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# MINORITY REPORT

Minority Report of Anne Wight Phillips, M.D.,  
Harvard Medical School, Massachusetts General  
and Youville Hospitals.

## TO KEEP THEM SAFE



A Tribute.-This minority of the National Commission on Fire Prevention and Control commends the President and the Congress for their concern for public safety and wishes to express her esteem for the dedicated majority of the Commission with some of whose recommendations she concurs although taking the liberty of disagreeing with others.



FIGURE 1

I am indebted to Patty and her parents for permission to present this series of pictures, which emphasize, more adequately than words can tell, the urgency of our fire problem. This picture was taken at age 8, before her burn injury.

Top photo by Frank Kelly, Boston Herald American

## MINORITY REPORT OF COMMISSIONER ANNE W. PHILIPS, M.D.

Mr. President and Members of the Congress of the United States:

This minority, although endorsing many of the conclusions and recommendations of the majority of the Commission, cannot approve the following :

- I. The magnitude of the projected budget for the majority's program (\$153,090,000)
- II. The location of responsibility for all of the nation's fire problems within a single agency and department
- III. The proposed paramount objective for the new U.S. Fire Administration and the resulting distribution of resources recommended
- IV. The proposed interim budget for the National Bureau of Standards

### I. The Minority Opposes the Projected Budget

The saving of a single life is not justified, if for the same expenditure of funds and effort, it is possible to save more than one. Neither in direction nor magnitude can I support the majority's projected budget, for I believe that the saving in lives, property, and human suffering, which would be achieved by the Commission majority's program, can be equalled or exceeded with a significantly smaller budget.

### II. The Minority Opposes the U.S. Fire Administration

At the end of the first half year as a member of the Commission I was in favor of the creation of a single Federal agency to coordinate the activities of all agencies concerned with fire in the Federal Government. The need for careful planning for the Nation's fire programs and the prospect of economy through reduced duplication and administrative overhead seemed to justify it. Reluctantly, I have come to take the opposite position for the following reasons :

#### 1. Likelihood of neglect of important aspects of the fire problem

In whatever department the proposed U.S. Fire Administration settles, it must, inevitably, (unless it is very large) lack expert knowledge and special interest in those fire problems, which are primarily concerned with the interests of other Federal departments. Even with the best of intentions, needed programs outside the major thrust of the Administration and the interests of the chosen department will be down-graded or neglected, receiving less attention and funding than they merit-in part because the department and the administration will

not have the background to see their importance and in part because the outside department will have less interest in pursuing fire programs, considering them Fire Administration matters.

Judging from the proposed budget, this downgrading process has already begun.

### 2. Limited national resources

At its first meeting, the National Commission on Fire Prevention and Control unanimously adopted as its objective the reduction of the losses of life and property from destructive fires. A glance at the majority's proposed budget will indicate that any prospects of financial savings, due to better administration or wasteful duplication, may be of fleeting benefit in the face of the high costs of the proposed programs, some of which may have little impact on the losses of life and property from destructive fires. In view of our limited resources it appears wise to spend such funds as can be made available on solutions to the fire problem, using existing agencies, rather than on creating a new administration and new demands for funds.

### 3. Existing agencies could make substantial *strides* in fire prevention and control

It is sound policy to give responsibility for any enterprise to those with special knowledge and ability in the field, but impossible in this case, since no single department has "expertise" in all aspects of the fire problem. There are many people with such specialized knowledge and ability in the various Federal departments and in the private sector, who are ready, willing, and able to go to work on reducing the Nation's fire losses. It seems the part of wisdom to use them.

### 4. Loss of valuable volunteer effort

It is apparent from the programs proposed for the U.S. Fire Administration that, if implemented as written, the Administration would take over many functions which are now carried out-without cost to the taxpayer-by private enterprise. This minority cannot contemplate with complacency the demise of the National Fire Protection Association, for example, which in the 78 years of its existence, has, through its fire prevention efforts, its educational programs and its life safety codes, become a world leader in the continuing war against fire. No one will ever know the number of lives, jobs, and millions of dollars worth of property saved by their endeavors.

If a U.S. Fire Administration is to be, let the enabling legislation be so drawn that maximum use is made of such private agencies. It would seem simpler and cheaper and quicker to call upon them for their expert assistance now, without the creation of a new Government agency.

### 5. White knight effect

The fire problem has wide ramifications-social, political, scientific, economic, and so on. The proposed multifaceted U.S. Fire Administration, by taking on all aspects of the fire problem, may, like the white knight, gallop off in all directions, spreading itself too thin to prove the master of any. It would seem that there is more to be gained by tackling smaller aspects of the problem and handling that little well.

### 6. The Commission recommendations run *roughshod* over Title I

Congress, by Title I of the Fire Research and Safety Act of 1968 (see App. I), authorized the Secretary of Commerce to conduct, directly, or through grants, fire research, educational programs, a fire information reference service, and so on. In that act Congress also assured the continuation of other existing Federal fire programs by stating that "nothing contained in this title shall be deemed to repeal, supersede, or diminish existing authority or responsibility of any agency or instrumentality of the Federal Government." Congress, therefore, after due deliberation, felt it unwise to remove all fire problems to a single department, although giving the Department of Commerce the lion's share of the responsibility. This Commission minority finds itself in agreement with them.



FIGURE 2

Patty's face on her first admission to the Shriners' Burns Institute in Galveston. She underwent more than 3 months of reconstructive surgery, costing approximately \$27,000. (The darkening of her hair at this age is normal for her family coloring). Figure 3 shows her appearance after many operations.

### 7. Inevitable delay

Statistics tell us that 300,000 children are going to be seriously burned in this country in the next 2 years. Their suffering depends upon our speed (Figs. 1, 2, and 3). Admittedly, we are never going to prevent all fire accidents, but there is sound evidence that many of the victims can be spared if fire safety education programs are promptly initiated. With swift and adequate funding, the Department of Commerce might have the multimedia education campaign recommended by the Commission well underway before hearings on the proposed U.S. Fire Administration can begin.

### 8. Danger of pressure from special groups

Although in the majority of instances the interests of special groups in the fire field will run parallel with the interests of the Nation, the situation should not be created where the Nation's fire interests could be subordinated to those of any special group.

### III-A. The Minority Questions the Direction of Emphasis for the U.S. Fire Administration

This Commissioner believes that, if there is to be an all-encompassing U.S. Fire Administration, its paramount objective should be the same as that adopted by the Commission: *the reduction of the losses of life and property from destructive fires.* Contributing to that objective should be programs such as firesafety education for the general public,



FIGURE 3.

Results after extensive plastic reconstruction. Patty wishes no further surgery at this time.

applied research to produce a safer environment, basic research on the nature of fire and smoke, their behavior and control, improved education for members of the fire service, and so on,

The concept set forth in Chapter 19, that assistance to local fire services should be paramount among the objectives of the proposed U.S. Fire Administration I cannot accept.

Tremendous credit should be given to the fire service for its ready acceptance of the concept that firemen should serve primarily as "fire preventers", rather than "firefighters." They will need help in changing to this new position. Even before this shift, there was a need for better education of the fire officer-better training in command, management, educational and training techniques, fire suppression, community relations, arson, and so on, to which the new emphasis on fire prevention must be added.

I believe that creation of a National Fire Academy is needed, but not as an objective ranking higher than all others. If a secondary objective is to be assigned, let it be to knowledge-new knowledge through research and dissemination of existing knowledge. *Widespread public education in fire safety principles should be our first concern.*

There is an old saying in the fire service, cited in the Commission report, that "The three principal causes of fire are men, women, and children." Statistics bear this out, making it crystal clear that most deaths, most injuries, and most fires are caused by people. Since people are the cause of the overwhelming majority of fires, it is reasonable to believe that people must be included in the solution.

Much can be done by making clothing fire resistant and by installing automatic extinguishing systems and early detection systems-there have been no recorded instances of multiple deaths in buildings fully equipped with operational sprinklers, for example-but man can, and does, circumvent the devices installed for his protection, painting over sprinkler heads, propping open smoke and fire doors and putting a penny in the fuse box. There is no substitute for understanding how to prevent fires and what to do when fires occur.

### What do Americans Know About Fire Safety?

In the first months of the Commission's existence, a search was made for data on the American public's knowledge of fire safety principles. Surprisingly, the only studies discovered were made after small fire education campaigns. No one had probed our citizens' basic fire knowledge.

Since an incredible delay is necessitated by Federal restrictions on questionnaires, a survey of our citizens' knowledge was undertaken independently of the Commission and without its financial sup-

port.' Initially several hundred adults and children around the Nation were interviewed. Then a questionnaire was devised and is now being used in schools, together with an answer sheet, SO that students can learn, while correcting their own papers. A copy of the questions will be found in Figure 4, should the reader wish to sample his or her own firesafety knowledge before reading further. The answers appear at the end of this minority report.

Figure 4

**FIRE SAFETY QUESTIONNAIRE**

Student  Fire Safety Teacher  Age \_\_\_\_\_  
 Schooling: Public   
 Private   
 Teacher  Previous Fire Training, \_\_\_\_\_  
 Where (if any) school, Scouts, Army,  
 industry, etc.  
 Address: \_\_\_\_\_ Sex: Male  Female   
 City State

1. If your house began to fill up with thick, black smoke, what would you do? (answer fully)
2. What would you do if you woke up at night, smelled, smoke, and found that your bedroom door was shut, but hot when you touched it?
3. Will the clothing you have on now burn?
4. What would you do right now if your clothing caught on fire?
5. If you were trapped in a bedroom on the fifth floor with flames outside in the hall and smoke pouring in under the door (with no telephone and no fire escape), what would you do?
6. (a) When you go to a strange place (movie house, friend's house for the night, hotel, restaurant, etc.), do you check to see where the exits or fire escapes are?  
 (b) If the answer to 6(a) was "Yes," do YOU depend on being able to see the exit to find it, or do you figure out how to find it in the dark or in thick smoke?
7. Do you have a family escape plan, including ways of getting out of your house if the stairs or doors are blocked by fire, and a meeting place outside the house?
8. What should you do (or should your wife or mother do) if the frying pan catches on fire?
9. Carbon monoxide is produced by almost all fires. What effect does it have on you before it makes you sleepy and kills you?
10. Assume you plan to hang by your hands from a window ledge and then drop to the earth below. Estimate in feet the distance you could drop and still have a 50:50 chance of surviving without serious injury.
11. (a) What is the reason for having fuses in an electric circuit?  
 (b) What strength fuse should be used in an ordinary lighting circuit?
12. What number should you dial to report a fire by telephone, and how should you report it?

<sup>1</sup> This Commissioner has paid for all printing and most of the postage from her own limited resources. She is indebted to Harvard Medical School for a small supplementary outlay for postage.

13. When is an electric cord dangerous? (give at least two examples)
14. When is a double plug dangerous?
15. What should you do if you discover a large fire in your basement?
16. If you are trying to light a gas oven or burner and the first match goes out too soon, what should you do?
17. What is meant by "spontaneous combustion" or "spontaneous ignition"?
18. How should you store oily or greasy rags?
19. Why should gasoline be stored only in metal cans with self-closing caps?
20. Should you put out an electric fire with water?

**Limited Survey Finds Alarming Voids in Public Fire Safety Knowledge**

Data from 2,109 Americans of all ages from Maine to Florida and New York to California follows. <sup>2</sup> It would be presumptuous to generalize from this small sampling to the Nation as a whole, but thus far the findings have been surprisingly consistent from State to State and from one school district to another.

Less than 30, out of every 100 teenagers questioned, knew that in the presence of smoke they should stoop low or crawl out of the fire area.

Half of the youngsters from 7 to 18 questioned would do something dangerous if the frying pan caught fire, attempting to carry it or throw water on it. Teenagers were no more knowledgeable than children from 7 through 12.

Over 500 people questioned did not know that opening a hot door during a fire would almost certainly expose them to heat above human tolerance. This group included 44 out of 177 teachers. Almost no children under seven knew that they should drop and roll if their clothing caught fire. Very few families had a well thought out escape plan, including a predesignated meeting place outside the house.

Three-quarters of the adults questioned recommended the use of too strong a fuse for an ordinary lighting circuit.

Asked what they would do if trapped in a fifth floor room with flames outside in the hall and smoke pouring in under the door (with no telephone and no fire escape), only 3 out of 10, old or young, thought to stuff anything into the death-dealing crack. Some, of all ages, including teachers, said they would jump.

39, out of every 100 adults questioned, would react dangerously if their clothing ignited, many failing to comprehend the speed with which fire can spread to the neck and shoulders from the trouser cuff or hemline (Fig. 5) .

<sup>2</sup> The author of this report wishes to express profound gratitude for assistance in this survey rendered by Chief Robert Fly of Kirkland, Wash., and Chief Merrill Hendricks of Dallas, Tex.

## In Only . . . . TEN SECONDS . . . .

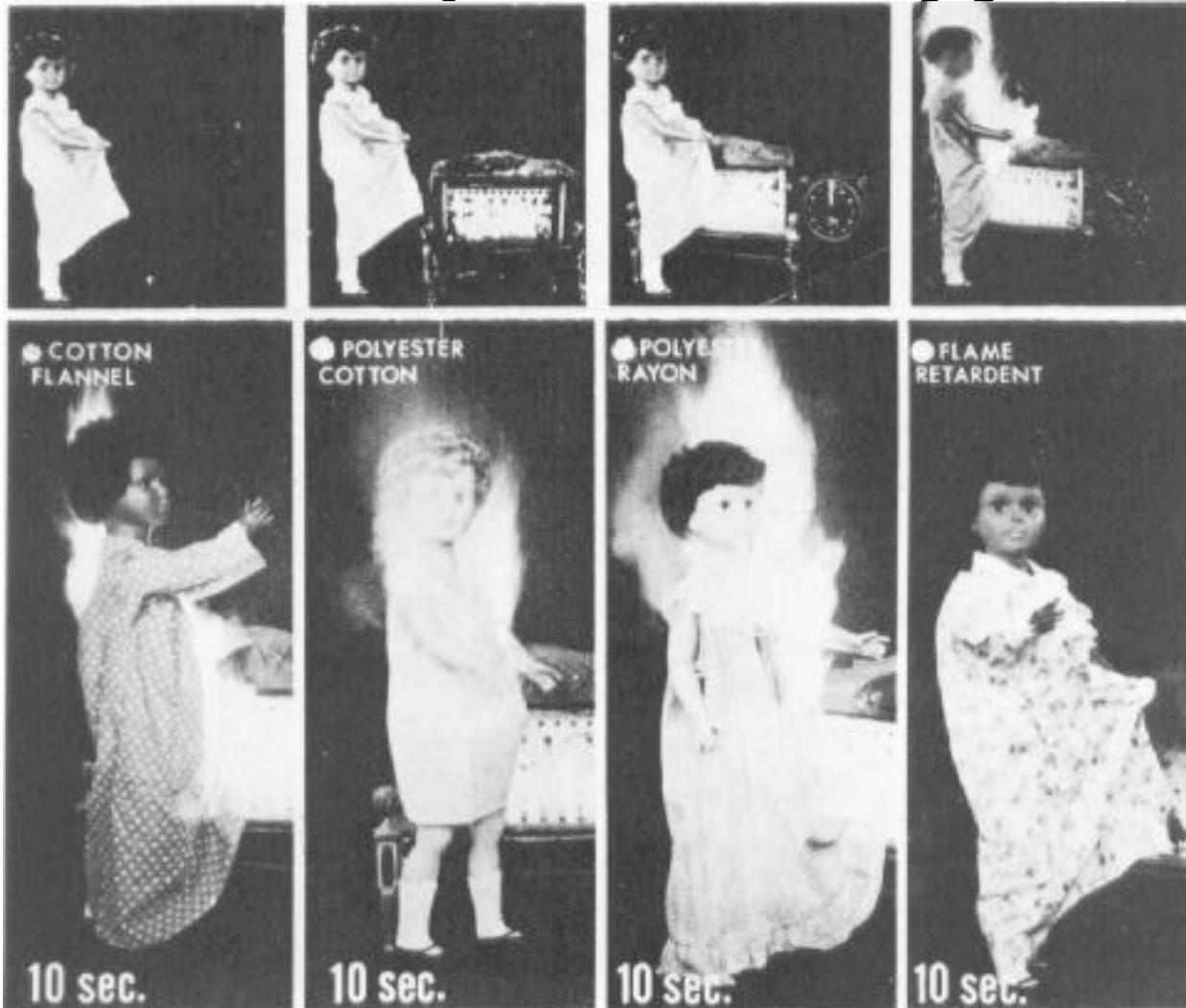


FIGURE 5

The need for public fire safety education is clear. That it can be effective is documented by the Commission in Chapter 15. Other evidence is available. Hopefully, my objection to the direction proposed for the U.S. Fire Administration now appears justified.

What of the budget?

### III-B. The Minority Opposes the Budget Allocations

My main objections to the proposed budget are threefold :

1. Proposed budget is not responsive to the con-

cerns of the Nation's fire chiefs.-In the early days of this Commission, a questionnaire was sent out to fire chiefs throughout the Nation. Replies from 10,000 chiefs have been tabulated, Under the heading "Evaluation of Fire Department Problems" the chiefs were asked to rank "in order from most serious to least serious" the problem areas of concern to them. Unselfishly, the chiefs gave top ranking to "lack of effective public education on fire safety." Inadequate training and education for fire service personnel was listed eighth and the need for improved fire department apparatus and personnel protective equipment ninth. The proposed budget fails to reflect their considered opinions.

2. *Need for pilot projects.*-The majority of the Commission has recommended that every local fire jurisdiction prepare a master plan designed to meet the community's present and future needs, and \$30 million are budgeted for local master plan development. Similarly \$15 million have been set aside for equipment upgrading and \$10 million for detection and alarm systems and built-in protection loan insurance. We do not know whether these programs will reduce the losses of life and property from destructive property. These, and untried educational programs, should be tested on a local or regional basis through pilot projects, before investing large amounts of money on their implementation nationwide. Training of burn specialists should likewise, precede the development of burn centers.

3. *Inadequate provisions for public education.*-The budget allotment for public education will not produce the type of program the Commission has envisioned in chapter 15. There are 25 million children in this Nation between kindergarten and sixth grade. The \$6 million specified for elementary school education on chart 15.2 is estimated by both private and Government experts to be insufficient to put one piece of effective material in the hands of each school child. Ten million would be required to supply effective graded materials to each of the Nation's 1.3 million elementary school teachers. Other means, such as using existing films and visual aids, close-circuit TV, etc. should be explored, but it seems unlikely that the proposed budget will be adequate to achieve the desired results.

#### IV. Minority Finds Interim Budget Insufficient

The setting of the interim budget at \$3 million for research and engineering programs fairly well precludes the National Bureau of Standards from acting in accordance with most of its mandate under Title I during the next year or two. Assigned an inadequate budget of \$5 million at the outset and underfunded at that, it can be reasonably expected to continue to do only those things for which it has the greatest research and engineering ability. The NIFE program (National Inventory of Fire Experience) for cooperative effort between the Bureau of Standards and the National Fire Protection Association will probably be left in abeyance because of the uncertainty of its future. If a national fire data system is to be set up under the US. Fire Administration, and essentially independent of them both, there may be little initiative to go forward.

Almost certainly 2 years and more will pass before any real Federal fire safety education program is undertaken (whether through grants or otherwise), while week after week more Pattys are carried into the Nation's hospitals (Figs. 2 & 3).

## DISCUSSION

### I. Budget

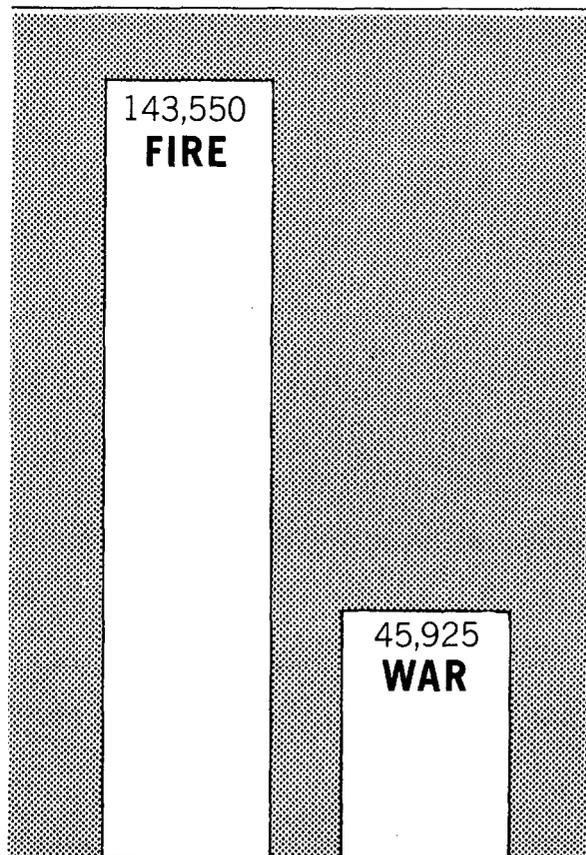
Although in my opinion the total budget proposed by the majority of the Commission is too big, yet what has been spent on fire prevention and control by the Federal Government in the past is too small.

### II. Measures To Reduce Injuries and Loss of Life and Property From Destructive Fires

It is the conviction of this minority that *without a continuing massive program to educate the public in simple fire safety measures, a substantial reduction in our tragic American fire toll cannot be expected.* The principal measures recommended to save lives, suffering and property are:

1. A massive multimedia, recipient-oriented public education campaign.
2. Fire education in the schools.

FIGURE 6 Deaths—U.S. Fires vs. Vietnam War



Comparisons of deaths in U.S. military personnel (Army, Navy, Coast Guard, Marine Corps, and Air Force) resulting from actions by hostile forces in Vietnam, 1961 through 1972, and deaths from U.S. fires for the same period (Statistics from the Department of Defense and the National Fire Protection Association).

3. Fire department involvement in fire safety education of commercial, industrial, and institutional personnel and in an optional inspection program for dwellings.

4. Development of a reliable and inexpensive smoke and fire detection system for dwellings.

5. Reduction of the hazards of flammable wearing apparel.

6. Use of noncombustible interior finish materials in residences and places of business and assembly.

7. Complete automatic fire extinguishing systems for homes (and hospitals) for the incapacitated and for high-rise buildings.

8. A program of fire safety training for the health educator aides of the Department of Health, Education, and Welfare, who, because of their rapport with the residents of high-risk areas may be able to teach fire safety principles on a person to person basis.

9. Increased research on smoke and smoke inhalation injury which is responsible for more than half of the Nation's fire deaths.

### III, Principal Measures To Improve the Fire Services

1. Establishment of a National Fire Academy.

2. Research on better engineering of breathing apparatus and protective clothing.

3. Federal support for State and local fire inspection programs.

### Minority Recommendations

1. Continued support of existing fire programs in the Federal Government.

2. Reduction of the projected total additional fire budget by \$100 million during the build-up years and \$75 million during the operating years, subject to subsequent review.

3. Retention of the Department of Commerce as the principal focus for the Federal fire effort, in accordance with the provisions of Title I of the Fire Research and Safety Act of 1968.

4. Swift and adequate funding of the Department of Commerce to permit early institution of a massive, multimedia fire safety education campaign.

5. Enactment of new legislation to assign responsibility, for direct support to the fire services, to the Department of Housing and Urban Development, including the establishment of a national fire academy.

6. Creation of a new temporary Commission in 1983 to assess the effectiveness of the Federal fire programs and make recommendations to the President and the Congress for further steps to diminish the Nation's annual toll from fire.

7. Increased use of the oversight function of the appropriate committees to assure assessment of effectiveness and adequate planning by the departments during the interim.

This minority opposes the creation of a new Federal fire agency at this time. During the proposed review in 1983 it would be appropriate to consider whether the Nation's interests would be better served by the establishment of a Federal agency for fire research and education in the Department of Commerce.

This minority urges the President and the Congress in considering these recommendations and those of the majority of the Commission, to use as your yardstick, the probable reduction of life and property losses if the measures suggested are adopted.

In conclusion, I support the position of the majority of the Commission that expanded Federal action is needed in the fire field and that, properly directed, the investment will pay off handsomely, A few final words may emphasize the need:

As grim as were our losses due to enemy action in Vietnam, they were small compared with our Nation's fire casualties for the same period (Fig. 6). Smoke and fire seriously injure 300,000 Americans every year and kill nearly 12,000. How many are 12,000? How many people could you call by name if you met them on the street? 2,000? 4,000? In this Nation, fire and smoke kill more people each and every year than the average person knows and gravely injures more than he has ever met.

Respectfully submitted,

ANNE WIGHT PHILLIPS.

### SELF-SCORING THE FIRE SAFETY QUESTIONNAIRE

<i>Questions</i>	<i>Safety score (points)</i>
<i>Question 1. If your house began to fill up with thick, black smoke, what would you do? (answer fully)</i>	
If your answer included getting beneath the smoke by crouching or crawling (to evade harmful combustion products), give yourself-----	3
If your answer included getting out of the house, give yourself-----	3
If your answer included rousing the rest of the household, give yourself-----	3
If your answer included calling the first department, give yourself-----	3
If your answer included opening windows without first closing doors (to keep the air from the fire) subtract 3 points	
<i>Question 2. What would you do if you woke up at night, smelled smoke, and found that your bedroom door was shut, but hot when you touched it?</i>	
If your answer did not include opening the hot door (which would expose you to killing heat), give yourself -----	4
If your answer included calling for help by phone or from a window, or finding an alternative way out, give yourself-----	3

Question 3. Will the clothing you have on now burn?

If your answer is yes, give yourself----- 3  
 (NOTE.—It is hoped that in the future this question will have to be deleted, as flame resistant materials become more available.)

Question 4. What would you do right now if your clothing caught on fire?

If your answer included dropping and rolling (to extinguish the flames by smothering them) give yourself ----- 3

If your answer included running (which fans the flames) subtract 3 points.

If your answer included going to draw water (which takes too long) subtract 3 points.

If your answer included wrapping up in a blanket, coat, or rug, but remaining vertical (thus permitting continued inhalation of smoke), give yourself only----- 1

Question 5. If you were trapped in a bedroom on the fifth floor with flames outside in the hall and smoke pouring in under the door (with no telephone and no fire escape), what would you do?

If your answer included stuffing something into the offending crack to reduce the smoke entering the room, give yourself----- 3

If your answer included yelling from the window for help, or hanging something out the window to attract firefighters' attention, give yourself... 3

If your answer included jumping, subtract 3 points.

If your answer included opening the window a crack, top and bottom to vent the smoke and you did not leave a door open, so air could reach and fan the fire, give yourself----- 2

If your answer included finding better air by keeping low or breathing air from outside the window, give yourself----- 2

If your answer included making a rope out of bed-sheets, curtains, etc., give yourself----- 1

If you said you would make it, but not use it unless forced to, give yourself an additional----- 1

Question 6. (a) When you go to a strange place (movie house, friend's house for the night, hotel, restaurant, etc.), do you check to see where the exits or fire escapes are?

If you habitually check the exits when you stay at hotels, inns, motels, etc., give yourself----- 1

If you check to see where the exits are when at a restaurant or staying overnight at a friend's house, give yourself----- 1

(b) If the answer to 6(a) was yes, do you depend on being able to see the exit to find it, or do you figure out how to find it in the dark or thick smoke?

If your answer to 6(a) was no, give yourself no points for question 6(b).

If your answer to 6(a) was yes, and you do not rely on being able to see the exit signs, but figure out how to find an exit in the dark in thick smoke, give yourself----- 1

Question 7. Do you have a family escape plan (including ways of getting out of your house if the stairs or doors are blocked by fire), and a meeting place outside the house?

If you have a way out of your house if the stairs and doors are blocked by smoke, give yourself... 2  
 If you have a planned place to meet outside the house which the whole family knows about, give yourself ----- 2

Question 8. What should you do (or should your wife or mother do) if the frying pan catches on fire?

If your answer is to smother the fire with the lid or baking soda or to use a dry powder (all purpose) or CO<sub>2</sub> fire extinguisher,<sup>1</sup> give yourself... 3  
 (Sand and dirt are acceptable answers if cooking outside).

If your answer is to smother the fire with salt or a wet towel, give yourself----- 2

If you threw water on the fire or used a soda-acid fire extinguisher or a water-pump tank type of extinguisher (water may spread the fire over the kitchen), subtract 3 points.

If you attempted to carry the flaming frying pan, which may ignite your clothing, spill, or become too hot to hold, subtract 3 points.

If you threw flour, which explodes, at the fire, subtract 3 points.

Question 9. Carbon monoxide is produced by almost all fires. What effect does it have on you before it makes you sleepy and kills you?

If your answer reported that carbon monoxide has no effect, or that it makes you cough, your eyes water, or smells badly, subtract 2 points. It has no color, taste, or smell and gives you no warning of its presence, but it is NOT harmless.

If your answer indicated that carbon monoxide distorts your judgment, give yourself----- 2  
 (Victims of carbon monoxide poisoning may make irrational attempts at escape, or may waste vital minutes saving items of little or no value. People who have been in a burning building for some minutes should be watched, to be sure they do not go back into the fire)

If your answer indicated that carbon monoxide disturbs your coordination (making simple escape efforts, such as unlocking a window difficult, or impossible), give yourself----- 2

Question 10. Assume you plan to hang by your hands from a window ledge and then drop to the earth below. Estimate in feet the distance you could drop and still have a 50:50 chance of surviving without serious injury.

Score yourself in accordance with the following table: If your answer was—

Less than 20 feet: score----- 3  
 More than 20 feet, but less than 25 feet: score... 1  
 More than 25 feet, but less than 35 feet: score... 0  
 More than 35 feet, but less than 50 feet: subtract ----- 2  
 More than 50 feet: subtract----- 3

Add 1 point if you have had training as a parachute jumper.

Subtract 1 point if you are over 50 years of age, unless your answer was under 15 feet.

<sup>1</sup> The pressure on a CO<sub>2</sub> extinguisher is generally about 600 lbs.; Pressure on an all purpose extinguisher is generally about 300 lbs. Stand off from the fire 7 or 8 feet.

*Question 11. (a) What is the reason for having fuses in an electric circuit?*

If your answer indicates that the purpose of a fuse is to prevent a fire (by "blowing" before the wires can overheat when too much of a load is put on them), give yourself\_\_\_\_\_

*(b) What strength fuse should be used in an ordinary lighting circuit?*

If your answer advised a 15 amp. fuse, give yourself \_\_\_\_\_

If your answer advised a 30 amp. fuse, subtract 3 points.

*Question 12. What number should you dial to report a fire by telephone, and how should you report it?*

If your telephone area is on the 911 emergency system, and you wrote down 911, or

If you gave the correct number for your local fire department, give yourself\_\_\_\_\_

If you said you would give the location of the fire slowly and clearly, give yourself\_\_\_\_\_

If you said that you would stay on the line to give additional information requested by the fire department, if you could do so safely, give yourself \_\_\_\_\_

If the number you called (police or "operator") would result in a delay in transmitting the message to the fire department, give yourself only\_\_

If you gave the wrong number, either for the fire department, or the police, or left the question unanswered, subtract 3 points.

*Question 13. When is an electric cord dangerous? (give at least two examples)*

If you listed any two of the following, give yourself \_\_\_\_\_

When it is frayed;

When the insulation has worn off;

When it is wet;

When it is under a rug (where repeated walking on it may break the insulation);

When it is run over a nail (where the insulation may break at the bend);

When it is run through a doorway (where closing the door may cause a break in the insulation);

When it is pulled out of a wall socket by the wire, instead of by holding onto the plug, so there is danger of one of the wires coming loose and touching the other; and

When nails are driven into it.

*Question 14. When is a double plug dangerous?*

If your answer included: When it is broken or when it is wet, give yourself\_\_\_\_\_

If it included when it is overloaded, (by having

many appliances plugged into it or two heating appliances plugged into it), give yourself\_\_ 3

*Question 15. What should you do if you discover a large fire in your basement?*

If your answer included:

Shutting the basement door, give yourself\_\_\_\_\_ 3

Calling the fire department, give yourself\_\_\_\_\_ 3

Getting everyone, including yourself, out of the house, give yourself\_\_\_\_\_ 3

3 If your answer included trying to fight a basement fire yourself, subtract 2 points. If it included fighting the fire yourself without having notified the fire department, subtract 3 points, instead of 2.

*Question 16. If you are trying to light a gas oven or burner and the first match goes out too soon, what should you do?*

1 If your answer included turning off the gas before lighting a second match (so that explosive quantities of gas would not accumulate in the oven or burner to be set off by the second match), give yourself\_\_\_\_\_ 3

1 If you made sure the first match was completely out, by breaking it or touching the tip, before discarding it, give yourself\_\_\_\_\_ 1

*Question 17. What is meant by "spontaneous combustion" or "spontaneous ignition"?*

1 If your answer described the ignition of substances (such as wet newspapers, oily rags, paint-covered wipe cloths, and damp hay), which generate their own heat and ignite without the application of an external heat source, give yourself\_\_\_\_\_ 2

*Question 18. How should you store oily or greasy rags?*

3 If you answered that they should not be kept or

If you said they should be kept in a closed metal container, give yourself\_\_\_\_\_ 3

*Question 19. Why should gasoline be stored only in metal cans with self-closing caps?*

If you answered:

To prevent fires, give yourself\_\_\_\_\_ 3

Because metal cans will not break readily, give yourself \_\_\_\_\_ 3

If you answered to prevent fumes from spreading across the floor (which may be ignited by a spark, cigarette, or hot furnace), give yourself\_\_ 3

*Question 20. Should you put out an electric fire with water?*

If you answered no, give yourself\_\_\_\_\_ 3

1 Add up your points to determine your fire safety score. Maximum possible score=100 (101 for parachute jumper).