abreast of the changes that are taking place in the field of fire safety. Education of teachers in fire prevention and fire protection must rest on (1) a knowledge of the significant local conditions; (2) an awareness of the events, organizations, and persons responsible for important changes; and (3) an understanding of the function of the school as a means of developing desirable practices and accomplishing significant changes in the community.

The objectives of fire prevention instruction are identical to those of the general school curriculum. Any process that concerns the well-being of the people likewise concerns the teachers' education curriculum.

The development of a coordinated program of fire prevention education in the curriculum of teachers' colleges does not require the introduction of new subject-matter courses. It requires, however, that the curriculum include all educational materials and activities that will prepare teaching personnel to conduct learning experiences in which pupils learn to live the most efficient and wholesome life possible.

Some items that tend to justify the place of fire prevention education in the curriculum of a teachers' college are as follows:

1. School fires occur at the rate of more than five a day in the United States and Canada.
2. Education in fire prevention and control occupies a central position with respect to two other equally important divisions in this field – Engineering and Enforcement.
3. The greatest cause of destructive fire is carelessness. Only people can be careless. Only people can be educated.
4. The average yearly death toll due to fire is placed at approximately 10,000 persons; and on the average, in 1 year fire takes the lives of 1,673 children under 5 years of age and 591 children between the ages of 5 and 9.
5. Destructive fire can be prevented through the use of superior knowledge, skills, and desirable attitudes.
6. Fire prevention education contributes directly to successful child growth, in that most valuable experiences are secured in the wholesome, efficient, and contented living that comes from security.

### **Recommendations for Action**

1. An administrative committee for leadership training in fire prevention and protection should be organized, consisting of department heads and other staff members who have a unique contribution to make in the conduct and development of the program. The current college health committee, with some additions, could serve as this administrative committee and be known as the College Committee on Health and Safety.
2. This administrative committee should be acquainted with the basic material, content, objectives, and expected outcome of programs in fire prevention education by such procedures as:
  - a. Outlining and discussing its value as a major phase of the total process of instruction.
  - b. Considering the program as a means of training for effective and joyful living in modern society.
  - c. Recognizing the program as a means of serving the institution and the community, by protecting the health and conserving the lives of human beings.
  - d. Employing the program as an instrument of public relations to work with other community agencies in serving the college and community.

3. From the administrative committee, a subcommittee should be appointed, of probably three to five members, to work out the details of the program. The chairman of this subcommittee should serve as coordinator of the program. It is probably most desirable to have the chairman of the department of education and an appropriate staff member serve as co-chairmen of the working safety committee, the former giving detailed attention to the teacher education phase of the program and the latter to specific course content in the program and to the practical fire prevention work to be done in the college.
4. A general faculty meeting should be called for the purpose of critically evaluating and approving the plans formulated and recommended by the Committee on Safety of the College Health and Safety Committee.
5. The coordinators of the program should have their specific duties outlined. The following factors are valuable in promoting a successful leadership training program in fire prevention and protection and in conducting a practical safety program in the college environment:
  - a. The determination of an adequate amount of time to be allotted for teacher education in fire prevention.
  - b. The determination of whether or not fire prevention shall be an integrated phase of the teacher education program, a separate course of study, or a combination of these two methods of teacher preparation.
  - c. The allocation of practical and theoretical work in fire prevention education to the several departmental courses of study.
  - d. The determination of the fire prevention content of special courses and recommendations concerning fire prevention materials that may be treated in other courses.
  - e. Recommendations concerning the amount of credit in safety education necessary for graduation.
  - f. Recommendations concerning the type and nature of courses in safety education in a teacher education curriculum with respect to purpose, objective, content, status, and outcomes.
  - g. The compilation of courses, materials, and recommendations concerning instructional aids and devices in fire prevention; the construction of teaching units and lesson plans for use in courses where fire prevention may be treated through integration.
  - h. The proposal and direction of research in fire prevention in terms of community surveys, program needs, methods and techniques of instruction, and related factors.
6. There should be a well-coordinated program of fire prevention in the physical plant of the institution. The following suggestions are concerned with the practical application of these fire prevention procedures:
  - a. Development of an inspection and fire prevention reporting system for the institution.
  - b. Appointment of a safety council or committee, composed of advanced students, to work with the administrative committee in promoting local and practical fire prevention program.

- c. Organization of clubs, fraternities, sororities, departments of instruction, and other agencies within the institution and community for cooperation in the fire prevention program.
7. The coordinator or the head of the department of education, or other department head, should be responsible for the supervision and motivation of the program of teacher preparation in fire prevention. He should delegate supervisory responsibility for the local and practical phase of the program to a person recommended as capable of conducting this phase of the work.
8. Teachers should be encouraged to participate in community fire prevention activities. This will tend to point out the particular fire problems that need the greatest attention in the local area and will enable the teacher to select the most productive fire safety demonstration material for his classes.
9. Outside authorities should be invited at frequent intervals to present information on local fires, unusual fires, fire loss data and other pertinent material. This will provide another point of view and also furnish an experience background that can be called upon later for reference in maintaining interest in the fire material to be presented to the students.

## **6. COLLEGES AND UNIVERSITIES**

A recent report of the U. S. Office of Education shows that there are more than 1,260 colleges and universities in the country, besides 436 junior colleges. Their total property is valued at more than 4 billion dollars. The present registration of students is more than 2 million, by far the highest figure in history, due to the remarkable influx of war veterans.

In addition, the problem of organization and supervision by college administration is highly complex. Many of the colleges have large numbers of temporary structures, such as trailers, GI barracks, cabins, and quonset huts, that are being used as dormitories, classrooms, laboratories, and shops. Many are constructed of wood and located too close together, with consequent fire hazards. Some universities have as many as five off-campus centers, often in temporary buildings sometimes several hundred miles away from the college campus.

With this great mushroom growth of our colleges since the war, the responsibility of college administrators for the protection of the great army of young people seeking higher education has increased manyfold. The protection of college properties from fire has also become a more serious problem. Efforts must be redoubled to prevent serious fire losses and conflagrations.

There are three primary responsibilities of the colleges with regard to fire prevention and protection. The first is the protection of the student body and the buildings that make up the college plant and its off-campus centers. The second is the education of all students regarding the causes and prevention of fire, not only in college buildings but also in homes and public places. The student body is potentially a very influential part of the general public. There is an urgent need for the public to realize that fire is preventable, rather than that it is to be expected. There is sufficient experience available to encourage the belief that fire safety can become a primary consideration of students in an effective and interesting manner within the scope of present courses of study. The third is the responsibility for providing specialized training in fire

safety in the curriculum for chemists, engineers, architects, and forestry majors. In addition, a university can do much by integrating fire safety into other courses and by providing short courses, institutes, radio programs and the like, for fire department personnel, inspectors, fire wardens, farmers, miners, and others.

The protection of life and property is a serious national problem. We can look to our institutions of higher learning for leadership in education and research.

## 7. ENGINEERING AND ARCHITECTURAL SCHOOLS

**Scope of Report.** - It is the purpose of this report to present material that should be utilized in existing courses for engineers and architects. The report is a product of deliberation based upon previous studies of the educational needs of engineers, architects, and executives; the review of plans of structures and of water systems intended for fire protection; and from wide experience in fire hazard surveys, which resulted in improvements in management procedures from the standpoints of safety to life and protection of property.

**The Problem.** – The nation’s fire loss experience has shown that men responsible for the design, construction, and operation of buildings, and those concerned with governmental functions, are not sufficiently familiar with recommended fire protection standards. The recent war accentuated the need for continuity of production and the importance of protecting strategic materials. The same principles are applicable in time of peace to avoid loss of life and to conserve the nation’s resources.

It is recognized that some colleges now have programs, such as vocational training in firefighting. The Illinois Institute of Technology has a full 4-year course leading to the degree of Bachelor of Science in Fire Protection Engineering. However, the intent of this report is to present a plan to enrich the knowledge of all engineering and architectural graduates so that they will be aware of existing standards and apply them when necessary; it is not the intent, in this report, to cover courses for the education of fire protection engineers or courses of vocational types.

The public is entitled to tangible evidence of a more realistic approach than periodic admonitions to “be careful.” Important as the latter may be in many cases, such admonitions are likely to result in an apathetic attitude on the part of the public, unless there is positive evidence that safe practice standards are not followed in the design, construction, and operation of facilities. Given a safe building and a safe operation, enforcement agencies will be in a much stronger position to ask and obtain public cooperation.

Numerous examples might be cited to illustrate the points brought out in the foregoing paragraphs, but the hotel fires in Chicago and Atlanta, and the nightclub fire in Boston, have resulted in a demand for more adequate fire safety.

The recommendations in this report include a long-range program of education for engineers, architects, and others, which may be expected to result not only in safer structures, but also in a

professional group that may be expected to contribute to future building code revisions and improved standards.

***Amplification of Engineering Textbooks and Bulletins.*** - The objectives in this report can be attained only when available texts are amplified to include pertinent information on fire protection, such as texts on hydraulics, building materials and design, industrial chemistry, electrical, aeronautical and agricultural engineering, and business administration.

***The Program.*** - While no complete educational course, program, or action procedure can be devised in this report that will be applicable in every respect to every school and community, there are in almost every case certain fundamental factors to be considered. Some of these are outlined as follows:

### ***Suggestions for Units in a Recommended Course in Fire Protection***

1. Economic Consideration of Losses.
2. Public Interest.
3. Relations of Architects, Engineers, Management and Regulatory Authorities to Owners and the Public.
  - a. Planning and Engineering.
  - b. Fire Protection Organizations.
4. Principles of Loss Prevention.
  - a. General Considerations.
  - b. Construction.
  - c. Building Equipment and Appurtenances.
  - d. Special Considerations.
  - e. Management.
5. Fire Protection.
6. Fire Hazards During Construction.
7. The Fire Problem Other Than in Buildings.

## **Recommendations for Action**

### ***We recommend:***

1. That existing courses for engineering and architectural students include fundamentals of fire protection where applicable.
2. That as an alternate plan, suitable for some institutions of learning, a 32-hour course covering the management aspects of fire loss prevention be given to those enrolled in classes in engineering and business administration. Experience with such a course indicates that it can be interesting and effective.
3. That engineering, architectural, and economics textbooks be amplified as soon as possible to include fire protection subjects.
4. That where applicable in existing courses, fire protection codes and accepted practices be used as supplementary texts.

## **8. INTEGRATION OF FIRE SAFETY INTO OTHER COLLEGE COURSES**

Fire safety materials have direct application in many other college courses and materials, both in institutions granting the bachelor and higher degrees and in junior colleges. As an example, there are many opportunities for stressing this in college chemistry. While it is true that many fires have their origin in laboratories, this is not the only reason for studying fire safety. A basic understanding of the chemistry of fire and fire extinguishment is valuable for all students. Everything that the college can do to improve the knowledge, skills, and attitudes of students with regard to fire safety should be done.

There are also applications of fire safety in household arts, industrial arts, and physics. The same is true in certain courses in agriculture, mining, and industrial safety, as well as in transportation. A large percentage of the great number of fires in our homes each year can be traced to unsafe practices, equipment, and poor housekeeping. Thousands of farm buildings and quantities of produce go up in smoke each year because of the lack of simple precautions and practices that should be given greater emphasis in agriculture courses and institutes.

Another phase of this subject can be stressed in schools of business administration and in insurance courses. Proper management in business and commerce includes emphasis on fire prevention and protection. Likewise fire insurance courses should include emphasis on loss prevention methods. When textbooks do not include fire safety materials, instructors can secure a variety of booklets, pamphlets, and visual aids from public and private agencies. For example, the Forest Service, the U. S. Department of Agriculture, and other Federal and State departments have a variety of useful publications in this field. The same is true of private organizations.

### **Recommendations for Action**

#### ***We recommend:***

1. That fire safety materials be integrated into college courses such as chemistry and physics.
2. That the curriculum for majors in household arts, agriculture, industrial arts, and mining include more stress on fire safety.
3. That greater attention be given to this subject in certain courses in schools of business administration and in insurance, economics, and transportation.

## **9. PREPARING INSTRUCTIONS FOR FIREMEN'S SCHOOLS**

Amplifying the course of firemen's training outlined elsewhere in this report, special consideration should be given to the preparation of instructors in auxiliary fire schools conducted throughout the different States.

A central college course and a series of specially designed auxiliary programs in fire prevention and protection, as adapted to firemen's training, will prove one of the most valuable services rendered by a college or university to the State. Particular consideration should be given in auxiliary schools to meeting the problems of fire control in both urban and rural districts. Rural and agricultural areas have problems of their own in securing legislation necessary for organization of rural fire departments; supplying sufficient water for fire control; providing legal authority for such organization; and for meeting possible accident liability.

### **Recommendations for Action**

#### ***We recommend:***

1. That a fire college, if one does not already exist, should be organized in each State under the control of a leading college or university.
2. That plans for auxiliary regional fire schools be made, and that specially trained leaders be provided for urban, rural, and agricultural districts.

## **10. SPECIAL LECTURES AND DEMONSTRATIONS**

In addition to the prescribed course of study of fire prevention and protection, many schools of higher education have taken advantage of special lectures on unusual hazards, or demonstrations of common fire dangers which are liable to be overlooked or underestimated. These serve to stimulate the interest of students, enhanced as they are by visual or dramatic presentation. Qualified leaders, because of their close contact with new fire hazards as they are developed in rapidly changing home practices and manufacturing processes, are available to amplify the regular teaching program.

### **Recommendations for Action**

#### ***We recommend:***

1. That colleges and universities obtain and, if possible, use a listing of available personnel from the various associations, or from organized business and industry, who are qualified to amplify the general study of fire prevention and protection as applied to present day public economy.
2. That such lectures and demonstrations on fire control should be a part of the program of special and regular institutes and seminars.

## **11. FOREST FIRE PREVENTION**

Forests constitute a high fire risk throughout the United States. The magnitude of the risk is indicated by the fact that forest growth covers one-third of land area of the country and constitutes a natural resource upon which cities, towns, and rural communities depend for maintenance of supplies of raw wood for industry and employment; water essential for home and municipal uses, generation of electricity and irrigation for the growing of crops; opportunities for wholesome outdoor travel and recreation; and taxable revenue for local and State governments, including highways and schools.

The high fire risks is understood by the fact that an average of 175,000 forest fires occur yearly, in consequence of which forests are not insurable today. The 175,000 annual fires destroy productive growth, property, and resources on 25,000,000 acres. Nine out of ten of these fires are man-caused, due in large measure to human carelessness and ignorance on the part of urban people who flock to forested areas during the summer seasons. There is urgent need of developing through education an enlightened citizenry throughout the nation, having a sense of individual responsibility for the prevention of forest fires.

### **Recommendations for Action**

#### ***We recommend:***

1. That lectures, films, and other visual presentations of the subject be made a part of classroom and general courses and programs on fire prevention; and that the subject be integrated by means of reading assignments or otherwise in the teaching of the biological sciences, economics, chemistry, geology, engineering, citizenship, and the like.
2. That short courses in forest protection and conservation, emphasizing forest fire prevention, be included in summer schools, particularly those held at summer camps.
3. That all agricultural colleges which do not now provide courses in farm forestry either do so or give special emphasis to the prevention of woodland fires as a part of farm management.
4. That during the academic year, the faculties of forest schools be drawn on for chapel talks and general university lectures on forest fire prevention and its social and economic implications.
5. That college authorities establish and maintain contact with their State forest protection agencies, encouraging the organization and training of student groups for summer work in forest fire prevention and suppression. Rallies could also be held at colleges near forest areas at the beginning of the fire season.

## **12. TRAINING OF INSPECTORS**

Federal, State and municipal departments, insurance companies, and industries employ a large number of fire protection inspectors. In many cases an engineering degree is not a prerequisite

for these positions. Colleges can aid by providing service courses that will help upgrade the work of inspectors.

### **Recommendations for Action**

#### ***We recommend:***

1. That universities, especially those in or near urban centers, provide courses for training inspectors. These courses should cover various phases of the inspector's job, be at least 32 hours in length, and include such units as: the Nature and Causes of Fires; Elimination of Causes; Preventive Measures; Types of Building Construction; Method of Conducting Inspection; Reports and Recommendations for Corrective Action.

## **13. VISUAL AID DEPOSITORIES**

Many universities provide a useful public service through the loan of fire safety films, sound-film slides, and other visual materials. Visual methods have been found valuable for teaching in the schools, as well as for the education of adult groups.

### **Recommendations for Action**

#### ***We recommend:***

1. That university extension departments include selected fire safety visual aids in their depositories. Help in the selection of such aids may be secured from lists that are available through various underwriting organizations.

## **14. AUDIO-VISUAL AIDS IN FIRE PREVENTION EDUCATION**

Sound motion pictures and radio broadcasting are well established as rapid and forceful media for public enlightenment. To make a program of fire prevention and fire protection of greatest value, it is essential that full use be made of these and all related audio and visual aids.

We are familiar with the motion picture chiefly as a medium of entertainment, yet by reason of its ability to dramatize and visualize, because of its strong appeal to the human "eye-gate," it can be a medium of enlightenment and instruction unlike any other ever dreamed of. In no area is that enlightenment and instruction more sorely needed today than in the field of fire prevention.

There can be little doubt that the motion picture, through the "eye-gate," offers one of the finest of teaching avenues. There can be equally little doubt that the time is ripe for an early and

permanent alliance in education among the fire prevention interests in this country, business enterprise, and the motion picture industry. It is the recommendation of this committee that these interests and facilities be enlisted to their farthest limits.

As a practical, first step suggestion, we propose the creation within the next few months of a fire prevention "library" of a dozen or more carefully produced, entertainingly narrated films on such subjects as "Home Fire Prevention," "Transmission of Fire Alarms," "The Chemistry of Fire," "Forest Fires," "Fire Department Organization and Operation," "Industrial Fires," "Great Fires of History," etc. Such a library could be prepared for use on the various educational levels, i.e., the grade school, the high school, the college and university, the women's organization, the business group, and so on.

Almost as valuable an educational "gate" is the medium of radio, and attention drawn to the increasingly important role that might be played in fire prevention and protection by our national radio networks. The dramatic possibilities inherent in fire causes and fire prevention are too apparent to require description, and the President's Conference is most strongly urged to approach the national radio networks in this regard. Half-hour dramas could be so written and produced as to offer most effective entertainment and education in fire prevention.

### **Recommendations for Action**

1. We urge that the conference authorize means of effecting a working liaison with the Motion Picture Association of America for the purpose of immediate planning for production and distribution of 16 mm. film library covering all important phases of fire prevention and fire protection.

It is suggested that the expense of production of this library could be contributed to by the nationally known associations interested in safety to life and fire prevention.

2. We urge that an effort be made to simulate the production and use of other and less costly visual aids, such as filmstrips, slides, pictographs and similar media. These devices, by virtue of their low cost, would permit even the smallest organizations to share in their general program of fire prevention education.
3. We urge that the executives of all major radio broadcasting networks be contacted, in an effort to secure their cooperation in planning their participation, coast-to-coast, in the general program of fire prevention education.

## **15. IMPLEMENTATION OF A PROGRAM OF EDUCATION FOR FIRE PREVENTION**

The superintendent of schools, who is the executive officer of the board of education, is the key person in the community concerned with the initiation and development of a program of education for fire prevention. He deals with a large number of agencies and people in this process of initiation and development. Besides the local board of education, the elementary and secondary school principals, teachers, and local government officials, fire departments and other

firefighting agencies, parents, service clubs, youth serving agencies, elementary and high school pupils, business and industrial organizations and others, have a part in a program of education for fire prevention.

The following techniques have been found helpful in getting the program under way:

**1. For the Community:**

- a. Secure the appointment of a planning committee, to be composed of important groups and persons from the various areas of the community.
- b. Arrange for a speaker's bureau, through which speakers may be prepared to appear before community groups, to explain the seriousness of fire losses and hazards and to focus attention on a constructive program of prevention.
- c. Confer with youth-serving agencies, such as Boy and Girl Scouts, to develop projects mutually helpful to these groups, the schools, the homes and other organizations.
- d. Secure the cooperation of fire departments and other firefighting agencies to stage demonstration of best firefighting techniques, to offer expert advice on projects to be undertaken by the schools and to conduct home and other types of surveys for the purpose of eliminating fire hazards.
- e. Through conference and study, find distinctive contributions that may be made by service clubs, business and industrial organizations and other community groups.

**2. For the Schools:**

- a. Select a representative faculty committee to plan and exercise supervision over the school program of education for fire prevention.
- b. Prepare a course of study for the entire school, including:
  - (1) Appropriate units, projects and activities.
  - (2) Suggestions for placement in the school, so that it may be scheduled in the program of every pupil.
  - (3) Suggestions for evaluating the effectiveness of the program.
- c. Under pupil activities, provide opportunity and encouragement for junior fire protection and study organizations, with suitable program and insignia.
- d. Under the direction of the superintendent of schools and board of education, a rigid program of inspection and prompt elimination of fire and safety hazards should be maintained.
- e. Provide a program of adult education, including lectures, institutes, and courses for parents, businessmen, industrialists, and others.
- f. Develop a program of publicity, to keep the citizens informed and interested in education for fire prevention.
- g. The program plans should include both immediate and long-term phases. What should be attempted in 1947-48? What can be accomplished next year, 1948-49? Careful planning will assure a sound and gradual development.

## **16. SUGGESTIONS FOR STATE DEPARTMENTS OF EDUCATION AND COUNTY SUPERINTENDENTS**

1. Plan a series of regional meetings for teachers and administrators in State or county.
2. Prepare packets of materials to be distributed upon request to local faculties working on programs. These should be assembled from the wealth of free materials.
3. Provide consultant services to local committees and groups.
4. Assist in providing speakers for promotional purposes.
5. Call attention to special projects, through circular letters and newspapers.
6. Help organize State, county and regional conferences for young people who are taking the lead in fire prevention and education.
7. Help organize and conduct institutes and other public service training activities for fire companies, fire marshals, and fire brigades in industry.
8. Help arrange and conduct in-service, extension, and summer school programs for teachers with assigned responsibilities in education for fire prevention.
9. Help conduct surveys and evaluations locally to find basic needs and best ways for introducing or improving educational programs.
10. Maintain close liaison with fire departments and county farm agents and farm groups.

### **Suggestions for Teacher-Training Institutions**

1. Help students (teachers in training) gain a broad knowledge of materials, activities and methods appropriate to age levels of the pupils whom they are preparing to teach.
2. Schedule students to do practice teaching in this area.
3. Give students practice in developing units of work and activities to be tried with groups of pupils.

## **17. SUGGESSTIONS FOR ENGINEERS AND ARCHITECTURAL SCHOOLS**

The Subcommittee on Engineering and Architectural Schools has suggested that colleges and universities call upon committees of engineers and architects qualified in fire protection engineering for liaison or consulting purposes. Such committees should maintain liaison with groups interested in fire protection, textbook authors, and publishing houses; and should review texts for publishers for fire protection engineering content.

The committees might be used to interest and inform faculty members in matters of fire protection by regional seminars, by distribution of informative materials, and also by giving occasional lectures at colleges and universities, particularly in the formative stages, in developing more adequate instruction.

To be most effective, the committees should include a civil, mechanical, electrical, chemical, and an aeronautical engineer, and an architect, all working under competent leadership. Each of the

engineers and the architect should be competent not only in his profession but also in fire protection engineering.

## **Use of This Report**

This report was prepared for use by colleges and schools; and where colleges and schools can cooperate and assist them, it was prepared also for industries and other organizations, groups, and individuals interested in fire prevention education. It is designed to create a desire for further information which will lead to the inclusion of more fire prevention material in all school and other educational programs.

We hope this report will reach the hands of all groups and people, as well as educators, to the end that losses in life and property may be decreased, and life be made thereby more secure.

Firefighting and fire protection are community problems; and we hope this report will help emphasize the necessity for the community to act as a unit in meeting them; and, further, that it will indicate methods by which this unity of action may be achieved.

## **Sources of Reference Material**

University of the State of New York, Albany, N.Y.

Center for Safety Education, New York University, 8 Fifth Avenue, New York 11, N.Y.

National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

National Board of Fire Underwriters, 85 John Street, New York 7, N.Y.

Associated Factory Mutual Fire Insurance Companies, Inspection Department, 184 High Street, Boston, Mass.

Government Printing Office, Superintendent of Documents, Washington 25, D.C.

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*The President's Conference on*

**FIRE  
PREVENTION**



*Report of the Committee on  
Building Construction,  
Operation, and Protection*

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

## **A. HISTORY**

Fire has been a major problem ever since this country was founded. Both in peace and war it has been responsible for widespread destruction, needless loss of life, and dislocation of business activity. Even in colonial times it was a matter of real concern, as is evidenced by early legislation against the use of thatched roofs and chimneys made of mud-daubed sticks. The Indians were not slow to take advantage of the vulnerability of the construction used by the early settlers, and their flaming arrows all too frequently found their mark.

History fails to show, however, that knowledge of how to build so as to reduce the hazards of fire kept pace with the rapid increase of congested areas, where large quantities of combustible goods were manufactured, stored, and sold, and where people lived. Firefighting appliances were primitive in type, and little legislation existed to regulate construction or to require proper precautions against the start and spread of fire. As a consequence, an appalling amount of destruction has been recorded, made up in large part of the sum of many individual fires, but punctuated here and there by conflagrations.

New York had conflagrations involving large areas in 1833, 1839, and 1845; San Francisco in 1849, 1850, and 1851; Chicago was devastated in 1871, and Boston in 1872. Since those dates, Paterson, Baltimore, San Francisco, Chelsea, Salem, Fall River, Atlanta, and many smaller places have been visited by fire which swept uncontrolled through large areas of dwellings, business buildings, and factories.

During World War II the principal damage to cities and communities was by fire. In the devastated parts of London, as well as in Germany, it is reported that destruction by fire was five times as great as that by high-explosive bombs; and in Japan the destruction by fire was still more effective and complete.

While there have been improvements in recent years in construction methods and regulations, particularly in the larger cities, there are still many communities that can be destroyed today and await only the proper combination of circumstances involving time, place, force of wind, occupancy conditions, and ignition. The alertness of our public firefighting services is an important factor in interrupting dangerous combinations of circumstances.

## **B. THE PROBLEM**

Statistics show a property loss that has been rising steadily since 1934, with a peak in 1946, and an annual toll over that period of thousands of deaths from fire.

Certainly the failure to reduce the number of, and total damage from, fires cannot be blamed on any lack of technical knowledge. The principles of fire prevention, as practiced by our better building designers and fire protection engineers, have been known for many years.

Since all this technical information is available, what then is the explanation for the high annual fire and life loss cited? The conclusion seems to be inescapable that it results partly from failure of owners and managers of buildings to apply this information; partly from their failure to assume responsibility for the safety of the occupants; partly from willful disregard or ignorance of the fundamentals of fire protection; partly from ignorance of building laws; partly from inadequacy of laws and facilities provided for their enforcement; but to a greater degree the high annual loss is due to ordinary ignorance, carelessness, and negligence.

Even through proper safeguards are incorporated in the design and construction of buildings, and they are erected to conform to established and accepted standards and codes, and the buildings is of slow burning or fire resistive construction, serious danger of loss of life and property may still be present. The degree of that danger depends largely on the consideration given to safety in operation, to maintenance of the structure and of its service equipment, and on the character, quantity and arrangement of the materials present, and the conditions or operations to which they are exposed.

In order that a fire may not involve too much too quickly, and that there may be opportunity for its control and extinguishment, it is proper to place suitable limits on the height and area of buildings. It is especially important, in the occupancy of either new or old buildings, to isolate by fire walls or fire resistant barriers those special hazards of fire that attend the storage or presence of such materials as flammable liquids, gases, dusts, or other readily ignitable substances, or operations involving these materials.

Important though structural and operating conditions may be, the proper degree of protection of life and property requires that effective means of fire extinguishment be provided, commensurate with the conditions of occupancy.

For efficiency of protection, fires must be extinguished while they are still small. When it becomes necessary to use heavy hose streams, it is certain that some fundamental measure for fire prevention and control has been omitted or has not been effectively utilized.

## **C. FIRE LOSSES**

Although the appalling waste of lives is the cumulative total of a great number of small fires, the large annual property losses are mainly due to a small number of large fires. The major causes of such fires are readily identified. Of 585,000 fires reported by the National Fire Protection Association in 1945, 491,000 could be classified as being due to known and specific causes. That association classifies "large fires" as those involving property losses over \$250,000. In 1940, which was an average year, there were 34 in this class; but in 1946 there were 187 large-loss fires.

In 1946, over 50 percent of the large-loss fires was outstandingly the result of inferior building construction. Only 6 large-loss fires occurred in fire resistive buildings. In 81 fires, the fire areas were excessive; and unprotected vertical openings, stairwells, and elevators were important factors in the spread of fire in 71 cases. Other factors in the vertical spread of fire in 90

buildings, involving large losses, were unprotected vents and lack of fire stopping in concealed spaces. In 8 cases, ducts for air-conditioning systems and ventilation were important factors.

Exposure or spread of fire to adjoining buildings was involved in 22 of the 187 large fires. The flammability of contents, coupled with congested storage conditions, was a major factor in 102 of 166 structural fires classified as “large fires.”

Neither automatic sprinkler protection nor automatic fire detecting systems were installed in 125 of the 154 cases where such protection was applicable.

Delayed discovery was evidenced in 87 cases, and delayed transmission of alarm in 117 cases. Without immediate notification of fire, it is obvious that even the best-equipped public fire departments are severely handicapped in their job of rescue and extinguishment.

The large-loss fires accounted for more than one-fifth of the total fire loss in 1946. The smaller fires reflect the same general pattern as to the construction, occupancy, and protection deficiencies.

## **D. RESPONSIBILITY**

The primary responsibility for the prevention of life and property rests with the owners and managers of the premises. It is their duty to provide the necessary safeguards against fire for the occupants and the admitted public. Secondary, but equally important, is the responsibility of governmental authority in instituting and enforcing building codes and ordinances, not only for the construction and protection of the premises, but also for safety in operation and maintenance of buildings and equipment.

The public itself is responsible for the protection of property and lives of others, as well as for its own safety, and must be ever conscious of the importance of fire safety and should constantly act in conformity with this principle.

The continues increase in loss of life and property leads to the inescapable conclusion that those charged with this responsibility have been both careless and negligent.

## **E. PUBLIC REGULATION**

Although the American public cries out against “regimentation” and cherishes freedom of action, the pursuit of selfish freedom has been an important factor in our economic fire waste and mounting loss of life.

Our fire losses have long since been recognized as a national problem, and the adoption of more severe regulations, as well as their proper enforcement, is therefore unavoidable if the welfare of the public is to be safeguarded.

Any comprehensive study of present conditions will reveal the difficulties involved in preparing laws and regulations to cope with the situation. As will be described in this report, of those codes and standards which have thus far been adopted, too many are obsolete, too many are subjective to evasions, and uniformity is lacking.

There is need for the adoption, through enabling legislation, of uniform building codes, regulations, and fire prevention ordinances that will establish requirements for safety of operations and proper maintenance of structures and of their service and fire protective equipment. The enabling legislation should provide for the proper adoption, by reference, of recognized national standards.

Codes and ordinances are of limited value unless they embrace adequate power to enforce compliance, including the right of retroactive action for the correction of certain conditions found especially dangerous to the occupants or detrimental to the public welfare, and unless there is an adequate staff to enforce them.

Governmental authority should be empowered by law to examine, approve, and regulate operations and changes in occupancy or use of buildings, with provisions for inspection by competent fire prevention and protection experts. The infliction of penalties may be necessary to effect corrective measures.

The requirement of annual licenses for places of public assembly, supported by inspection service, is an effective means for the control of operations to prevent abuses in fire safety matters.

Safety of life and limb is so compelling a consideration that inconvenience and expense are not sufficient reasons for failing to take reasonable measures that will bring buildings up to modern standards. The possible loss of buildings that provide shelter and the means of livelihood for many people is another powerful reason why action should be taken in the public interest.

Pending complete or extensive code revision, which it is recognized is a time-consuming process, consideration should be given to immediate adoption of what might be termed emergency legislation dealing with the correction of deficiencies in existing buildings.

## **THE REPORT**

It is the purpose of this report to call attention to the important items of construction, operation, and protection that are contributing factors to loss of life and property, and to suggest measures for the improvement of conditions.

# 1. CONSTRUCTION

a. ***Building design and planning.*** - It has been well said that fire safety begins in the designer's office. This observation may well be expanded to state that unless adequate fire safety is established there, it may never be fully obtained, since the cost of installing safety features, although relatively minor at the time of construction of the building, may be so prohibitive at a later date as to permit only partial compliance with generally accepted standards.

Building practice is now so advanced a science that there is little excuse for erecting buildings that are deficient in any safety precautions. Structural design has progressed to the point where the safety of the building, from the strength standpoint, is taken for granted by the occupant. He has an equal right to assume that fire hazards in his building have either been eliminated or controlled.

Nor should compliance with existing obsolete code requirements be offered as justification for failure to build up to modern standards. The competent designer is well acquainted with these standards, and safe construction should be his moral, if not legal, responsibility. The owner's responsibility to the occupants of his building should not permit the designer's advice to be disregarded. The records show quite clearly that the buildings in which the major losses of life by fire have occurred have fallen short, in one or more respects, of generally accepted standards.

Stated simply, the basic principles of design of buildings for fire safety consist essentially of (1) the planning and construction of the building so as to minimize the chances of fire starting in the first instance, or of spreading beyond the point of origin, (2) the providing of sufficient and adequate exitways, so that occupants can be quickly and safely evacuated if the need arises, (3) provision for the prompt discovery and reporting of fires and the necessary facilities for their extinguishment, and (4) attention to details that will minimize the hazards of smoke and noxious gases.

Like accidents, fires do not just happen. In the final analysis, the cause can generally be traced to ignorance, carelessness, or negligence on the part of the individual. In designing the building to minimize the chances of fire starting, attention must be directed toward eliminating as many of these potential danger spots as is humanly possible. A study of the cause of fire will indicate the most promising points of attack. To mention but a few, the heating system should be adequate so as not to be readily overtaxed; clearance of furnaces, fire places, chimneys, smoke pipes, and ducts from combustible materials should be sufficient to avoid one frequent cause of fires; chimneys and incinerators should be carefully built to contain the gases and flame; buildings should have ample spacing from neighboring buildings to avoid exposure fires, and where this cannot be accomplished, exterior opening should be protected, if necessary, to prevent entrance of fire; electrical wiring should not be exposed and should be designed to avoid overloading; flammable liquids should be isolated; roofs should be resistant to sparks and flying brands; and so on down the list. Attention to these obvious danger spots will aid materially in reducing the chances for fires to start. The human equation, however, is always present; and as a defense against this, dependence must continue to be placed on constant vigilance and supervision, and on the cooperation of owners, management, tenants, and enforcing officials in carrying out fundamental rules of housekeeping.

No mention has been made of the materials of construction of the building, in this phase of the discussion, for the reason that, except possibly in the case of a building struck by lightning, or in exposure fires, discussed elsewhere, fires do not usually start in the materials of the structure, but rather in some added component, such as the wiring or heating system, or in the contents of the building. True enough, certain types of construction may promote fire more readily than others; but even here it has been found possible to apply protective measures, such as in the flameproofing of tents. The ideal condition would be that in which the materials of construction and the contents of the building were incombustible; but that, of course, is impractical for obvious reasons. Moreover, the records show that in many of the fires involving large loss of life, the actual burning of the building itself accounted for but few, if any, of the deaths – smoke, toxic gases, and panic being the primary causes.

b. ***Barriers to spread of fire.*** – Assuming that fires will continue to start in buildings, an important step in the design is to insure that barriers are provided to prevent the fire from spreading either in a horizontal or vertical direction or through concealed spaces. In rooms the partitions and self-closing doors should form the barrier to horizontal spread of fire. As to larger areas, it is customary in building codes to limit the area within fire resistive enclosures, the limits being partially determined by the nature of the occupancy and use, the type of construction, and by the extent of the fire protective measures provided. This practice limits the amount of combustibles exposed to any fire, permits more effective action by the fire department, and limits the number of people who may be exposed to the fire, thus improving their chances for getting out. Where it is necessary to have excessively large areas, as in mass production industries, and fire resistive division walls are undesirable or impracticable, a strong barrier to the spread of fire is afforded by automatic sprinklers in areas where there is a continuity of combustibles.

With respect to barriers to vertical spread, the simple rule is that no opportunity should be afforded for fire, smoke, or gases to spread from story to story. This means that all vertical openings, such as stairways and elevator shafts, should be enclosed in fire resistive walls, and that openings in such enclosures should be provided with doors of a standard approved type that will close automatically and tightly. Likewise, all openings around pipes, ducts, and conveyors which might permit the passage of smoke or gases should be properly closed. It is important to remember that many lives have been lost by asphyxiation from such causes, on floors considerably removed from the one on which the fire occurred. Considerable progress has been made in the study of venting of gases by mechanical means. The storage or use of certain kinds of hazardous materials, such as films, records, and highly combustible, flammable, or explosive materials, may require complete isolation or special separation from other occupancies. Special attention should be given to the venting of such spaces.

c. ***Concealed spaces.*** – Among the primary causes of loss of life and property from fire has been the ability of the fire to spread through concealed spaces in the structure, such as within partitions and walls, underneath or within floors, and above hung ceilings. It should be a basic principle of design that all concealed spaces between studs and joists, behind paneling and wainscoting, at eaves, above hung ceilings, and beneath floor finishes should be effectively fire-stopped with suitable material. Again, it should be remembered that it is not necessary for actual flame to spread through such spaces, as heated gases will accomplish the same effect.

d. ***Exitways.*** – If the buildings or their contents burn, they may be replaced, but not so with human lives. Insufficient or inadequately protected exitways may well be placed at the top of the list of causes of loss of life from fires. This was certainly true in many of the spectacular fires of record. Yet the fundamental principles of exitway design have been available for many years in recognized standards on this subject, which are under constant study to effect improvement in their recommendations. Once again it may be pointed out that our great fire losses are due not so much to a lack of information as to a disregard of fundamentals.

Expressed briefly, the basic principle of exitway design is that at least two safe and separate means of exit should always be conveniently available. If given freedom of operation, the competent designer would need no further guide, since all other code requirements on this subject are but detailed specifications that tell how the desired result should be obtained. The basic principle itself is filled with meaning. The requirement of “two safe means of exit” is a minimum. Additional exits must be supplied if the persons accommodated per exit exceed a certain number, which depends on the kind of occupancy and relative fire danger. The word “safe” implies that the exitway (stairway, for example) should be in an enclosure of adequate fire resistance, including self-closing doors; that the exitway should be free from obstructions, properly lighted, and suitably marked as an exit and have directional signs; that the protected means of exit should be continuous and preferably direct to the street or to some other place of refuge; that the stairway should be of adequate size to accommodate the flow of traffic and suitably proportioned; and that paths (corridors) leading to and from the stairway should protect the occupant from fire. It should also be remembered that smoke and gases may be as hazardous to life as fire itself, and that suitable measures should be taken to keep stairways free from such dangers. The expression “conveniently available” implies that the distance to an exit should not exceed that recommended by generally recognized standards for the given occupancy and fire hazard, and that the stairways should be so located as to minimize the length of dead-end spaces in which persons might be trapped.

Another point sometimes overlooked is that means must be provided to enable firemen to get at the fire. Well designed exits are valuable in this connection. In a recent fire in a building having a single stairway, it was necessary for the firemen to follow the fire up the building by means of this one stairway, instead of attacking from several points at once. In windowless buildings, some provision must be made for access of firemen to stories above the ground. This is particularly important in buildings without sprinklers. Suitable access panels have been provided in some designs for this purpose.

e. ***Installation of fire extinguishing equipment.*** - The installation of fire extinguishing equipment should be considered in the design of all new buildings. Nationally accepted standards covering such equipment are available and should be used. Since these installations require provisions, in some cases, for elevated tanks, fire pumps, and other water supplies and piping, they are frequently difficult of accomplishment after the building is erected. It is important that fire extinguishing equipment be provided during the progress of construction. Any needed supply mains and hydrants should be extended to the site and be available before the start of construction.

f. ***Occupancy and use considerations.*** – Running throughout the whole theory of design of buildings for fire safety is the matter of occupancy and use. Each type of occupancy and use has special characteristics that must be taken into account. It is for this reason that building codes classify occupancies. Thus we may find they may be classified as residential, business, mercantile, institutional, assembly, storage, industrial, and high-hazard. These main classifications may also be subdivided to take account of differences in characteristics. Thus under the institutional classification we may find two major subdivisions; one dealing with people who are harbored for medical or other care or treatment, including hospitals, for example, and another dealing with people who are detained for penal or correctional purposes, which would include prisons and asylums.

Included within these general classifications would be all buildings having similar characteristics, and in which the combustible contents and the fire hazard are comparable. The characteristics take into account the ability of the occupants to evacuate the buildings promptly in case of fire and involve consideration of whether the occupants are young or old, able-bodied or infirm; whether they are asleep or awake during the period of occupancy; whether they have freedom of movement; whether large crowds must be dealt with as in places of assembly; and whether the hazard of panic is present. The bearing which these various considerations have on the design of exitways, the type of construction of the building, the allowable areas between fire resistive walls, and the height of the building is obvious.

Control over the occupancy of buildings is customarily exercised through a certificate of occupancy. This is issued when the building is built and certifies that the building conforms to the provisions of the law under which it was built. The certificate states the purposes for which the building may be used in its several parts, the maximum permissible live loads on the several floors, and sometimes the number of persons that may be accommodated in the several stories. Codes also customarily require that no change in the occupancy classification of a building shall be made until a certificate of occupancy for the new classification shall have been issued. The certificate is of great importance in maintaining lawful conditions and is of value to the owner of the building as evidence that the building conforms to the law under which it was built.

g. ***Fire zoning and exposure.*** – The creation of fire zones or fire districts is a well established method of reducing the hazard of fire spreading from one building to adjoining structures. The probability of a fire assuming conflagration proportions is measured by the amount of fuel available for it to feed upon, and this increases as structures become crowded together in certain districts.

The fire limits should include all closely built mercantile and adjoining manufacturing districts and surrounding blocks on all sides which constitute a particular fire exposure to the district, or within which new construction of a mercantile or manufacturing character is developing. Buildings in fire districts should be restricted to those types of construction that afford an appropriate degree of protection against the spread of fire.

As a further precaution against conflagration, buildings in the fire district, unless adequately separated, should be required to have lot-line exterior walls of a definite fire resistive rating.

Provision should also be made for suitable protection of openings in buildings within the fire district, to prevent the spread of fire from one building to another.

## 2. BUILDING CODES

a. **Municipal codes.** – Thus far, emphasis has been placed upon the responsibilities of designers and owners to make use of well recognized principles. Unfortunately, as has been indicated, these principles are frequently ignored or violated, and so experience has taught the need for legal regulations that would force compliance. The quality of such regulations varies. The effect of building codes regulating new construction is certain to be gradual, applying as new buildings are erected. At the same time, existing buildings usually are not required to be changed adequately to meet modern requirements. Nevertheless, there can be no doubt that modern building regulations, if generally adopted and adequately enforced, would bring about a significant reduction in our national fire losses. Lack of alertness in keeping municipal building codes abreast of technical progress in the science of building construction is illustrated by the following figures from the files of the National Bureau of Standards, covering 3,322 municipalities in 1945:

236 had codes dated from 1942 to 1946.  
387 had codes dated from 1937 to 1941.  
228 had codes dated from 1932 to 1936.  
484 had codes dated from 1927 to 1931.  
612 had codes over 20 years old.  
33 had codes with no dates.  
1,342 had no building codes.

Although figures are not available, it is possible that several hundred of these municipalities are revising their codes, or planning the inauguration of codes, thus improving the situation to some extent. The picture presented is far from satisfactory, however, with reference to the number of municipalities not having codes, and with reference to the number where the code requirements are obviously obsolete. Much good work could be done by local organizations and the responsible public officials if they would investigate their own codes critically and take steps to improve them. Consideration might well be given to the suggestion that the building official be required at stated intervals to review the local code and recommend needed changes therein to the appropriate legislative authority.

Communities have a way of growing. More comprehensive requirements invoked during the process of growth will serve to prevent, at a later date, the existence of fire traps that may become the scenes of disasters such as have recently taken place.

For areas where municipal building regulations do not apply, consideration should be given to the adoption of State requirements, especially in the case of factories, hospitals, schools, and places of public assembly.

b. **Modernization of codes.** – Material is not lacking for use in preparing and revising municipal building codes. A great deal of attention has been given to the development of

improved requirements by such organizations as the American Standards Association, the Building Officials Conference of America, the National Board of Fire Underwriters, the National Bureau of Standards, the Pacific Coast Building Officials Conference, the Southern Building Code Congress, and other bodies. The problem is one of selection rather than improvisation. A further constructive step would be the adjustment of remaining differences, so that technical requirements would be the same, so far as is possible. This would tend to prevent confusion in the public mind, would facilitate the free flow of building materials in commerce, and would provide better safety conditions throughout the country.

c. **Uniformity.** – The difficulty of persuading more than 2,000 municipalities to adopt reasonably uniform requirements is admitted, even though the various recommendations mentioned above should be brought into approximate agreement. At present, municipal codes vary widely, not only in technical requirements, but also in size, arrangement, typography, and other features, with the result that extensive study is necessary to determine whether their requirements are adequate or not. While complete uniformity may not be reached in view of varying local conditions, the advantages to be gained point to the need for exploring some method by which reasonable uniformity could be achieved.

d. **Enforcement.** – There is a rather general belief that the mere passing of new laws will be effective in reducing fire losses. Disappointment is likely to follow if adequate provisions is not made for proper enforcement. Law depends on its administration for its effectiveness, and administration depends on the work of the chief administrator and the adequacy of the administrative machinery supplied him.

To mention but one branch of administration, the building departments of many of our municipalities are decidedly deficient in those things that are necessary to good enforcement of laws. It is a mistake to regard the office of building official as of minor importance. Considering the features of health and safety involved, the complexity of designs submitted for approval, and the volume of construction that goes on each year, the office is one of great responsibility. The administrator should therefore be well qualified for the office. While there are a number of able building officials, it is an unfortunate fact that the salaries paid by many of our municipalities are too low to attract first class administration or to retain them after they have become experienced in their jobs. This condition usually extends throughout the department, and, as a result, most of the building departments are so understaffed as to make it impossible to carry out proper inspection of buildings to determine compliance with the law. A lack of such technical assistance, moreover, is often responsible for failure to modernize the local code. And even though the local code is adequate, its effectiveness is frequently lost because of this defect in the enforcement machinery.

The budgets for such departments should be determined in accordance with the importance or quantity of the work to be performed. Hence, notwithstanding present increased cost of government, attention should be directed toward examining the present composition of local building and fire departments, to see that they are properly staffed and that rates of pay are sufficient to attract and retain first class administrators.

At the present time, the respective functions of the building and fire departments are not adequately defined in many cities, with the result that the possibility of misunderstanding, friction, and evasion of responsibility is always present. When the enforcement of building ordinances, fire prevention ordinances, and the operations of the fire department are not administered by a single authority, the legislative authority should clearly define the duties and responsibilities of the respective agencies.

As a general rule, the enforcement of the provisions of the building code, unless specific exceptions are made, should be the responsibility of the building department. Any exceptions should clearly place the responsibility for their enforcement.

The duties of the fire department should cover the supervision of housekeeping and maintenance of buildings, so far as they pertain to fire prevention; the maintenance of fire extinguishing equipment; the storage of combustibles and inflammables; and the extinguishment of fires.

In any event, the closest cooperation and harmony between the respective enforcement agencies is imperative, and each should report hazardous conditions and violations of law to the official having jurisdiction.

### **3. DEFICIENCIES IN EXISTING BUILDINGS**

a. ***Relative importance.*** – It has already been indicated that life and property loss will probably not be so serious in buildings to be erected in the future, both because of the very gradual increase in the number of such buildings as compared with the total in existence and because the means are at hand for avoiding past mistakes in design and construction. The problem of how to bring existing buildings up to reasonable standards, however, is a very pressing one and calls for vigorous and intelligent action. Fortunately, the legal basis for such action is fairly well established in the principle that public authorities have the power to require the correction of unsafe and unhealthful conditions. This is true even though the buildings concerned complied with the laws in effect at the time of their erection. Wise and effective use of this power requires that only those measures should be demanded that are clearly reasonable and practicable in the light of experience and of modern standards of design and construction. This may mean that existing buildings cannot be brought up to the level of new buildings in all respects, but it opens the way to correction of many hazardous conditions that are indefensible in our present state of knowledge.

b. ***Major deficiencies.*** - Principal points of weakness in existing buildings have been repeatedly demonstrated in actual fires. The presence of open stairways and elevator shafts; the improper disposition or inadequate protection of combustible contents, construction, or interior finish; the lack of adequate means for restricting spread of fire; and the omission of devices that will give prompt notice of excessive temperatures are all familiar features of older types of buildings. Many others could be cited.

Much good could be accomplished through the preparation of a check list of such deficiencies, which could be used in surveys of existing structures with a view to recording their worst

features. Such a list should serve as a useful means of enlisting the attention and cooperation of building owners and, in many cases, should lead to voluntary corrective measures. In fact, education in this and other ways should provide a sound basis for better understanding of the need for improvement and, in many cases, may be expected to bring about changes without the necessity for orders from public authorities.

c. ***Corrections .*** - Each building owner is on constructive notice as to his obligation under a building code, and many owners will no doubt be willing to make necessary changes in existing buildings, once the necessity for doing so is appreciated. However, no general improvement can be counted upon without enforcement of minimum measures by public authorities. Such measures may take the form of adequate enclosure of elevator shafts; separating banks of elevators into not more than three in the same enclosure; adequate enclosure of stairways; a requirement that doors opening into an exitway shall be self-closing; adding stairways or other means of exit where provision of means of escape is deficient; subdividing excessively large areas; elimination of grills in exitways; closing of movable transoms and substituting wired glass for plain glass in them; avoidance of ventilating systems (natural or mechanical) that exhaust air from assembly or sleeping rooms into exitways; and providing suitable alarm and extinguishment devices. The extent to which such changes will be required will vary with the occupancy, greatest emphasis being placed on improving the protection to those occupancies where people are infirm or are confined, or where sleeping quarters are provided. Especially in need of attention are old hotels in small communities, buildings converted to multi-family occupancy, and farm residences and resort hotels, particularly where they are outside the firefighting zone and are of substandard construction.

## **4. FIRE PROTECTION**

It is unfortunately true that the property owner, all too often, gives little attention to the provision of proper fire protection necessary to safeguard life and prevent economic waste. He relies heavily on the public fire department for the protection of his property and the lives of its occupants. Also, reliance is too often placed on insurance organizations to determine the degree of protection required at any property, and the owner is prone to think in terms of monetary protection and does not consider the possible loss of life and property. Under such conditions, it is easy for the property owner to shirk his responsibility to himself and the community.

Fire prevention and protection, like building design and construction, is a science, and standards have been established that indicate the extent of protection required. The degree of protection is determined by the nature of the occupancy, the type of the construction, and, in some cases, the exposure from nearby structures.

All large fires start from small ones, for which reason it is important that fires be discovered and attacked in their incipiency. When they reach such proportions that it becomes necessary to use heavy hose streams for extinguishment, some fundamental measure for fire prevention and control has been omitted or has not been effectively utilized.

a. ***Hand equipment.*** – In buildings where people are always present, simple hand equipment, for application of water or suitable chemical materials, will enable the extinguishment of most fires with slight loss, if the equipment is conveniently placed and is used intelligently. In fact, fire records indicate that at least half the fires are so extinguished. This equipment includes water and sand pails, carbon dioxide, dry powder, carbon tetrachloride, and other chemical type extinguishers and small hose hand lines.

b. ***Automatic sprinklers.*** – Wherever there is considerable and continuous combustible material present, either in a structure or in its contents, means for the prompt automatic application of water or other extinguisher is a basic consideration.

Automatic sprinkler protection has a long proven record for controlling fires in their incipiency, for limiting property loss, conserving water supplies, and preventing loss of the lives of occupants of buildings and of firemen in fighting fires. Automatic sprinklers may also be applied to offset, in some cases, the danger in existing buildings.

The modern sprinkler system is equipped with an automatic alarm, actuated by the flow of water through the pipes. Thus a sprinkler system serves three purposes. It discovers the fire, applies water promptly, and sounds an alarm. Some alarms are connected electrically to central stations; and within a few minutes after a fire starts, even in unattended properties, the fire department is enroute to the fire.

So efficient is this form of protection that statistics taken from detailed reports of many thousand fires in sprinklered buildings of all occupancy classes over a period of 49 years show that 96 percent of the fires was extinguished or controlled by sprinkler action. Records also indicate that the total losses in such fires were about 10 percent of those in properties without sprinkler protection. To be effective, sprinklers must, of course, be fed by an ample water supply and be properly maintained.

The provision of properly maintained automatic sprinkler protection in many of the older mercantile and general occupancy buildings that line the “Main Streets” of the Nation would bring a material reduction in the national fire waste and reduce the threat of conflagration that exists in many such built-up areas. In many modern buildings of fire resistive construction, including hotels and places of public congregation, automatic sprinkler protection is urgently needed in basements, service and storage areas, incidental mercantile occupancies, and other vulnerable parts, as a safeguard for the lives of occupants.

It is especially unfortunate that property value considerations have often precluded the installation of needed automatic sprinkler protection in many dormitories, hospitals, and homes for children, the aged and infirm, in which the construction is inferior, thereby unduly exposing the lives of the occupants to loss by fire.

c. ***Special extinguishing equipment.*** – There are certain occupancies and hazards that require special extinguishing equipment. These include storage and manufacturing operations involving the use of highly volatile liquids and materials, where the use of plain water is ineffective or undesirable. This extinguishing equipment includes foam, carbon tetrachloride,

carbon dioxide, inert gas, dry powder, and fine water spray, all of which may be manually or automatically controlled, depending upon the conditions involved. Such equipment should be designed and installed according to recognized standards.

d. ***Standpipes and hydrant systems.*** – For multistoried buildings or industrial plants of very large area, a well designed and properly equipped and maintained standpipe system constitutes an effective means for the extinguishment of fire particularly where there is no automatic sprinkler protection. Standpipes are designed for use by fire departments and those trained in handling heavy fire streams. The standpipe system furnishes the most reliable and quickest means of obtaining effective hose streams in the upper stories of high buildings. Some standpipes are supplied by public water or private water supplies; others, particularly for use in very high buildings, are dry and have connections on the street for the use of public fire engines.

In isolated and country areas great reliance is placed on yard hydrants for heavy fire streams, and in many cases these hydrants are the principal fire protection. Where private water supplies are provided for hydrants, standpipes, and sprinklers, hydrants should be used with judgment, particularly by public fire departments, in order not to deplete the water supplies.

Recognized standards for standpipes and hydrant systems are available and should be used.

e. ***Alarm systems.*** – The prompt discovery of fire is a prime requisite of efficient extinguishment and, in most cases, it is of vital importance that immediate steps be taken to warn and evacuate the occupants of a structure and to summon assistance.

A properly designed alarm system can serve both life safety and property protection.

1. ***Public alarms.*** – Public fire alarm systems are provided in all large cities and in many of the smaller communities. While in general the pull boxes on the street are reasonably well located, there is need for more complete utilization of this service, so that the full value of the public fire department can be realized. The public, watchmen, and occupants of buildings should be trained to “Call the Fire Department Before Attacking the Fire.” Convenient means of notification should always be available, particularly at schools, institutions, hospitals, hotels, large apartments, theatres, and all places of public assembly where safety to life is a compelling factor.

2. ***Private alarms.*** – Fire alarm warning systems are an essential precaution in many buildings where safe evacuation of the occupants is a prime consideration, such as in schools, dormitories, and hotels. Warning systems should receive special attention where possibilities for panic exist.

3. ***Fire detecting systems.*** – It is again emphasized that prompt discovery is a prime requisite of efficient extinguishment. Where buildings and areas are equipped with sprinklers, the water-flow alarms can be utilized for discovery, warning, and to summon assistance. For areas not so equipped, automatic fire detecting devices and systems are available for these purposes. They can be used to advantage where conditions do not warrant automatic sprinklers, at properties not constantly attended, and in important areas with combustible construction or contents. These systems are operated by thermostatic or smoke detecting devices.

4. ***Supervisory and central station service.*** – The dependability of all alarms and signaling systems depends upon their maintenance and upon the testing and supervision service,

including those for automatic sprinkler systems and watchman patrol service. Various organizations that maintain central station service for all types of alarms have been established and are available in most cities.

These organizations serve as an important adjunct to the public fire and police departments. This service provides not only the supervision of electric circuits for the alarm and signaling equipment, but also includes a central station with constant attendance, where alarms are immediately transmitted to the fire department. Such organizations maintain runners who are familiar with the premises so protected and respond to all alarms or trouble signals. They inspect and test all equipment at regular intervals. This dependable service is generally desirable at locations involving large values and at all locations where hazards to life is an important factor.

f. ***Watchman service.*** – An important adjunct to the fire protection of a property is the watchman service. The value of the service is no greater than the reliability of the man. For the protection of the owner and the watchman, it is desirable that his rounds be recorded on a standard watchman's clock, unless central station supervisory service is provided.

It should not be overlooked that the normal property, which operates during daylight hours only, is under the absolute and sole supervision of the watchman for as much as two-thirds of the time during the year. Therefore, an active, intelligent, and well trained person should be selected for this job, instead of one who is merely a clock-puncher or who is not far from the unemployment stage.

In addition to providing this service at properties that operate only part-time, it is of utmost importance that recorded watchman service be maintained in buildings occupied by the public at night, such as hotels and hospitals, as well as institutions and dormitories.

g. ***Public protection.*** –

1. ***Fire departments.*** – There is much evidence that the public fire departments, which normally are employed with complete authority over a property when they respond to an alarm, do not always understand or appreciate the effectiveness of the expensive private protection that has been provided by the property owner. Some fire departments are often guilty of closing automatic sprinkler valves upon arrival at the property, when such protection was controlling or at least confining the spread of fire. The public fire department at times is not familiar with the arrangement of the interiors of the building or with the specially hazardous locations where the blind application of water from hose streams could be detrimental to efficient extinguishment. While great strides are being made in the education of public firemen, it behooves all property owners to invite and, where necessary, to insist that the public fire department visit and become familiar with their premises. It is usually a worth while investment to take the necessary time to guide the firemen through the building and explain in detail the hazardous processes, the proper procedure to be followed, and the private protection that has been installed. It is necessary that the owner cooperate with and assist the public fire department before the fire.

2. ***Public water system.*** – Public water systems play an important part in both fire department and private protection. These systems, which are permanent installations, are costly to install, and in many communities they have not kept pace with the building expansion and increased demands for water. Normal improvements have been delayed in the last 5 years by

war and material shortages. Postwar demands for water have increased, rather than decreased. The governmental authorities, as well as the water department operators, whether public or private, have an obligation to the community to maintain adequate water supplies and pressures for firefighting service. Some systems are great sources of income to the municipality, and governing bodies hesitate to make improvements lest they jeopardize this income. They are wary of bond issues, raising of rates or other major expenditures, until an emergency arises.

Excessive charges made by some water departments for the use of public water for automatic sprinklers and other private fire protection have discouraged the installation of such protection. They fear that water from fire protection systems will be wasted or used for domestic purposes. Such fears are for the most part unfounded. Automatic sprinklers actually conserve water supplies, since they attack the fire in its incipiency. Records indicate that 90 percent of all fires in sprinklered properties is extinguished with less than 10 sprinklers and 80 percent with less than 5 sprinklers. The public fire departments must invariably use much larger quantities of water for extinguishment.

If public water officials were better informed as to the function and operation of private protection, they would do more to encourage public water connections for fire service.

## 5. OPERATIONS AND MAINTENANCE

In addition to good design of buildings and equipment and the provision of adequate protection, effective measures in regard to the operation or use of a property are imperative, in order to reduce our national waste of life and material resources by fire.

There are certain fundamentals in operation and maintenance for fire safety common to all types of buildings and occupancies. These are supervision, organization, education and training of personnel, good housekeeping, precautions against smoking, care and restriction in the use of flammable liquids, open flames and lights; and the maintenance of buildings, service equipment, and fire protective equipment in serviceable and operative condition.

a. **Management supervision.** – The very occurrence of fire is largely influenced by the extent to which the management directs its attention toward fire safety. The instigation of every precaution and safe practice is a measure of the efficiency of management supervision, just as carelessness, poor housekeeping, poor maintenance, and disregard of fire hazards indicate ineffective supervision.

It is necessary that management closely supervise all operations and personnel and be particularly attentive to elimination of fire hazards. The instigation and successful consummation of a fire safety program, incorporating those features specified in this report, is urged. Attentive supervision of the procedures established is necessary.

b. **Personnel training.** – The training and education of the personnel in fire protection principles and practices are essential parts of a fire safety program. In a large organization, a separate department may well be established, in charge of a qualified fire protection expert, to

whom should be delegated the necessary responsibility and authority to direct and enforce necessary fire safety measures.

In smaller organizations, the magnitude and scope of the training program will be correspondingly less. Department heads, after themselves being trained, may be utilized to train other employees. Qualified persons may be brought in from the outside for lectures and short courses.

Such a program may be developed by the holding of periodic instructive meetings and lectures, and by the use of visual education, bulletin board notices, instruction sheets, pay-roll envelope stuffers, and well-placed signs designating location of fire protection equipment, exits, building service controls, and areas or rooms of special hazard, etc. Education and interest in fire protection may be augmented by simulating competitive interest among employees, holding contests, issuing prizes, and using suggestion boxes. Public address systems, where provided, may be utilized for broadcasting of fire safety messages.

Personnel training should include instruction in proper procedures in case of fire. The importance of notifying the public fire department as soon as fire is discovered should be stressed. During periods of alteration and repair, the workmen, whether employees of the property or outside contractors, should be bound by the established regulations at any property. The importance of carefulness and good housekeeping should be impressed upon all employees.

The organization and training of a plant fire brigade should be a part of the personnel program. Thorough training and instruction are needed in the location, care, and handling of firefighting equipment, method of firefighting, safeguarding of undamaged property, and in assisting occupants to evacuate the premises. Members should have full knowledge of the operation of all fire protection equipment. It is important that all watchmen be included in training programs and be given special instructions for proper emergency procedures when in sole charge of the premises.

The number of persons in the brigade and the scope of their training and duties will depend upon the nature of the occupancy, magnitude of the premises, total number of employees and periods worked, existence of special hazards, and availability of outside aid. Regular drills should be held to maintain the efficiency of the brigade.

c. ***Training of the public.*** – A comprehensive program of fire safety education is needed for the public, in order that each individual citizen may become informed and appreciate his responsibility in fire safety to himself, his associates, and the community at large. Favorable public opinion and cooperation, based on a sound educational program, is essential, and local agencies should lend their efforts to this end.

For the safety of the premises and of the admitted public, certain safe practices should be followed. It is generally desirable that smoking be curtailed and by all means not done in bed, whether in a hotel or in one's own home. All fire protective equipment, such as extinguishers, hose lines, and fire alarm boxes, etc., should be so located as to be both visible and accessible.

This can be accomplished by the use of notices, signs, and posters. Where public address systems or radios are available, safety messages can be transmitted.

Responsible management can accomplish much in training the public, including its customers, by encouraging them to observe the safety features it has established for its premises.

d. ***Building maintenance.*** – It is important that a building be maintained in good repair, and that protective features incorporated in the design and construction of the building not be impaired or destroyed by building alterations, ornamentations, changes in occupancy, etc. The major structural parts of the building, such as a framework, floors, roof, walls, and enclosures for floor openings should be maintained in good repair, and the fire resistant character not adversely altered. Where wired glass windows, fire shutters, or outside sprinklers are provided as protection against exposure, it is desirable that they should not be removed unless the exposure is removed. This protection should be kept in good repair.

Fire doors in division walls and partitions, and stairway and elevator doors, are important features for retarding the spread of fire and for the protection of the occupants. The functions of these doors are not only to confine fire to its area of origin, but also to retard the fire's spread by elimination of draft, and to afford safe passage and refuge for the occupants.

e. ***Service equipment.*** – The various items of service equipment provided in a building are likely causes of fire if they are not properly installed or are poorly maintained, overloaded, or otherwise abused.

1. ***Heating equipment.*** – The heating facilities for buildings or manufacturing equipment contribute to the hazards of fire and accordingly need careful and competent supervision. Sources of trouble include obstructed, defective, or dirty chimneys and flues, improper combustion of fuel, inadequate ventilation, poorly located fuel tanks, oil leaks, improper maintenance of combustion safeguards, combustibles stored too near to boilers, furnaces, and steam pipes, and the use of combustible containers for ashes.

Other devices employing open flames or glowing metal are used inadvisedly near flammable materials, liquids, and gases. Unless the use of this equipment is carefully supervised and maintained, the hazard of fire and explosion is appreciable.

As evidenced by the number and seriousness of the fires involving the operation of kerosene or range oil heaters and stoves, particularly in dwellings, camps, barracks, and on the farm, greater realization of the hazard and greater care in operation are needed.

2. ***Electrical equipment.*** – The uses of electricity are so diversified that fires attributed to failure of electrical equipment or to faulty installations have been outstanding for many years in the list of causes.

All electrical equipment should receive the best of maintenance, and due regard should be given to the standards adopted and incorporated in the National Electrical Code. The use of temporary wiring during alterations is a frequent source of trouble and should be reduced to a minimum. Such wiring should be replaced with a permanent installation as quickly as possible. The improper use of fuses and the overloading of circuits deserve careful attention.

Electrical equipment should receive frequent inspection by competent persons. It is also important that electrical power be controlled by central switches, which can be opened when power is not in use. The use of warning or pilot lights and thermostatic controls is desirable on all electrically heated devices.

3. *Air conditioning.* – By the nature of the design of an air conditioning system incorporating ducts, it may readily be the means of conveying fire or smoke throughout a building, resulting in considerable property loss or even loss of life by creating a panic among the occupants. Dust accumulating in ducts, plenum chambers, and on filters is conducive to fire and capable of evolving considerable quantities of smoke when burning.

In addition to providing safeguards and protective equipment in the design and installation of air conditioning equipment, it is necessary that proper maintenance and cleanliness of the equipment be given attention. Clean ducts and clean filters will mean the absence of fuel for a fire within an air conditioning system, and proper maintenance of the mechanical, electrical, refrigeration, and heating equipment of the system will reduce causes of fires.

4. *Miscellaneous service equipment.* – Refrigerating equipment, elevators, escalators, and other miscellaneous service equipment require careful servicing and maintenance by competent men. Housekeeping features are also important. Waste and rubbish accumulations in the bottoms of elevator shafts, and lint and grease accumulations on the walls and elevator guides, are means for the quick vertical spread of fire and smoke. Leaks of refrigerant may be dangerous, and in buildings of public assembly the use of nonflammable and nontoxic refrigerants is recommended.

f. *Fire-protective equipment.* – The proper maintenance of fire protective equipment is essential. Equipment should always be available and in operative condition. Good operating condition can best be assured by frequent inspection and tests.

Distribution of water from automatic sprinklers should not be obstructed by high-piled merchandise, partitions, decks, and large tables. Sprinklers should not be removed or omitted because they are considered unsightly. Fear of water damage to contents or to electrical installations from accidental operation is generally unfounded. At each property, some trained and responsible person should be designated to inspect and supervise all fire protective equipment.

The establishment of a self-inspection service has proved to be a most valuable effective means of guarding property against fire and maintaining a high standard of maintenance and safety. Written reports of all inspections should be submitted to responsible management, and prompt action taken to correct all faulty conditions. Chemical extinguishers and other first aid fire extinguishing equipment must be accessible and clearly visible to the occupants.

Effective supervision of valves, alarms, and water supplies is available through central office supervisory service companies, and this service is generally more effectual than local supervision.

Fire alarm and fire detecting (or thermostat) systems of all types require frequent testing and inspection. The systems supervised by a central station agency insure quicker response by public fire departments; but it is usually advisable to have local alarm bells also.

The testing and maintenance of these alarm systems, as well as water flow alarms for sprinkler systems, are the responsibility of the management of the property.

g. ***Operations problems.*** –

1. *Housekeeping.* – Poor housekeeping is one of the most prevalent causes of fire. Good housekeeping is not the mere removal of waste material and rubbish, although this is of prime importance. The elements of good housekeeping also include the arrangement of storage in an orderly fashion, the segregation of hazardous processes and highly flammable materials to prevent undue exposure to other contents, and the avoidance of excessive floor loads and congestion. Small storerooms, janitor closets, pipe, electrical cable, and elevator shafts; basements, attics, and other places occupied infrequently; drug and anesthesia rooms, X-ray film vaults; oil, paint, and solvent storage rooms; mattress and furniture storage rooms, paper-bailing rooms, and repair shops are all areas requiring special attention if good housekeeping is to be maintained.

Surplus or supplemental furniture, machinery, and storage have no place in halls, corridors, stairways, or building exits; for if they do not contribute to the spread of fire, they frequently obstruct the passage and free exit of the building occupants, or impair the action of the firefighting forces.

The insistence on excellent housekeeping and orderly arrangement of contents impress both the employees and the public and has been found to be a profitable procedure.

2. *Smoking and careless use of matches.* – Smoking and the careless use of matches is one of the greatest sources of ignition. In addition, many of the fires attributed to unknown causes are undoubtedly the result of careless smoking and disposition of burning matches. The average smoker seldom realizes the hazards of his habit. Some act with deliberate and selfish disregard of their own safety or that of others.

It is possible for smoking to be done safely, if the smoker uses proper precautions and chooses suitable locations. It is generally desirable that smoking be restricted to safe areas and to places where suitable equipment is provided for the disposal of burned matches and butts.

Control of smoking may be effected by collective cooperation between management, employees' union, and the public in general. Furthermore, the prohibition of smoking in dangerous areas may be enforced by governmental authorities, through the adoption of suitable laws and ordinances. Some cities have instituted such action. For example, New York has been successful in a campaign against smoking in retail stores, as well as other places, through the application of an ordinance against smoking in places of public assembly, coupled with the enforcement of compliance by arrests and fines.

To cope with this smoking problem, it is evident that the public must be educated further regarding the hazard. It has been suggested that manufacturers of matches print on the package

or wrapper a notice of warning or caution relating to the careless disposal of cigarettes and matches. The same precautions should be displayed as part of the printed matter on packs of cigarettes.

3. *Special hazards flammable liquids, and gases.* – In many buildings, there are operations or contents that are more hazardous than the normal or common hazards incidental to all properties in general. These are called “special hazards,” and from the fire protection view point require special and individual attention.

The careless and improper use of flammable liquids and gases, whether in the home, in buildings open to the public, or in manufacturing plants, has resulted in many disastrous fires and much loss of life.

The use of flammable liquids for home dry cleaning, and careless use of gasoline in repair shops and service areas, are extremely dangerous. The substitution of less flammable liquids wherever possible should be encouraged.

Where the use of the more flammable liquids and gases is necessary in hospitals, industrial plants, and shops, the amount of these materials should be limited to the daily needs, with main supplies stored in properly ventilated and isolated tanks, vaults, or buildings.

Areas involving the use of large quantities of flammable liquids, highly flammable materials such as pyroxylin plastics, magnesium, etc., and manufacturing equipment subject to fire or explosion, require isolation from main workrooms and areas housing large groups of people.

It is good practice to “Post” these areas and to warn everyone of the hazards. It is extremely important that all employees engaged in hazardous occupancies be fully instructed of the dangers involved and be trained in proper procedures to meet an emergency.

4. *Flammable fabrics and decorations.* - Long-nap fabrics of a material more flammable than wool, silk, and nylon, and other highly flammable materials, are extremely dangerous as wearing apparel. Celluloid buttons and trimmings and pyroxylin-coated materials are also dangerous. A garment should not be made of material so flammable that, if ignited, the wearer cannot take it off, without getting seriously burned.

Considerable progress has been made in removing garments and trimming of a highly flammable nature from the market. This has been accomplished by enactment of appropriate legislation, and through education by interested technical and business associations.

Flammable draperies, decorations, upholstery, rugs, and bedding have contributed to the spread of fire and the mounting loss of life, particularly in residential buildings. Combustible decorative trim, although part of the building structure, nevertheless falls in the same category. Proxylin-coated upholstery fabrics are extremely hazardous.

Consideration should be given to the flame-proofing of flammable fabrics, decorations, draperies, and clothing, or to avoiding the use of such flammable materials when possible in buildings where the public is admitted, such as hospitals, hotels, theatres, auditoriums, restaurants, and night clubs.

h. **Technical organization aid.** – There are numerous private and public organizations actively engaged in the field of fire prevention and protection, which are in a position to render considerable assistance. Informative printed matter, including comprehensive technical data, is available to all. In addition, many trade associations, as well as technical and business organizations, frequently devote efforts to fire protection.

Insurance companies maintain large technical staffs of experienced engineers to assist property owners and managers as to recommended procedures and improvements. The services of private, practicing, fire protection engineers are also available.

Management should seek information and assistance through these various channels, heed the advice given, and comply with recommendations submitted.

## **RECOMMENDATIONS**

The committee recommends that greater attention be given by designers of buildings to the recognized standards of construction and to strict compliance with established codes and regulations; that governmental officials review the adequacy and extent of existing regulations; that owners and managers of buildings adhere to safe practices and observe standard rule of fire safety; that aggressive action be taken to accelerate the installation of automatic fire protection in new and existing buildings, particularly where safety to life is a compelling factor; and that designers, owners, public officials, and the public in general assume their full obligation for the elimination of fire hazards. Specific measures to this end are recommended as follows:

### **I. CONSTRUCTION**

a. **Planning and design.** – Every effort should be made to arouse owners, architects, and designers to a sense of their responsibility to the occupants of buildings, so that structures are erected with due regard to the fundamentals of fire safety. Special attention should be given to:

1. The selection of construction materials with regard to the height, area, occupancy or use, and the facilities that will be available for fighting fires.

2. The design, so that adequate vertical and horizontal barriers are included, to prevent the spread of fire, smoke, and gases. All vertical shafts should be in fire resistive enclosures, and all entrances to shafts and stair enclosures should be equipped with self-closing doors.

3. Exitways, so that two independent means of exit will always be available and so that the venting of main areas into exitways is avoided.

4. The interior facing materials of walls, ceilings, and exitways, so that they be selected with regard to their ability to resist spread of flame, in keeping with the nature of the occupancy or use of the building.

5. The possibilities of a structure adding to the conflagration hazard in the district.

6. Private fire protection, so that such protection is included in the original design where needed; any needed water supplies are extended to the structure prior to erection operations; and needed protection keeps pace with construction.

b. ***Building codes and fire protection ordinances.*** –

1. Building code and fire protection ordinances should be provided for all cities and large communities. Where existing legislation is obsolete or inadequate, it should be modernized. State laws that involve prohibitive costs for the publication of changes should be amended so that publication is satisfied by posting new regulations in the office of the building inspector, county court house, or post office.

2. Consideration should be given to increased use of State enabling acts permitting municipalities to adopt standards by reference.

3. Legislation should be enacted or laws amended to give building officials reasonable latitude in the approval of new materials or methods of construction. Municipal authorities should ascertain that their building and fire departments are adequately staffed for enforcement, and that the rate of pay will attract and retain qualified administrators.

4. Provisions should be made in building codes for the issuance of certificates of occupancy, as an aid to maintaining lawful conditions in buildings and as a measure of control to prevent the development of hazardous conditions.

5. When the enforcement of building and fire prevention ordinances and the operations of the fire department are not administered by a single authority, the legislative authority should clearly define the duties and responsibility of the respective agencies.

As a general rule, enforcement of building code requirements, unless specific exceptions are made, should be the responsibility of the building department. The duties of the fire department should cover the supervision of housekeeping and maintenance of buildings, so far as they pertain to fire prevention, the maintenance of fire extinguishing equipment, storage of hazardous materials and liquids, and the extinguishment of fires.

The closest cooperation between the enforcement agencies is imperative, and each should report violations of law and hazardous conditions to the official having jurisdiction.

c. ***Deficiencies in existing buildings.*** – The construction and protection in existing buildings have been responsible for many of the more serious losses to life and property. For correction of the outstanding deficiencies, the following procedure is advised:

1. Exitways should conform with the basic principles of recognized standards, and in places of public assembly exit facilities should conform to standards required for new construction. (See sec. 1d.)

2. Stairways and vertical shafts must be suitably enclosed and protected, and horizontal barriers provided, to prevent the spread of flame, smoke, and gases. (See sec. 1b.) Subdivision of fire areas by fire resistive walls, and tight-fitting fire doors to provide for horizontal exits, should be provided where the hazard to life is severe.

3. In existing institutional or residential buildings (including hospitals and hotels), the doors of individual rooms should be constructed to retard the spread of fire and the gases of combustion. The use of door grilles, movable transoms, or fixed transoms glazed with plain glass should be prohibited. Corridor partition doors and stairway doors should be self-closing and of fire resistive materials.

4. Building owners should provide sufficient private protection for the safety of the structure, and not protection based solely on insurance credits. Where necessary, the financing

of automatic extinguishing equipment and other building construction improvements should be investigated.

5. Governmental authorities are urged to enact and enforce remedial legislation for the correction of hazardous conditions in existing structures where safety to life is a compelling factor.

## II. FIRE PROTECTION EQUIPMENT

Fire loss records reveal notable deficiencies in the installation of fire protection, including hand equipment, standpipes, automatic extinguishing equipment, alarms, and water supplies, and attention should be given to the provision of equipment as follows:

a. ***Hand equipment.*** – First aid fire extinguishing equipment (sand and water pails, extinguishers, and small hose) should be provided in every manufacturing, mercantile, and storage occupancy; in every school, hospital, hotel, dormitory, restaurant, institution for care, office building, and place of public assembly or entertainment, whether permanent or temporary.

b. ***Automatic sprinklers.*** – Automatic sprinklers should be installed more generally in all large industrial and mercantile buildings, schools, institution, and places of public assembly that are of combustible construction and in hazardous areas where fire might spread in fire resistive buildings.

c. ***Special extinguishing equipment.*** – Special extinguishing equipment, such as foam, carbon dioxide, fine water spray, and inert gas should be used more generally for the protection of flammable liquids and other specially hazardous materials.

d. ***Standpipe and hydrant systems.*** – Standpipe systems should be provided for public fire department and for private use in buildings of unusual height or area, in accordance with recognized standards.

e. ***Alarm systems.*** –

1. Public fire alarm signaling systems should be expanded, where needed, to locations convenient to all large mercantile and industrial properties and to locations convenient to all schools, hotels, hospitals, public and private institutions for care, and places of public assembly.

2. Suitable fire alarm and warning equipment should be provided in all schools, hotels, hospitals, institutions, and places of public assembly.

3. Supervisory and central station service should be more fully utilized, where available, for all alarm service, including private fire alarms, fire detecting equipment, and automatic sprinkler systems.

f. ***Watchman service.*** – The quality of watchman service should be improved, and more active, intelligent, and well-trained men should be employed for this service. Watchman services should always be recorded. In addition to other protective features, night-watchman service

should be provided in all hotels, hospitals, and institutions where a considerable number of people are sleeping or confined.

g. **Public fire departments.** –

1. Public fire departments should set up at least quarterly inspection schedules for all buildings where there is a potential hazard to life, and should check the operation and condition of all private extinguishing and alarm equipment; the adequacy of public fire alarm boxes for the property; and the storage and handling of flammable liquids; and should insist upon maintenance of excellent housekeeping conditions

2. Building owners should advise public fire departments of any impairment to automatic protection, or of any other unusual conditions that could obstruct or interfere with normal procedures during a fire.

3. Public fire departments should become more familiar with the value and operation of private protection, particularly automatic sprinkler equipment.

h. **Public water.** –

1. Public water officials should review the adequacy of distribution systems and water supplies, and urge responsible officials to instigate the appropriation of funds for needed improvements. Attention is directed to war plants and large residential areas recently erected, particularly areas expanded in outlying districts where normal improvements have been delayed by the war and material shortages.

2. Excessive costs for private fire service connections should be avoided.

### III. OPERATIONS AND MAINTENANCE

Attention should be given to certain fundamentals in operation and maintenance for fire safety common to all types of buildings and occupancies. These are supervisions, organization, training of personnel, building and equipment maintenance, housekeeping, smoking, and handling of hazardous materials and flammable liquids. Adherence to these fundamentals will affect the incident of fire.

a. **Suppression** . – The owners and managers of all buildings should set up hard-and-fast rules for fire safety at all structures, and such regulations should be strictly enforced.

b. **Training.** –

1. Measures should be instituted for the personal safety of the admitted public, by the use of signs and other applicable means. All floor men, and elevator and telephone operators, should be given special instructions in procedures to be followed in emergencies.

2. Fire brigades should be organized and drilled, and similar training should be extended to all watchmen and key employees.

c. **Inspections.** - A responsible employee should be delegated to make periodic inspection of all exitways, fire doors, housekeeping, smoking, and fire protective equipment, and of all conditions relating to fire hazards and the safety of the occupants or visiting public. Responsible

management should preferably require written reports and should insist that deficiencies be corrected.

d. ***Building and service equipment maintenance.*** – Competent mechanics should be employed to maintain all structures, including roofs, windows, stair and elevator enclosures, and fire doors, and all heating, lighting, power, air-conditioning, ventilating, refrigeration, and other service equipment, so that structural conditions or equipment will not cause fire or contribute to the spread of fire.

e. ***Flammable liquids and gases.*** –

1. The storage and use of flammable liquids and gases should be arranged according to recognized standards. The use of flammable liquids should be restricted wherever possible, substituting nonflammable or nonexplosive liquids. The use of highly flammable or explosive cleaning fluids in small shops and in the home should be avoided.

2. Where large quantities of flammable liquids and gasses are necessary to operation, as in industrial plants, the maintenance of adequate ventilation, the prevention of ignition, and the installation of special extinguishing equipment should be given careful consideration. Employees in these areas should be fully instructed regarding the hazards involved and the proper procedures to be followed.

f. ***Flammable decorations.*** – The use of flammable decorations, draperies, and highly combustible wall coverings should be avoided in all places of public assembly and where people sleep or are confined, as in hotels, hospitals, and institutions.

g. ***Smoking.*** – The hazard attending promiscuous smoking should be widely advertised. Where smoking is permitted, provision should be made for the safe disposal of butts and matches. “No Smoking” rules should be strictly enforced.

h. ***Housekeeping.*** – The importance of good housekeeping in preventing fires and reducing the extent of fires should be kept forcefully in mind by all persons responsible for the management and operation of buildings, and every means should be employed to acquaint the public with the need for utmost care in accomplishing this necessary end.

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*The President's Conference on*

**FIRE  
PREVENTION**



*Report of the Committee on  
Research*

Departmental Auditorium  
Washington, D.C.

May 6, 7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

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Responsive to the objectives of the conference and pursuant to the scope assigned it by the Coordinating Committee, the Conference's Committee on Research submits the following report.

## 1. BIBLIOGRAPHY

An essential tool for planning, and for the conduct of both fundamental and applied research, is means for reference to results of past experience, to experimental data, and to conclusions that have been completely arrived at in view of them.

The Committee concurs with the saying that:

“Facts hidden away in a filing cabinet” (or hidden in our minds) “are of little practical value; only when they are made available to people can they be translated into action.” (Author unknown.)

Loss of life, waste of property, and interference with private and public affairs by fire have been and are within the experience of all mankind. Organized firefighting was practiced when history was first written. Fire prevention, in its modern aspects, is more than an art; but scientific application of most of its branches is sadly hampered by lack of bibliography and contributions from all sources thereto.

### **The Committee on Research recommends, therefore, that:**

*The Conference seek to have made available a central library facility, to which reports on all aspects of firefighting, fire prevention, and fire loss can be made, and which shall make available the bibliography of fire, past and present; abstracted and indexed. Thereby source material for public information, news service, and the like will become available; enforcing authorities and managers of properties can reach decisions upon factual bases; and finally, research on fire problems will be so guided as to avoid duplications of planning and experiment.*

## 2. HUMAN BEHAVIOR

This Committee is confident that the Committee on Fire Prevention Education of the Conference will devise constructive plans for combating the crime of carelessness in which we Americans so freely indulge. It is also confident that the Conference's Committee on Laws and Law Enforcement and on Building Construction, Operation and Protection will not fail to consider the economic and other factors that have been and continue to be responsible for so many little fires in which life is wasted and essentials to decent living standards are destroyed each day throughout the land. Therefore the Committee on Research discuss only the following few characteristics of human behavior.

## **A. Causative Factors of Panic Behavior**

The Coconut Grove Night Club fire and the circus disaster in Hartford are but two examples (comparatively recent) of the appalling waste of life which results, at least in part, from panic behavior induced by fear of fire.

Panic behavior, as contrasted with rational behavior, is more likely to be the action of the individual and the group, when the individual or the group has insufficient information. In other words, rational behavior is a greater possibility when individuals placed in situations of stress are familiar with the possible results of the situation and the means to overcome the difficulties. Knowledge, then, through education, is a means to combat panic behavior. On this basis, and since panic is expressive of fear and lack of confidence, with an emotional coloring, serious consideration should be given to initiating a program of public education. Such a program, conducted through the medium of the press and radio, should be very beneficial. The public should be informed of modern advances in fireproof construction; of the present day use of the various type of fire extinguishers; of the various means utilized to evacuate burning buildings; and of other matters having to do with the restoration of individual confidence in an emergency. The public, and especially the occupants of large buildings such as hotels, hospitals and office structures, should be taught to familiarize themselves with the means of escape from the building, or parts of it, prior to the development of an emergency; and they should be taught how to safeguard themselves within it if escape is blocked.

### **The Committee on Research accordingly recommends that the Conference:**

*Take steps sponsoring additional programs that will utilize known facts, so as to indoctrinate the public in the essentials pertaining to the conduct of the individual and the group in the stress of an emergency created by fire.*

## **B. Fireman Evaluation**

Psychological selection methods are well enough advanced and of sufficient accuracy to promise the development of selection techniques that will pick out the most desirable type of man to receive training as a fireman. The desirability of applying our knowledge of normal psychological reactions in selecting and training personnel cannot be questioned. The military, during the recent war, very satisfactorily applied this principle in creating screening methods to eliminate individuals who were believed to be incapable of making a satisfactory service adjustment. This method was used also to select personnel for designation to specialized duties involving unusual danger. Experience with the procedure revealed the fact that it was very satisfactory in directing attention to individuals with borderline personality defects, as well as to those who were frankly abnormal. There appears to be no good reason why the utilization of this principle would not be successful in determining the proper type of individual to be assigned to fire departments.

Before a screen can be applied, of course, it is necessary to make a job analysis, to determine the type of personality best suited to meet the needs. Ordinarily, in a firefighting force, or in any

group selected to function without confusion in an emergency, special consideration should be given to the stability of the individual, his ability to think clearly under adverse circumstances, his judgment, his initiative, and his ability to function quickly without reservations. In the application of such a screen, it would be necessary to eliminate the inferior types of personality – the psychopath, the introvert, the individual marked manic-depressive tendencies, and others exhibiting evidence of instability.

**It is the recommendation of the Committee on Research that:**

*Standard means of selecting and training firemen and other persons whose work makes them responsible for fire safety should be determined. These means should be applied through the adoption of a screen based on known psychological and psychiatric determinations made by the military and other authorities and appropriate for use by properly qualified examiners. It is essential that trained examiners apply these screening tests, and where available, State agencies should be called upon for assistance in the selection of tests and in the evaluation of their results.*

### **C. Pyromaniacs**

Pyromania is another type of human behavior that is of significance in fire prevention.

Apart from persons guilty of arson or of incendiarism, fire setters may be classified under three general headings:

1. *Accidental fire setters*, including normal persons, mental defectives, psychopathic personalities, and psychotic persons.
2. *Occasional fire setters* would include normal persons, mental defectives, psychopathic personalities, and psychotic persons.
3. *Habitual fire setters* would include psychopathic personalities, mental defectives, and psychotic persons.

In these categories so-called normal persons are for the most part not informed regarding fire hazards and are without instruction and training in mechanical and technical means of fire prevention and firefighting. Management in industry and other fields must concern itself with educational measures that will eliminate fire setting by normal persons. Brief mention is made earlier in this report of carelessness as a cause of fire, and in which, it must be assumed, normal persons, with others, generously indulge.

In the past, considerable publicity has been given to the fact that pyromaniacs have been responsible for starting a high percentage of fires. Studies have revealed that certain abnormal individuals have actually been responsible for a certain percentage; but it is not believed that the problem with relation to these individuals is insoluble. Statistics currently available point to the fact that about 48 percent of pathological fire setters are imbeciles or morons, and another 22 percent are “dull normals” or borderline, while 17 percent are of superior intelligence. These same studies have pointed to the fact that among 1,145 male fire setters, the highest rate occurred around the age of 17. Pyromania is outstandingly the crime of the adolescent or young adult.

Occupational or mental adjustments have a considerable bearing on the problem; and it has been found that alcoholic complications are frequent in those fire setters past the twentieth year of age.

In approaching this over-all problem, it is important to keep in mind the fact that no normal person sets fire habitually; that psychotic, habitual fire setters usually do so for delusional reasons; and that they constitute a fairly large group.

Psychotics, psychopaths, and mental defectives deliberately set fires for one or more of the following motives:

- a. As a reaction against a social order which they believe is operating against their interests.
- b. To wreak vengeance against an employer.
- c. As a revenge for injured vanity.
- d. As a jealous rage reaction.
- e. As an opportunity to perform heroic endeavors as a firefighter.
- f. As a perverted sexual pleasure, in the nature of a conversion of the sexual impulse into a special substitutive excitement.

**This Committee on Research recommends that the Conference  
take steps so that:**

*All individuals legally charged with originating fires of the pyromaniac type will be subjected to a detailed mental examination by competent persons, and when it is determined an individual is abnormal, he be hospitalized to protect the public. In this connection, the policies for determining the release of habitual fire setters, or those suspected of being so, from various public hospitals, reformatories, State schools, and prisons throughout the United States, should be reviewed and standardized.*

### **3. FIRES ON SHIPBOARD**

Fires on board ship too frequently have demonstrated their menace to life and property. Nevertheless this committee is agreed that existing law and regulations with respect to the marine fire hazard are adequate, according to the present state of the art of fire protection, but should be reviewed from time to time in the light of experience and research.

The basic understanding of these hazards, both on board ship and at shoreside, and the best methods of their control and extinguishment, are well known.

The dissemination of this knowledge, of experience with respect to fire prevention and extinguishment, is inadequate. An appropriate educational program should be devised and applied. All available results of experience from research and of statistical studies should be pooled to become a part, perhaps, of the Bibliography Organization heretofore proposed.

The joint investigation of marine fire detection and extinguishment started by the Army, Navy, Maritime Commission and the United States Coast Guard has promise of substantial contribution to safety to life at sea and to safety to ships and their cargoes.

**The Committee on Research recommends that:**

*There be established an organization in which Maritime and allied industries and Government agencies may cooperate on a permanent basis, providing*

1. A National Marine Fire Conference
2. A clearinghouse for all information relating to marine and shoreside fires.

*The Army, Navy, Maritime Commission and the United States Coast Guard should use every effort to complete their investigation of marine fire detection and extinguishment. Failing this, the Coast Guard should prepare instructions for public use based upon the principles thus far determined.*

**Navy Firefighter Schools**

The success of the Navy firefighter training schools developed during World War II is well known and is commended by every fire prevention and firefighting official. During peace times, the Navy will be, to a great extent, dependent upon outside firefighting aid in controlling large fires at its shore stations and on board ships in port. Experience in the use of Navy firefighting equipment and knowledge of the firefighting technique as taught in the Navy schools is essential if civilian firemen and Navy personnel are to coordinate their efforts efficiently.

The Navy accomplishment to which we refer was the reward of research. Its duplication for application to fire loss prevention generally should be unnecessary.

***Accordingly the Committee on Research recommends that the Conference endorse the use of these Navy facilities under appropriate conditions, whereby:***

*Training in Navy firefighting schools is available upon request to the personnel of organized public fire departments, whose increased skill will be in the interest of the public generally.*

*Also that this training be made available upon request to civilians from industrial and other enterprises wherein ability in fighting fires is a vital necessity.*

*And further, that these Navy firefighting schools be open to all personnel in every rank and rating in the American Merchant Marine, since merchant ships, auxiliaries to the Navy in wartime, must in peace have every possible facility for assuring safety to life and to property.*

***The Committee on Research further recommends that the Conference arrange, through the Committee on Firefighting Services, or otherwise:***

*So that waterfront firefighting forces employ methods and equipment that will make unnecessary, so far as possible, use of such quantities of water that the stability of the vessel is endangered.*

## **4. AVIATION**

Because safety is a prime consideration in the operation of aircraft, fire prevention and extinguishment have been and continue to be the subject of research by the industry and by both civil and military units of the Government.

Three main phases of this research activity are apparent:

*Design, construction, and operation of aircraft.*

*Design, construction, and operation of airports and airport buildings.*

*Crash fire protection.*

In the design and construction of aircraft, much has been done to insure against the occurrence of fire, to control its spread, to provide the pilot with warning, and to enable prompt extinguishment. The new Civil Air Regulations are definitely a step in the right direction. A program is under way which, within a year, will make mandatory on any aircraft in commercial air transportation the use of, and full compliance with, the safeguard stipulated in the new regulations.

Test and research work is now being done by the Civil Aeronautics Administration. Much development work is constantly being carried on by the military services and by individual manufacturers of aircraft and aircraft equipment. This development should be encouraged.

Many airlines have undertaken extensive programs for the training of pilots, stewards, stewardesses, and other flight crewmembers in practical emergency procedures. These procedures have been developed largely as a result of experience, and there appears to be lack of uniformity. *It is recommended that an industry-wide committee be appointed to make a study of the procedures currently in use and to properly evaluate their effectiveness.*

The problem of fire protection and fire prevention at airports is one of particular importance, and has always been so recognized by fire protection engineers. The tremendous impetus that war gave to the industry created many problems, because of the larger planes and larger hangar buildings in which to repair, service, and maintain them. *Every progressive community must analyze its facilities, with the object of creating airport facilities that are modern. The committee recommends that this should be done at once.*

Both the National Board of Fire Underwriters and the National Fire Protection Association have prepared standards for hangar construction and protection. They also have committees at work on various phases of the problem, dealing with the construction and protection of hangars and

other fixed airport installations, crash firefighting and rescue work, provision for fire detection and extinguishing systems, and other associated matters.

Fire experience at airports and in hangars points to the following factors as principally contributing to serious fires; dependence on distant public fire departments; deficiencies in water supplies, mobile equipment and installed interior protection at airport facilities; inferior construction, with failure to segregate hazards; substandard heating equipment; and improper storage of aircraft.

Hangars are the main problem from a fire protection standpoint, as in most instances they are structures distinct from types of buildings in general use. They are, however, subject to most of the time-honored and accepted principles of fire protection and prevention.

Recent surveys have shown that crash protection at airports is woefully inadequate. While it is recognized that no field could possibly support a crash crew that would take care of every conceivable contingency, any airport, no matter how small, should make some provisions for such protection. The military services during the war did considerable work in the development of practical crash equipment and the training of crash crews. This work should not be lost, but rather should continue so as to keep abreast of new developments. The larger airports will be able to provide full-time crews, while at smaller fields it may be necessary to train all airport personnel in crash procedures. *It is recommended that the requisite studies should be made promptly.*

As to equipment, the present thinking is that the maximum practical size in apparatus has been reached and perhaps passed. Smaller, more maneuverable units that can get to the scene in a hurry, with a reasonable extinguishing capacity and that can be backed up by larger tank units that do not have the same speed, appear to be a practical solution.

In the event of a crash, rescue of personnel is of prime importance. Extinguishing the fire is secondary until this has been accomplished. Crash equipment and crash procedures should be planned with this in mind.

*Consideration should be given to providing adequate regulation of flying over areas of special hazard to life or property.*

## **5. INDUSTRIAL RESEARCH**

Since World War I especially, findings from both fundamental and applied research, with respect to established and to new industrial activities, have resulted in great expansion of the national economy and in substantial advance in living standards. The great accomplishments from research in the period of preparedness for, and later in conducting World War II, are not fully evaluated.

Much of the technique of fire prevention and firefighting, developed during this first half of the twentieth century, has been effectively applied to both old and new problems met in the two

wartime emergencies and in the 25-year interim. The present industrial pace, however, demands that improved or new facilities and methods be developed, so that newly created resources of national wealth will not be self-destroyed for the lack of fire prevention that safeguards against inherent or byproducts hazards.

Investors, management, and employees have a common obligation to themselves and to the public to provide, by research, basic knowledge of all properties of newly developed raw materials, natural or synthetic; and to investigate toxic and physical hazards that may appear in their processing, application, and handling. Full discharge of this responsibility is part of the price to be paid for the privileges of the free-enterprise system. It is essential, too, that waste of natural resources that are irreplaceable when destroyed by fire has due consideration when assessing the need for industrial fire prevention. Applied, and perhaps fundamental research likewise, is not completed if the impact of its products upon safety to persons and property is not measured and evaluated.

There is warrant for much satisfaction because of the attention that has been and is being given to the problems concerning safety that are connected with storage, handling, and processing by various consumers of raw materials, and by producers of finished goods. Many groups contribute substantially, by joint organized effort in research and self-regulation within the scopes of their respective industries. Their contributions to the objectives of public authorities and of insurance groups, as well as to their own safety, are outstanding.

The following list enumerates (by no means completely) the subjects requiring research in order to further fire prevention in industry's use of materials and processes. It may help toward an appreciation of the extent and variety of safeguarding which research may contribute to safety to life and property and the stability of our economy.

Comparative classification of fire hazard characteristics and properties of materials for building construction.

Contribution to the rapidity of fire spreading and to the toxic hazard of burning coatings and other interior trim and finishes, and of decorative materials, including furnishings of places of public assembly.

Determination and classification of the fire hazards of wearing apparel and costume accessories.

Fire and explosion hazard performances of chemical heat transfer media while in use or standing by.

Storage and handling of hazardous chemicals in bulk form, during and after handling, or while in use.

Relative dangers or hazards to firefighters and the public when hazardous materials are burning.

Explosion prevention and emergency safeguards when flammable liquids, gases, and combustible solids are stored, handled, or processed.

Reclassification and color coding of flammable liquid containers for extraordinary environmental conditions, such as high altitude flying cargoes, high oven temperatures, catalytic influences on ignition temperatures.

Compilation of trade-name materials of commerce, with tabulations of their respective fire and safety hazard properties; identification by package labeling of such characteristics is desirable.

Development of procedures for inspection, counterchecking of automatic instrumentation for safety controls, periodic service tests, and similar factors in maintenance of safety measures.

Development of damage control methods when safeguarding is bypassed by unusual happenings.

The occurrence of spontaneous ignition – causes and inhibitors.

The control and elimination of static electricity.

The control and elimination of corrosion and its impairment of materials and devices.

The significance of mechanical factors, vibration pressure, friction ruptures, etc., with respect to the fire hazard.

### **The Committee on Research recommends that:**

*The Conference invite the continued cooperation of all concerned in our industrial affairs, in the exchange of findings from research and from field experience, whether good or bad, so that fire prevention may add to its accomplishments in safety of persons and conservation of created resources.*

## **6. FIREFIGHTING (EXTINGUISHING) EQUIPMENT**

An earlier section of this report discussed Human Behavior as a factor in fire prevention. Man's use of fire as his servant has developed his individual mastery of fear of fire, controlling the panic impulses, and prompting his taking appropriate steps for firefighting. Various measures and tools, useful in such individual efforts, have been devised. Aside from those employed in the organized and professional firefighting services, many forms of firefighting equipment now serve to reduce fire's toll of life and property.

Early discovery and promptly taken steps are jointly essential in preventing little fires from becoming big ones.

Fire detection and initiation of alarms, closing of opening protectives, and similar ways for confining fire to the place of its origin are fundamentals of fire safeguarding. Their automatic operation is generally most effective, overcoming certain aspects of human behavior that cause detection and warning of fire to be too late. Thermally sensitive and heat or electrically actuated

methods of signaling appearance of fire and its location are products of research now being effectively applied in fire prevention service.

Early discovery of fire permits application of first aid, so-called, to putting it out, to exiting, and to rescue when necessary.

A multiplicity of types and sizes of hand fire extinguishers are marketed; and the sum total of fires that are extinguished in the incipient stage doubtless greatly exceeds that of fires that grow so as to require action from organized firefighting effort. The principles of quenching and of blanketing fire – or cool and smothering – involve use of water or of a vapor or gas that dilutes the oxygen content of air. Applied research has been productive of equipment applying these principles in a variety of ingenious methods.

For about 75 years the automatic sprinkler system has performed outstandingly as a fire extinguishing method well adapted to safe-guarding life and property in industrial and commercial premises, on shipboard, theatre stages, in strategic parts of hotels, and other places of public assembly and housing. Records of the National Fire Protection Association provide ample assurance of the safeguarding of lives and property of which automatic sprinklers are capable.

There appear to be economic considerations that limit even wider application of the principle of the automatic sprinkler, so that a more general use of it is halted. The relatively large water supplies, the size of pipe and pipefittings, including valves of many sorts for a variety of functions, are prominent among these. The Conference's Committee on Research is informed of studies and experiments now in progress looking to reducing these obstacles.

For the most effective results from the use of a quenching medium in fire extinguishment, absorbing the heat of combustion of a fire's fuel is a fundamental. Water, whether applied by a first-aid appliance, by automatic sprinkles, or from hose streams, is most effective when its latent heat of evaporation, in its conversion to steam, is utilized.

*The Committee believes that the Conference should go on record endorsing experiments, many now being in progress, that look to an even greater efficiency in the use of water as a fire-loss prevention aid.*

Generally speaking, fire will not persist where proportion of oxygen in the surrounding air is one-half normal or less. When certain flammables become ignited, petroleum-base liquids being a familiar example, quenching is not practicable, and a blanketing method of extinguishing the fire must be employed. The character and the method of application of the blanketing means to be utilized are variable according to several conditions.

It seems to the committee that experience in tests and in the field, with case records, generously broadcast by the Conference's Committees on the Firefighting Services and Organized Public Support and made a part of fire prevention's formal bibliography, will assure the advantage is taken of the many blanketing facilities now and presently available and promoted.

## **7. FOREST, BRUSH, AND WILD-LAND FIRES**

Fire preventing, firefighting, fire education and fire bibliography are each and all essential in conservation of an important asset of natural wealth. Concern with waste of our created wealth and resources from fire must not result in ignoring the hazard to life and property that exists in preventable forest, brush, and wild-land fires. The products of research in each of these phases of fire prevention are urgently needed, drawing from all fields of technological development and taking many forms. Outstanding categories to which such effort should be directed are:

- Equipment development.
- Weather forecasting.
- Firefighting from the air.
- Field organizations for firefighting.
- Prediction of lightning fires.
- Fire extinguishing agents, and
- Fire prevention methods. (See note.)

Note. – The device of reducing the surface tension of water by adding a wetting agent, so-called, has recently appeared and promises to be an effective tool in certain situations in brush and wild-land fire extinguishing. Determination of suitable and effective agents, of methods of storage and of application and in due course, of education of personnel in the firefighting services, is indicated.

*The Committee on Research believes it appropriate to recommend to the Conference that it go on record asserting its support and endorsement of national, State, local government, and civilian programs for forest fire, brush fire, and wild-land fire prevention and fire control.*

## **8. MINE FIRE PREVENTION**

Fire preventing, firefighting, fire education, and fire bibliography are each and all essential in conservation of an important asset of natural wealth. Concern with waste of our created wealth and resources from fire must not result in ignoring the hazards to life and property that exist in preventable mine fires. The products of research in each of these phases are urgently needed, drawing from all fields of technological development and taking many forms.

*The Committee on Research believes it appropriate to recommend to the Conference that it go on record asserting its support and endorsement of national, State, local government, and civilian programs for mine fire prevention.*

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PREVENTION**



*Report of Committee on  
Organized Public Support*

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

# REPORT OF COMMITTEE ON ORGANIZED PUBLIC SUPPORT

***Objectives of the Conference.*** – At its first meeting, the Coordinating Committee, was charged with the responsibility for organizing the President's Conference on Fire Prevention, agreed upon the broad objectives that this national effort should seek to accomplish.

The paramount objective was to emphasize to the American public the ever-present danger of fire to human life and material resources, in order to intensify the work of fire safety in every community in the country.

The Coordinating Committee then stated emphatically that to do this, the highest officials of the States and municipalities must be brought to accept direct responsibility for fire safety in their respective jurisdictions; and public support from every possible source behind these officials must be enlisted, so that adequate laws and ordinances for fire prevention and fire protection can be enacted and enforced.

The attendants at the Conference, and the members of the six committees that worked for months preparing for it, have been drawn from the ranks of public officials – Federal, State and municipal – and from other groups whose support is essential to achieve the goals established. This Conference is truly the first national approach to the fire problem in which all segments of our national life – official and nongovernmental – have worked together, bringing into the fire safety field in a more active way great new forces and agencies, thus giving assurance of added emphasis to the work in the future.

***Functions of the Committee on Organized Public Support.*** – The statement of objectives itself definitely outlines the purpose and functions of the Committee on Organized Public Support. The major emphasis, in all publicity and promotion in connection with the President's Conference and thereafter, should be on safety to life.

The Committee is not a mere publicity or promotional group appointed to advertise the Conference, to assist in building up attendance, and then to sink into obscurity. Rather, as the name indicates, it is a group representing many of the important national, civic, service, business, fraternal, labor, farm, veteran, and similar men's, women's, and youth's organizations that have either a humanitarian or an economic interest in fire safety – the protection of human life and the conservation of material resources. Each of the above-named groups has the organizational facilities, the know-how, and the manpower to render valuable assistance in promoting the purpose of the Conference. They are the groups that can contribute most importantly to developing organized public support throughout the nation.

***Community organization essential.*** – Furthermore, the representatives of the organizations making up this Committee recognize that the real work of fire safety must be done at the community level – at the grass roots. They foresee that their principal opportunity for constructive service will come after the Conference is over, when they implement the action program through their own organizational facilities. Each representative realizes that while fire

prevention may not be his organization's principal function, it is a field of activity that demands the attention of every intelligent American citizen. As good citizen groups, these organizations must make every effort to develop interest in the subject among their constituents.

All agree that in the last analysis the success of the Conference will depend to considerable extent upon these important national groups undertaking an aggressive fire safety program, based on the recommendations of the Conference. Furthermore, they are aware of the vital importance of having their organizations, through regional, State, and local subdivisions, extend fullest cooperation to the appropriate responsible official agencies and public officials.

***The challenge.*** – It should be superfluous to dwell in detail upon the tragic situation that prompted the President of the United States to call this national Conference on Fire Prevention. The appalling sacrifice of life and property in fires – most of them – preventable – is an unfortunate commentary upon our American civilization. Day by day in the public press it is spelled out in grim statistics.

The American people are at least temporarily shocked out of their lethargy and indifference by holocausts such as the La Salle Hotel fire or the Winecoff Hotel fire, when great loss of life is concentrated in a single conflagration. The public is much less aware of the daily toll - 365 days in the year – in thousands of less spectacular fires that leave behind them a trail of dead and maimed, as well as smoking ashes and ruins.

Even a nation as prodigiously endowed with natural resources and with wealth and economic stability as the United States cannot continue to absorb, without permanent impairment, the profligate loss, year after year, of a half billion dollars in irreplaceable material resources. In the present era, when there is a universal scarcity of nearly every commodity needed to feed, clothe, and shelter both our own people and the starving and war-torn world about us, the destruction becomes not only more tragic but completely inexcusable.

After World War I, the destruction of property by fire rose annually from 1919 to an all time high of \$562,000,000 in 1926. If we permit ourselves to follow the same pattern of constantly rising fire waste in the present post-war years, by 1953 our annual fire loss will exceed the staggering total of one billion dollars.

***Fire prevention and accident prevention employ same technique.*** – Over the years, the approaches to the accident problem have been popularly designated as the Three E's of Safety – Engineering, Enforcement, and Education. These Three E's are equally applicable to fire prevention and protection.

The purpose of this Conference has been to collect, organize, analyze, and evaluate all of the information available about successful techniques and methods that apply to the problem of fire prevention and fire protection. We have carefully surveyed every phase of activity and have fully recognized the importance of Engineering and Enforcement, as well as Education.

It is generally agreed that much can be accomplished in the improvement of the desperate fire waste situation facing our country through fostering and encouraging a greater sense of

individual responsibility on the part of each citizen. Carelessness and recklessness – the human element – constitute a major contribution to our annual toll of death and destruction by fire. But the educational approach or hortatory appeal has its limitation. It must be fortified and supported by the application of modern scientific methods and techniques of construction, protection, firefighting, and statutory requirements. These are the roles of Engineering and Enforcement in the fire prevention field. The importance of each approach is recognized in the balanced, comprehensive Action Program of the Conference.

*The task before this committee.* – The task of the Committee on Organized Public Support, and particularly of the important national organizations that compose its membership, is twofold.

In the days ahead, there will be a constantly growing need for much wider and more effective public information and education about the fire problem. In this way, the interest of every citizen must be aroused and he must be made to feel a sense of personal responsibility. Full and effective use must be made of every proven medium for reaching the public, including newspapers, radio, motion pictures, magazines, trade papers, outdoor advertising, direct mail, and organized personal appeal. Each organization represented on the Committee on Organized Public Support can best determine for itself the activity that it can undertake to further this vital work of public education.

There will also be a corresponding demand to create an informed public support behind the public officials – State and local – in their effort to bring about the enactment and enforcement of adequate standards and safeguards for the protection of life and property.

Included in the membership of this Committee are the organizations that can contribute most importantly to these goals.

We recognize that the biggest contribution our Committee can make to the success of the President's Conference will be through the implementation of the Action Program by the individual national groups comprising our membership. Nevertheless, after careful study and analysis of the job to be done, we have drafted a few basic recommendations that we believe will provide the essential machinery to most effectively capitalize the recommendations of this Conference for the benefit of the nation.

## **OFFICIAL PROGRAM**

1. We recommend that a Continuing Committee be appointed by the General Chairman in order to implement the Action Program of the President's Conference, measure the progress made in States, cities, and rural communities throughout the country in the months following the Conference, and keep up the interest in fire prevention on the part of the large number of important national, nongovernmental groups represented on the Committee on Organized Public Support, as well as on the part of the general public.

- a. We suggest that the personnel of this Continuing Committee include representatives of the organizations composing the membership of the

Coordinating Committee, together with the secretaries of the six Conference committees.

- b. This Continuing Committee should have a secretary and whatever small secretariat is necessary to carry on its work effectively.
- c. In recommending the appointment of this Continuing Committee, we have no thought of establishing a new agency to deal with fire prevention on a national scale, either as an official or voluntary group. The purpose of the Continuing Committee is solely to follow up after the Conference and make certain that the entire Nation benefits from the recommendations made and the interest created.
- d. We propose that the Continuing Committee function primarily through the facilities offered by the large number of nongovernmental, national, regional, and State organizations represented on the Committee on Organized Public Support.

2. We recommend that each of the Governors of the 48 States and territories, and the Commissioners of the District of Columbia, appoint Statewide fire safety committees composed of the appropriate public officials, including State foresters and representatives of nongovernmental groups, to explore the fire loss problem in all its ramifications within their respective jurisdictions, so that practical fire prevention programs can be set up that are tailored to the needs of each particular area.

- a. As soon as possible after the President's Conference on Fire Prevention, a Statewide fire safety conference should be called by each of the Governors.
- b. We urge that each of the organizations composing the Committee on Organized Public Support, and any other interested organizations, be invited to serve on the State fire safety committees and to participate in the Statewide fire safety conference through its appropriate State unit or representative.

3. Where an effective fire prevention committee does not already exist, we recommend that the mayor, city manager, or chief executive of each city, town, or municipality shall appoint a fire safety committee, composed of both public officials and representatives of nongovernmental organizations, to carry on a continuous campaign of fire safety throughout the year.

- a. We urge that each of the organizations composing the Committee on Organized Public Support, and any other interested organizations, shall be invited to serve on the local fire safety committees through its appropriate local unit.
- b. In counties that are primarily rural, local county or community fire safety committees should be created.
- c. State and local fire safety committees should give special attention to helping to secure long term loans on favorable terms to be used for repairs essential to safety of life.

4. We recommend that each of the national and State organizations represented on the Committee on Organized Public Support shall endorse and support, within the limits of the objectives set forth in their charter, constitution, or bylaws, the recommendations of the President's Conference on Fire prevention. Each organization should extend the fullest cooperation possible at the national, State, and local levels.

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*The President's Conference on*

**FIRE  
PREVENTION**



*Report of the Committee on  
Laws and Law Enforcement*

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

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## 1. INTRODUCTORY STATEMENT

It is generally recognized that one of the most serious problems in the field of fire prevention is the lag of laws and ordinances behind the technical knowledge in this field. It is basic that before a State or city can carry out a proper fire prevention program, adequate laws and ordinances must be adopted.

It is often said that ours is a “government of laws rather than men”; and there is no field in which a more apt illustration of that statement exists than in the field of fire prevention. With many building codes 10, 20, and more than 30 years old,<sup>1</sup> it can readily be appreciated that State and local officials charged with fire prevention work cannot find, in these antiquated and obsolete laws and ordinances, an adequate legal basis for proper administrative action for utilization of present engineering and safety knowledge in the field of fire prevention.

It comes as rather a shock to many people to learn of the 16,220 municipalities in the United States,<sup>2</sup> less than 2,000 have a building code. There were 2,033 cities of over 5,000 population according to the 1940 census, and many of the codes that are in effect have been adopted by cities of a smaller population, so that the field for adoption of new building codes is large. In the field of State fire prevention laws, most States have confined themselves to statutes authorizing cities to adopt building codes, with a few States having laws of Statewide application that apply to places of public assembly, storage of inflammable liquids, and safety standards for construction work. In some States, there is a fire marshal charged with the administration and enforcement of such legislation. In other States, persons charged with administration of State labor, health, and insurance laws are given this responsibility, because the State has concerned itself chiefly with particular safety standards. The States, with few noteworthy exceptions, have not been too active in the field of fire prevention, but have left this matter to municipalities.

This committee has surveyed the legal problems that exist with respect to laws and ordinances in the field of fire prevention, and this report contains the information it has accumulated and its recommendations based thereon. It is so generally conceded that the enactment and enforcement of fire prevention regulations is valid under the police power of States and cities that this committee does not deem it necessary to refer to the hundreds of court decisions on this point.<sup>3</sup>

## 2. MODEL BUILDING CODES AND STANDARDS

There are several so-called “model” building codes, such as those prepared by the National Board of Fire Underwriters, the Pacific Coast Building Officials Conference, and the

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<sup>1</sup> A report released February 19, 1947, by the New York Legislature’s Joint Legislative Committee on Statewide Building Codes states that of the 175 building codes in effect in that State (602 New York cities were surveyed by the committee), 15 are over 30 years old, 53 are over 20 years old, 54 are over 15 years old, and 16 are over 10 years old.

<sup>2</sup> Municipal Year Book (1945), p. 17.

<sup>3</sup> The decisions referred to in appendix A and B herein offer an ample starting point for any research in this general field.

Southern Building Code Congress. Other so-called “model” codes cover specific subjects, such as the National Electric Code prepared by the National Fire Protection Association, the National Elevator Code prepared by the National Elevator Manufacturing Industry, Inc., and the more than 100 American standards concerned with industrial safety that have been prepared and approved by the American Standards Association. The last-named standards cover steel, reinforced concrete, foundries and other subjects, and give what is considered by members of the American Standards Association as good engineering practice in each field. The American Standards Association will soon release a proposed revision of “American Administrative Requirements for Building Codes.” An American Standard Plumbing Code is being prepared, and there is a boiler code that has already been approved. The National Housing Agency shortly will publish a proposed building code covering requirements for dwellings, which will be a revision of “Recommended Building Code Requirements for New Dwelling Construction” prepared by the Central Housing Committee in<sup>4</sup> 1942. Recently the Association of Washington Cities issued “A Suggested Basic Code for Washington Cities” that has the merit of briefness as well as the approval of many experts in the field. Many small cities do not have any building codes because the voluminous recommended model codes are too long and involved for these cities. A real progressive step was made by the League of Oregon Cities recently, when it published “A Proposed Building Code for Small Cities.” In the opinion of the committee, such codes for small cities fill a real need.

The Building Officials Conference of America is drafting a new building code that warrants special attention because of some new ideas that Conference is following. Rather than attempting to state in detail the specific technical rules and requirements for all construction, this proposed code (which is in the drafting stage) is to be merely a statement of basic requirements, such as the necessary fire resistance, the necessary strength, and the maximum volume of buildings. The code is to be divided into three parts. The first part will be the basic code proper, containing a statement of fundamental functional requirements based upon the use of the building itself and those principles that can be commonly accepted as standard and that will remain fixed rather than become antiquated or obsolete in a short time. The idea is that this part will not be subject to constant revision and amendment. Parts 2 and 3 of the proposed code will be the rules and specifications relating to construction and maintenance of buildings. It is expected that these rules and specifications will be subject to constant revision as new developments, new principles, and new methods of construction arise.

The American Society for Testing Materials has developed standards to make performance, rather than specific materials, the basis for standards in codes. This is an improvement over earlier ideas of requiring certain thicknesses of materials, rather than performance, as a standard.

While the so-called “model” codes and standards referred to in the foregoing are in constant use as the chief source of technical information on what should be contained in such codes, there is in fact little uniformity in local building codes, because of the variations made to fit local conditions.

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<sup>4</sup> The Central Housing Committee, created by the President in 1941, was composed of the representatives of all of the housing agencies of the National Government.

### **3. USE OF MODEL CODES AND STANDARDS**

The many excellent codes and standards that have been developed from an engineering viewpoint cannot become effective, however, until they are actually taken over into the law of local communities by ordinances legally adopted. It is the function of the Laws and Law Enforcement Committee of the President's Conference on Fire Prevention to inquire into the best way to bridge the gap between the good engineering and safety standards that have been developed and the codes and standards actually in existence. A great many of the building codes in effect are antiquated and obsolete in their provisions; and one of the big difficulties in the building field today is the lag of laws and ordinances behind the engineering knowledge that has been developed as to new methods and new materials for building construction in the light of new fire hazards. For example, very few codes today allow the use of prefabricated housing, and very few codes allow the use of material-saving construction methods that have developed during the war period. Too many codes have been hastily adopted after great disasters, such as the Coconut Grove Night Club fire in Boston or the recent hotel fires in Chicago, Atlanta, and other cities. Some impetus other than such disasters is essential to keep building codes up to date.

Before proceeding with an inquiry into the legal ways whereby proper engineering standards may be taken over into local laws, it might be well to point out that many of the codes developed by private interests and private organizations are "suspect", because they contain provisions for the "protection" of the industry that developed the code. Anyone who has had much connection with the field of local government knows that certain codes are so designed that only a particular type of material legally can be used. Such codes are designed to foster a monopoly on behalf of the particular industry developing the code. Nothing said below is to be taken as a suggestion that such codes be adopted by any city. It is also true that many cities do not have the technically qualified officials to ferret out particularly vicious provisions of codes promoted by special interests, as those codes are necessarily written in technical engineering language. Perhaps the development of a code, or codes, that are above suspicion would help to eliminate, or at least soften, many of the legal technicalities often raised to prevent the full use of some of these so-called "model" codes. The excellent and unbiased work of the National Bureau of Standards, the American Standards Association, and the American Society for Testing Materials has been of great value in eliminating suspicion as to engineering standards contained in various codes and in promoting the development of proper fire prevention methods.

### **4. METHODS OF ADOPTION OF MODEL CODES AND STANDARDS**

Assuming, therefore, that there are codes and standards above suspicion which should be adopted by State and local governments, the duty of this Committee would seem to be to inquire into the legally approved methods whereby such adoption can take place. The following methods of adoption have been considered in the past:

1. Adoption and publication in full of a so-called “model” code after it has been adapted to local conditions and requirements.
2. Incorporation by reference of a so-called “model” code through the simple expedient of a short ordinance referring to a named code as of a certain date.
3. Adoption of an ordinance containing legally sufficient standards requiring “reasonably safe” construction or “good engineering practices” in all building construction, and then reference in such an ordinance to certain named “model” codes as being “prima facie” evidence as of a fixed date of what is “reasonably safe” construction or “good engineering practices” in construction.

Where a so-called “model” code is adopted as an ordinance and properly published in full in local newspapers under the publication requirements for all ordinances, no legal question can arise as to the validity of the adoption of the code. The only problem is that of the extremely high cost. Because building codes are extremely lengthy, few cities can afford to spend the thousands of dollars required by this costly publication procedure. The result is that the city goes along for years with an antiquated and obsolete building code, or in fact without any code whatever.

There is set forth as Appendix A a survey of the law on incorporation of model codes and standards into municipal ordinances by reference, which collects the statutes and legal authorities on this subject. This appendix also covers the adoption of ordinances containing adequate legal standards with reference to model codes and standards as “prima facie” evidence of compliance under No. (3) above. This survey of statutes and court decisions has enabled the Committee to reach the following conclusions:

1. In the few States that have adopted enabling acts authorizing cities to incorporate codes by reference, such action results in the removal of the initial bar to incorporation by reference. However, the danger of incorporating future changes in the codes by reference should be guarded against.
2. In the States that have not adopted any of the above mentioned statutes, the validity of incorporation by reference can be seriously questioned. The chief objection is that codes are not published in accordance with the charter, statutory, or constitutional provisions requiring the publication of all local ordinances, and the further objection is that adoption by reference delegates unlawfully the power of a municipal corporation to a private organization.
3. In the States that have no statute authorizing adoption by reference, one answer would appear to be the adoption of an ordinance containing general safety and engineering standards complete within themselves, but which refer to the standards established by a named national code as of a fixed date as “prima facie” evidence of detailed compliance with the ordinance. The same procedure must be followed in

adopting future amendments to the national code referred to, so as to avoid the delegation problem above.<sup>5</sup>

4. In any State, whether or not incorporation of codes by reference has been authorized, the dangers and difficulties inherent in such incorporation may be avoided by the creation of a State Board of Standards, as provided in Massachusetts (referred to hereafter), which, upon application, may furnish to any municipality fully drafted codes of almost any required nature, which codes will become effective upon official acceptance by the municipality. Under such legislation and procedure, the question of delegation of legislative powers does not arise; such codes are developed by a board of experts at State expense; and, since publication is not required, the tremendous expense of publication is eliminated.

It cannot be emphasized too strongly that any model code or standard that is referred to as “prima facie” evidence of “reasonably safe” construction or “good engineering practices” in building construction should be referred to by date, so as to avoid all questions of delegation of the legislative power of the municipality to the private organization or group, or the governmental group, that has developed the particular code or standard. This is essential because most codes and standards are constantly being changed to bring them up to date. Care should also be exercised to have an adequate number of copies of any code or standard, which is adopted by reference or referred to as such “prima facie” evidence of compliance with general standards, officially on file with the city clerk so as to be readily available as a public record.

In Massachusetts, as a result of the Coconut Grove Night Club fire, the powers of the State Department of Public Safety were expanded greatly to meet the situation revealed by a Statewide investigation conducted by a Legislative Commission on Safety of Persons in Buildings. This Commission discovered that there were 257 towns in Massachusetts that make no provisions for the inspection of buildings in their respective areas and concluded that “it is next to impossible for many small towns to draft their own building codes, partly because of the expense involved and partly because persons qualified to draft such codes are not generally available to such towns.” The Commission further stated that its study had revealed that something must be done to “make it easier and less expensive for those cities and towns having building codes to keep them up to date.”

The Commission recommended the adoption of new statutes and amendments to existing statutes in Massachusetts, whereby any city, by vote of the city council, or any town, by a vote of a town meeting, may petition the Board of Standards in the State Department of Public Safety to prepare and furnish to any such city or town a building code, electrical code, or other code to be used in connection with the construction of buildings, such code to be drafted to meet the particular conditions of the specific city or town. Upon the delivery of such a code to the petitioning city or town, the question of its acceptance is subject to a vote of the city council or the town meeting. Upon acceptance by such a vote, the code becomes a part of the ordinances of the city or a part of the bylaws of the town. A copy is to be filed in the office of the State Secretary within 10 days of such acceptance. To encourage the cities

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<sup>5</sup> See New Hampshire Statute – New Hampshire Laws of 1945, ch. 105.

and towns to keep such a code up to date, any such city or town can, by a similar vote, petition the Board of Standards for revisions to the code; and, in the event that the city or town fails to petition for the revisions within a reasonable time of the need for them, the Board of Standards may draft such revisions, send them to the city or town clerk of the city or town by registered mail, return receipt requested, and file a copy with the State Secretary with the revisions thereupon to become a part of the ordinances or bylaws, as the case may be.

It can be seen that the above method removes one of the chief practical objections to incorporation by reference that have existed in the past; i.e., that such codes were drafted by private "interests" rather than public officials or public agencies. The Massachusetts law really furnishes cities and towns, at State expense, a board of experts to prepare codes for any municipality requesting such assistance. The city or town then adopts the full code prepared by the Board of Standards of the Department of Public Safety, and no question of incorporation by reference arises. The Massachusetts law also eliminates the requirement of publication in these circumstances, so that both the expense of preparation of the model code and the publication cost are eliminated. It is to be noted that the adoption by municipalities of State statutes or State regulations by reference is not condemned by the authorities collected in Appendix A of this report.

The Committee is impressed with the tremendous amount of work that the Recess Commission on Safety of Persons in Buildings has done in Massachusetts since the Coconut Grove disaster. The States interested in setting up a Board of Standards similar to the Massachusetts Board can profit greatly by a study of the experience of that State.

## **5. APPLICATION OF NEW FIRE PREVENTION REGULATIONS TO EXISTING BUILDINGS**

Many lives have been lost in recent years through the failure of legislative bodies to make new fire prevention regulations applicable to existing buildings. The primary reason for their failure to do so is the economic burden involved. In many instances, the cost of making antiquated buildings reasonably safe, under current knowledge of adequate fire prevention methods, may seem rather high. But when one weighs the value of human life against such economic reasons, the economic reasons fade into insignificance. Because much of the litigation concerning building codes has involved the reasonableness of applying new fire prevention regulations to existing buildings, this committee has inquired into the legality of such application.

The application of new fire prevention regulations to existing buildings is sometimes referred to as giving a "retroactive effect" to such regulations, in that the new regulations require buildings that were constructed in strict conformity with the regulations in effect at the time of their construction to be changed to meet new ideas as to safety developed over a period of 10, 20, or 30 years since the original construction of the building. The many decisions of the courts cited in Appendix B herein on validity of statutes or ordinance "Applying New Fire

Prevention Regulations to Existing Buildings” amply demonstrate that so long as they are reasonable, new fire prevention regulations can apply to existing buildings.

The so-called “vested rights” arguments, contending that a building owner, by erecting his structure in compliance with the existing building code regulations, is not subject to the application of new fire prevention regulations, and the argument that application of new fire prevention regulations to such buildings is retroactive in effect, have not met with favor in the courts.

“The public safety and welfare is the highest consideration of all legislation, and to this consideration private rights must yield. No man has a right to so use a dangerous species of property as to put the safety of others in peril. Liberty does not imply the right of one to so use property as to put the safety of others in peril, nor does ownership imply any such right. This is rudimental. It must, therefore, be true that the owner of property of such a dangerous nature as to require regulations to prevent injury to others can have no right paramount to the police power. This is not too much to say that, as against the police power, there is no such thing as a vested right. “ (*Jamiesen v. Indiana Natural Gas and Oil Company*, 128 Ind. 555, 28 N. E. 76, 12 L.R.A. 652.)

The argument of economic burden has not generally been regarded as of great weight when courts have before them regulations reasonably necessary for proper fire prevention.

“The imposition of the cost of the required alterations as a condition of the continued use of antiquated buildings for multiple dwellings may cause hardship to the plaintiff and other owners of the ‘old-law tenements’; but, in a proper case, the legislature has the power to enact provisions reasonably calculated to promote the common good even though the result be hardship to the individual.” (*Adamec v. Post*, 273 N. Y. 250, 7 N. E. [2d] 120, 109 A. L. R. 1110 [1937].)

This Committee therefore concludes that any new fire prevention regulations that is reasonably necessary for the protection of human life or safety can be applied to existing buildings as well as new construction without doubt as to its validity.

## 6. STATEWIDE BUILDING CODES

It has been suggested that the Committee should inquire into the adoption of Statewide building codes. This matter has been given very serious consideration in a number of States in recent years. In New York, a special legislative committee has spent a year in studying the subject and has filed a preliminary report surveying the arguments for and against such codes.<sup>6</sup> While this New York committee in fact announced no final conclusions, it pointed out that such a code has much merit. The report states that out of 602 cities of New York State responding to a questionnaire from the committee, only 175 have building codes. The

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<sup>6</sup> See footnote 1.

committee also developed the fact that of the 175 building codes, 15 are over 30 years old, 53 are over 20 years old, 54 are over 15 years old, and 16 have been in effect for more than 10 years. In reviewing the existing codes, the committee pointed out that “there is no standardization of requirements for particular situations which are common to all and peculiar to none.” Since this report reveals that much of the construction in New York State is being erected and maintained without any control whatever, the report states that the committee is convinced “upon the basis of existing evidence of the need for minimum standards throughout the entire State, although it recognizes the difficulties involved in the imposition of such minimum standards.”

George N. Thompson, Chief of the Division of Codes and Specifications of the National Bureau of Standards, in his splendid article entitled “*The Problem of Building Code Improvements*,” *12 Law and Contemporary Problems* 95 (1947), points out that in Ohio, Indiana, Wisconsin, and a few other States “actual State codes exist.” (P. 104.) He notes that in Wisconsin the State code does not apply to one- and two-family houses, and research indicates that the codes in Ohio and Indiana apply only to public buildings, places of public assembly such as theaters, other limited subjects and safety requirements relating to protection of laborers. The New York report refers to the same type of State legislation as being in existence in that State and as being a part of the labor law statute. The National Fire Protection Association has prepared a chart, set forth herein as Appendix C, indicating the type of State legislation which that association’s study has revealed in the State field. The chart in Appendix C reveals that few States have attempted to do more than enact legislation on specific subjects, such as hotels, places of public assembly, and storage of inflammable liquids. In view of the rather limited application of the State laws in existence, it is doubtful that they are of much assistance in studying the possibilities of a Statewide building code.

Those who have studied the subject of Statewide building codes so far have generally concluded that one of two types could be followed: (1) a mandatory building code applicable to all building construction within the State, or (2) a so-called “recommended” code, which would apply in any instance where there was not a local building code of more stringent character in effect. For example, in the draft of a proposed model State statute entitled “The Model Hotel Safety Law,” drafted by the National Fire Protection Association’s Fire Marshal Section, and now being circulated for comment and criticism, it is provided in section 2: “Nothing in this act shall affect any ordinance or code relating to the matters contained herein legally adopted by any county, city, town or district, in so far as such ordinance or code specifies requirements equal to or additional or more stringent than the requirements of this act or the regulations issued under the authority thereof.” This quoted section is similar to the suggested provisions of the so-called “recommended” State building code. The greatest danger in such a provision would seem to be divided responsibility between State and local officials for enforcement of fire prevention regulations. We believe there would be too great a tendency for the city to rely upon the State to perform the necessary inspection and enforcement, or too much reliance by the State upon the city. If an ordinance on hotel safety did exist, there would appear to be no person having the responsibility of determining whether or not in contained “requirements equal to or additional to or more stringent than the requirements of this act or the regulations issued under the authority thereof.” Divided

responsibility usually results in no enforcement, a situation that must be avoided in a field where adequate enforcement is essential.

Adoption of a Statewide building code poses many problems of interference with local home rule, administration, and enforcement, which require extensive study before a conclusion can be announced on this subject. For example, it is essential that some board be set up with power to vary the requirements of the State code to meet particular situations, so as to avoid hardship, practical difficulties, and other problems. Buildings simply do not fit into a common mold, and some kind of controlled discretion is essential so as to cover the acceptance of new materials and new methods of construction. Having to apply the State Capitol for a permit covering every little change in construction of every building in the State presents untold financial and practical difficulties. Enforcement of a Statewide code in cities that have the administrative machinery for such work might well be carried out by taking over municipal building departments; but even this would be a rather large extension of State controls into the commonly accepted sphere of local government.

It has been pointed out how difficult it is to secure amendments to existing Statewide statutes. For example, in Ohio the statute relating to construction of buildings used for public assembly was adopted in 1910; and because conflicting interests fail to agree on amendments made necessary by technical advancements, no major amendments has been possible since that time. The statute is thus out-of-date, and there seems to be little prospect of securing agreement among the various conflicting interests to permit revision of this statute. In most instances, State legislatures meet only every 2 years, and the possibility of securing changes in a field so controversial as building regulations is not considered too good by those familiar with State legislative processes. There is also the matter of control of many State legislatures by the rural elements, a fact that makes it extremely doubtful whether a Statewide building code could be adopted that would apply in an impartial manner to all construction.

It is conceded that the great problem in building code enforcement today is that which exists on the "fringe" area of cities; and it is as a proposed solution of this problem that the Statewide building code is receiving its most serious study. Walter J. Mattison, city attorney of Milwaukee, in his paper entitled "Building Codes Kill Low-Cost Housing" (*Municipalities and the Law in Action* [1939], pp. 151-158), pointed out that stringent requirements of building codes have forced low-cost construction outside the corporate limits of many cities. When cities seek to annex this adjacent territory, the cost of bringing it up to the standard required by city building codes is so great in many instances as to make annexation impractical. Whether a Statewide building code would answer this problem or not is a matter requiring much study. That some answer to the problem should be arrived at is conceded. In many instances cities are trying to achieve a solution by securing an extension of their police powers for 5 to 10 miles outside of their corporate limits. In this way they can apply their building codes to this fringe area and prevent the development of slum districts. Perhaps this extension idea will prove the most feasible, as it may not conflict so greatly with the interests that might oppose any Statewide code applicable to all buildings in the whole State.

## **7. OTHER FIRE PREVENTION LEGISLATION**

The Committee has not overlooked other legislation so essential to a well-rounded fire prevention program, as, for example, arson laws, fire marshal laws, and Statewide inspection laws of various kinds. These laws are listed in Appendix C of this report. Building codes are the most important legislation in this field, but the Committee does not mean to imply by its emphasis on these that this other essential legislation should be neglected. The Committee believes that the desirability and essential character of the laws listed in Appendix C are so apparent from their titles that detailed analysis is unnecessary in this report. The Committee believes that every State should examine its statutes to determine whether it has adopted this essential legislation in an up-to-date form.

## **8. ENFORCEMENT OF FIRE PREVENTION REGULATIONS**

The first and paramount conclusion of the Committee on this subject is that the field of enforcement of fire prevention regulations is one that has received too little attention. Lack of properly qualified officials to enforce State statutes and local building codes has prevented the achievement of the maximum fire prevention possible under existing statutes and ordinances. Political influence has too often allowed continued existence of buildings that were known to be unsafe and known to violate existing statutes and ordinances. Lack of aggressive enforcement, through a proper understanding of fire prevention regulations, often results in interpretations of existing statutes and ordinances that classify buildings as complying with applicable regulations. Division of responsibility among various municipal officials, such as building, health, labor, and fire department officials, often results in confusion as to responsibility and lack of proper enforcement of fire prevention regulations.

It has been brought to the attention of this Committee that some of the recent fires resulting in a large loss of life were caused by a lack of proper inspection, rather than a lack of adequate statutes or ordinances. In too many instances, insurance companies, rather than public officials, have, as a matter of political necessity, taken the lead in inspection work. Perhaps one cause of inadequate enforcement of fire prevention regulations has been lack of a properly controlled discretion in local building officials to pass upon questions of compliance with building codes. It is certainly true that few buildings fit into a common pattern, so that every building presents some questions as to compliance with requirements of the building code. Too few codes contain an adequate statement of the authority of building officials to meet this situation. The drafting of a proper provision which grants adequate discretion to building officials, but which also sets up adequate controls to prevent arbitrary action, is essential. As an example of a discretionary clause that the courts have upheld, attention is directed to the New York City law, which provides that in addition to the requirements set forth in that city's code, the owners and proprietors of buildings shall provide such other means of fire extinguishment and means of controlling the spread of fire as the fire commissioner may deem necessary in the interest of public safety.

The best statutes and the best ordinances that expert engineering and other technical knowledge can develop are worthless without proper enforcement. States and cities must

give more attention to this important field, or even worse disasters than those of recent months are bound to occur. Every State and every city should immediately make a study of the administrative and enforcement staff and the procedures which it now has, to determine whether or not this staff and those procedures can perform the necessary work in the enforcement field. From available information, it appears that few States and cities will find that they meet the minimum requirements for proper enforcement of fire prevention.

## **9. FINDINGS AND CONCLUSIONS**

1. Most of the existing statutes, codes, and ordinances in the field of fire prevention are antiquated and obsolete. This unfortunate lag of law behind technical achievements in the field allows dangerous buildings to escape the regulation that is essential to the safety of human life.
2. Each State and each municipality should initiate immediately a study to determine whether its present fire prevention regulations are so antiquated and obsolete as to create perils to human life.
3. Recognizing that engineering and other technical research is discovering constantly new materials and new methods for building construction which render existing fire prevention regulations inadequate, each State and municipality should create a continuing advisory board of experts, including representatives of industry, charged with the duty of making recommendations that will keep the respective State or city fire prevention regulations up-to-date.
4. Fully realizing the dangers inherent in so-called "model building codes" and standards designed by certain industries for their own protection, cities should be given adequate legal authority to adopt properly prepared and approved "model" codes and standards by reference, or by some other simplified method, to avoid the prohibitive cost of publishing lengthy codes in local newspapers. The cost of compliance with the usual requirement that all ordinances be published in a newspaper of general circulation in the city that enacts them is so great in the case of voluminous building codes that many cities are unable to adopt a building code or to revise their existing codes. The incorporation by reference should be to a named code as of certain fixed date, to avoid delegation of legislative powers to the preparers of the "model" code or standard, and adequate provisions should be made to insure that copies of the "model" code or standard which is adopted by reference are readily available.
5. Adoption of a general ordinance containing legally sufficient standards governing building maintenance and construction, with reference in such a general ordinance to certain properly prepared and approved "model" codes and standards as "prima facie" evidence of compliance with such standards, is another method of avoiding the prohibitive cost of publishing lengthy building codes that should receive the most careful study.

6. Adoption of Statewide fire prevention laws and building codes is a subject that needs further study by all interested in adequate fire prevention. Division of enforcement responsibility and administrative problems, which appears to be rather difficult in connection with a Statewide building code, does not appear to be an impediment where the State legislation covers specific subjects, such as places of public assembly, hotels, and other structures designed primarily for public use or subject to a particular hazard. Where such State laws are desirable, division of enforcement responsibility should be avoided.
7. In the entire field of fire prevention there is no subject that needs attention more than that of statute and ordinance enforcement. Steps should be taken by all States and cities to insure that they are not among the States and cities where future disasters will be caused by lack of adequate enforcement of existing laws.
8. Creation by the Council of State Governments, the National Association of Attorneys General, the United States Conference of Mayors, and the National Institute of Municipal Law Officers, of standing committees with a militant program on building codes and fire prevention ordinances is highly desirable. The drafting, by representatives of these organizations, of a model statute permitting adoption of codes and ordinances by reference is recommended.
9. The Committee earnestly supports the statement of the President that these problems are of first importance to the highest officials of the States and municipalities, and it is from them that the leadership necessary to the prompt advancement of remedial measures must come.

## **APPENDIX A**

### **VALIDITY OF MUNICIPAL ORDINANCES WHICH INCORPORATE VARIOUS TECHNICAL CODES BY REFERENCE**

As a prerequisite to effectiveness and validity, ordinances of a municipality are generally required to be published. These are statutory or charter requirements which have been held to be mandatory and not merely directory provisions (19 R. C. L. Mun. Corps., § 201). Their purpose is to insure that the citizens of the city are fully informed as to the passage or the proposal of ordinances for the city in which they abide and to which they will be expected to conform. The soundness of these publication requirements need not be questioned.

Because of this requirement, however, the question arises as to the validity of ordinances which adopt, by reference, various technical codes prepared by national trade or other associations. These codes are generally exhaustive and lengthy treatments of the subject, prepared by recognized experts and published in pamphlet or booklet form by national trade associations or organizations. They set forth the standards which that particular organization considers to be minimum standards in the field of endeavor covered by their code. The codes are many and cover variety of subjects: building construction, plumbing installation codes, electrical wiring codes, inflammable liquids codes, sanitary codes, and fire prevention codes, to mention a few.

Adoption of these codes by reference has the advantage of circumventing the usual publication requirements and thereby avoiding the enormous expense for the publication of the code which would be necessary if set forth in full in the ordinance. That would appear to be the primary justification for adoption or incorporation by reference.

As opposed to the above advantage, however, there are several serious objections to incorporation by reference, the chief of which is the fact that, by such incorporation, the city council or governing body of the city is unlawfully delegating its legislative functions to a private organization. The second objection has been suggested above, and that is the inability of citizens to know exactly what legislation is being passed to which they will have to conform.

The reconciliation of the advantages and disadvantages of incorporation by reference, in accordance with the pertinent State constitutional and statutory provisions, may not be a simple task. The problem is arising with more frequency with the development of many new technical codes by organizations. That cities will need the benefit of the studies and recommendations of these private organizations is not doubted, but they should be made aware of the limitations under which their city operates, so as to avoid the inherent objections to such action of incorporation by reference.

## **I. Some States Have Granted Authority to Cities to Incorporate Codes by Reference**

State statutes are generally silent on the question of the adoption by reference of the codes of private organizations, so as to avoid the necessity of setting forth in full in the ordinance the code being adopted. There are, however, 10 States (California, Colorado, Illinois, Minnesota, Nebraska, New Hampshire, New Mexico, Oregon, Pennsylvania, and Washington) which have explicit enabling legislation authorizing cities to incorporate certain codes by reference. This is indeed a far step toward the solution of the problem, because in the absence of such a statute, the act of incorporating by reference would be of extremely doubtful validity.

Typical of these statutes is that of Colorado, which provides as follows:

*Adoption of Codes by Reference.* – Notwithstanding the provisions of any general or special law, any municipality shall have the power, and it is hereby authorized, to enact ordinances adopting or amending any previously published code or specified part or parts thereof by reference. After the first reading of such a code, the city council or board of trustees shall schedule a hearing thereon. Notice of the hearing shall be printed once weekly in a newspaper of general circulation in the municipality for three consecutive weeks preceding the hearing. If there is no such newspaper, the notice shall be posted in the same manner as provided for the posting of an ordinance under the same circumstance. The notice shall state that the code is being considered for adoption by the city council or board of trustees, that copies of the text are available for inspection at the office of the city clerk or town clerk and shall stipulate the time and place of the hearing. All official references in notices and ordinances to the code shall contain as a minimum description the title of the publication, the author, the date of publication, and the address from which the citizens may secure additional copies. After the hearing, the city council or board of trustees may amend, adopt, or reject the ordinance which adopts the code by reference in the same manner as any other ordinances.

Three copies of the code certified to be true copies by the mayor and clerk shall be filed in the office of the city clerk or town clerk, and one copy of the code so certified shall be filed in the office of the chief enforcement officer. Any subsequent amendments or change in the code shall either be enacted in the same manner as is provided for ordinances or shall be adopted by reference through the same procedure as required for the adoption of the original code. If the amendment or change is to be adopted by reference, published copies of the amendment or change must be available to the public. It shall be the duty of the city clerk or the town clerk to correct all certified copies of the code when amendments or changes are made.

The California statute (Act 5692, Stats. 1927) applies to codes for the construction of buildings, the installation of plumbing, the installation of electric wiring or other similar work; the Nebraska statute (ch. 18, § 102, Rev. stat., 1943) allows incorporation of future amendments to an adopted code by the original adopting ordinance; the Illinois statute

(Illinois Annotated Statutes, § 10-3) applies to “rules and regulations for the construction of buildings”; the Minnesota statute (approved March 31, 1945) applies to “any code” which is defined as “any code or part thereof prepared by any governmental agency or any trade or professional association for general distribution in printed form as a standard or model on the subject of building construction, plumbing, electric wiring, inflammable liquids, sanitary provisions, public health, safety or welfare”; the New Hampshire statute (laws of 1945, ch. 105, amending ch. 66 of the revised laws) applies to codes “for the construction of buildings, relating to the installation of plumbing, the use of concrete, masonry, metal, iron and wood, and other building material, the installation of electric wiring, and fire protection incident thereto”; the New Mexico statute (Statutes, 1941 Annotated, § 14-2501) applies to building codes; the Oregon statute applies to “rules and regulations for the construction of buildings, the installation of plumbing, the installation of electric wiring or other similar work”; the Pennsylvania statute (Purdon’s P.S.A., Title 53) applies to “any standard building code”; the Washington statute (Pierce’s Code, 1943, § 412.1) applies to codes pertaining to “the construction of buildings, the installation of plumbing, the installation of electric wiring, health and sanitation, the slaughtering, processing, and selling of meats and meat products for human consumption, the production, pasteurizing, and sale of milk and milk products, or subjects.”

The variance in the subject matter of the above statutes is not without significance. What may be legally adoptable by reference in one State may not be authorized in another. For example, the Illinois, New Mexico, and Pennsylvania statutes are limited to building codes. Consequently other codes could not be legally incorporated by reference in those States unless the term “building codes” is construed to include all fire prevention and other codes. This variance should be borne in mind.

These statutes have, in general, the effect of removing the initial barriers to incorporation by reference of the particular codes to which they refer, although, as hereinafter pointed out, other objections may exist to the statutes themselves.

The State of North Dakota has an interesting statutory provision which may enable cities to avoid the necessity for publishing a complete electrical, building, or other code, and which reads as follows:

40.1106. *Publication of ordinances.* - The title and penalty clause of every ordinance imposing any fine, imprisonment, or forfeiture for a violation of its provisions, after the final adoption of such ordinance, shall be published in one issue of the official paper of the municipality.

Such a statute would work no particular hardship is so far as the publication of an ordinance which adopts a code is concerned, for the title and penalty clause of a building or fire prevention code would be little, if any, longer than an ordinary ordinance passed by the city.

Despite these enabling acts of the States, the objection that legislative authority is being delegated to a private organization may still exist. This would be particularly true if the statute authorized the adoption of any amendments to the code being incorporated by

reference *in futuro*. Such, clearly, would seem to be a complete abdication of legislative power and would, of course, be held invalid under the theory that a municipal ordinance could not be amended by any except the governing body of the city. See the cases of *Santee Mills v. Query*, 122 S. C. 158, 115 S. E. 202 (1922); *State ex rel. Davis v. Fowler*, 94 Fla. 752, 114 So. 435 (1927); *Scottish Union and National Ins. Co. v. Phoenix Title & Trust Co.*, 28 Ariz. 22, 235 Pac. 137 (1925); *Machinery Co. v. Browne*, 206 Pa. 543, 56 Atl. 43 (1903); *In re Opinion of Justices*, 239 Mass. 606, 612, 133 N. E. 453, 455 (1921); Note (1935) 3 George Wash. Law Rev. 482 entitled "Incorporation by Reference of Federal Recovery Laws and Administrative Regulations in State Acts."

In the New Hampshire statute referred to above, an interesting provision with respect to this matter appears. It provides as follows:

*Amendment.* - Any such ordinance may be amended or supplemented in like manner, provided, that three copies of such ordinance, as amended or supplemented, shall be filed, as provided in section 1, in the office of the building inspector and three copies filed in the office of the city clerk for use and examination by the public.

This statutory provision recognizes the difficulties that might be encountered from future amendments to the code being incorporated by reference. It may prove to be the solution, although the provision has not been judicially tested.

Another objection that has been raised in the past has been that the constitutional limitations of over two-thirds of the States, which provide that no law shall be revived or amended by reference to its title only, would be a bar to incorporation by reference. This constitutional limitation should not, of itself, be sufficient to bar incorporation by reference in a municipal ordinance of a technical code. As a matter of fact, this constitutional limitation in the State of Louisiana has been held inapplicable to municipal corporations. *State v. Cozzens*, 42 La. Ann. 1069, 8 So. 268. There are many court decisions interpreting these limitations, and it is evident that they were designated for the purpose of insuring that State legislators knew exactly what they were amending or reviving. The purpose of these constitutional provisions is clear, and the reason behind such purpose sound. These provisions will be found in approximately 30 of the State constitutions, but it is not believed that they are applicable to this review.

## **II. Other States Have Not Granted Authority to Incorporate by Reference**

From a practical viewpoint, the publication of lengthy technical codes would serve no particularly useful purpose, and would hardly fulfill the legislative intent of requiring publication of enactments so that the people of a city may be made aware of what their governing bodies have done. In all instances, the codes are of nationwide reputation, and are well known to the professions that apply them in their work. Nonavailability would be no bar, for they are readily obtainable, and are widely circulated. Furthermore, any codes adopted by reference are required to be, or should be required to be, filed in some public

office for inspection by the public at all times. The code is not something that is far removed from those who will have to comply with it.

Despite the practicability of dispensing with the publication of a code in full, the aforementioned objections will have to be first removed or satisfied in some manner. With the exception of those States mentioned in the foregoing section, there is no enabling legislation permitting cities to adopt these codes by reference. It is in the States with no enabling legislation that the greatest difficulty might lie, and where a special effort to solve the problem will have to be made.

One solution, and it appears to be the only one, is for the ordinance of a city which establishes a building, plumbing, electrical or other code, to be complete within itself, and not to incorporate any other code by reference. This, it may be argued, does not avoid the problem of publishing a lengthy document. However, it does permit the adoption of a shorter enactment in this fashion. The ordinance can set up the standards of compliance with the particular subject matter, and refer, as “prima facie” evidence of such compliance, to the various national trade codes. This would avoid the attack that the ordinance is not complete within itself, and that legislative power is being delegated. The next section on court decisions, however, will point out how this theory was rejected by the Arizona Supreme Court in a case that arose several years ago.

### **III. Court Decisions**

While there are a number of court decisions involving the right of a city to adopt, by reference, a State statute, or a Federal regulation, or a former municipal ordinance, there is a dearth of decisions directly in point with the subject matter of this paper, i.e., the validity of a municipal ordinance incorporating the provisions of technical codes by reference. As a matter of fact, all of the reported decisions studied may only be used inferentially to sustain the conclusions herein reached.

Probably the most pertinent case is that of *City of Tucson v. Stewart*, 45 Ariz. 36, 40 P. (2d) 72, 96 A. L. R. 1492 (1935), involving the validity of a municipal ordinance that incorporated, by reference, an electrical code adopted by the city. The ordinance referred to the regulations of the National Electrical Code, and provided:

“No certificate of approval shall be issued unless the wiring, devices, apparatus or equipment installations conform with the provisions of this Ordinance, the Electrical Code of the city of Tucson, as adopted by the mayor and council by Resolution No. 1309 and, as the same may be amended, the statutes of the State of Arizona, and with approved methods of construction for safety to life and property. The regulations contained in the present National Electrical Code, and subsequent editions thereof, and in the present National Electrical Safety Code, and subsequent editions thereof, shall be prima facie evidence of such approved methods, provided that the Electrical Code of the city of Tucson shall govern in all cases where there are conflicting provisions.”

Here, the court held that since the electrical code of the city was a public record, as it has been adopted by the city, the ordinance was not required to set the code forth in full, and therefore the code did not have to be published. The court cited numerous authorities for the proposition of adopting prior ordinances and statutes by reference. *Sloss-Sheffield Steel & Iron Co. v. Smith*, 175 Ala. 260, 57 So. 29; *Napa v. Easterby*, 76 Cal. 222, 18 Pac. 253; *Southern Operating Co. v. Chattooga*, 128 Tenn. 196, 159 S. W. 1091, Ann. Cas. 1914D, 720; *City of Milwaukee v. Krupnik*, 201 Wis. 1, 229 N. W. 43. See also *City of Litchfield v. Thorworth*, 337 Ill. 469, 169 N. E. 265; *Croker v. Board of Excise Comrs. of City of Camden*, 73 N. J. L. 461, 63 Atl. 901; *Baumgartner v. Hasty*, 100 Ind. 575, 50 Am. Rep. 830; *Greene v. Town of Lakeport*, 74 Cal. App. 1, 239 Pac. 702. On this same question, McQuillin, *Municipal Corporations* (2d Ed) says:

“An ordinance may, by reference, adopt the provisions of statutes or prior ordinances, and in such case the statute need not be set out in totidem verbis, and entered upon the minutes of the corporation.”

A law review article appearing in 5 Geo. Was. Law Rev. 198 states that “it is obvious that a legislature is not delegating power, legislative or otherwise, if it refers to a law, to an ordinance, or to any other document or writing in its existing form.” (1934) 8 Cin. L. Rev. 310; *State v. Armstrong*, 31 N. M. 220, 243 Pac. 333 (1924); *Santee Mills v. Query*, 122 S. C. 158, 115 S. E. 202 (1922).

In the *Tucson* case, however, the theory of prima facie evidence of compliance with the terms of the ordinance by reference to the provisions of a national electrical code was stricken down, the court stating:

“The fact that the ordinance provides that in determining the approved methods the regulations of the present National Electrical Code and the present National Electrical Safety Code and subsequent editions thereof may be taken as prima facie evidence of such methods, but that in case of conflict the electrical code of the city of Tucson shall govern, does not lend clarity, certainty, or definiteness to the regulations, but rather suggests conflicts for an administrative officer of the city to reconcile.

“The electrical code was adopted by reference ‘as is’, and not as it may be changed or altered. Likewise the rules of evidence to be applied in determining whether construction is in conformity with the ordinance and electrical code, if such a rule may be adopted, is the one subsisting at the time of its adoption and not one later promulgated by the national societies mentioned.”

This decision would point to the need for care in setting up the provisions of a national code as evidence of compliance. The question of adopting *in futuro* measures is too dangerous. In this connection, reference is made to the provision of the New Hampshire statute, quoted above.

On October 11, 1921, the Supreme Judicial Court of Massachusetts rendered its decision in *Cawley v. Northern Waste Company*, 239 Mass. 540, 132 N. E. 365. In that case a State

statute, authorizing cities to “designate or provide for the appointment of an officer who shall supervise \*\*\* every wire within a building when such wire is designed to carry an electric light or power current \*\*\*\*” and requiring a written permit from the inspector of wires to connect a current of electricity, was involved. The court held that an ordinance forbidding an officer to issue a permit under this statute, unless “the established rules and regulations of the National Board of Fire Underwriters” shall have been complied with, was unauthorized. The Court said:

“There is nothing in that statute \*\*\* which empowers a city council to adopt by mere reference the rules and regulations of another and foreign body as the basis for determining the suitability or safety of the installation, attachments, supports or appliances for wiring designed to carry electric currents.”

Reference is here made to section 4 of the report of the committee, where there is a discussion of the method evolved by Massachusetts to escape the adoption by reference that is condemned in this decision.

Another case was that of *L. A. Thompson Scenic Ry. Co. v. McCabe*, 211 Mich. 133, 178 N. W. 662 (1920), involving the adoption by reference of a city building code in the city of Detroit. There, the court reached an opposite conclusion from the *Tucson* case, chiefly on the ground that that which was being adopted by reference was not a public record, and had no character as such. This distinction was carefully drawn by the Arizona Supreme Court in the *Tucson* case above. In the *McCabe* case, the building code incorporated by reference had not, itself, been adopted by the city and for that reason can be distinguished from the Arizona decision. The Michigan Supreme Court said:

“It, therefore, was entirely lacking in those characteristics necessary to entitle it to be filed as a ‘public record.’”

See cases cited above involving the adoption of public records or statutes.

In *Ex parte Hollyfield*, 88 S. W. (2d) (Tex. Cr. App., Nov. 20, 1935), the court upheld an ordinance governing the operation of steam boilers and providing that reference should be had to the rules of the “A. S. M. E.” Code in computing heating surface boilers. In so holding, the Court said:

“\*\*\* the computation of ‘heating surface,’ as that expression is used in this ordinance, is a mere matter of the use of a standard rule or tape measure aided by the ordinary rules of arithmetic, and \*\*\* the reference to the A. S. M. E. Code is but a matter of universal definition; the expression having but one meaning, and being so understood by all text writers and boiler engineers.”

In *Blitch v. City of Ocala*, 142 Fla. 612, 195 So. 406 (1940), an ordinance of the city of Ocala, designating the city manager as the person to issue building permits in accordance with the provisions that all buildings except enumerated exceptions should have roof which “would rank as class A or class B under the test specifications of the National Board of Fire

Underwriters,” was not invalid on the ground that it unlawfully delegated enforcement of the city’s legislative powers, since the test specifications, while not set forth in full, could be readily ascertained and would be deemed to be those in effect at the time the ordinance was enacted and not the specifications subsequently adopted. The Court said in part:

“So construed, the meaning of the ordinance could be made certain, and its validity upheld. If it should be held to mean not only present, but also future specifications, or any changes therein that might be adopted by the National Board of Fire Underwriters, section 31 of the ordinance would be invalid as being a delegation of authority to an outside board to alter a municipal ordinance.”

In *Natural Milk Producers Association of California v. City and County of San Francisco*, 112 Pac. (2d) 930 (Cal. App., 1941), a subdivision of an ordinance of the city of San Francisco providing as follows was involved:

“*Certified milk.*- Certified milk is market milk which conforms to the rules, regulations, methods and standards for the production and distribution of certified milk adopted by the American Association of Medical Milk Commissions and must bear the certification of the milk commission of the San Francisco County Medical Society.\*\*\*”

The contention was made that the rules and regulations may be so amended by the association as to impose additional burdens on the vendors of certified milk. The court held that it would strike out the words “rules, regulations” and uphold the remainder of the ordinance. The California Supreme Court upheld the decision of the lower court (124 Pac. (2d) 25) and the United States Supreme Court held that it could not pass on the validity of the ordinance, since a moot question had been raised by an amendment to the regulations governing the distribution of milk subsequent to the California decision.

The case of *Kansas v. Crawford*, 104 Kan. 141, 177 Pac. 360, 2 A. L. R. 880 (1919), presented the question as to the validity of a State statute providing that “all electric wiring shall be in accordance with the National Electric Code.” The court held the statute unconstitutional as a delegation of legislative authority to private individuals and associations, and void for uncertainty.

The following quotation clearly shows how that court felt about the matter of incorporation by reference:

“But none of the cases cited has ventured so far afield as to intimate that the legislature might delegate to some unofficial organization of private persons, like the National Fire Protective Association, the power to promulgate rules for the government of the people of this State, or for the management of their property, or that the legislature might prescribe punishment for breaches of these rules. We feel certain that no such judicial doctrine has ever been announced. If assent to such a doctrine could be given, a situation would arise where owners of property with considerable persistence might learn what these code rules were, and incur the

expense of making their property conform thereto, only to find that the National Fire Protective Association had reconvened in Chicago, New York, or New Orleans, and had revised the code, and that the work and expense has to be undertaken anew. And there would be no end to such a state of affairs. Furthermore, there is no official way for the average property owner to know what these code rules are. The laws of this State to which our people owe obedience must be officially published. The people may learn what these laws are, and they are privileged to meet legislative committees and petition the legislature for amendments, improvements, and amelioration of the laws. Shall it be intimated that if these fire prevention regulations, these 'national electrical code' rules, are oppressive, or otherwise objectionable, the property owners of this State must be referred to some voluntary and unofficial conference of underwriters and electricians, which occasionally meets here, there, or anywhere in North America, for redress of grievances? But the fallacy of such legislation in a free, enlightened, and constitutionally governed State is so obvious that elaborate illustration or discussion of its infirmities is unnecessary. If the legislature desires to adopt a rule of the national electrical code as law of this State, it should copy that rule, and give it a title and an enacting clause, and pass it through the senate and house of representatives by a constitutional majority, and give the Governor a chance to approve or veto it, and then hand it over to the Secretary of State for publication."

The most recent cases on the adoption of Federal regulations by cities may be briefly referred to. These are, *People v. Sell*, 310 Mich. 305, 17 N. W. (2d) 193 (1945) and *City of Cleveland v. Piskura*, 60 N. E. (2d) 919 (Ohio, 1943). In the former case, an ordinance of the city of Detroit, which made it unlawful to violate OPA price and rationing regulations, was upheld as a valid exercise of that city's police power. On the other hand, the Ohio Supreme Court held that an ordinance of the city of Cleveland, which made it a misdemeanor to sell commodity that is subject to a ceiling price fixed by or under the authority of the United States at a price in excess of such ceiling price, was invalid because it unlawfully delegated legislative power to a Federal agency. These cases are not too informative in the present study, however, and merely outline the different attitudes of the respective courts toward the general question.

## CONCLUSIONS

From the foregoing summary of the statutory, constitutional, and judicial provisions on the subject, the following conclusions might be listed:

1. In the few States that have adopted enabling acts authorizing cities to incorporate codes by reference, such action results in the removal of the initial bar to incorporation by reference. The danger against incorporating future changes in the codes by reference should be guarded against, however.
2. In the States that have not adopted any of the above statutes, the validity of incorporation by reference can be seriously questioned. The chief objection is that codes are not published in accordance with the charter, statutory, or constitutional

provisions requiring the publication, and the further objection is that adoption by reference delegates unlawfully the power of a municipal corporation to a private organization.

3. In the States that have no statute authorizing adoption by reference, one answer would appear to be the adoption of an ordinance containing general safety and engineering standards which are complete within themselves, but which refer to the standards established by a named national code as of a fixed date as “prima facie” evidence of detailed compliance with the ordinance. The same procedures must be followed in adopting future amendments to the national code referred to, so as to avoid the delegation problem mentioned above.

## APPENDIX B

### APPLYING NEW FIRE PREVENTION REGULATIONS TO EXISTING BUILDINGS

“The authority to enact and enforce building regulations can be sustained only on the ground that it is a part of the police power.” 4 R. C. L. p. 395, 109 A. L. R. 1118.

What, then, is police power? Mr. Justice Miller in the *Slaughter House Cases*, 16 Wall. (U. S.) 36, 21 L. ed. 394 (1872), says that police “power is, and must be from its very nature, incapable of any very exact definition or limitation. Upon it depends the security of social order, the life and health of the citizen, the comfort of an existence in a thickly populated community, the enjoyment of private and social life, and the beneficial use of property.”

The question is whether the police power is broad enough to validate statutes and ordinances which affect, and require changes in, buildings erected before passage of the legislation, and which met all requirements of the law when erected. It might even be asked whether legislation could adversely affect vested rights. The Indiana Supreme Court, in the case of *Jamieson v. Indiana Natural Gas and Oil Co.*, 128 Ind. 555, 28 N. E. 76, 12 L. R. A. 652 (1891), at p.655, answers this question very clearly, saying: “The public safety and welfare is the highest consideration of all legislation, and to this consideration private rights must yield. No man has a right to so use a dangerous species of property as to put the safety of others in peril. Liberty does not imply the right of one man to so use property as to put the safety of others in peril, nor does ownership imply any such right. This is rudimental. It must, therefore, be true that the owner of property of such a dangerous nature as to require regulations to prevent injury to others can have no right paramount to the police power. This is not too much to say that, as against the police power, there is no such thing as a vested right.”

There have been comparatively few decisions bearing directly on this subject, but in those that have arisen, the courts have generally upheld legislation passed under the police power which requires reasonable changes in already existing structures to meet the new standards, where those standards have a reasonable basis for the protection of health and safety.

One of the leading cases is that of *Health Department v. Trinity Church*, 145 N. Y. 32, 39 N. E. 833, 27 L. R. A. 710 (1895). The statute involved in this case required that water be furnished on each floor of every tenement house in New York City. There was no arrangement in the houses involved whereby this could be done, and it was shown that alterations would have to be made and money expended in order to comply with the provisions of the law; and it was contended that to so require would be the taking of property for public use without compensation and would be a denial of due process. The court upheld the law as a valid exercise of the police power with respect to the public health and also with respect to the public safety regarding fires and their extinguishment, and said : “\*\*\* we do not think it (the statute) can be regarded as invalid because it will cost money to comply with the order of the board, for which the owner is to receive no compensation\*\*\*. We may own our property absolutely, and yet it is subject to the proper exercise of police power. We have

surrendered, to that extent, our right to its unrestricted use. It must be so used as not improperly to cause harm to our neighbor, including in that description the public generally.” The court called attention to the fact that the statute must be reasonable in its application, saying: “\*\*\* no one would contend that the amount of the expenditure which an act of this kind may cause, whether with or without a hearing, is within the absolute discretion of the legislature. It cannot be claimed that it would have the right, even under the exercise of the police power, to command the doing of some act by the owner of property, and for the purpose of carrying out some provision of law, which act could only be performed by the expenditure of a large and unreasonable amount of money on the part of the owner. If such excessive demand were made, the act would, without doubt, violate the constitutional rights of the individual. The exaction must not alone be reasonable when compared with the amount of work or the character of the improvement demanded. The improvement or work must, in itself, be a reasonable, proper, and fair exaction, when considered with reference to the object to be attained.”

*Chicago, Burlington & Quincy R. R. Co. v. State of Nebraska ex rel City of Omaha*, 170 U. S. at p. 76, 42 L. ed. at p. 955 (1898), does not concern building, but quotes *Health Dept. v. Trinity Church*, *supra*, with approval as follows: “Laws and regulations of a police nature, though they may disturb the enjoyment of individual rights, are not unconstitutional, though no provision is made for compensation for such disturbances. They do not appropriate private property for public use, but simply regulate its use and enjoyment by the owner. If he suffer injury, it is either *damnum absque injuria*, or, in the theory of the law, he is compensated for it by sharing in the general benefits which the regulations are intended and calculated to secure.”

In a Massachusetts case, *Commonwealth v. Roberts*, 155 Mass. 281, 29 N. E. 522, 16 L.R. A. 400 (1892), the statute applied to every building in Boston used as a dwelling, tenement, or lodging house and required that: “Every such building situated on a public or private street, court, or passageway, in which there is a public sewer, and every building connected with such sewer, shall have sufficient water closets connected with the sewer and shall not have a cesspool or privy, except where, in the opinion of the Board of Health, it can be allowed to remain temporarily, and then only as said board shall approve.” The court upheld this statute in its application to buildings already in existence which were lawful when built.

In a later case, *Tenement House Department v. Moeschen*, 179 N. Y. 325, 72 N. E. 231, 70 L. R. A. 704, 103 Am. St. Rep. 910, 1 Ann. Cas. 439 (1904), affirmed, 203 U. S. 588, 27 S. Ct. 781, 51 L. ed. 328 (1906), in a decision based principally on *the Health Department v. Trinity Church* and *Commonwealth v. Roberts* cases, *supra*, a statute was upheld which required the removal of all school sinks, privy vaults, or other similar receptacles used to receive fecal matter, urine, or sewage and their replacement by individual water closets, properly sewer connected, with individual traps, and properly connected flush tanks. The court said: “It is a well recognized principle in the decisions of the State and Federal courts that the citizens holds his property subject, not only to the exercise of the right of eminent domain by the State, but also subject to the lawful exercise of the police power by the legislature. In the one case, property is taken by condemnation and due compensation; in the

other, the necessary and reasonable expenses and loss of property in making reasonable changes in existing structures, or in erecting additions thereto, are *damnum absque injuria*.”

In *St. Louis v. Nash*, 260 S. W. 985 (1924) and *St. Louis v. Howel Real Estate and Building Co.*, 59 S. W. (2d.) 617 (1933), the Supreme Court of Missouri upheld an ordinance similar to that in *Tenement House v. Moeschen*, *supra*.

Another much cited case, that of *Seattle v. Hinckley*, 40 Wash. 468, 82 P. 747, 2 L. R. A. (N. S.) 398 (1905), held to be constitutional and applicable to buildings previously erected an ordinance requiring a certain type of fire escape on “all hotels, office buildings, factories, tenements, and lodging houses more than three stories in height.” In overruling the contention of the owner of a building that he had an inherent or vested right, because he had complied with the law at the time the building was erected, the court said: “There is no such thing as an inherent or vested right to imperil the health or impair the safety of the community. But to be protected against such impairment or imperilment is the universally recognized right of the community in all civilized governments; a protection which the government not only has a right to vouchsafe to the citizens, but which it is its duty to extend in the exercise of its police power.”

Likewise, in *Fire Department v. Chapman*, 10 Daly (N. Y.) 377 (1882), the court upheld the order of the Superintendent of Buildings, requiring additional fire escapes in accordance with a statute which provided that any dwelling house more than two stories in height, then erected, or to be erected, be provided with fire escapes as directed by the Superintendent of Buildings and that owners of buildings on which fire escapes were then, or might thereafter be erected, should keep them in good repair.

In *Clarke v. Chicago*, 159 Ill. App. 20 (1910), a case based principally on the *Hinckley* case, *supra*, and *Commonwealth v. Roberts*, *supra*, the Court upheld the authority of the municipality to adopt certain ordinances regulating theater buildings (admittedly valid with respect to theaters thereafter to be built), as applied to theaters already built, which complied with regulations in effect at the time of their erection, as a proper exercise of police power.

In the case of *Daniels v. City of Portland*, 124 Or. 677, 625 Pac. 790, 59 A. L. R. 512 (1928), the court held that a municipal ordinance requiring every room occupied for living purposes to have a window of a certain size opening directly to the outer air for lighting and ventilation does not contravene the Fourteenth Amendment to the Constitution of the United States, or the Bill of Rights of the Oregon Constitution, guaranteeing equity of rights, and forbidding the taking of private property for public use without just compensation or the enactment of *ex post facto* laws, as applied to a hotel erected prior to the passage of the ordinance and which was lawful when built. The case arose out of an order made by the Chief Health Inspector of the city of Portland, requiring, under threat of immediate arrest, the removal of a skylight over the opening or court in the plaintiff’s hotel building, or immediately to cease using or renting for sleeping purposes the rooms having windows opening on the court. In answer to plaintiff’s contention that the ordinance was retrospective, the court said: “The act in question cannot be properly classed as retrospective. It affects no act or fact or right accruing before its enactment. It neither destroys or impairs any vested

right acquired under existing law. A careful reading of the ordinance discloses that it is solely prospective. The building permit granted by the city of Portland for the construction of the Harrison Hotel does not affect the right of the police power of the city of Portland to adopt and apply to it regulative measures looking to the public health.”

*Doran v. Boston Store of Chicago*, 307 Ill. App. 456, 30 N. E. 778 (1941), was a personal injury action arising out of a fall on the stairway of defendant’s store. The basis of the claim was the failure of the defendant to construct and maintain a handrail as required by an ordinance of the city of Chicago. Judgment was for the plaintiff, and the court held that the ordinance, which allegedly became effective in 1931, was applicable to require the defendant to maintain a handrail on each side of the store stairway, which was 6 feet  $\frac{3}{4}$ -inch wide, notwithstanding the building was constructed in 1906-7.

The case of *Adamec v. Post*, 273 N. Y. 250, 7 N. E. (2d) 120, 109 A. L. R. 1110 (1937) (see annotation beginning at 109 A. L. R. 1117), in an action challenging the New York Multiple Dwelling Law, holds that due process is not denied by a statute that prescribes higher standards of fire protection and sanitation for multiple dwelling buildings erected prior to 1901, which conformed to the standards in effect at the time of their erection, as applied to a tenement house of 40 rooms erected before that date, the cost of necessary changes being upwards of \$5,000, although the property is assessed only in the total sum of \$13,500, \$8,500 of which is represented by the building. The court said: “ The imposition of the cost of the required alterations as a consideration of the continued use of antiquated buildings for multiple dwellings may cause hardship to the plaintiff and other owners of the ‘old-law tenements’; but, in a proper case, the legislature has the power to enact provisions reasonably calculated to promote the common good, even though the results be hardship to the individual.”

However, we cannot forget, or even overlook, the well-established rule that the police power, broad as it is, is not all-inclusive. It must be exercised with discretion and in a reasonable manner. The regulation must not be confiscatory and the benefits to the public must bear at least a reasonable relation to the cost of achieving those benefits. As the court pointed out in *Health Department v. Trinity Church, supra*, the discretion of the legislative body is not absolute. “The improvement or work must in itself be a reasonable, proper, and fair exaction when considered with reference to the object to be attained. If the expense to the individual under such circumstances would amount to a very large and unreasonable sum, that fact would be a most material one in deciding whether the method or means adopted for the attainment of the main objective were or were not an unreasonable demand upon the individual for the benefit of the public.” In the same case, the court quoted with approval from the opinion of Mr. Justice Holmes, speaking for the Supreme Court of Massachusetts in *Rideout v. Knox*, 148 Mass. 368, 19 N. E. 390, 2 L. R. A. 81, 12 Am. St. Rep. 560: “ It may be said that the difference is only one of degree; most differences are when nicely analyzed. At any rate, difference of degree is one of the distinctions by which the right of the legislature to exercise the police power is determined. Some small limitations of previously existing rights incident to property may be imposed for the sake of preventing a manifest evil; larger ones could not be except by the exercise of the right of eminent domain.” *Sawyer v. Davis*, 136 Mass. 239, 243.

Thus, in *Masonic Fraternity Temple Association v. Chicago*, 131 Ill. App. 1 (1907), although the court said that it could easily conceive of circumstances with respect to physical, social, or municipal conditions in which a municipality, in the exercise of property granted police power, might require, to a reasonable degree, alterations in buildings previously erected in accordance with regulations in effect at the time of such erection, the proposed required alterations to the plaintiff's building, a Masonic Temple (which would cost at least \$200,000, cause a yearly loss of \$50,000 to the plaintiff, in addition to a loss of \$18,000 worth of personalty, and result in a defaced but no safer building), were held to be unreasonable. 109 A. L. R. 1123.

*Central Savings Bank in City of New York et al. v. City of New York et al.*, 279 N. Y. 266, 18 N. E. (2d) 151, Court of Appeals of N. Y. (1939), discussed with approval the case of *Adamec v. Post*, *supra*, but held the amendment of the Multiple Dwelling Law authorizing the city of New York to make certain repairs on old-law tenements and assess the cost as a lien prior to existing mortgages, without affording the mortgagor an opportunity to be heard as to the reasonableness of the proceeding or expenses, to be unconstitutional as an impairment of the obligation of the mortgagees's contract with the mortgagor. The court said: "We, therefore, reverse the judgment below and direct judgment for the plaintiffs, declaring that any liens imposed upon the respective premises for the expenses of making alterations or repairs in accordance with the orders of the Department of Housing and Buildings shall at all times be subject and subordinate to the plaintiff's respective mortgage liens."

In *Realty Revenue Corp. v. Wilson*, 182 Misc. 552, 50 N. Y. S. (2d) 941, (Supreme Court, Special Term, New York Co., May 21, 1944), the court ruled that the owner of a multiple dwelling was entitled to a permanent injunction restraining enforcement of an order directing the plaintiff's property to be vacated for failure to make repairs deemed necessary for the safety and health of the inhabitants, where the owner attempted to comply with the order, but the materials needed were not available because of Federal regulations, and plaintiff would suffer substantial damage from enforcement of the order, and where evidence did not establish that the hazard to life and health of occupants was so great or imminent as to force evacuation because of plaintiff's inability to comply with the multiple dwelling law. The court ruled that the plaintiff was entitled to an injunction until Federal regulations were lifted so as to enable him to obtain the necessary material.

The court in the case of *Bonnet v. Vallier*, 116 N. W. 885 (Wis. 1908), ruled unconstitutional as an abuse of police power a multiple dwelling law governing the entire State. The court said: "It must be conceded that the degree of regulation of the construction, maintenance, and manner of occupancy of tenement houses and lodging houses which is reasonable must vary greatly according to density of population and other circumstances. What would be reasonable in a very large city might be highly unreasonable in the country or in small cities and villages of the State. Requirements as to large structures to be occupied by many persons might be very unreasonable as to the smaller class of the same general class of structure to be occupied by very few persons. Again, requirements as to water service and fire hazard, not difficult to comply with by moderate expense in cities where there is a water and sewer system which are essential to the equipment of such buildings in those respects,

might be plainly reasonable, while such requirements in the country districts and the smaller cities and villages where there are no such facilities, might be just as plainly absurd. The character of the structure and its equipment, as regards the expense required to comply with the law in a large city, where the added cost is warranted, not only by the degree of danger to be guarded against but by the returns a proprietor could reasonably expect to derive from his investment, might be within the bounds of reason, while the same requirement as to the sparsely settled districts and in small cities and villages, where the conditions as to such dangers and the expense that could prudently be incurred in erecting the structures are entirely different, might be plainly outside the boundaries of reason.”

From the foregoing it is clear that the States, and the municipalities under authority granted by the States, can, under their police power, establish new regulations relating to buildings and fire control, such regulations to have full effect on buildings already in existence at the time of passage of the regulations, even though the buildings complied with all legal requirements at the time of their erection, so long as the regulations are reasonable in the burden they place on building owners and bear a reasonable relation to the end to be attained; namely, the health and safety of the community.

Many of the legal authorities on this general field are also referred to in NIMLO Report No. 111 “Demolition, Vacation, or Repair of Substandard Buildings,” and in NIMLO Report No. 98 “Firemen and the Law.” In the latter report, see page 34.

# APPENDIX C

(Furnished by National Fire Protection Association)

## STATE FIRE LEGISLATION

(Number after State Fire Marshal indicates (1) Independent State Office, (2) Insurance Department, (3) State Police, (4) Public Safety Department, (5) State Auditor, (6) Director of Commerce.)

### Key to Principal Types of Legislation

- a.* State Fire Marshal Law.
- b.* Arson Law.
- c.* State Building Code.
- d.* Regulations on construction or protection of buildings.
- e.* Fire protection of public buildings.
- f.* Fire protection of places of public assembly.
- g.* Removal of dilapidated buildings.
- h.* Flammable liquid regulations.
- j.* Dry-cleaning plant regulations.
- k.* Fire drills in schools.
- m.* Fire prevention education in schools.
- n.* Fireworks regulations.
- o.* Fire escape regulations.
- p.* Theater or motion picture regulations.
- q.* Hotel regulations.
- r.* Liquefied petroleum gas regulations.
- s.* State electrical Law.

<u>State</u>	<u>Principal Enforcement Agency</u>	<u>Principal types of legislation in force</u>
Alabama	State Fire Marshal (2)	<i>a-b-d-e-f-h-j-k-n-o-r.</i>
Arizona	Local police	<i>b-n.</i>
Arkansas	State Fire Marshal (2) Labor Department	<i>a-b-e-f-h-k-m-p-q.</i> <i>r.</i>
California	State Fire Marshal (1) State Division of Housing State Board of Education State Division of Industrial Safety	<i>a-b-d-e-f-h-j-n-p.</i> <i>q.</i> <i>k-m.</i> <i>r-s.</i>

<u>State</u>	<u>Principal Enforcement Agency</u>	<u>Principal types of legislation in force</u>
<b>Colorado</b>	Labor Commissioner Industrial Commission	<i>o.</i> <i>s.</i>
<b>Connecticut</b>	State Fire Marshal (3) Department of Education	<i>a-b-e-f-h-j-p.</i> <i>d.</i>
<b>Delaware</b>	Local police	<i>b-n.</i>
<b>Florida</b>	State Fire Marshal (2) State Superintendent of Public Instruction Hotel Commissioner	<i>a-b-n.</i> <i>k.</i> <i>q.</i>
<b>Georgia</b>	State Fire Inspector (2)	<i>b.</i>
<b>Idaho</b>	Local police	<i>b-o-q.</i>
<b>Illinois</b>	State Fire Marshal (4)	<i>a-b-d-e-f-g-h-j-k-n-o-p-q.</i>
<b>Indiana</b>	State Fire Marshal (1)	<i>a-b-c-d-e-f-g-h-j-k-n-p-r-s.</i>
<b>Iowa</b>	State Fire Marshal (4)	<i>a-b-d-e-f-g-h-k-m-n-o-p-q-r.</i>
<b>Kansas</b>	State Fire Marshal (1)	<i>a-b-d-e-f-h-j-k-m-n-o-p-r.</i>
<b>Kentucky</b>	State Fire Marshal (2)	<i>a-b-d-e-f-g-h-j-k-n-o-p-q-r-s.</i>
<b>Louisiana</b>	State Fire Marshal (1) Public Utility Commissioner	<i>a-b-o.</i> <i>r.</i>
<b>Maine</b>	State Fire Marshal (2)	<i>b-d-e-f-g-h-m-p-q-r.</i>
<b>Maryland</b>	State Fire Marshal (2)	<i>b-e-f-g-n.</i>
<b>Massachusetts</b>	State Fire Marshal (4) Commissioner of Public Safety (4) Chief of Inspections (4) State Examiners of Electricians	<i>a-b-e-f-h-j-k-m-n.</i> <i>d-o-p.</i> <i>e-f-g-o-p-q.</i> <i>s.</i>
<b>Michigan</b>	State Fire Marshal (3)	<i>a-b-d-e-f-g-h-j-k-n-o-p.</i>

<u>State</u>	<u>Principal Enforcement Agency</u>	<u>Principal types of legislation in force</u>
<b>Minnesota</b>	State Fire Marshal (2) Local building officials State Board of Electricity	<i>a-b-d-e-f-g-h-j-k-n-o-p-q.</i> <i>c.</i> <i>s.</i>
<b>Mississippi</b>	State Fire Marshal (2) Motor Vehicle Commissioner	<i>b-d-e-f-q.</i> <i>r.</i>
<b>Missouri</b>	Local police Inspector of Oils	<i>b-e-f-o-p-q.</i> <i>h.</i>
<b>Montana</b>	State Fire Marshal (5) Railway Commission	<i>a-b-e-f-g-k-n-o-p-q.</i> <i>r.</i>
<b>Nebraska</b>	State Fire Marshal (2) Department of Labor	<i>a-b-e-f-g-h-j-k-m-n-o-p-q.</i> <i>s.</i>
<b>Nevada</b>	Local police State Controller Fire chiefs	<i>b.</i> <i>e.</i> <i>k.</i>
<b>New Hampshire</b>	State Fire Marshal (2) Fire chiefs	<i>b.</i> <i>e-g-h-n-o.</i>
<b>New Jersey</b>	State Department of Labor State Board of Education Motor Vehicle Department.	<i>d-f-h-j-n-o-p-s.</i> <i>k-m.</i> <i>h.</i>
<b>New Mexico</b>	Local police Local city officials Health Department State Electrical Engineer	<i>b.</i> <i>d-g-h.</i> <i>r.</i> <i>s.</i>
<b>New York</b>	Labor Department Commissioner of Education Local police	<i>d-f-j-p-o.</i> <sup>1</sup> <i>m.</i> <i>n.</i>
<b>North Carolina</b>	State Fire Marshal (2)	<i>a-b-c-d-e-f-g-h-j-k-m-o-p-q-s.</i>
<b>North Dakota</b>	State Fire Marshal (2) Hotel inspectors	<i>a-b-d-e-g-k-n-o-s.</i> <i>q.</i>

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<sup>1</sup> The Multiple Dwelling Law in New York City is concerned entirely with safety and fire prevention. See the discussion of this law in Appendix B of this report in the paragraph devoted to the case of *Adamec v. Post* which upholds the validity of the law.

<u>State</u>	<u>Principal Enforcement Agency</u>	<u>Principal types of legislation in force</u>
<b>Ohio</b>	State Fire Marshal (6) Department of Industrial Relations	<i>a-b-d-e-f-g-h-j-k-q.</i> <i>c-n-o-p.</i>
<b>Oklahoma</b>	State Fire Marshal (1)	<i>a-b-e-f-g-h-o-q-r.</i>
<b>Oregon</b>	State Fire Marshal (2) State police Labor Bureau	<i>a-d-e-f-h-j-k-n-o-p.</i> <i>b.</i> <i>s.</i>
<b>Pennsylvania</b>	State Fire Marshal (3) Department of Labor and Industry Department of Public Instruction	<i>a-b-g-h-m-n.</i> <i>d-e-f-j-o-p-q-r.</i> <i>k-m.</i>
<b>Rhode Island</b>	State Fire Marshal (3) Commissioner of Education	<i>a-b-d-e-f-g-n-o-p-q.</i> <i>k-m.</i>
<b>South Carolina</b>	State Fire Marshal (2) Board of Education	<i>b-c-d-e-g-h-n-o-p.</i> <i>m.</i>
<b>South Dakota</b>	State Fire Marshal (2)	<i>a-b-d-e-f-g-o-p-r.</i>
<b>Tennessee</b>	State Fire Marshal (2)	<i>a-b-d-e-f-g-h-j-k-n-o-p-q-r-s.</i>
<b>Texas</b>	State Fire Marshal (2) Railroad Commission	<i>a-b-d-e-f-g-h-j-k-m-n-o-p.</i> <i>r.</i>
<b>Utah</b>	State Board of Health Local police	<i>q.</i> <i>b-n.</i>
<b>Vermont</b>	State Fire Marshal (2)	<i>a-b-g-h-j-n-o.</i>
<b>Virginia</b>	State Fire Marshal (2) Commissioner of Labor	<i>b-e-f.</i> <i>d.</i>
<b>Washington</b>	State Fire Marshal (2) Hotel inspectors Labor Department	<i>b-e-f-g-n.</i> <i>q.</i> <i>s.</i>
<b>West Virginia</b>	State Fire Marshal (5)	<i>a-b-d-e-f-g-n.</i>
<b>Wisconsin</b>	State Fire Marshal (2) Industrial Commission	<i>b.</i> <i>c-d-e-f-h-j-m-n-o-p-s.</i>
<b>Wyoming</b>	Local police	<i>b.</i>

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*The President's Conference on*

**FIRE  
PREVENTION**



**ACTION PROGRAM**

Departmental Auditorium  
Washington, D.C.

May 6,7, and 8, 1947

*“The serious losses in life and property resulting annually from fires cause me deep concern. I am sure that such unnecessary waste can be reduced. The substantial progress made in the science of fire prevention and fire protection in this country during the past forty years convinces me that the means are available for limiting this unnecessary destruction.”*

*Harry S. Truman*

## THE PREFACE

The Action Program adopted by the President's Conference on Fire Prevention is recommended as a means of reducing fires which during the last decade have resulted in an estimated 10,000 deaths each year.

The fire toll has been rising since 1934. In 1946, we experienced the most destructive year in our recent history with a property loss of \$561,487,000, an increase of 23 percent over 1945. This large, unnecessary waste of lives and property can be reduced by an all-out Nation wide effort.

I believe the keys to the fire prevention problem are Education, Enforcement, and Engineering. We need widespread education in methods of fire prevention and control, more adequate laws and their rigid enforcement and better engineering to make buildings fire resistant.

The program outlined in this report has consolidated all of these features as developed by the six committees of the Conference. It should, therefore, serve as the basis for an effort in fire prevention which it is hoped will be confirmed with ever increasing activity throughout every state, city and town. Only by this means can we reduce this mounting toll of lives and economic waste.

PHILIP B. FLEMING,  
*Major General, U.S.A.*  
*General Chairman,*  
*The President's Conference on Fire Prevention*

# *The President's Conference on Fire Prevention*

## **THE PROBLEM**

The rising fire waste in this country with its tremendous sacrifice of life and destruction of property is a staggering national problem.

The loss of life resulting from such fire is appalling with an estimated average of 10,000 deaths annually for the past 10 years.

The property loss has steadily increased since 1934 reaching a total of \$561,487,000 in 1946, and it now appears that unless prompt action is taken to reduce this needless waste the figures for 1947 will be much greater. Actually the losses for the first three months of 1947 approximate \$193,862,000.

Even a nation prodigiously endowed with natural resources and with the wealth and economic stability of the United States cannot continue to absorb, without permanent impairment, the profligate loss year after year of a half-billion dollars in irreplaceable material resources. In an era such as the present, when there is a universal scarcity of nearly every commodity needed to feed, clothe and shelter not only our own people but the starving and war-torn world about us as well, the destruction becomes not only more tragic but completely inexcusable.

## **OBJECTIVES OF THE CONFERENCE**

The objectives of the Conference as adopted by the Coordinating Committee are to emphasize to the public the ever-present danger of fire to human life and material resources and to intensify the work of fire safety in every community.

Essential to the accomplishment of these objectives are:

1. Universal acceptance by the highest officials of the States and municipalities of their direct responsibility for fire safety. The acceptance of the same principle by Federal executives charged with the responsibility for Federal properties is requisite.
2. Public support from all possible sources behind such officials in accomplishing the enactment and enforcement of adequate laws and ordinances for fire prevention and fire protection.

It is generally agreed that much can be accomplished in the improvement of the desperate fire waste situation facing our country through fostering and encouraging a greater sense of individual responsibility on the part of each citizen. Carelessness and recklessness – the human element – constitute a major contribution to our annual toll of death and destruction by fire. But

the *educational* approach has its limitations and must be fortified and supported by the application of modern, scientific methods and techniques of construction, protection, firefighting and statutory requirements. These are the roles of *engineering* and *enforcement* in the fire prevention field. The importance of each approach is recognized in the balanced, comprehensive action program of the Conference.

This action program has been prepared from the reports approved by the Conference on Fire Prevention called by the President of the United States. It outlines the fundamental steps which it is believed must be followed by all citizens of this country if we are to reduce the appalling loss of life and property due to fire.

All too long the public has felt that the subject of fire prevention can be left primarily for the attention of insurance organizations, chambers of commerce and a few private associations. It must, however, be recognized as an important obligation not only of each State and municipality, but also of each individual. It is not a problem that can be solved by institutions as annual Fire Prevention Week in the fall or a Clean-up Week in the spring, valuable as such periodic campaigns may be. It must be a day-by-day, year-around activity in which every man, woman and child participates.

The program recommended is based on sound and tried principles and embraces all fields including education, law and its enforcement, building construction, engineering and research in fire prevention, and the most efficient use of the firefighting services.

In its consideration of the problem the Conference has had the voluntary services of many representatives from public and private agencies throughout the country who have cooperated to the fullest extent in an endeavor to prepare a complete and well-rounded program. From this effort, it is believed a real beginning has been made in coordinating activities which will arouse behind public officials the support needed for successful accomplishment of our objectives, which is so essential to the welfare of the Nation.

## THE PROGRAM

The essential features of the action program have been incorporated from the reports of the six committees of the Conference and are summarized briefly. These committees designated are as follows: Building Construction, Operation and Protection; Firefighting Services; Fire Prevention Education; Laws and Law Enforcement; Research; and Organized Public Support. These several committee reports are available in printed form and present detailed information and recommendations on the various subjects.

The Conference recommends that the widest possible publicity be given this program and that prompt action be initiated along the lines suggested. In this connection attention is specifically directed to the plan of action presented by the Committee on Organized Public Support.

# **BUILDING CONSTRUCTION, OPERATION AND PROTECTION**

The committee emphasized the importance of new building construction of proper design and the correction of serious deficiencies in existing structures.

It is essential that the architect provide for the requisite safety to life and resistance to fire in the design of structures; that the responsible officials assure the full enforcement of pertinent laws, ordinances and regulations; and that the owner, operator and occupants of buildings recognize and assume their responsibility for safety to life and the elimination of fire hazards.

Specific recommendations to these ends are as follows:

1. Buildings should be designed and construction materials including interior finish should be selected for resistance to fire consistent with height, area and use of the structure. Adequate fire cut-offs or barriers should be provided to prevent spread of fire, smoke and gases, both vertically and horizontally. Consideration should be given to the prevention of spread of fire from adjoining buildings.
2. The design of exit ways should conform to the basic principle that two independent and easily accessible means of exit should be provided. These exit ways should be of a necessary design and construction to prevent admittance of fire and smoke. Stair towers should be fully enclosed and equipped with self-closing doors.
3. The delegation of enforcement authority of building and fire prevention ordinances should be clearly defined and necessary steps taken to insure the closest cooperation between the building department and fire department or other enforcement agencies. Municipalities should maintain adequate staffs for such enforcement providing sufficient salaries to attract and retain qualified personnel.
4. Adequate fire detection and protection equipment should be provided as needed for the prompt discovery and extinguishment of fires in all buildings. This equipment includes hand-extinguishing equipment, hose, standpipes, automatic sprinklers and alarm systems.
  - a. Hand equipment is advised for general use in most buildings including manufacturing and mercantile establishments, storage buildings, schools, hospitals, hotels, theaters and offices. It also has a proper place in the home particularly in isolated locations. By its prompt use, many serious fires may be prevented.
  - b. More general use of automatic sprinkler systems is recommended for the protection of all large industrial and mercantile buildings as well as schools, institutions, hotels and places of public assembly.
  - c. Special extinguishment equipment should be used more generally for protection of flammable liquids and other materials of special fire hazard.
  - d. In addition to other protective features, night watchman service should be provided in all hotels, hospitals and institutions where a considerable number of people are sleeping or confined. The quality of this service should be improved and more active

intelligent and well-trained men should be employed for this service. Watchman service should always be recorded.

5. Building codes now in effect should be examined and revised, when necessary, to assure that the technical provisions are in conformity with modern fire protection practices. Adequate provision should be made for correcting deficiencies in existing buildings.
6. Building owners and managers must make certain that conditions conform to recognized construction, exit, and maintenance requirements, even in the absence of specific laws and ordinances; safety regulations covering essential features such as housekeeping, smoking and flammable liquids, should be strictly enforced; periodic inspection service and training of employees is advised.
7. Public water officials should periodically review the adequacy of distribution systems and water supplies, instigating the appropriation of funds for needed improvements.

## **LAWS AND LAW ENFORCEMENT**

Many of the existing statutes, codes and ordinances in the field of fire prevention are antiquated and obsolete. This unfortunate lag of the law behind technical achievements in the field allows dangerous buildings to escape the regulation which is essential to the safety of human life.

Specific recommendations are as follows:

1. Each State and each municipality should initiate, immediately, a study to determine whether its present fire prevention regulations are so antiquated and obsolete as to create perils to human life. (The Conference adopted the recommendation that the several groups or interests promoting recommended building codes meet in continuous conference for the purpose of reaching full agreement on the basic and fundamental provisions and make report thereof to the continuing committee.)
2. Recognizing that engineering and other technical knowledge is discovering constantly new materials and new methods for building construction which render existing fire prevention regulations inadequate, each State and municipality should create a continuing advisory board of experts charged with the duty of making recommendations which will keep the respective State or City fire prevention regulations up to date.
3. Fully realizing the dangers inherent in so-called “model building codes” and standards designed by certain industries for their own protection, cities should be given adequate legal authority to adopt properly prepared, and approved “model” codes and standards by reference, or by some other simplified method, to avoid the prohibitive cost of publishing lengthy codes in local newspapers.

The incorporation, by reference, should be to a named code as of a certain fixed date to avoid delegation of legislative powers to the preparers of the “model” code or standard and

adequate provisions should be made to insure that copies of the “model” code or standard which is adopted by reference are readily available.

4. Adoption of a general ordinance containing legally sufficient standards governing building maintenance and construction with reference in such a general ordinance to certain properly prepared and approved “model” codes and standards as “prima facie” evidence of compliance with such standards is another method of avoiding the prohibitive cost of publishing lengthy building codes which should receive the most careful study.

5. Adoption of Statewide fire prevention laws and building codes is a subject which needs further study by all interested in adequate fire prevention. Division of enforcement responsibility and administrative problems, which appear to be rather difficult in connection with a Statewide building code do not appear to be an impediment where the State legislation covers specific subjects such as places of public assembly, hotels and other structures designed primarily for public use or subject to a particular hazard. Where such State laws are desirable, division of enforcement responsibility should be avoided.

6. In the entire field of fire prevention there is no subject that needs attention more than that of statute and ordinance enforcement. Steps should be taken by all States and cities to insure that they are not among the States and cities where future disasters are caused by lack of adequate enforcement of existing laws.

7. Creation by the Council of State Governments, the National Association of Attorneys General, the United States Conference of Mayors and the National Institute of Municipal Law Officers of standing committees with a militant program on building codes and fire prevention ordinance is highly desirable. The drafting by representatives of these organizations of a model statute permitting adoption of codes and ordinances by reference is recommended.

## **FIRE PREVENTION EDUCATION**

All who have accepted school stewardship in any degree are obligated by that degree to establish and maintain fire-safe conditions within their sphere of influence.

We owe the 30 million young people in our schools today the best instruction possible in fire safety. Basic fire prevention instruction should be intensified and expanded at all levels of education and in all types of schools – public, private and parochial.

Any basic education approach to the fire prevention problem as a whole should channel instructions through all school levels, urban and rural, in forms adapted to different levels and to varying conditions. In some 40 forest States of the Union, for example, forest fires are a high hazard and education in the prevention of forest fires should be part of instructional programs in all schools from elementary to college levels.

Specific recommendations to this end follow:

1. Each State department of education should encourage the development of fire-safe school properties and designate responsibility for its successful completion.
2. The school administrator must take every action necessary to insure that safe escape, in event of fire, is a virtual certainty.
3. Local and country elementary school systems can do much in the education of children in fire prevention by including it as an integral part of the curriculum.
4. Appropriate committees should be organized locally for the study and revision of the curriculum in order that fire-safety instruction will be up to date at all times.
5. The superintendent of schools should provide the leadership for developing and instituting a continuing program of education for fire prevention.
6. The development of a coordinated program of fire prevention education in the teacher's college curriculum requires that the curriculum include all educational materials and activities that will prepare and qualify teaching personnel to include this subject as an important part of their teaching responsibility.
7. Students and teachers should be encouraged to participate in community and home fire prevention activities, and school fire prevention activities should be closely related to community problems, thus developing fire safety habits.
8. At the college level, fire safety should be integrated with such courses as chemistry, and physics. Greater attention should be given to this subject in appropriate courses in schools of business administration, and in insurance, economics and transportation courses.
9. Existing courses for engineering and architectural students should include fundamentals of fire protection.
10. The use of visual educational material for instructional purposes should be extensively expanded.
11. Close liaison should be maintained between the educators and the fire services. The local fire departments can be of major assistance to the schools in implementing their fire programs. Such cooperation would include a fire college in each State under control of a leading college or university.

## **FIREFIGHTING SERVICES**

The Conference believes that the fire service of this country is of vital importance in plans for concerted action in the field of fire prevention; that there are wide differences in the relative effectiveness of various fire departments; that much of this is due to the blind devotion of

citizens and public officials to their local fire departments, and because they understand neither their responsibilities nor are aware of the possibilities of effective fire department service.

Specific recommendations to this end are as follows:

1. Fire departments should be regarded as fire prevention as well as firefighting agencies and substantial parts of their budgets be devoted to fire prevention activities, one phase of which would be educating the public.
2. Insurance rating agencies should review their gradings of cities to see if it is possible to provide additional incentives for fire prevention work by fire departments.
3. Ways should be explored to remove obstacles to the fire department being a desirable career service.
4. Ways should be explored for meeting the increased cost of fire department and economies sought only after careful study.
5. All fire departments should adopt orderly programs for the replacement of fire apparatus with modern equipment, including special equipment for technical application where required.
6. Fire departments should study the operations they are likely to have to perform in fighting fires in all large properties and disaster plans should be developed in all areas to cover fire department operations.
7. The traditional design of public water systems for fire protection should be reviewed in the light of war experience.
8. Adequate public fire alarm systems should be provided and radio used where appropriate to supplement wired intercommunication systems in fire departments and for rural areas.
9. All fires should be thoroughly investigated to establish the idea of personal responsibility for fire prevention.
10. All fire departments should maintain inspection service of buildings and firefighting equipment, enforcing necessary regulations. All members of the fire department should receive training in fire prevention work and be expected to promote fire prevention. In larger fire departments there should be a fire prevention bureau. The younger, better-educated members of the department should be chosen for permanent fire prevention assignments and specially trained for such work.
11. The few States not now having State fire marshals should establish such an officer or vest fire marshal powers in some State official with properly qualified staff to provide fire prevention bureau service where it is not provided by the municipalities.

12. Firemen's training should be recognized as one measure of an effective fire department.

13. Continuing, systematic, up-to-date programs of training for firemen are necessary in order that firemen may discharge their responsibilities in firefighting and fire prevention. Every fire department not having a training program should establish and maintain one commensurate with its training needs.

14. The armed services (including National Guard), the merchant marine, the forest services, industrial, mercantile, institutional and governmental establishments which maintain fire departments should be encouraged primarily for their own personnel to develop and extend existing training programs. Where appropriate specialized training facilities are available, provisions should be made for extending this training to other firemen.

15. The possibilities should be explored for the establishment at training centers such as those now existing or contemplated by certain States, of suitable buildings and other equipment, so that operational training (one phase of the complete training program) may include use of equipment in actual fires.

16. All States should enact legislation enabling rural governmental bodies such as townships, counties or special fire protection districts, to provide public firefighting service.

17. That a State rural fire protection committee be established in each State to promote a Statewide program for rural fire prevention and protection, including coordination of rural and forest protection service.

## **RESEARCH**

Continuous research in the field of scientific development and in human behavior with respect to fire and safety to life is essential to provide the latest information for intelligent fire prevention work and for modernization of laws, ordinances and regulations.

Specific recommendations to this end are as follows:

1. The need for ready availability of information, complete and up to date, pertaining to the subject of fire prevention, fire protection, fire-loss experience and research developments is emphasized; a central library facility would serve this need.
2. Since panic behavior contributes to loss of life in fire, it is recommended that additional educational programs be sponsored which will indoctrinate the public in the conduct of the individual and the group in the stress of an emergency created by fire.
3. A standard means should be determined of selecting and training firemen and other persons whose work makes them responsible for fire safety, employing scientific methods of screening and selection which proved their practicability in the military services.

4. All individuals legally charged with originating fires of the pyromaniac type should be subjected to a competent mental examination and abnormal persons hospitalized. The practices determining the release of such individuals from institutions should be reviewed and standardized.
5. A National Marine Fire Conference should be established to explore the problems of marine fires and to disseminate pertinent information.
6. In the field of aviation, research work on fire safety, continuing that already initiated, is endorsed; every airport must have suitable fire protection facilities; requisite studies should be made to determine practical applications of crash protection and life-saving operations; and adequate regulation of flying over areas of specialized hazard to life and property requires full cooperation of appropriate authorities.
7. Continued cooperation of all concerned in our industrial affairs in the exchange of findings from research and field experience so that fire prevention may add to its accomplishments in safety of persons and conservation of created resources is recommended.
8. While endorsing the National, State, local governmental and private programs for fire prevention and control for our natural resources, the Conference recommends continuous research to improve, where practicable, methods of fire prevention and control in these essential fields.

## **THE PLAN OF ACTION**

In order to implement the recommendations contained in this report and enlist the active public support in every community in the Nation which is essential to the successful application of this balanced program, the Conference urges the following action to be undertaken immediately.

### ***It is Recommended:***

1. That a continuing committee be appointed by the General Chairman in order to implement the Action Program of the President's Conference, provide a gauge on progress made in States, cities, and rural communities throughout the country in the months following the Conference and maintain the interest in fire prevention on the part of the large number of important national nongovernmental groups represented on the Committee on Organized Public Support, as well as the general public.
  - a. It is suggested that the personnel of this continuing committee include representatives of the organizations comprising the membership of the coordinating committee, together with the secretaries of the six Conference committees.
  - b. This continuing committee should have a secretary and whatever small secretariat is necessary to carry on its work effectively.

- c. In recommending the appointment of this continuing committee, there is no thought of establishing a new agency to deal with fire prevention on a national scale, either as an official or voluntary group. The purpose of the continuing committee is solely to follow up after the Conference to make certain that the entire Nation benefits from the recommendations made and the interest created.
    - d. It is proposed that the continuing committee function primarily through the facilities offered by the large number of nongovernmental, national organizations represented on the Committee on Public Support.
  2. That each of the Governors of the 48 States, the Governors of the territories, and the Commissioners of the District of Columbia appoint Statewide fire-safety committees composed of the appropriate public officials, including State foresters and representatives of nongovernmental groups, to explore the fire loss problem in all its ramifications within their respective jurisdictions for the purpose of setting up practical fire prevention programs tailored to the needs in each particular area.
    - a. As soon as possible after the President's Conference on Fire Prevention, a Statewide fire safety conference should be called by each of the Governors.
    - b. It is urged that organizations such as those comprising the Committee on Organized Public Support and any other organizations interested be invited to serve on the State fire-safety committees and participate in the Statewide fire-safety conference through its appropriate State unit or representatives.
  3. That where an effective fire prevention committee does not already exist, the mayors, city managers, or chief executives of all cities, towns, villages or other municipalities appoint a fire-safety committee composed of both public officials and representatives of nongovernmental organizations to carry on a continuous campaign of fire safety throughout the year.
    - a. It is urged that organizations such as those comprising the Committee on Organized Public Support and any other organizations interested be invited to serve on the local fire-safety or fire prevention committee through its appropriate local unit.
    - b. In counties that are primarily rural, local or community fire-safety or fire prevention committees should be created.
    - c. State and local fire-safety committees should give special attention to giving assistance in the securing of long-term loans on favorable terms to be used for repairs essential to safety of life.
  4. That each of the National and State organizations represented on the Committee on Organized Public Support be urged to endorse and support within the limits of the objectives set forth in its chapter constitution or bylaws the recommendations of the President's Conference on Fire Prevention. Each organization should extend the fullest cooperation possible to the National, State and local levels.

*Note: For amplification of the items set forth in this action program, refer to the reports of the respective committees of the Conference, which will be available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.*

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*A Guide to Community Organization*

*for*

**FIRE SAFETY**

DECEMBER, 1947

**President's Conference on Fire Prevention  
Federal Works Building, 18<sup>th</sup> & F Streets, N.W.  
Washington 25, D.C.**

# INTRODUCTION

## Objectives

The objectives of the President's Conference on Fire Prevention were:

1. To emphasize the ever-present danger by fire to human life and natural resources.
2. To intensify fire safety in every community.
3. To influence responsible public officials to accept their primary responsibility for leadership in fire safety.

## Action Program

The Action Program of the Conference established a pattern for the achievement of these objectives within the shortest possible time.

It promulgated two basic recommendations devoted to organizational procedure:

1. A call upon the governor of each of the 48 States to appoint statewide fire safety committees composed of the appropriate public officials and representatives of nongovernmental groups to explore the fire-loss problem for the purpose of setting up a practical fire prevention program and to call a statewide fire safety conference as soon as possible after the President's Conference.
2. A call upon all mayors, city managers or chief executives of all cities, towns, villages or other municipalities to appoint fire safety committees where an effective one does not already exist, composed of both public officials and representatives of nongovernmental organizations, to carry on a continuous campaign of fire safety throughout the year.

This brief pamphlet has been prepared as a guide to the establishment of an effective fire safety committee at the community level. It is confined to a discussion of organizational problems. Detailed information regarding the specific recommendations of the President's Conference on the several aspects of fire safety – the objectives the local committee will seek to achieve – is contained in the report of the six Conference committees. Every member of a local committee should be supplied with copies of all these committee reports.

# **ORGANIZING THE COMMITTEE FOR FIRE SAFETY**

## **Local Responsibility for Fire Safety**

Whatever the type of committee organization, primarily responsibility for fire safety rests with the local authorities. The primary function of the committee is to create public awareness of the fire problems, enlist the active aid of citizens and rally support behind public officials in discharging their responsibility for fire safety.

In many cities and villages throughout the country effective fire safety committees have long been in existence and functioning effectively. Some of these have been appointed by the local mayor, city manager or fire chief, but most of them have been organized under the leadership of the chamber of commerce, junior chamber of commerce, safety council, local insurance board or some other important local business or civic group. Where an established committee is active and doing a good job better results will follow by supporting and strengthening the existing committee rather than by setting up an entirely new one.

Under all circumstances, however, it is desirable to have responsible public officials actively identified with the local fire safety committee and if the mayor, fire chief, building commissioner, superintendent of schools and other public officials whose departments are directly concerned with fire safety are not already included, these officials should be appointed to membership.

## **Leadership**

As in any organized community activity, the success of a fire safety committee in getting results will to a large measure depend upon leadership – the chairman.

Wherever possible the chairman of the local fire safety committee should be a private citizen rather than an elected or appointed public official. This will eliminate any possible political implications. It will tend to bring together all elements of the community in a unified effort. Furthermore, a disinterested private citizen will be more effective in rallying public support behind the local government's fire safety efforts. The mayor, city manager or fire chief may be honorary chairman but the job of active leadership should be entrusted to the most prominent and capable businessman or civic leader who can be secured in the community and who can devote the necessary time to the job.

## **Committee Representation**

Every organized segment of community life should be represented on the fire safety committee. The size of the committee is relatively unimportant as the actual spade-work must in any event be done by small subcommittees. Each organized group should have something worthwhile to

contribute in the way of ideas, manpower established channels for reaching large groups of people.

As before stated, the mayor, city manager or other chief executives should be included, as should every city department even indirectly concerned with the fire safety problem. In every case the fire chief, fire marshal, building commissioner, city attorney and superintendent of schools should be active members. In the larger cities and rural communities county officials as well should be named.

There are a few nongovernmental groups that because of their organizational set-up or past experience in the fire safety field will be in a position to play a major role in the local campaign. These include the chamber of commerce, junior chamber of commerce, community safety council, local Red Cross chapter and the local insurance board.

Representatives of the following groups should be invited and urged to cooperate actively:

1. Churches
2. Farm organizations (Farm Bureau Federation, Farmers' Union, Grange, 4-H Clubs, etc.)
3. Hospitals and Institutions
4. Hotels, night clubs and restaurants
5. Insurance agents
6. Labor union
7. Libraries
8. Manufacturers' associations (industrial plants)
9. Merchants (retail and wholesale)
10. Newspapers
11. Public utilities (gas, light, power, and transportation companies)
12. Radio
13. Schools (parochial, private, public, colleges and universities)
14. Service clubs (Exchange, Kiwanis, Lions, Rotary, etc.)
15. Theatres
16. Veterans' organizations
17. Women's organizations
18. Youth organizations (Boy Scouts, Boy's Clubs, Camp Fire Girls, Girl Scouts, etc.)

## **Committee Organization**

The community fire safety committee may have one or more honorary chairmen, an active chairman, and one or more vice chairmen. It should also have a dynamic, energetic secretary who can devote considerable time to its work.

Many of the existing local fire safety committees were patterned after the recommendations of the National Fire Protection Association and the National Fire Waste Council, which provided for the following four subcommittees:

1. Public Fire Protection
2. Laws and Ordinances
3. Structural Improvements
4. Educational Activities

Where this set-up is functioning effectively, no change is recommended.

The subcommittee structure may well vary, however, between communities, and the following suggestions are designed to provide in newly organized communities a more detailed specialization of function and activity on the part of the subcommittee designed to carry on educational activities or arouse community interest and support as well as to follow the organizational pattern of the President's Conference itself.

There are a few small working groups which are essential to the success of any organization for community activity and the following subcommittees are suggested:

1. Industrial
2. Organized Public Support
3. Publicity
4. School
5. Speakers

These should be supplemented by subcommittees patterned after the working organization of the President's Conference, which will require the following additional groups:

1. Building Construction
2. Firefighting Services
3. Laws and Enforcement
4. Fire Prevention Education

In some communities, the following subcommittees may also be needed:

1. Disaster Relief
2. Rural Fire Safety
3. Town Inspection

There is no rule of thumb regarding the size of subcommittees. They should be rather small working groups, but all organizations which have something to contribute should be represented.

The following representation is suggested on the five basic subcommittees:

1. *Industrial* – Fire prevention engineers, labor unions, manufacturers' associations and trade associations.
2. *Organized Public Support* – Representatives of all important business, civic, farm, professional, service and women's groups. Also representatives of newspapers, churches, department stores, schools and theatres.

3. *Publicity* – Local newspaper, radio stations, theatres, publicity experts of chambers of commerce, business groups, department stores, and manufacturing organizations.
4. *School* - Representatives of public, private and parochial schools, county schools, colleges, universities and libraries.
5. *Speakers* – A group of prominent people who can organize and direct a group of competent speakers drawn from every group represented on the fire safety committee.

## **Subcommittee Chairmen**

Leadership is equally essential to the success of the subcommittee activity as to the overall program of the group. Outstanding men or women experienced in the respective fields should be chosen to head each subcommittee. Individuals respected in the community, sincerely interested in the subject of fire safety and in a position to devote a reasonable amount of time and energy to the work are essential if the working subcommittees are to function effectively. Window-dressing names should not be used as chairmen of the working committees.

## **Executive Committee**

It is rather a general practice to include the general chairman, vice-chairman and chairmen of the subcommittee as an Executive Committee or Steering Committee. This small Executive Committee should be given broad powers of authority to act on behalf of the full committee so that too frequent meetings of the larger group will not be necessary. It is a mistake, however, and will sacrifice the interest of the members of the large committee, to allow it to become a mere rubber-stamp group for the Executive Committee.

## **Meetings**

The full membership of the fire safety committee should be called together several times a year. Once a month is a good schedule and there should never be less than four meetings a year.

Subcommittees will meet much more frequently. Some of them will find it necessary to meet once a week and, when preparing for special events such as Fire Prevention Week or Spring Clean-Up, even more frequently.

Meetings should only be called when there is something definite to discuss or report. Members will lose interest rapidly and drop out if called upon to attend unnecessary meetings where nothing happens.

## What To Do?

The reports of the several committees of the President's Conference on Fire Prevention contain detailed information and recommendations on all phases of the fire safety problem. These reports should form the basis of the local fire safety campaign.

Here are the principal objectives which each and every local fire safety committee should set before itself as goals:

1. Arouse your community to a realization of the seriousness of the fire problem – to life and to property.
2. Enlist the active cooperation of every man, woman and child to accept his or her responsibility to avoid doing those thoughtless and careless things which cause fires.
3. Eliminate every possible fire hazard.
4. Modernize building codes and fire prevention ordinances to provide maximum fire safety.
5. Rigidly and impartially enforce all building codes and fire prevention ordinances.
6. Make fire prevention education an integral part of school curriculum.
7. Maintain an adequate fire department with consideration to adequate personnel, training and equipment.
8. Be on the alert for all new fire hazards resulting from use of new materials, processes and methods.
9. Rally community support behind public officials to encourage them to accept their responsibility for local fire safety.
10. Encourage fire department to make fire safety inspections in all building used for residential purposes, including private dwellings, in addition to those usually made in mercantile and industrial properties.
11. Organize a community disaster relief plan which can be put into effect immediately in case of necessity.

The fundamental purpose of your local fire safety committee is to work for these goals in your own community. The committee organization and assignments of responsibility should be patterned to implement the earliest attainment of these objectives.

## Special Campaigns

There are several periods during the year which offer special opportunities to arouse public interest in your fire safety program.

March – April	Spring Clean-Up
May – October	Grass fires, forest fires and dry weather hazards
October	Fire Prevention Week
October – November	Winter heating hazards
December	Holiday hazards

While your campaign to achieve the eleven objectives previously listed requires a well-planned fifty-two week program, special events such as these may well be occasions for intensifying and stepping up public interest and participation in the campaign.

## **Special Activities**

Through the several committees suggested earlier in this guide, provision should be made to keep the following activities going throughout the year.

1. Supply frequent, timely releases to the newspapers.
2. Supply material for spot announcements and feature programs to the radio stations.
3. Make speakers available for any group requesting them and actively seek such engagements.
4. Organize a community-wide self-inspection campaign in the spring and fall.
5. Arrange for frequent window displays by merchants, insurance agents and public utilities.
6. Provide mailing inserts from time to time to merchants, public utilities, banks and other business organizations.
7. Sponsor poster or essay contests in the schools.
8. Maintain active support of churches.
9. Distribute literature from time to time through schools, youth organizations and employers.
10. Arrange for occasional publicity stunts.
11. Have theatres show fire prevention films, trailers, etc., several times each year.
12. Give adequate recognition to any fireman doing outstanding work in saving life.

While engaging in these activities to arouse and inform the public and to encourage a sense of individual responsibility for fire safety, sight should not be lost of the equally important steps in your community that require official action by various departments of your local governments.

Special committees should be continually working with city authorities to:

1. Modernize and improve building codes and fire prevention ordinances.
2. Secure rigid and uniform enforcement of all fire safety codes and laws.
3. Provide maximum efficiency of personnel and equipment in the fire department.
4. Maintain adequate water supply.
5. Establish fire prevention education as an integral part of all school instruction.

The chart on Page 9 may be helpful in indicating in graphic fashion activities of the various groups in your community in the field of fire safety:

<p>The most effective spearhead for the fire safety activity in any community will be the Community Fire Safety Committee. Each community, however, is made up of a number of segments, within which varying degrees of organization, responsibility and authority have been developed. It follows, therefore, that an ACTIVITIES TABLE, such as appears on this page, must of necessity be so designed as to serve as a guide for the activities of the most casually organized segment, and at the same time be flexible enough to serve as a check list for the well organized group – an outline for its committee activities which will supplement as well as implement the work of the Community Fire Safety Committee.</p>	CHURCHES	FARM ORGANIZATIONS – Farm Bureaus, Federations, Farmers’ Unions, Granges, 4H Clubs, etc.	HOSPITALS and INSTITUTIONS	HOTELS, NIGHT CLUBS and RESTAURANTS	INSURANCE AGENTS – Individuals and Associations	LABOR UNIONS	MANUFACTURES (Industrial Plants)	LIBRARIES	MERCHANTS (Retail and Wholesale)	NEWSPAPERS and PUBLICATIONS	PUBLIC UTILITIES	RADIO and TELEVISION	SCHOOLS	SERVICE CLUBS – Exchange, Kiwanis, Lions, Rotary, etc.	THEATRES	VETERANS’ ORGANIZATIONS	WOMEN’S ORGANIZATIONS	YOUTH ORGANIZATIONS – Boy Scouts, Boys’ Clubs, Camp Fire Girls, Girl Scouts, etc.,
Cooperate with your Community Fire Safety Committee.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Arouse a realization of the seriousness of the fire problem to life and property.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Organize a campaign to eliminate all careless acts which cause fires.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Eliminate every possible fire hazard in homes, shops, offices, or places of work or recreation.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Campaign for a fire department adequate in personnel, training, and equipment.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Train and prepare your members for service, at a moment’s notice, on Disaster Relief Forces.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cooperate with efforts to modernize building codes and fire prevention ordinances	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cooperate in campaigns for the maintenance of adequate water supply and modern fire alarm installations.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Comply with and enforce all building codes and fire prevention ordinances in all premises.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Urge fire prevention education as an integral part of the school curriculum.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Be on alert for all new fire hazards resulting from the use of new materials, process or methods.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

These segments should keep in constant touch with the Community Committee since they are, in fact, the reservoir from which leaders and workers will be drawn to make that work of the Community Fire Safety Committee effective the year round. In this way activities may be correlated and duplication eliminated.

For brevity, general terms are used in the Activities Table. For example – “Churches” means all sects and religious organizations, as well as groups within each sect: “Schools” will cover schools of all types, parochial, private and public, colleges and universities, school boards, teachers’ associations, clubs, fraternities and alumni groups: and “Public Utilities” – gas, light, power, communication and transportation companies.

Literature, films, and advice may be secured through the following organizations:

**National Board of Fire Underwriters**, 85 John Street, New York 7, New York.  
**National Fire Protection Association**, 60 Batterymarch Street, Boston 10, Mass.  
**National Safety Council**, 20 North Wacker Drive, Chicago 6, Illinois.  
**Underwriters Laboratories, Inc.**, 108 East Ohio Street, Chicago 11, Illinois.  
**Western Actuarial Bureau**, 222 West Adams Street, Chicago 6, Illinois.

## CONFERENCE ORGANIZATION

### GENERAL CHAIRMAN

Maj. Gen. PHILIP B. FLEMING, *Administrator, Federal Works Agency*

### EXECUTIVE DIRECTOR

A. BRUCE BIELASKI, *Assistant General Manager, National Board of Fire Underwriters*

## COORDINATING COMMITTEE

### CHAIRMAN

W. E. REYNOLDS, *Commissioner of Public Buildings*

O. J. Arnold, *President, Northwestern National Life Insurance Co.*  
Frank Bane, *Executive Director, Council of State Governments.*  
Paul Betters, *Executive Secretary, United States Conference of Mayors.*  
Ernest B. Brown, *President, Ernest W. Brown, Inc.*  
Frank A. Christensen, *President, National Board of Fire Underwriters.*  
J. H. Craig, *Chairman, Fire Marshals' Section, National Fire Protection Association.*  
Dr. Ned H. Dearborn, *President, National Safety Council.*  
Charles A. Delaney, *President, International Association of Fire Chiefs.*  
Robert E. Dineen, *President, National Association of Insurance Commissioners.*  
Jas. R. Edmunds, Jr., *President, American Institute of Architects.*  
Wallace J. Falvey, *Chairman, Advisory Committee, National Conservation Bureau.*  
Hovey T. Freeman, *President, Manufacturers Mutual Fire Insurance Co.*  
A. V. Gruhn, *General Manager, American Mutual Alliance.*  
W. K. Jackson, *President, Chamber of Commerce of the United States.*  
Leroy A. Lincoln, *President, Metropolitan life Insurance Co.*  
W. E. Mallalieu, *General Manager, National Board of Fire Underwriters.*  
Earl D. Mallery, *Executive Director, The American Municipal Association.*  
James H. Mooney, *President, Building Officials' Conference of America.*  
James H. Park, *President, Pacific Coast Building Officials Conference.*

Curtis W. Pierce, *President, National Fire Protection Association.*  
George J. Richardson, *Secretary and Treasure, International Association of Fire Fighters.*  
Mrs. Pearl Wanamaker, *President, National Education Association.*  
Guy T. Warfield, Jr., *President, National Association of Insurance Agents.*  
Frank M. Whiston, *President, National Association of Building Owners and Managers.*

## **COMMITTEE ON ORGANIZED PUBLIC SUPPORT**

Chairman: W. Walter Williams, *President, Continental, Inc., Seattle, Wash.*

Secretary: Geoarge G. Traver, *National Board of Fire Underwriters, New York, N.Y.*

**The President's Conference  
On  
Fire Prevention  
Federal Works Building  
Washington 25, D.C.**

May 13, 1948

The President  
The White House  
Washington, D.C.

Dear Mr. President:

It is with much pleasure that I present to you the final report on what has been accomplished throughout the Nation, subsequent to the Conference on Fire Prevention, called by you on May 6, 7, and 8, 1947.

I feel that the report reflects considerable progress in the field of fire prevention and indicates that the objectives adopted at the Conference have been accomplished or definite action taken in this regard.

You are to be congratulated on your foresight and wisdom in calling such a conference and I know that you will derive much satisfaction in reviewing its accomplishments.

Respectfully

A handwritten signature in black ink, appearing to read "Phillip B. Fleming", with a long, sweeping horizontal stroke extending to the right.

Phillip B. Fleming  
Major General, U.S.A.  
General Chairman

**FINAL REPORT OF THE CONTINUING COMMITTEE  
OF  
THE PRESIDENT'S CONFERENCE ON FIRE PREVENTION**

**WASHINGTON, D.C.**

**MAY 13, 1948**

**PRESIDENT HARRY S. TRUMAN**

**REPORT OF THE CONTINUING COMMITTEE**  
**OF**  
**THE PRESIDENT'S CONFERENCE ON FIRE PREVENTION**

At the concluding session of the President's Conference on Fire Prevention held last may, the appointment of a Continuing Committee was authorized to implement the Action Program of the Conference, and this is the report of that Committee.

It will be recalled that the Conference adopted as essential to the accomplishment of its objectives the universal acceptance by the highest officials of the States and Municipalities of their direct responsibility for fire safety and public support behind such officials in accomplishing the enactment and enforcement of adequate laws and ordinances for fire prevention and fire protection.

The truly remarkable progress made during the past year is best evidenced by the records of activities in furtherance of the recommendations of the Conference in each of the forty-eight States, as set forth in Appendix A, hereto attached. In thirty-four States the Governor has set up a State fire safety committee and there have been held in eighteen States, statewide conferences. Such conferences are set in five others for definite dates, and plans are well advanced in seven States, although no definite date has been fixed.

In these States varying programs for improvement in fire prevention and fire protection measures have been advanced and definite continuing programs are being undertaken to accomplish the results found most desirable by each State involved.

Never before in the history of the country has there been anything approaching such widespread activity by the States, nor even before have so many citizens been interested in these problems.

More than 510 cities, as listed in Appendix B, attached hereto, have reported scores of diverse actions looking to greater fire safety, including the elimination of hazards, the passage of new

ordinances, the procurement of new and improved equipment, radio installation, better training for firemen, and countless other advances.

In the year just closed, 1,832 cities in the United States participated in the National Fire Prevention Week Contest, as compared with 715 the previous year.

In addition to the widespread activities in the States and Municipalities, great progress has been made in matters important to all States and Municipalities. The drafting of a model statute permitting adoption of codes and statutes by reference has been completed, and the National Institute of Municipal Law Officers and the American Standards Association have undertaken the presentation of such a statute to the legislatures of the States in 1949, which is a legislative year. The Council of State Governments and the National Association of Attorneys General are among the organizations supporting this activity.

The National Education Association, through its National Commission on Safety Education, with the support of various organizations represented on the Continuing Committee, has undertaken a definite program designed to further in the schools and colleges of the country the recommendations of the Committee on Fire Prevention Education. This unified effort, through and by the educators themselves, holds great promise in what is perhaps the most important field of fire safety.

Great progress has been made in improving and increasing firemen's training, both paid and volunteer. In one State there is being made available to some 200,000 volunteer firemen right in their own counties the finest possible firemen training courses.

The International Association of Fire Chiefs has adopted and pledged its support to the recommendations made to the Conference by the Committee on Firefighting Services, and will continue to support these important measures.

More general use of automatic fire protection systems is being had and more attention is being given to the inspection problems with respect to such equipment.

Building codes are being perfected and studies concerning minimum Statewide codes of this character continue.

Research has been extended. Especially notable are the studies of ammonium nitrate, which are far advanced. A final report from the subcommittee dealing with this matter will be submitted within a few months.

Cooperation by our Committee on Organized Public Support with the Forest Service in its expanded fire prevention activities has been cordial and widespread.

Our subcommittee on statistics of loss of life from fires and causes of fires will continue its work as an informal group, and will report from time to time to interested organizations its findings and recommendations.

The Conference has published and distributed widely a pamphlet entitled "A Guide to Community Organization for Fire Safety." Every community will find in it a practical outline of what to do and how to do it in so far as fire safety is involved.

This pamphlet, the Action Program, and the reports of the committees of the Conference give a complete program for fire safety as developed by the best intelligence in this field that the country affords. The Governors of the States, the heads of Municipalities, and the public generally, have rallied to its support with an enthusiasm and continuing interest that far surpass anything ever seen in this field, even in time of war. Each organization represented on this Continuing Committee has pledged its complete cooperation in pushing this program forward.

President Truman said:

"Safety from fire should not be a topic for discussion during only one or two weeks of the year. It is definitely a year-round public responsibility. I believe that the highest State and Municipal officials must assume greater responsibility for leadership in this field. We in the Federal Government can give aid within the

framework of existing agencies. But the impetus must come from the States and from every community and every individual in the land.”

The program is complete; the proper authorities, generally, have accepted their respective responsibilities; and tremendous impetus has been given to the whole cause of fire safety. All agencies whose special purposes deal with fire safety are better informed of the problems and the means to meet them, and are working together harmoniously as never before. While fire losses continue to increase, the rate of increase has lessened sharply. The work of the Continuing Committee has been completed and its discharge is in order.

In conclusion, we wish to express our grateful thanks to the President for his initiative in calling this Conference and for his continuous and great personal support, which he has given to it at all times. We feel that he has advanced the cause of fire safety by many years beyond any point it could otherwise have reached, and that his deep and sincere concern for the preventing of unnecessary loss of life and property has been responsible for the wholehearted support given to the program of the Conference throughout the land.

We must pay tribute to his wisdom in naming you, General Fleming, to lead this work and to thank you for inspiring leadership and the wholly unselfish way in which you have given of your time and talents, not only in Washington, but in many distant parts of the country, to make possible the success of the Conference program.

We ask you to convey to our Committee Chairman, Commissioner of Public Buildings W. E. Reynolds, our appreciation of his direction and aid. We think you chose as wisely in selecting him as your chief assistant as did the President in naming you as General Chairman.

We ask you to present this report to the President.

## **Chairman**

### **W. E. Reynolds**

Commissioner of Public Buildings  
Federal Works Agency  
Washington, D.C.

### **Professor John J. Ahern**

Illinois Institute of  
Technology

### **Percy Bugbee**

General Manager  
National Fire Protection Association

### **Paul Betters**

Executive Secretary  
United States Conference of Mayors

### **Hal Colling**

Pacific Coast Building  
Officials Conference

### **A. Bruce Bielaski**

Assistant General Manager  
National Board of Fire Underwriters

### **John H. Craig**

Chairman, Fire Marshals' Section  
National Fire Protection Association

### **Horatio Bond**

Chief Engineer  
National Fire Protection Association

### **Arthur C. Daniels**

Executive Assistant  
Institute of Life Insurance

### **Ernest B. Brown**

President  
Associated Reciprocal Exchanges

### **Hubert R. Gallagher**

Associate Director  
Council of State Governments

### **Willard E. Givens**

Executive Secretary  
National Education Association

### **Fred Sheppard**

Secretary and Manager  
International Association of Fire Chiefs

### **Colonel William B. Greeley**

Chairman  
American Forest Products Industry

### **Earl O. Shreve**

President  
Chamber of Commerce of the United States

### **A. V. Gruhn**

General Manager  
American Mutual Alliance

### **Alvah Small**

President  
Underwriters' Laboratories

**Julien Harvey**  
Managing Director  
National Conservation Bureau

**Earl D. Mallery**  
Executive Director  
The American Municipal Association

**James H. Mooney**  
President  
Building Officials' Conference  
of America

**Colin Herrle**  
National Disaster Chairman  
American Red Cross

**George J. Richardson**  
Secretary and Treasurer  
International Association of  
Fire Fighters

**Charles S. Ryhne**  
General Counsel  
National Institute of Municipal  
Law Officers

**West Shell**  
Vice Chairman  
National Association of  
Insurance Agents

**R. E. Wilson**  
District Manager  
Factory Mutual Fire Insurance Company

**Walter A. Taylor**  
Director, Department of Education and  
Research  
The American Institute of Architects

**George N. Thompson**  
National Bureau of Standards

**Seth B. Thompson**  
Insurance Commissioner  
Salem, Oregon

**George G. Traver**  
Manager, Public Relations Department  
National Board of Fire Underwriters

**Frank M. Whiston**  
National Association Building Owners  
and Managers

**Sidney Williams**  
Assistant to the President  
National Safety Council

**W. Walter Williams**  
Seattle, Washington

# Appendix A

## Alabama

Governor James E. Folsom has named a Statewide committee, headed by Superintendent of Insurance and State Fire Marshal L. L. Gwaltney, Jr., ex officio, and with General William P. Screws as general chairman. General Screws has established an office in the Capitol Building and a Statewide conference has been set for May 31, 1948. Seven subcommittees have been organized, the financial arrangements substantially completed, and the promise of Superintendent Gwaltney that this conference in Alabama will be one of the most outstanding in the country appears to be on the way to fulfillment.

## Arizona

Governor Sidney P. Osborn has assigned to the Fire Insurance Association of Arizona, to which State and Municipal officials give full cooperation and assistance, the direction of fire prevention activities in the State. He reports that this Association has assumed these responsibilities in an able manner, and is carrying them out in like manner and in conformance with the recommendations of the President's Conference on Fire Prevention. He reports that State and other public officials are enthusiastically extending to the committees doing this work every possible cooperation and assistance.

## Arkansas

Governor Ben Laney held a Statewide conference at Little Rock on November 21, 1947, the chairman of which was Insurance Commissioner Jack G. McKenzie. The conference was successful and created a permanent action committee, which, with the Arkansas State Fire Prevention Association, is engaged in Statewide educational activities and fire prevention inspections. Special attention is given to the prevention of rural and forest fires, and to an educational program in the schools.

## California

Governor Earl Warren has appointed a Statewide fire prevention committee for the State, which has held three meetings. This committee has worked out an elaborate program, including practically all of the fire prevention activities covered in the reports of the President's Conference on Fire prevention. A Statewide conference will be called at an early date.

The direction of the program is in the hands of State Fire Marshal Joe R. Yockers and the committee has been diligent and effective.

## Colorado

Governor William Lee Knous named Raymond H. Stebbins of Denver as chairman of his committee on fire safety. This committee includes both private citizens and public officials, and is following very closely the Action Program adopted by the President's Conference.

Because of the great area and sparse population, the committee decided to hold regional meetings in key towns, instead of one Statewide conference. The first meeting was held in

Loveland February 11 to 13, and one or more additional regional meetings are planned for the near future.

The committee is following the organization plan for Statewide fire prevention committee work published by the National Fire Protection Association as a contribution to the President's Conference.

## **Connecticut**

Former Governor James L. McConaughy called and attended a Statewide conference held at Strathcona Hall, Yale University, on January 5, 1948. The meeting was largely attended, with representatives from practically every village in Connecticut, and a fine program was adopted for Statewide work.

The State has recently adopted a new fire safety code, which has now become effective.

The direction of the fire prevention program is in the hands of Edward J. Hickey, superintendent of state police and fire marshal for the State.

## **Delaware**

Governor Walter W. Bacon has named a Statewide committee, which has held several meetings. The program outlined by the committee is receiving the fullest cooperation of state and county agencies, especially from the volunteer fire companies. Considerable improvements with respect to the situation of volunteer firemen has been brought about and special attention is being given to prevention of forest fires. Further meetings of the committee are planned.

## **Florida**

Governor Millard Caldwell called a Statewide fire prevention conference, which was held in Orlando on January 19-20, 1948. This conference was especially worthwhile because of the definite plans made for improvement in state and local fire prevention machinery and the promise of cooperation therein from the members of the Legislature.

A second Statewide conference is planned within a year.

Additional fire prevention bureaus in Municipalities have been created and plans to enlarge and improve the Florida Fire College are under way, as well as for improved firefighting facilities and for revised building and electrical codes. Governor Caldwell placed the direction of these activities in the hands of State Treasurer and Insurance Commissioner J. Edwin Larson, who has been responsible for the very constructive activities developed in this State.

## **Georgia**

Under the chairmanship of M. M. Smith, a member of the state Legislature, a Statewide fire safety committee has been named and is planning a Statewide fire prevention conference, to be held in Atlanta on May 7 and 8. Included on this committee is Director Harry Phillips of the Georgia State Fire College.

A new building code has been adopted in the State and one of the principal purposes of the conference will be to implement the proper enforcement of this code.

The conference will include city and county officials, fire chiefs, insurance men, officials of chambers of commerce, architects, engineers, construction officials, and property owners. In addition, conferences at later dates are planned for each of the ten Congressional districts of Georgia.

## **Idaho**

Governor C. A. Robins reports that no final organization in Idaho was consummated in 1947; that, with the aid of the usual cooperating agencies and organizations, plans for a State conference should be fully completed this year.

## **Illinois**

Governor Dwight H. Green called a Statewide fire prevention conference, which was held in Springfield on March 11, 1948. The conference was well attended by representative groups of fire prevention officials and civic leaders, and it is believed will be especially effective in inciting fire prevention activities in local communities in Illinois. To insure an effective setup of this conference, an action committee, of which State Fire Marshal John H. Craig is secretary, was appointed.

The recommendations of the state conference will be stressed at the Illinois Fire College, to be held at the University of Illinois, June 15 to 18.

## **Indiana**

Governor Ralph F. Gates placed the fire prevention program of the State in the hands of State Fire Marshal Carter I. Bowser.

Governor Gates designated the annual fire school, held for the past fifteen years, supervised by Purdue University, the Indiana Inspection Bureau, and the State Fire Marshal, at his conference on fire prevention and protection.

Indiana has had a Statewide fire prevention committee for the past two years and Fire Marshal Bowser reports that it is his belief that all recommendations of the President's Conference have been fully compiled with, and that all organizations within the State are giving full cooperation to the objective of a fire safe State.

## **Iowa**

Governor Robert D. Blue has called a Statewide fire prevention conference for Iowa, to be held on May 28 and 29 at Des Moines, and has named an executive board, an advisory bureau, and six chairmen of fact-finding groups. Commissioner of Public Safety Alfred W. Carl is the conference chairman. Plans for it are through and it is deemed well organized.

## **Kansas**

Governor Frank Carlson called four conferences on fire prevention in four sections of the State. These conferences were held at Topeka, Hayes, Dodge City, and Chanute on October 17, 21, 22, and 24, respectively, thus covering the State effectively with less travel than a single conference would have occasioned and increasing the number of persons in attendance. The State Fire Marshal, Mr. Clyde Latchem, was designated by the Governor to direct this work.

Fire Marshal Latchem has reported that notable results from these conferences have been had, especially in increased interest on the part of city officials in fire prevention and in revising city ordinances for greater degrees of safety. In addition, he has reported an increase number of rural fire prevention projects; heightened interest on the part of newspapers, magazines, and other publications; a notable increase in fire prevention activities in schools; and greater interest on the part of Kansas chambers of commerce, especially in the small towns of the State. He has reported further the laying of a sound foundation for future legislation in the interest of fire safety and the largest attendance ever recorded at the Kansas Fire School, with the personal participation of the Governor, who made addresses before the State conferences.

The Fire Marshal feels that competent machinery has been set up for the successful application of the recommendations of the conferences to the Kansas fire problem.

## **Kentucky**

Former Governor Simeon Willis, in cooperation with the Action Program of the President's Conference, called a two-day conference of the fire chiefs in Kentucky, which was held in Louisville on July 16 and 17, 1947. This conference was so successful that a second conference, on the call of Governor Earle C. Clements, is planned for this year, which will include other interested persons in addition to the fire chiefs.

## **Louisiana**

On January 7, 1947, prior to the President's Conference, Louisiana held a Statewide fire prevention conference on call of Governor J. H. Davis and a Statewide committee was named, to which the Action Program adopted at the President's Conference was referred.

It is believed that a Statewide conference will be held this year, but actual determination awaits attention of the incoming Governor.

## **Maine**

On the call of Governor Horace A. Hildreth, a Statewide fire prevention conference was held at Augusta on January 13, 1948. This conference distributed an action program covering things deemed essential for better fire prevention and protection in that State.

Committee meetings have been held since the conference and groups assigned to study the various aspects of the several committee reports. The laws and law enforcement committee is preparing a tentative draft of legislation to be submitted to the Governor for this study and attention. The work inaugurated by the conference is going forward and a final report of its activities is planned for late summer or early fall.

## **Maryland**

Governor William P. Lane, Jr., designated Insurance Commissioner Claude A. Hanley as chairman of the Maryland committee and called a Statewide fire prevention conference, which was held on January 28, 1948. The conference was attended by outstanding representatives of public and private organizations and subcommittees were named to cover various phases of fire prevention activities. Plans have been completed for four regional fire prevention conferences to be held in the State, the first on April 10, 1948, at Salisbury, another at Hagerstown in the month of May, a third at the University of Maryland during midsummer, and a fourth to be held in the city of Baltimore in October.

These conferences have resulted in a tremendous increase in activity, participation, and interest throughout the entire State in fire prevention.

## **Massachusetts**

Governor Robert F. Bradford called a Statewide fire prevention conference, which was held in Boston on October 28, 1947. It was attended by the Governor, important State officials, and representative citizens, aggregating more than 400 people.

The conference was under the general direction of the late State Fire Marshal, Mr. Edward H. Whittemore, who was responsible for much of its success.

A continuation committee was created and the recommendations of the conference were referred to it for action. This continuing committee has had several meetings and has made much progress in looking toward making effective the conference's recommendations. Its work is going forward with the aid of Edward I. Flanders, the new State fire marshal.

## **Michigan**

Governor Kim Sigler named on March 26 a State Fire Prevention Study Commission, under the chairmanship of Nate S. Shapiro.

A Statewide conference was planned for February 19, but was postponed indefinitely, and up to the present time no future date has been set for it. The chairman of the newly created State Fire Prevention Study Commission is understood to favor a Statewide conference at an early date.

## **Minnesota**

Governor Luther W. Youngdahl called a fire prevention conference, which was held on September 10, 1947, Minnesota being one of the earliest States to take action. This conference adopted a program calling for the organization of several subcommittees. The committee on building construction has had several meetings, as has the committee on petroleum and petroleum products, which has revamped regulations and rules governing the storage, use, and sale of inflammables. These regulations cannot become effective until action is taken by the Legislature meeting in 1949.

Further meetings of the committees of the Governor's fire prevention conference are planned and a second general conference has been set tentatively for some date in July. This second

conference, it is expected, will formulate a legislative program to be presented to the 1949 State Legislature.

### **Mississippi**

No definite plans have yet materialized in this State looking to action in support of the recommendations of the President's Conference, although representatives from Mississippi who attended the Conference have repeatedly expressed the intention of having a Statewide fire prevention conference. Primarily, election contests and the session of the Legislature are believed to be the principle causes for the delay in action.

### **Missouri**

Governor Phil M. Donnelly has appointed a committee to aid in the setting up of an action program in furtherance of the recommendations of the President's Conference on Fire Prevention, but no definite date for a Statewide fire prevention conference has been set.

### **Montana**

Governor Sam C. Ford has twice agreed to call a Statewide fire prevention conference, but has not taken action as yet.

The Commissioner of Insurance and State Fire Marshal, *ex officio*, Mr. John J. Holmes, has done considerable preliminary work throughout the State with the fire departments and has secured their support. The State, also, has provided an inspector, who is meeting with fire departments and instructing them in the use of their own equipment.

### **Nebraska**

Governor Val Peterson is planning a Statewide fire prevention program. He has selected a chairman for a Statewide fire prevention committee and its membership will shortly be announced. An early meeting of the committee is planned, with a view to having its activities in general follow the Action Program of the President's Conference.

### **Nevada**

Governor Vail Pittman appointed the State Fire Prevention Council on November 15, consisting of seven men. It had its first meeting on January 15, 1948, and decided to undertake a survey of every community in the State to determine the property to be protected and the types of protection in effect. A second meeting was held on March 5, 1948.

Due to the great distances in Nevada, the Council has recommended that no Statewide fire prevention conference be held for the time being. In the meantime, the activities of the State Fire Prevention Council and those of the State Fire Bureau are continuing.

### **New Hampshire**

Governor Charles M. Dale called a Statewide fire prevention conference in Concord on October 14, 1947.

One of the important things undertaken is a plan of interstate cooperation with Massachusetts, covering the use of firefighting personnel and equipment. Other things are the development of regional agreements in New Hampshire for the use of firefighting equipment; the expansion and improvement of the radio service of the State forestry department; increased interest in protection in rural communities; increased interest on the part of the fire service personnel in obtaining additional and better training; increased interest on the part of residents of the State as to responsibility for fire safety; improved cooperation between fire services and the general public; increased interest in fire prevention and fire safety; programs over the several State radio stations; and the preparation of a State fire service district program by the State Fire Control Board.

### **New Jersey**

Governor Alfred E. Driscoll called a Statewide fire prevention conference, to be held on April 22, but, in order to give committees ample time to review thoroughly the subjects referred to them and to prepare proper reports, the conference has been postponed to September 22, 1948. Nine committees have been named and are in process of organization, each committee dealing with a separate phase of the problem.

### **New Mexico**

On November 24, 1947, Governor Thomas J. Mabry, by proclamation, appointed a State fire safety committee to cooperate in the furtherance of the recommendations of the Action Program of the president's Conference. The chairman of that committee is Mr. John E. Miles. The committee has recommended that a qualified instructor be employed under the State school superintendent for the purpose of conducting a compulsory fire prevention course in all New Mexico schools.

No plan for a Statewide fire prevention conference have as yet been formulated.

### **New York**

Governor Thomas E. Dewey has designated Mr. Thomas W. Ryan, Director of Safety, as the official to handle the fire prevention program of the State of New York. In addition, the Governor has appointed the Fire Advisory Board of the Division of Safety, consisting of fifteen members.

A plan has been accepted which will provide for the volunteer firemen in the State a fine training program in each of its sixty counties, with financial and other assistance from the State. Since there are 200,000 volunteer firemen in New York State, this will make available excellent training to twenty-five per cent of the volunteer firemen of the country.

In addition, a committee of the legislature is giving study to the question of a Statewide building code.

Other phases of the fire prevention problem will be taken up under the direction of the Director of Safety, who has announced his purpose to integrate and strengthen fire defense throughout the

State by means of a cooperative program involving county, city, town, village, and district fire authorities.

### **North Carolina**

Governor R. Gregg Cherry has advised that the office of Commissioner of Insurance William P. Hodges regulates and conducts the State fire prevention program. So far as we know, no action has been taken in this State to implement the recommendations of the President's Conference.

### **North Dakota**

Governor Fred G. Aandahl has referred the matter of the fire prevention action program to Commissioner of Insurance Otto Krueger. One of Mr. Krueger's deputies has reported, in response to an inquiry, that "program in operation".

### **Ohio**

Governor Thomas J. Herbert called a conference at Columbus, which was held on September 12, 1947. It was addressed by the Governor and was supported financially by the State.

This State has developed a fine plan for Statewide cooperation and, in large measure, has carried it into effect.

It is believed that the plan adopted and in operation in Ohio is probably the most comprehensive and well organized of all of the state programs. The State has been organized into districts and in all the larger cities a city chairman has been designated. An appropriation of \$35,000 has been set aside by the State Emergency Board, at the request of the Governor, to be used this year to promote the activities of the Governor's Fire Safety Committee. The last session of the general assembly presented a bill creating a Fire Prevention Bureau, an Arson Bureau, and a Personnel Fire Protection Bureau in the State Fire Marshal's Office. The leadership is highly competent and the committee has announced its intention of carrying on an aggressive program this year.

Mr. Joseph B. Hall, as chairman, and Mr. William G. Werner, as public relations director, are devoting much time to this work notwithstanding their heavy duties as executives of two of America's leading industrial concerns.

### **Oklahoma**

The State Advisory Committee on Fire Service Training met at Oklahoma Agricultural and Mechanical College on September 10, 1947, with officials of the college and of the State Department of Trade and Industrial Education. In connection with this program, the committee suggested a Statewide fire prevention committee as recommended by the President's Conference on Fire Prevention. Acting on this request, Governor Roy J. Turner on April 8, 1948, named a committee, of which Mr. K. B. Banks of Oklahoma City is chairman.

## **Oregon**

Governor John H. Hall, acting through Insurance Commissioner Seth B. Thompson, has reported that Oregon has made considerable progress in the matter of fire prevention and fire control since the President's Conference.

One of the major activities has been the strengthening of the fire control defenses of the State by assisting local communities in stressing the importance of more equipment, manpower, and training in the fire departments. Firemen's training has been intensified and the Forestry Department carries on a continuous fire prevention campaign. Twenty new rural fire protection districts were added during 1947 and several have been added since.

No Statewide conference committee or conference is planned.

## **Pennsylvania**

Governor James H. Duff called a Statewide fire and accident prevention conference, which was held at Harrisburg on December 20, 1947, under the auspices of the State Department of Labor and the Pennsylvania State Police. Some 500 persons from all parts of the State, representing business, industry, the fire services, and other groups, were present. Further plans for stimulating fire prevention activities throughout the year have been made, and the Governor reports that it is evident that additional local action is under way.

## **Rhode Island**

Governor John O. Pastore called a Statewide fire prevention conference, which was held on March 15, 1948, at Providence. A continuing committee, of which the chairman is the Superintendent of State Police and State Fire Marshal, ex officio, was created and has had a meeting since the State conference.

The committee is concentrating at the present time on fire prevention education. Rhode Island State College is cooperating and special emphasis is being placed on the exhibition in schools of fire prevention motion pictures, and also, on lectures on fire prevention.

The continuing committee has announced its determination to carry out as many as possible of the recommendations at the conference and as soon as possible.

## **South Carolina**

Governor J. Strom Thurmond has named a committee to draw up a new building code, which committee has not yet been able to present its recommendations. The office of the Insurance Commissioner has inspected school buildings and effected better measures of protection. Theatres, hotels, and other buildings have likewise been inspected and recommendations for improvements made.

## **South Dakota**

Governor George T. Mickelson reports that, following the President's Conference on Fire Prevention, he checked into the matter of fire losses in his State and as to what steps might be taken to reduce them. He was convinced that a continuation and a stepping-up of the program

already under way, directed by the State Fire Marshal, would accomplish as much as any other plan, and these actions have been taken.

The program involves inspection and training of volunteer firemen, talks to firemen in conjunction with all meetings held by local fire districts, inspection of schools and other public buildings, and addresses to groups such as parent-teacher associations and the service clubs.

## **Tennessee**

Governor Jim Nance McCord called a Statewide fire prevention conference, which was held at Nashville on April 26, 1948. Dr. Andrew D. Holt, conference chairman, State Fire Marshal James M. McCormack, and Leon McGilton, chairman of planning committee, organized a most successful conference, which provided for permanent Statewide activities, to be guided by a committee appointment by the Governor.

Governor McCord personally participated in the conference, delivering an address which was broadcast throughout the State.

## **Texas**

Governor Beauford H. Jester called a Statewide fire prevention conference, which was held in Austin on October 9, 1947. This conference was addressed by the Governor.

Four subcommittees were appointed and the Governor reports that their activities are developing in a very orderly manner and will continue and expand with time.

He has paid tribute to the excellent spirit of cooperation being exhibited by the people of his State, which he believes insures the success of the program.

A Statewide fire prevention ordinance is being prepared and should be ready for consideration in about four months. Plans for fire prevention programs in every school in the State are under way. The cooperation of the fire services throughout the State has been secured, as has that of the State Traffic Safety Association. The 250 Red Cross Chapters in the State are also assisting the Governor's committee in any way possible.

## **Utah**

Governor Herbert B. Maw, on November 21, 1947, called a Statewide meeting on fire prevention of interested citizens, and Mr. J. Whitney Floyd was appointed chairman of the Utah State Fire Safety Committee. Additional meetings were held, on February 5 and February 20, at which plans for fire prevention were promulgated. Special committees on fire prevention and fire codes have been named and the county commissions in each county have been asked to name a county fire safety chairman to coordinate and stimulate the creation of community fire safety committees throughout his county.

## **Vermont**

Governor Ernest W. Gibson reports that no Statewide conference on fire prevention has been held, but that representatives of the Fire Prevention Division have made radio broadcasts,

addresses before civic meetings, chambers of commerce, and other groups, and that an entirely new and modern group of state regulations governing fire prevention and fire protection is being promulgated at the present time – that a fire prevention committee is working on such regulations and fire prevention problems in the State.

Representatives of the Fire Prevention Division have attended several of the conferences called by Governors of the New England States.

This Division has suggested that thought be given to holding a Governor's conference on fire prevention in Vermont in the late summer or early fall of 1948.

## **Virginia**

Following the loss of life in the Hotel Jefferson fire in Richmond, the legislature passed a resolution referring to the Virginia Advisory Legislative Council the question of fire safety in public buildings. After long, extensive hearings and meetings, that body submitted to the legislature a report dated November 18, 1947, recommending legislation. The general assembly in 1948 enacted, with one exception, the legislation recommended by the Virginia Advisory Legislative Council and, in addition, adopted a bill authorizing the governing bodies of political subdivisions of the State, such as cities, towns, and counties, to adopt recognized fire prevention and fire protection codes by reference.

In order to keep fire prevention, fire protection, and fire safety up to date, the actual promulgation and constant amendment and revision of rules and regulations were left to the State Corporation Commission, a constitutional body to whom may be delegated legislative functions, thus achieving a method whereby Virginia may be kept abreast of developments without the necessity of additional legislation. Provision was made so that requirements may be retroactive to existing buildings.

All members of the Virginia Advisory Legislative Council attended the President's Conference on Fire Prevention.

With reference to a Statewide fire prevention committee and conference, the Governor and the State Chamber of Commerce felt that private enterprise should do the job rather than Government. The Virginia State Chamber of Commerce, with the promised cooperation of Governmental authorities, has organized a fire prevention committee at state level, of which Walter O. Randlett of Richmond is chairman and L. O. Freeman, Jr., of Richmond, vice chairman. This central committee has been broken down into subcommittees, of which members of the central committee are chairmen, so as to reach throughout the State, following the pattern recommended by the President's Conference on Fire Prevention. The first Statewide State Chamber of Commerce fire prevention meeting was held on April 15. The members of the committees have accepted this responsibility as a challenge to private enterprise to make good.

## **Washington**

Governor Mon C. Wallgren reports that a State organization for fire prevention is being set up and, at his request, is being headed by Commissioner of Insurance and State Fire Marshal, ex officio, William A. Sullivan.

This Statewide committee began functioning on April 15, 1948. While it is understood that a Statewide conference is planned, no definite date has been fixed.

### **West Virginia**

Governor Clarence W. Meadows called a Statewide fire prevention conference, which was held in the State Senate Chamber, State Capitol, on October 27, 1947. The conference was addressed by the Governor. It was a very successful one.

The chairman of the Governor's Statewide fire safety committee is Fire Marshal Robert H. Kidd.

Since the conference, a summary of its recommendations has been publicized and efforts continued to carry out its recommendations.

The committee on building codes and law enforcement is proceeding with a study, from which it is hoped to achieve a maximum of fire safety in these fields. The committee on industrial protection is continuing to encourage individual management to effectuate a real fire protection program at each plant. With the cooperation of Fire Marshal Kidd, who has been a very active leader in the matter, a complete survey is being made of all public institutions, and a disaster program prepared.

### **Wisconsin**

Governor Oscar Rennebohm has called a Statewide fire prevention conference for May 17, 18, and 19, 1948, and is personally cooperating and assisting the general committee in the arrangements for the program. Attendance will be at the Governor's personal invitation and an excellent program is being prepared.

### **Wyoming**

No report of any action taken in this State has been received.

### **Territory of Hawaii**

Governor Ingram M. Stainback has advised that, while no organized committees have been set up, various Governmental agencies normally performing functions described in the Action Program of the President's Conference, have started work on some of the matters suggested, including a revision of the fire marshal's rules and regulations in their entirety, with particular attention to dry cleaning rules and regulations and fire prevention education in the individual schools, together with fire drills and inspections. The appointment of a committee for the revision of the present building code by the Mayor of Honolulu has been made, and increased studies are being conducted by the Honolulu Fire Department of hazardous buildings and organizations.

### **Puerto Rico**

Governor Jesus G. Piñero reports that since the President's Conference on Fire Prevention, Puerto Rico has extended its fire prevention and extinguishment activities. Nine additional towns have been provided with service. A new arson bill has been introduced in the Legislature

and favorable action on it is anticipated. A further program for enlargement of the fire protection services is planned for next year.

# Appendix B

The following cities, listed alphabetically by States, have reported varying activities designed to increase fire safety. The actions taken, in the aggregate, cover almost every conceivable improvement and are too numerous to list in this report. It is hoped that a special bulleting will be prepared at a late date outlining in some detail many advances made by these cities.

## ALABAMA

Albertville  
Athens  
Bessemer  
Birmingham  
Cullman  
Dothan  
Floral  
Gadsden  
Mobile  
Tuskegee

## ARIZONA

Tucson

## ARKANSAS

Fort Smith  
Hot Springs  
Van Buren

## CALIFORNIA

Alhambra  
Antioch  
Arcadia  
Berkeley  
Burlingame  
Carmel by the Sea  
Chico  
Chino  
Compton  
Delano  
El Monte  
El Segundo  
Gardena  
Glendale  
Hanford  
Hayward  
Hemet

## CALIFORNIA - continued

Hillsborough  
Long Beach  
Los Angeles  
Lynwood  
Madera  
Monrovia  
Montebello  
Monterey  
Oakland  
Ontario  
Oxnard  
Pacific Grove  
Palm Springs  
Palo Alto  
Petaluma  
Piedmont  
Redding  
Redondo Beach  
Riverside  
Richmond  
San Diego  
San Jose  
San Mateo  
Santa Maria  
Santa Monica  
Sierra Madre  
Stockton  
Upland  
Vallejo  
Visalia  
Whittier  
Yuba

## COLORADO

Colorado springs  
Delta  
Denver

**COLORADO - continued**

Durango  
Forth Collins  
Huntington  
Montrose

**CONNECTICUT**

Ansonia  
Bristol  
Derby  
Hartford  
Naugatuck  
New Haven  
New London  
Southington  
Stamford  
Williamantic

**DELAWARE**

Newark

**FLORIDA**

Avon Park  
Dade City  
Daytona Beach  
Eustis  
Hialeah  
Hollywood  
Jacksonville Beach  
Key West  
Lakeland  
Madison  
Melbourne  
Miami Beach  
Orlando  
Pensacola  
Tallahassee  
Tampa  
Vero Beach  
Winter Haven  
Winter Park

**GEORGIA**

Atlanta  
Augusta  
Blakely

**GEORGIA - continued**

Cairo  
Columbus  
Decatur  
East Point  
Gainesville  
Hapeville  
Marietta  
Swainsboro  
Thomasville  
Tifton  
Toccoa

**IDAHO**

Boise  
St. Anthony

**ILLINOIS**

Aledo  
Barrington  
Brookfield  
Champaign  
Evanston  
Freeport  
Glencoe  
Joliet  
Mattoon  
Maywood  
Moline  
Monmouth  
Olney  
Pekin  
Peoria  
Petersburg  
Rochelle  
Rockford  
Watseka  
Zeigler

**INDIANA**

Bedford  
Fort Wayne  
Garrett  
Hartford  
Kokomo  
North Manchester

**INDIANA - continued**

Princeton  
Tipton  
Vincennes  
Warsaw

**IOWA**

Belle Plaine  
Fort Dodge  
Mason City  
Pella  
Vinton

**KANSAS**

Belleville  
Girard  
Hutchinson  
Larned  
Liberal  
Pittsburg  
Topeka

**KENTUCKY**

Covington  
Cumberland  
Hopkinsville  
Princeton  
Winchester

**LOUISIANA**

Bunkie  
New Orleans

**MAINE**

Bangor  
Belfast  
Brunswick  
Caribou  
Fairfield  
Lewiston  
Madison  
Rockland

**MARYLAND**

Baltimore

**MARYLAND - continued**

Hagerstown

**MASSACHUSETTS**

Attleboro  
Boston  
Cambridge  
Chelsea  
Easthampton  
East Weymouth  
Gloucester  
Greenfield  
Medford  
Methuen  
Natick  
Newton  
Orange  
Pittsfield  
Stoughton  
Watertown  
Whitman

**MICHIGAN**

Allegan  
Alma  
Alpena  
Bay City  
Benton Harbor  
Crystal Falls  
Ecorse  
Hazel Park  
Highland Park  
Iron Mountain  
Kalamazoo  
Manistique  
Manitowoo  
Marquette  
Mount Clemens  
Mount Pleasant  
Muskegon  
Port Huron  
Portland  
Saginaw  
Saint Louis

**MICHIGAN - continued**

Sturgis  
Three Rivers  
Wayne  
Ypsilanti

**MINNESOTA**

Anoka  
Bayport  
Gilbert  
Minneapolis  
Moorhead  
Saint Paul  
South Saint Paul  
Stillwater  
Thief River Falls  
West Saint Paul

**MISSISSIPPI**

Clarksdale  
Gulfport  
Moss Point  
Yazoo City

**MISSOURI**

Aurora  
Butler  
Chillicothe  
Kansas City  
Liberty  
Saint Louis  
Salem  
University City

**MONTANA**

Lewistown

**NEBRASKA**

Alliance  
Omaha  
Lincoln

**NEVADA**

Elko  
Sparks

**NEW HAMPSHIRE**

Concord  
Franklin  
Portsmouth

**NEW JERSEY**

Boonton  
Butler  
Camden  
Chatham  
Clementon  
Cliffside Park  
Haledon  
Maplewood  
Matawan  
Morristown  
North Plainfield  
Nutley  
Sayreville  
Trenton  
Vineland  
Woodlynne

**NEW MEXICO**

Lordsburg  
Tucumcari

**NEW YORK**

Ballston Spa  
Buffalo  
Cohoes  
Cortland  
East Rochester  
Elmira  
Glens Falls  
Johnson City  
Kingston  
Lockport  
Long Beach  
Mamaroneck  
Mechanicsville  
Newburgh  
New York  
Norwich

**NEW YORK - continued**

Niagara Falls  
Patchogue  
Poughkeepsie  
Rochester  
Rome  
Schenectady  
Scotia  
Sea Cliff  
Solvay  
Southampton  
Syracuse  
Tonawanda  
Tuckahoe  
Warsaw  
Watertown  
Watkins Glen  
Westbury  
Westfield  
White Plains  
Yonkers

**NORTH CAROLINA**

Asheville  
Burlington  
Canton  
Charlotte  
Hamlet  
Morganton  
Thomasville  
Whiteville

**NORTH DAKOTA**

Grand Forks  
Fargo

**OHIO**

Akron  
Ashtabula  
Bay Village  
Bowling Green  
Bucyrus  
Canton  
Carey  
Chillicothe

**OHIO - continued**

Cincinnati  
Cleveland Heights  
Columbus  
Dayton  
East Cleveland  
Euclid  
Hubbard  
Kent  
Lakewood  
Marietta  
Newton Falls  
Painesville  
Portsmouth  
Sandusky  
Shelby  
St. Marys  
Toledo  
Uhrichsville  
Wadsworth  
Wellston

**OKLAHOMA**

Ada  
Claremore  
Duncan  
Edmond  
Enid  
Lawton  
Norman  
Oklahoma City  
Pauls Valley  
Shawnee  
Woodward

**OREGON**

Albany  
Astoria  
Corvallis  
Eugene  
Hillsboro  
Oregon City  
Pendleton  
Portland  
Roseburg

**PENNSYLVANIA**

Ambridge  
Ashland  
Bangor  
Beaver Falls  
Ben Avon  
Boyertown  
Braddock  
Brentwood  
Bridgeville  
Carlisle  
Chester  
Cipollo  
Coplay  
Dallastown  
Darby  
Duryea  
Elizabethtown  
Freeland  
Greencastle  
Grove City  
Hummelstown  
Jenkintown  
Jermyn  
Kingston  
Lewistown  
Lock Haven  
Meadville  
Media  
Milton  
Morrisville  
Pittsburgh  
Pottstown  
Pottsville  
Renovo  
Scranton  
Shenandoah  
Shillington  
Souderton  
South Greensburg  
Summit Hill  
Tyrone  
Wellsboro  
Winton  
York

**PENNSYLVANIA - continued**

Youngwood

**RHODE ISLAND**

East Providence  
Newport  
Providence

**SOUTH CAROLINA**

Florence  
Gaffney  
Georgetown  
Greenville  
Hartsville  
Summerville  
Sumter  
Woodruff

**SOUTH DAKOTA**

Lead

**TENNESSEE**

Alcoa  
Clarksville  
Jefferson City  
Kingsport  
Knoxville  
Memphis  
Milan

**TEXAS**

Austin  
Beaumont  
Borger  
Brownsville  
Clarksville  
Corpus Christi  
Electra City  
Fort Worth  
Gainesville  
Haskell  
Jefferson  
Kerrville  
Kingsville  
Mexia

**TEXAS - continued**

Odessa  
Orange  
San Benito  
San Diego  
Seguin  
Stamford  
Texas City  
Tyler  
Victoria  
Waxahachie

**UTAH**

Bingham Canyon  
Logan City  
Midvale  
Orem  
Price  
Salt Lake  
South Salt Lake

**VERMONT**

Burlington  
Montpelier  
Rockingham  
St. Albans

**VIRGINIA**

Altavista  
Arlington County  
Bedford  
Big Stone Gap  
Blackstone  
Bristol  
Falls Church  
Franklin  
Fredericksburg  
Harrisonburg  
Lynchburg  
Newport News  
Norfolk  
Pearisburg  
Petersburg  
Pulaski  
Radford

**VIRGINIA - continued**

Roanoke  
South Boston  
South Norfolk  
Staunton  
Suffolk  
Williamsburg

**WASHINGTON**

Centralia  
Colfax  
Renton  
Seattle  
Sunnyside  
Yakima

**WEST VIRGINIA**

Buckhannon  
Charles Town  
Grafton  
Huntington  
Princeton  
Williamson

**WISCONSIN**

Beloit  
Delavan  
Green Bay  
Green Dale  
Kenosha  
La Crosse  
Milwaukee  
Racine  
Rhineland  
Sheboygan  
Shorewood  
Stevens Point  
Superior  
Watertown  
Waupaca  
West Bend

**WYOMING**

Lander  
Sheridan