

**REPORT OF THE
JOINT SUBCOMMITTEE STUDYING**

**Increased Mortality and Cancer
Rates Among Firefighters
in the Commonwealth
(HJR 428)**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



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TABLE OF CONTENTS

<i>Executive Summary</i>	i
Authority and Objectives	1
Coverage of Job-Related Illness for Virginia Firefighters	2
Fire Protection in the Commonwealth: A Collaborative Effort	2
The Hazards of Firefighting: Hidden Toxins	2
Linking Exposure to Disease: Recent Studies	4
Relief for Firefighters: Local and State Initiatives	6
Recovery under the Virginia Workers' Compensation Act	8
Specific Relief for Firefighters under Workers' Compensation	9
Presumptive Coverage	11
Presumptive Cancer Coverage in Other States	12
Conclusions and Recommendations	14
Bibliography	
Appendices	
Virginia Workers' Compensation Claims By Nature of Injury--1992	
Summary of Other States' Presumptive Cancer Statutes	
Meetings of the Joint Subcommittee: 1992-1993	
House Joint Resolution No. 47 (1992)	
House Joint Resolution No. 428 (1993)	
Proposed Legislation	
House Bill No. 732	
Senate Joint Resolution No. 120	

Executive Summary

Authority and Objectives

Adopted by the 1992 Session of the General Assembly, House Joint Resolution No. 47 established a joint subcommittee to study the increased mortality rate and the increased rate of certain types of cancer among firefighters. The resolution directed the subcommittee to review work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth." The 1993 Session of the General Assembly authorized the continuation of the study pursuant to HJR 428; committee membership continued as appointed in 1992. In conducting its study, the joint subcommittee reviewed a wide range of issues, including basic workers' compensation law and its application to public safety personnel; current initiatives benefiting public safety personnel and other workers in high health-risk jobs; the link between long-term exposure to carcinogens and increased health risks; and methods of preventing or ameliorating this exposure. Current national and Virginia-specific data documenting mortality and cancer rates among firefighters and comparison of these rates to the general population and other public safety personnel also received subcommittee consideration. The joint subcommittee reviewed presumptive coverage laws in other states and the disposition of claims processed pursuant to those laws as well as recent data documenting claims received by the Virginia Workers' Compensation Commission for presumptive coverage and for cancer. Finally, the joint subcommittee considered the financial and policy implications of granting presumptive coverage for all or certain cancers in firefighters.

Coverage of Job-Related Illness for Virginia Firefighters

Responding to life-threatening situations is inherent in firefighting. In 1991 alone, Virginia firefighters responded more than 154,000 emergency calls; fire service casualties totaled 299. While entry into burning buildings and rescue efforts directly place firefighters in jeopardy, exposure to unseen carcinogenic substances, largely due to the countless new synthetic materials found throughout society, has elevated cancer to a major occupational hazard for firefighters. Protective gear and clean-up protocol may not, however, ensure the health and safety of firefighters. Some localities cannot afford the expensive special suits to ward off the effects of chemical spills and toxins, and even when protective gear is available, a lack of concern or awareness of unseen chemical hazards may prompt some firefighters to neglect to wear their masks and other gear in an emergency or in the overhaul of debris after a fire. With or without protective gear, firefighters may nonetheless be exposed to numerous potent toxins.

Establishing a clear link between exposure to these substances and disease remains a difficult task, as the disease may not appear for many years following exposure. Although recent studies have questioned methods of assessing the potential toxicity of certain substances, research continues to show causal relationships between exposure to specific materials and cancer and other diseases. While many studies of toxic materials involve the use of laboratory animals, there are some human epidemiologic data

supporting contentions of carcinogenic effects. While research has indicated that firefighters may be more likely to develop certain types of cancer, data specifically detailing firefighter exposure to carcinogens and subsequent disease or death are somewhat limited.

Providing benefits for public safety personnel injured through job-related activity is a long-standing practice in Virginia. Local governing bodies possess discretionary authority to provide monetary relief for officials, employees, policemen, firefighters, and other personnel who suffer injury. Further, localities operating firefighting equipment may provide relief for dependents and spouses upon the death of a firefighter and are statutorily required to provide compensation for any firefighter who is disabled by injury or illness as the direct or proximate result of the performance of his duty. The Commonwealth offers benefits to firefighters under the Virginia Line of Duty Act and also provides free undergraduate tuition to a surviving child or spouse.

Perhaps the most familiar relief program is created by the Virginia Workers' Compensation Act, which authorizes recovery for certain employees for injuries and diseases arising out of and in the course of employment. Questions and disputes regarding compensation for job-related injury and disease may be settled by the agreement of the interested parties with the approval of the Workers' Compensation Commission. Statutorily directed to adjudicate issues and controversies relating to workers' compensation coverage, the three-member Commission received nearly 60,000 major claims for coverage in 1991.

The Virginia Workers' Compensation Act already specifically contemplates coverage for firefighters. Under current law, firefighters seeking recovery under workers' compensation may pursue two avenues: by showing an injury by accident or a disease arising out of and in the course of employment. Medical evidence is critical to establish the requisite causative link between the claimed disability and the work environment. The challenge of proving causation is often difficult, however, and may be further exacerbated by the various interpretations scientists, medical doctors, and jurists may attach to the term.

Recognizing this challenge, many states, including the Commonwealth, have adopted statutes providing presumptive coverage for certain classes of employees. In Virginia, salaried and volunteer firefighters suffering from heart or respiratory disease or hypertension are presumed to have contracted these conditions from the workplace for purposes of obtaining workers' compensation. This presumption may be rebutted by the employer by a preponderance of competent evidence. Special compensation statutes for firefighters have gained support in over 20 states. In 14 states, this evidentiary tool has been broadened to include cancer in firefighters. Coverage under these statutes is often contingent upon a showing that the cancer is of a kind resulting from exposure to a known or suspected carcinogen.

Conclusions and Recommendations

For the Virginia firefighter seeking workers' compensation for certain cancers not presently granted presumptive coverage, the challenge of proving causation may seem insurmountable. Although various cancers induced by work-related exposure to carcinogens may indeed merit recovery under current law, without the benefit of presumptive coverage, some firefighters may be discouraged from pursuing valid claims. Statistics directly linking firefighting to specific forms of cancer remain somewhat controversial, and Virginia-specific data addressing this issue are limited. In determining the appropriateness and feasibility of extending the current presumption to certain cancers in firefighters, the joint subcommittee has examined data linking cancer and firefighter exposure to carcinogens; the number and outcome of firefighter cancer claims in Virginia and other states; and the financial and policy implications of expanding the presumption. The joint subcommittee therefore makes the following recommendations:

Recommendation 1: *That the Virginia Workers' Compensation Act be amended to provide presumptive coverage for firefighters whose death or disability results from certain types of cancer.*

Recommendation 2: *That the Virginia Fire Services Board develop criteria for local and volunteer fire departments in reporting firefighter exposure to hazardous substances and establish a database for the collection of this information within the Department of Fire Programs.*

**FINAL REPORT OF THE JOINT SUBCOMMITTEE STUDYING INCREASED MORTALITY
AND CANCER RATES AMONG FIREFIGHTERS IN THE COMMONWEALTH
PURSUANT TO HJR 428**

AUTHORITY AND STUDY OBJECTIVES

Exposure to a wide range of toxic chemicals and known carcinogens is commonplace in firefighting; contact with these hazardous agents has been linked to a variety of cancers and may be responsible for high job-related fatalities among firefighters. Recognizing documented evidence of increased mortality and cancer rates among firefighters, the 1992 Session of the General Assembly adopted HJR 47 to establish a joint subcommittee to study these work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth." The 10-member joint subcommittee included three members of the House of Delegates, appointed by the Speaker; three members of the Senate, appointed by the Senate Committee on Privileges and Elections; one representative each from the State Fire Chiefs Association of Virginia and the Virginia Association of Professional Firefighters, one representative of county government, and one representative of city government, appointed by the Governor. The subcommittee met four times between September 1992 and December 1993.

In the first year of its study, the study committee reviewed a wide range of issues, including basic workers' compensation law and its application to public safety personnel; current initiatives benefiting public safety personnel and other workers in high health-risk jobs; the link between long-term exposure to carcinogens and increased health risks; and methods of preventing or ameliorating this exposure. Current national and Virginia-specific data documenting mortality and cancer among firefighters and comparison of these rates to the general population and other public safety personnel also merited subcommittee consideration. Having reviewed findings of various studies and statistics assessing links between firefighting and certain cancers, the committee concluded that additional study was necessary to determine the appropriateness of extending Virginia's current statutory presumption to certain cancers in firefighters. The 1993 Session of the General Assembly authorized the continuation of the study pursuant to HJR 428. Committee membership continued as appointed in 1992.

In the second year of its study, the joint subcommittee delved further into the implications of expanding presumptive coverage for cancer in firefighters. To assess accurately the feasibility and appropriateness of expanding the current presumption, the committee reviewed presumptive coverage laws in other states and the disposition of claims received and processed pursuant to those laws as well as recent data documenting claims received by the Virginia Workers' Compensation Commission for presumptive coverage and for cancer, and any denials of such coverage. Finally, the joint subcommittee considered the financial and policy implications of granting presumptive coverage for all or certain cancers in firefighters and/or other public safety personnel.

COVERAGE OF JOB-RELATED ILLNESS FOR VIRGINIA FIREFIGHTERS

Fire Protection in the Commonwealth: A Collaborative Effort

Firefighting in the Commonwealth combines the expertise and cooperation of individuals at the state, local, and volunteer levels. Originally established in 1978, the Virginia State Fire Services Commission was renamed the Department of Fire Programs in 1982, reflecting a legislative merger of the Commission and the Office of Fire Service Training. The Department is the designated state agency to receive and disburse federal funds for fire protection.¹ Primarily responsible for "promoting the coordination of the efforts of fire service organizations at the state and local levels" is the Virginia Fire Services Board within the Department of Fire Programs. The 15-member Board is also charged to provide training assistance to local fire departments and volunteer fire companies and to study and develop alternative means of providing financial support for local fire departments.²

Localities are authorized to establish fire departments as departments of government, to provide for the compensation of fire department employees, and to enter into "mutual aid agreements" with other localities for fire services.³ Currently, there are 587 local fire departments in the Commonwealth, and over 23,000 firefighters, of whom an estimated 68 percent are volunteers.⁴ The efforts of local departments may be supplemented by volunteer fire companies, each comprised of no less than 20 persons. Localities may also contract with these volunteer companies for fire protection services;⁵ calls answered by local departments and volunteer companies are supervised by the commander of the first unit to arrive.⁶

The Hazards of Firefighting: Hidden Toxins

Responding to life-threatening situations is inherent in firefighting. In 1991 alone, Virginia firefighters responded to more than 154,000 emergency calls; about one-

1 Va. Code § 9-153 (1993). *See also*, Report of the Joint Subcommittee Studying Fire Prevention Services in the Commonwealth, Senate Document No. 16 (1989). In 1978, the Virginia Advisory Council on Fire Prevention and Protection recommended the formation of the Virginia State Fire Services Commission; the expansion and improvement of fire service training facilities and the creation of a statewide fire service training facility have also received scrutiny. Report of the Virginia Legislative Council on Fire Prevention and Protection, Senate Document No. 14 at 8 (1978); Report of the Virginia Advisory Council on Fire Service Training Facilities, House Document No. 15 (1977); Report of the Virginia Advisory Legislative Council on Volunteer Rescue Squads Headquarters and Statewide Fire Service Training Facility, Senate Document No. 19 (1975) [hereinafter referred to as Senate Document No. 19].

2 Va. Code § 9-153.1; 9-155 (1993).

3 Va. Code §§ 27-6.1; 27-2 (1992).

4 Virginia Department of Fire Programs, Virginia Fire Department Profile (June 1992); testimony of Marion A. Long, Information Systems Manager, Department of Fire Programs, September 8, 1992 committee meeting.

5 Va. Code §§ 27-8; 27-23.6 (1992).

6 Va. Code § 27-23.9 (1992).

half of these responses were to rescue calls, while nearly one-third addressed fires or hazardous conditions. In that same year, fire service casualties totaled 299. The majority of these reported injuries consisted of burns, bruises and lacerations, asphyxiation, and sprains. No firefighter deaths were reported for 1991. There were 616 injuries and 65 deaths among civilians.⁷ While rescue efforts and entries into burning buildings directly place firefighters in jeopardy, a more insidious hazard may claim the health--and lives--of many firefighters. Exposure to carcinogenic substances, largely due to the countless new synthetic materials found throughout society, has elevated cancer to a "major occupational hazard" for firefighters.⁸ The release of carcinogens, typically a byproduct of combustion, poses a risk to firefighters before as well as after a fire is extinguished.⁹ Experts agree that "the variety of products made from synthetics almost assures that they will be present at every fire emergency, making it impossible to avoid at least some exposure."¹⁰

To combat not only intense heat and flames but also toxic fumes, firefighters don protective gear and self-contained breathing apparatus (SCBA). In addition, precautionary measures, such as cleaning outer gear or "turnouts," helmets, and other personal equipment, and fire vehicles to remove toxic contaminants and other residues are incorporated in post-fire procedures. Removing visible smoke residue may eliminate 96 percent of toxins. Reports have also indicated that clean gear is more fire resistant and will reduce the passive smoke that may be inhaled by families of firefighters.¹¹ Protective gear and clean-up "protocol," may not, however, ensure the health and safety of firefighters. Many localities cannot afford the expensive special suits to ward off the effects of chemical spills and toxins, and even when protective gear is available, a lack of concern or awareness of unseen chemical hazards may prompt some firefighters to neglect to wear masks and other gear in an emergency or in the overhaul of debris after a fire.¹²

With or without protective gear, firefighters may be exposed to numerous potent toxins. While asbestos use is now controlled, a fire may destroy surrounding protective materials, resulting in exposure in extinguishing the fire and determining fire damage. Asbestos may also cling to outerwear and can then be brought into the firefighter's home. Another dangerous substance, benzene, is released by burning synthetics, such as gasoline and certain glues and solvents. Creosote, present in certain tars and oils, may

7 Virginia Department of Fire Programs, 1991 Civilian and Fire Service Casualty Report (June 1992); testimony of Marion A. Long, Information Systems Manager, Department of Fire Programs, September 8, 1992, committee meeting.

8 J. Giarrizzo, "Cancer and Firefighting," Fire Engineering 65 (September 1990) [hereinafter referred to as Giarrizzo]. See also, Senate Document No. 19 at 6, *supra* note 1.

9 L. Winney, "Passive Smoke: The Overlooked Risk," Fire Engineering 68 (September 1990) [hereinafter referred to as Winney].

10 Giarrizzo, *supra* note 8, at 66. According to Mr. Giarrizzo, there at least "43 known or suspected carcinogens from synthetic plastics alone."

11 Winney, *supra* note 9, at 68. See also, Giarrizzo, *supra* note 8, at 69.

12 Giarrizzo, *supra* note 8, at 69.

release toxins in fires involving wharves and other wooden structures. Finally, even the diesel fumes released by the fire engine itself may prove harmful to firefighters.¹³

Linking Exposure to Disease: Recent Studies

Establishing a clear link between exposure to these substances and disease has been the goal of a variety of studies. Researchers concur that "proving a chemical causes cancer is difficult, since the disease may not strike until years after the exposure."¹⁴ Although recent studies have questioned methods of assessing the potential toxicity of certain substances,¹⁵ research continues to show causal relationships between exposure to specific materials and cancer and other disease. Asbestos, benzene, vinyl chloride, and polycyclic aromatic hydrocarbons (tars), among other substances, have been associated with cancers of the liver, lung and lung lining, and skin, as well as leukemia.¹⁶ While many studies of toxic materials involve the use of laboratory animals, there are some human epidemiologic data supporting contentions of carcinogenic effects.¹⁷

Prompted perhaps in part by the increased use of synthetics in construction and a corresponding concern regarding carcinogenic exposure, numerous studies have examined firefighter mortality in recent years. Many of these studies incorporate reference groups from the general population and a police population to ascertain realistic expected mortality and cancer rates among firefighters, a group commonly deemed to be a "healthy worker population" due to the rigors of the job. Research efforts have yielded various and sometimes inconsistent results. Most frequently cited for increased incidence among firefighters were those cancers affecting the colon, bladder, and brain; however, some studies cited elevated rates for leukemia and other cancers. The studies typically contain some citation of "limitations"--those factors or research methodologies that may have resulted in study bias or variations from other studies:¹⁸

Massachusetts (1990). Based on research conducted by experts at the Department of Work Environment, University of Lowell, and the Occupational Health Surveillance Program, Massachusetts Department of Health, this study focused not on mortality rates, but rather on the incidence of nine types of cancer among firefighters, police, and a general population. Research was supported by the Massachusetts Cancer Registry, which collects data from hospitals and licensed clinics to form a mandatory reporting system for various cancer diagnoses. The study revealed increased firefighter risk for three specific cancers: melanoma; bladder cancer; and non-Hodgkin's lymphoma. The study specifically failed to reveal excess brain, lung, colon, or rectal cancers reported

13 *Id.* at 66, 69. Studies show that benzene may be present in more than 90 percent of structure fires.

14 D. Thompson, "The Danger in Doomsaying," *Time* 61 (March 9, 1992).

15 *Id.*

16 IAFF, Department of Occupational Health and Safety, Summary of the Views on Occupational Cancer in Firefighters [hereinafter referred to as IAFF Summary I].

17 *Id.* at 1.

18 Division of Legislative Services, staff memorandum, *Summary of Studies and Data on Cancer Incidence in Firefighters* (October 1992).

in other studies, but attributed this result to varying study methodologies, statistical differences, and random occurrence.¹⁹

New Jersey (1986). Using retirement records to obtain mortality data, this study examined cardiovascular and respiratory disease as well as cancer among firefighters and police. The report suggested that the various presumptive heart disease statutes effective in about 20 states may be based on "debatable" evidence and noted that "the overall mortality of these two work groups did not appear to differ markedly from that of the general population." Increased levels of skin cancer and cirrhosis were noted, however, among long-term firefighters and police officers; police exposure to prolonged hours outdoors and firefighter exposure to soots containing known carcinogens were deemed likely causes for these skin cancer rates. The study also specifically noted an increased firefighter risk for nonmalignant respiratory disease and leukemia.²⁰

Los Angeles, California (1982). Detailing cancer rates among firefighters and reference groups spanning four decades (1940-1980), data for this study was supplied by death certificates of Los Angeles firefighters. While firefighter life expectancy remained somewhat constant between 1940 and 1980, the percentage of cancer deaths increased from 20 percent to 30 percent in the mid-1970s. Cancer, arteriosclerosis, and other heart disease comprised 72 to 87 percent of all firefighter deaths between 1950 and 1980. The study concluded by citing an early cancer pattern for prostate and brain cancer, a late cancer pattern for colon, lung, and bladder cancer, and a "healthy worker" pattern for all other cancers, except leukemia. Noting the increased presence of toxic substances in construction and industry, the study concluded that further research was necessary to develop protective procedures and to assess more accurately "the significance of cancer in living firefighters."²¹

Seattle, Washington (1988). Comparing local firefighter data from the Seattle Fire Department with a white male U.S. population reference group, the study found that there was a small number of excess cancer deaths in the highest exposure and duration categories. The number of deaths due to cancer of the trachea, bronchus, and lung was slightly below expected rates. Lymphatic and hematopoietic cancer rates, however, were significantly higher than those of the general population. Overall mortality from brain cancer also showed no increase, but the recorded deaths established an unusual pattern, linking early exposure and disease.²²

Northwest United States (1987 and 1991). Focusing on mortality rates for firefighters in Seattle, Tacoma, and Bellevue, Washington, and Portland, Oregon, two studies compared firefighter data with police and U.S. male population reference groups.

19 Bureau of Health Statistics, Research and Evaluations, Massachusetts Department of Public Health, Cancer Incidence Among Massachusetts Firefighters 1982-1986 (1990).

20 E. Feuer and K. Rosenman, "Mortality in Police and Firefighters in New Jersey," American Journal of Industrial Medicine 517 (1986).

21 Institute for Cancer and Blood Research, Cancer Mortality Among Los Angeles City Firefighters (1982).

22 N. Heyer, Cohort Mortality Study of Seattle Fire Fighters 1945-83 (1988).

Both found that firefighters under age 40 displayed higher overall cancer rates, primarily evidenced in lymphatic, hematopoietic, and brain cancers. Data in the 1987 study indicated that the brain cancer rate seemed to be increasing. While the 1987 study recommended further review to determine the continuation of observed patterns, the 1991 study concluded that "further exploration" was necessary to determine firefighter risk of emphysema and other disease. Finally, the 1991 report indicated continued study of cancer rates using a regional tumor registry.²³

Buffalo, New York (1987). Examining cancer rates in Buffalo firefighters employed between 1959 and 1979, this study found cancer mortality rates to be "significantly higher than expected" for firefighters employed 40 years or more. In this group, digestive cancer rates were three times higher; colon cancer rates five times higher; and bladder cancer rates six times higher. Brain cancer rates were four times higher among firefighters employed 20 to 29 years.²⁴

Other firefighter statistics indicate that "reported deaths and forced retirements due to occupational-related disease are increasing at a startling rate."²⁵ Some experts have contended that these cancer and mortality rates may be deceptively low, as the rigors of firefighting demand personnel be more physically fit than most workers, a phenomenon referred to as the "healthy worker effect."²⁶

Relief for Firefighters: Local and State Initiatives

Providing relief for public safety personnel injured through job-related activity is a long-standing practice in Virginia. Local governing bodies possess discretionary authority to "make allowances by appropriation of funds...for the relief of its officials, employees, policemen, fire fighters, sheriffs or deputy sheriffs..., or their dependents, who suffer injury or death...." The compensation is not to exceed the salary of the injured person and may not extend beyond the period of disability; death benefits are provided as permitted by the Workers' Compensation Act. Any amounts paid under a pension or retirement system or earned from other gainful employment are deducted from these allowances.²⁷ Further, localities operating firefighting equipment may provide relief for dependents and spouses upon the death of a firefighter and are required to provide relief

23 L. Rosenstock, P. Demers, N. Heyer, and S. Barnhart, Harborview Occupational Medicine Program, University of Washington, Northwest Fire Fighter Mortality 1945-1983 (1987), and L. Rosenstock and P. Demers, Occupational Medicine Program, University of Washington, Northwest Firefighters Mortality Study: 1945-1989 (1991).

24 J. Vena, "Mortality of a Municipal-Worker Cohort: Fire Fighters," American Journal of Industrial Medicine 671 (1987).

25 Giarrizzo, *supra* note 8, at 65. Interestingly, some firefighter mortality studies have not found an increased risk of lung cancer. IAFF Summary I, *supra* note 16, at 2.

26 IAFF Department of Occupational Health and Safety, Summary of the Views of Fire Fighter Mortality Studies at 1, 2 [hereinafter referred to as IAFF Summary II].

27 Va. Code § 15.1-134 (1989). The "injury or death" is tied to the definition in the Virginia Workers' Compensation Act, § 65.2-100 *et seq.*

for "any firefighter who is disabled by injury or illness as the direct or proximate result of the performance of his duty...."²⁸

Also entitled to death and disability benefits are volunteer firefighters, defined by the Code of Virginia as "members of any organized fire-fighting company which has in its possession and operates fire-fighting apparatus and equipment, whose members serve without pay and whose names have been duly certified by the secretary of such company as active members...." Localities must pay \$1,000 to the estate of any volunteer firefighter who dies while engaged in firefighting or en route to or returning from a call; payments for partial and permanent disability may not exceed \$25 a week for no more than 10 and 40 weeks, respectively. Finally, the locality must pay "all necessary and proper medical, surgical, laboratory, and operating room charges" for these volunteers. Cities may raise funds for these services by a general property tax levy; counties may raise one-half of these funds from a general levy throughout the county and the other half by a general levy on the town or magisterial district in which the fire company is located on property subject to taxation for local purposes.²⁹

The Commonwealth offers relief to firefighters under the Virginia Line of Duty Act, which entitles the beneficiary of certain public officials and safety personnel--specifically including members of fire companies or departments--whose death occurs as the direct or proximate result of the performance of his duty to a sum of \$25,000.³⁰ Also authorized by the Commonwealth in recognition of the sacrifices made by public safety personnel is free undergraduate tuition to a surviving child or spouse.³¹

28 Va. Code § 27-39 (1992). Relief for children and surviving spouses is not dependent upon recovery under the Virginia Line of Duty Act (Va. Code § 15.1-136 *et seq.*). In addition, § 27-40 of the Code of Virginia permits cities of the first class to continue the support of dependent children of firefighters who died in the line of duty until the dependent reaches age 16. The Code also provides for the reduction of benefits to injured firefighters who may earn other income during disability retirement. Va. Code § 27-40.4 (1992).

29 Va. Code §§ 27-41 through 27-47 (1992).

30 Va. Code § 15.1-136.1 *et seq.* (1989 and 1993 Supp.). The beneficiary must present a claim for payment to the chief officer of the department that employed the deceased, who in turn submits a request to the State Comptroller. The benefit is paid from general fund moneys. Va. Code §§ 15.1-136.4:1, 15.1-136.5:1 (1989 and 1993 Supp.). The 1990 Session of the General Assembly increased the award from \$10,000 to \$25,000. 1990 Acts of Assembly, c. 43.

31 Va. Code § 23-7.1:01 (1993). The child or spouse must have been offered admission to a public institution of higher education in the Commonwealth.

Recovery under the Virginia Workers' Compensation Act

Perhaps the most familiar relief program is created by the Virginia Workers' Compensation Act. Originally enacted in 1918 and modeled after an Indiana statute, the Virginia act bases recovery not upon negligence but upon the agreement of the employee to surrender other recovery rights in exchange for compensation security in the event of a job-related injury or disability.³² Deceptively simple in concept, Virginia workers' compensation law is actually a labyrinthine combination of statutory precedent and judicial interpretation. Simply stated, compensation is available to certain employees for injuries and occupational diseases "arising out of and in the course of employment."³³ The focus of repeated judicial review, this two-part formula has been liberally construed to require a causal connection between the injury or disease and the employment. Courts have tied "arising out of" to a showing of the origin of the disease or injury, while "in the course of" typically refers to the time, place, and circumstances surrounding the injury.³⁴ Not surprisingly, application of this sometimes ambiguous test has resulted in seemingly inconsistent judicial holdings.³⁵

An employee seeking workers' compensation must first supply written notice to his employer of an accident or a diagnosis of disease. Notice of an occupational disease must be given within 60 days after the diagnosis is first communicated to the employee; however, failure to give notice will not deprive the employee of his cause of action if there is a "reasonable excuse" and it is shown that the failure resulted in no clear prejudice to the employer. Claims for occupational diseases must be filed with the Commission within two years after the diagnosis is communicated to the employee, or within five years of the last injurious exposure in employment, whichever first occurs. Different statutes of limitations are set forth for filing claims for certain specific diseases, such as pneumoconiosis. Notice of an accident is to be given "immediately upon the occurrence of an accident or as soon thereafter as practicable." Claims for job-related accidents are subject to a two-year statute of limitations.³⁶ Questions and disputes regarding compensation for job-related injuries and disease may be settled by the agreement of the interested parties with the approval of the Workers' Compensation

32 Va. Code § 65.2-100 *et seq.* (1991 and 1993 Supp.). *See also*, Note, "The Ordinary Disease Exclusion in Virginia's Workers' Compensation Act: Where Is It Going After *Ashland Oil Co. v. Bean?*" 18 U. Rich. L. Rev. 161, 162 (1983) [hereinafter referred to as Ordinary Exclusion].

33 Va. Code §§ 65.2-101; 65.2-400 (1991 and 1993 Supp.). The statute is very clear that a compensable "injury" does not include "a disease in any form, except when it results naturally and unavoidably from either of the foregoing causes [injury by accident or occupational disease]."

34 *See generally*, Metcalf v. A.M. Express Moving System, 230 Va. 464, 339 S.E.2d 177 (1986); Grand Union Co. v. Bynum, 226 Va. 140, 307 S.E.2d 456 (1983); Baggett Transportation Co. v. Dillon, 219 Va. 633, 248 S.E.2d 819 (1978).

35 *See generally*, Graybeal v. Montgomery Co., 216 Va. 77, 216 S.E.2d 52 (1975); Hill City Trucking Co., Inc. v. Christian, 238 Va. 735, 385 S.E.2d 377 (1989); Thore v. Chesterfield Co., 10 Va. App. 327, 391 S.E.2d 882 (1990).

36 Va. Code §§ 65.2-405; 65.2-406; 65.2-600; 65.2-601; (1991 and 1993 Supp.).

Commission.³⁷ Statutorily directed to "adjudicate issues and controversies" relating to workers' compensation coverage, the three-member Commission received nearly 60,000 major claims for coverage in 1991 and about 54,000 in 1992.³⁸

Qualifying employees are entitled to a defined "average weekly wage" payable by the employer from workers' compensation insurance. Employers are required to maintain workers' compensation insurance through an authorized insurance carrier, as a certified self-insured employer, or by membership in a group self-insurance association licensed by the State Corporation Commission. The Uninsured Employer's Fund, supported by taxes assessed on insurance carriers, makes payments when an employer fails to compensate an injured employee.³⁹ Depending upon the injury or disability, the employee may receive as much as 66.67 percent of an average weekly wage, subject to a statutory maximum, up to 500 weeks for total incapacity and 66.67 percent of the difference between his average weekly wage prior to injury resulting in partial incapacity and the average wages he can earn after the injury. The Act also includes detailed compensation provisions for permanent total and partial loss and disfigurement.⁴⁰

Specific Relief for Firefighters Under Workers' Compensation

Workers' compensation coverage for special classes of employees is not without precedent in Virginia law. The Act recognizes claims by coal miners for pneumoconiosis ("black lung")⁴¹ and specifically contemplates workers' compensation coverage for firefighters, who are deemed employees of the localities paying their salaries. Volunteer firefighters and other rescue personnel are also eligible for coverage if the local governing body has acknowledged them as employees for the purposes of workers' compensation eligibility. Approximately 1,400 volunteer firefighters have been so recognized by local governments. The Act specifically insulates employers from liability for volunteer firefighters who answer a call during work hours, regardless of whether the volunteer is paid for his time away from the job.⁴²

37 Va. Code §§ 65.2-700; 65.2-701 (1991). The purpose of the Act is not to prevent settlements, but "to encourage them so long as the amount of compensation and the time and manner of payment are approved by the Commission."

38 Va. Code § 65.2-201 (1991). Members are chosen by a joint vote of the two houses of the General Assembly and serve six-year terms. To ensure staggered terms of office, one member is chosen in each even-numbered session of the General Assembly. Va. Code § 65.2-200 B (1991). *See also*, Virginia Workers' Compensation Commission, Claims by Nature of Injury--1991 [hereinafter referred to as WCC Claims]; Virginia Workers' Compensation Commission, 1992 Year-end Statistical Report (February 1993)[hereinafter referred to 1992 Year-end Report].

39 Va. Code §§ 65.2-800, 65.2-801; 65.2-1200 *et seq.* (1991 and 1993 Supp.).

40 Va. Code §§ 65.2-500 through 65.2-503 (1991).

41 Va. Code § 65.2-504 (1991). Although a 1981 legislative study specifically recommended special statutory treatment for byssinosis ("brown lung"), contracted through inhalation of cotton dust, the ailment is simply included in §§ 65.2-406 and 65.2-503, among statutes of limitations and permanent loss provisions. Report of the Joint Subcommittee Studying Compensation for Byssinosis Victims, House Document No. 8 at 7 (1981).

42 Va. Code § 65.2-101 (1993 Supp.). In addition, volunteer firefighters serving a state institution of higher education or responding to a hazardous materials incident at the request of the Department of Emergency Services are eligible for workers' compensation. Volunteers not covered by workers'

Under current law, firefighters seeking recovery under workers' compensation may pursue two avenues: by showing an injury by accident or an occupational disease arising out of and in the course of employment. Compensable injuries must be traceable to an identified accident occurring at some "reasonably definite time" and must be supported by evidence of "sudden structural change" in the claimant's body.⁴³ Injuries aggravating a preexisting condition by an accident may also be compensable.⁴⁴ The Virginia Supreme Court has consistently held, however, that injuries resulting from repetitive trauma or cumulative events are not compensable under the Act.⁴⁵ The claimant must also show that the injury arose out of and in the course of the employment.⁴⁶

While establishing an "injury by accident" is not a simple evidentiary task, satisfying the statutory definition of an occupational disease is arguably even more complex. Formerly detailed in a statutory schedule of ailments,⁴⁷ an occupational disease is now defined as "a disease arising out of and in the course of employment, but not an ordinary disease of life to which the general public is exposed outside of the employment." Accompanying this definition are six requirements: the disease will be deemed to be occupational "only if...[it] is apparent to the rational mind, upon consideration of all the circumstances:"

1. A direct causal connection exists between the disease and the work performed;
2. The disease follows as a "natural incident" of the work as a result of exposure "occasioned by the nature of the employment;"
3. The disease can be "fairly traced" to the employment as a proximate cause;
4. The disease is not one to which the employee may have had "substantial exposure" outside the employment;
5. The disease is "incidental to the character of the business;" and
6. The disease had its "origin in a risk connected with the employment and flowed from that source as a natural consequence...."

compensation are covered by disability policy that provides medical benefits and wage replacement. Testimony of Margie Nichols, Virginia Municipal League, December 9, 1992, committee meeting.

⁴³ Va. Code § 65.2-101 (1993 Supp.). See Badische Corp. v. Starks, 221 Va. 910, 275 S.E.2d 605 (1981); VEPCO v. Cogbill, 223 Va. 354, 288 S.E.2d 485 (1982). The Virginia Supreme Court has ruled that inhalation of poisonous gases may be an "injury by accident;" however, a common law action for damages may be the appropriate remedy when inhalation occurred over a gradual or prolonged period of time. Aistrop v. Blue Diamond Coal Co., 181 Va. 287, 24 S.E.2d 546 (1943).

⁴⁴ See Pendleton v. Flippo Constr. Co., 1 Va. App. 381, 339 S.E.2d 210 (1986); Olsten of Richmond v. Leftwich, 230 Va. 317, 336 S.E.2d 893 (1985).

⁴⁵ See generally, Morris v. Morris, 238 Va. 578, 385 S.E.2d 858 (1989); Door Systems, Inc. and Erie Ins. Exchange v. Hood, 238 Va. 578, 385 S.E.2d 858 (1989); Pittsburgh Plate Glass v. Totten, 238 Va. 578, 385 S.E.2d 858 (1989). But see Brown v. Caporaletti, 12 Va. App. 242, 402 S.E.2d 709 (1991).

⁴⁶ Va. Code § 65.2-101 (1993 Supp.).

⁴⁷ Ordinary Exclusion, *supra* note 32, at 163. The schedule was apparently adopted to avoid creating a broad workers' health insurance program. *Id.* at 162.

The risk of the disease need not have been "foreseen or expected."⁴⁸

Even if a claimant cannot satisfy the occupational disease requirements, recovery may nonetheless be available. Workers, including firefighters, may also receive compensation for an "ordinary disease of life" if there is clear and convincing evidence, to a reasonable medical certainty, that the disease arose out of and in the course of employment, did not result from causes outside employment, and followed as an incident of occupational disease or is an infectious or contagious disease contracted during employment in certain health care capacities.⁴⁹

Medical evidence is, of course, critical to satisfy these statutory definitions and to establish the requisite causal link between an occupational or ordinary disease and the work environment.⁵⁰ Legal scholars have noted that "controverted or unsuccessful cases will usually be found to involve, not the definition [of occupational disease], but a problem of proof: the question of whether these employment conditions in fact produced disability."⁵¹ Indeed, the question of causation may be a difficult one to address. The National Institute on Occupational Safety and Health once stated before a congressional subcommittee that there may be only 11 diseases "that are uniquely occupational in origin; most others have multiple etiologies and are seen both within and without the workplace."⁵² Scientists, medical doctors, and jurists may also attach widely divergent meanings to "causation."⁵³ The Virginia judiciary has been somewhat lenient in its interpretation of medical testimony, however, declining to "substitute form over substance by requiring a physician to use the magic words...when the record is void of any evidence of non-employment factors" responsible for the injury or disease."⁵⁴

Presumptive Coverage

A claimant need not always carry the burden of proving a causal relationship between disease and the work environment. Many states, including the Commonwealth, have adopted statutes providing presumptive coverage for certain classes of employees. In Virginia, salaried and volunteer firefighters suffering from heart or respiratory disease or hypertension are presumed to have contracted these conditions from the workplace. This presumption also applies to hypertension and heart disease in police officers, sheriffs, and city or deputy city sergeants of the City of Richmond. Presumptive coverage for firefighters and other public safety personnel is recognized for recovery

48 Va. Code § 65.2-400 (1991).

49 Va. Code § 65.2-401 (1991). *See also*, Island Creek Coal Company v. Breeding, 6 Va. App. 1, 365 S.E.2d 782 (1988).

50 Ordinary Exclusion, *supra* note 32, at 169.

51 Larson, Workmen's Compensation Law 1B, § 41.33(a) (1991) [Volumes 1 and 1B hereinafter referred to as Larson].

52 E. Scott, "Workers' Compensation for Disease in Virginia: The Exception Swallows the Rule," 20 U. Rich. L. Rev. 161 at 179 (1985).

53 F. McGovern, "Toxic Substances Litigation in the Fourth Circuit," 16 U. Rich. L. Rev. 247 at 288 (1982).

54 Island Creek, *supra* note 49, at 788.

from an employing locality. Payments by employing localities are deemed "exclusive of, and not dependent upon, any payment under the Line of Duty Act."⁵⁵ This presumption may be rebutted by the employer "by a preponderance of competent evidence." In addition, a preemployment physical examination must indicate that the firefighter was free of any such disease.⁵⁶ To overcome the presumption, the employer must establish a non-work-related cause; even where there is evidence of predisposing factors, a finding of compensability may nonetheless be upheld.⁵⁷

In creating this statutory presumption for these safety personnel, the Virginia legislature "necessarily considered whether to shift the burden of proving the relationship between occupation and disease from the fireman to the employer. The legislature knew that the causes of pulmonary and cardiac diseases are unknown and that the medical community is split regarding the impact of stress and work environment on these diseases." The constitutionality of the rebuttable presumption for workers' compensation has also been upheld in the Commonwealth. The Virginia Supreme Court recognized that "the legislature was making a public policy judgment in its allocation of the burden of proof--the ultimate risk of nonpersuasion--in these cases.... As long as an employer may introduce evidence in rebuttal of the presumption, the employer's constitutional rights of due process have been protected."⁵⁸ The Virginia Workers' Compensation Commission received a total of 47 firefighter claims for presumptive coverage in 1991; in 1992, 41 claims for firefighter presumptive coverage were filed. Cancer claims filed by all petitioners totaled 5 and 2 in 1991 and 1992, respectively.⁵⁹

Presumptive Cancer Coverage In Other States

Special compensation statutes for firefighters have gained support in over 20 states. The grounds for rebuttal of the work-related presumption vary dramatically among the states, from "a virtually irrebuttable to a virtually worthless presumption."⁶⁰

55 Va. Code §§ 65.2-402 (1991); 27-39; 27-40.1 (1992). The presumption language in § 27-40.1 formed the basis for the analogous provisions in the Virginia Workers' Compensation Act. City of Waynesboro v. Harter, 222 Va. 564, 281 S.E.2d 911 (1981).

56 Va. Code § 65.2-402 C (1991). Similarly, recovery from the employing governing body is contingent upon a preemployment physical; the employing locality may also require an additional physical examination after the claim for recovery is advanced. Va. Code § 27-40.1 (1992).

57 Va. Dept. of State Police v. Talbert, 1 Va. App. 250, 337 S.E.2d 307 (1985). The Court of Appeals upheld presumptive coverage for a policeman's heart disease despite evidence of family history and smoking as contributory factors. The Court stated that effective rebuttal evidence must "exclude a work-related factor" and that, even when there are "conflicting medical opinions as to whether the employment caused the disease, the finding of the Commission as to causation is conclusive and binding." *Id.* at 308. See also, Larson, *supra* note 51, § 41.47 (a) (1) (1990).

58 Fairfax Co. v. Newman, 222 Va. 535, 281 S.E.2d 897 at 900, 901 (1981). Citing a previous decision, the Virginia Supreme Court stated that the purpose of the presumption "is to establish by law, in the absence of evidence, a causal connection between...disability from diseases and the occupation of a fire fighter. The effect of the presumption is to eliminate the necessity for proof by the claimant of causal connection." See Page v. City of Richmond, 218 Va. 844, 241 S.E.2d 775 at 776 (1978).

59 WCC Claims, *supra* note 38; 1992 Year-end Report, *supra* note 38. See also, Summaries of September 8, 1992, and July 8, 1993, committee meetings.

60 Larson, *supra* note 51, §§ 41.72, 41.72(a) (1990).

Described as a "burgeoning" phenomenon, these statutes typically extend the presumption of work-related disease to heart and respiratory ailments in firefighters and policemen.⁶¹ In 14 states, this evidentiary tool has been broadened to include cancer in firefighters. Seven states provide this coverage through workers' compensation laws; seven through pension or retirement statutes. Although Florida does not offer presumptive cancer coverage, it has established a Firefighters, Paramedics, and Police Officers Health Project with the University of Miami School of Medicine to provide instruction to reduce the risk of cancer and coronary disease among emergency services personnel. A risk-reduction program is also added to the standards for state certification as a firefighter, paramedic, or police officer.

Presumptive cancer coverage is often contingent upon a showing that the cancer is a type caused by a known or suspected carcinogen, as defined by the International Agency for Research on Cancer; that the firefighter was exposed to a toxic substance in the line of duty; or that the cancer is one specifically covered by the particular statute. Oklahoma has a broad statute, simply stating that "the existence of any cancer" shall be presumed to arise out of the firefighter's employment. Similarly, Tennessee law states that cancer resulting in hospitalization, medical treatment, or any disability shall be presumed to have occurred in the course of employment. Under Texas law, firefighter death or disability from cancer is presumed to have arisen from the employment. Other states providing the cancer presumption, among them Illinois, Massachusetts, Alabama, California, Minnesota, Nevada, and New Hampshire, require a showing of some sort of occupational exposure to heat, radiation, or a known or suspected carcinogen as defined by the International Agency for Research on Cancer. In contrast, Missouri, North Dakota, and Rhode Island require evidence of a direct causal relationship between cancer and employment to gain the presumption; correspondence from the North Dakota Worker Compensation Bureau estimated fewer than five claims under this presumption since its 1987 passage.

Still other statutes--those in Alabama, California, and Minnesota--require not only a showing of carcinogenic exposure, but also that the carcinogen be "reasonably linked" to the cancer (that is, the cancer must be a type that may result from or be linked to the particular carcinogen). The Minnesota Department of Labor and Industry has indicated that no claims have been paid under its presumptive cancer coverage statute, enacted in 1988. Although 9 claims have been filed, all failed because the cancers were not shown to be caused by heat, radiation, or a carcinogen linked to firefighting.

Another variation among presumptive coverage statutes is the restriction of coverage to cancers manifested during period of service or a limited period thereafter. Statutes including some form of this restriction are effective in Alabama, Illinois, Maryland, Massachusetts, Minnesota, North Dakota, Oklahoma, and Tennessee. States extending coverage beyond the firefighter's employment include California (three months for each year of employment, not to exceed 60 months), Nevada (three months for each year of employment, not to exceed 60 months), New Hampshire (retired firefighters

⁶¹ *Id.* at § 41.72.

agreeing to physical exams entitled to presumption for 20 years from retirement), Rhode Island (adds retired firefighters), and Texas (pension coverage for firemen with six years of service). Pursuant to Va. Code § 65.2-406, workers' compensation claims for occupational diseases must be filed within two years after a diagnosis is first communicated to the employee or within five years from the date of the last injurious exposure in employment, whichever first occurs. If death results from an occupational disease within these time periods, the claim must be filed within three years of such death. This statute of limitations implicitly applies to claims for the current heart/lung presumption.

Yet another variable in presumptive coverage statutes is a required minimum period of service as firefighter. Illinois requires 10 years of service, while Maryland and Nevada require five years. North Dakota requires two years of service, and Texas law mandates six years of service. Current Virginia law does not require a minimum period of service for the firefighter heart/lung presumption.

Finally, some states limit presumptive coverage to specific cancers. Massachusetts law addresses skin, oral, and prostate cancer as well as those cancers affecting the central nervous, lymphatic, digestive, hematological, urinary, or skeletal systems. In Maryland, the presumption is applicable to leukemia and throat, pancreatic, prostate, and rectal cancer. According to the testimony of R. Rex Brookshire, Director of Administration, Maryland Workers' Compensation Commission, there have been no firefighter cancer claims advanced under the Maryland statutory presumption since mid-1983. The specified cancers are among those believed to be caused by absorption of carcinogens through the skin, rather than through the lungs.⁶²

CONCLUSIONS AND RECOMMENDATIONS

For the Virginia firefighter seeking workers' compensation for certain cancers not presently granted presumptive coverage, the challenge of proving causation may seem insurmountable. Although various cancers induced by work-related exposure to carcinogens may already merit recovery under current law, without the benefit of presumptive coverage, some firefighters may be discouraged from pursuing valid claims for workers' compensation. While a statutory presumption that a particular disease or

⁶² See Ala. Code § 11-43-144 (1993 Supp.); Cal. Code § 3212.1 (West 1993 Supp.); Ill. Ann. Stat. ch. 108 1/2 §§ 4-110.1 (1993); 6-112; 6-151.1 (1987 and 1992 Supp.); Ann. Code of Md., art. 101, § 9-503 (1992 Supp.); Mass. Gen. Laws Ann. ch. 32, § 94B (West 1993 Supp.); Minn. Stat. Ann. §176.011 (15)(c) (West 1993 Supp.); Vernon's Ann. Mo. Stat., § 287.067 (1993 Supp.); Nev. Rev. Stat. § 617.453 (1991); N.H. Rev. Stat. Ann. § 281-A: 17 (1992 Supp.); N.D. Cent. Code § 65-01-02 (17)(d) (1993 Supp.); Okla. Stat. Ann. § 49-110 (West 1994 Supp.); R.I. Gen. Laws § 45-19.1-3 (1988); Tenn. Code Ann. § 7-51-205 (1992 Supp.); Tex. Rev. Civ. Stat. Ann. art. 6243e.1 (6A) (1993 Supp.); 1988 Fla. Laws § 112.185 (West 1992 Supp.); Me. Rev. State. Ann. tit. 39, § 189 (1) (1989); Va. Code § 65.2-406 (1993 Supp.); Summary of July 8, 1993, committee meeting; Virginia Division of Legislative Services, *Summary of Responses Received from Other States Having Presumptive Cancer Legislation* (December 1993). Correspondence from the New Hampshire Department of Labor indicated that the state supreme court has overturned the presumptive cancer statute.

condition is indeed job-related may assist firefighters in asserting certain compensation claims, such a presumption does not--and, for constitutional purposes, could not--guarantee recovery under workers' compensation.

In determining the appropriateness and feasibility of extending the current presumption to certain cancers in firefighters, the joint subcommittee has sought the input and expertise of firefighters as well as representatives of state and local government. The joint subcommittee has examined data linking cancer and firefighter exposure to carcinogens; the number and outcome of firefighter cancer claims in Virginia and other states; and the need for prevention initiatives. The joint subcommittee therefore makes the following recommendations:

Recommendation 1: *That the Virginia Workers' Compensation Act be amended to provide presumptive coverage for firefighters whose death or disability results from certain types of cancer.*

For the Virginia firefighter seeking worker's compensation for certain cancers not presently granted presumptive coverage, the challenge of proving causation may seem insurmountable. Although various cancers induced by work-related exposure to carcinogens may already merit recovery under current law, without the benefit of presumptive coverage, some firefighters may be discouraged from pursuing valid claims. Expanding the current rebuttable presumption to include certain cancers in firefighters will shift the burden of proof from the claimant to the employer. While any new presumption cannot guarantee recovery under workers' compensation, it may nonetheless assist many firefighters previously deterred by the present system.

Having reviewed responses of those states having presumptive cancer coverage statutes, the joint subcommittee agreed that firefighters in the Commonwealth should also receive the benefit of this evidentiary tool. Extending presumptive coverage for leukemia and throat, pancreatic, prostate, and rectal cancer will afford those firefighters with three years of service some support in the advancement of their workers' compensation claim without unduly burdening municipalities, the primary employer of firefighters, who may refute this presumption by a preponderance of competent evidence to the contrary.

Recommendation 2: *That the Virginia Fire Services Board develop criteria for local and volunteer fire departments in reporting firefighter exposure to hazardous substances and establish a database for the collection of this information within the Department of Fire Programs.*

The availability of specific data detailing firefighter exposure to hazardous substances will not only facilitate the disposition of individual claims for workers' compensation coverage for cancer resulting from exposure to known toxins, but will also promote the development or revision of firefighter practices to prevent or reduce exposure to these substances. The Virginia Fire Services Board, charged to promote and coordinate state and local fire service organizations, could develop specific reporting

procedures for fire departments to analyze fire sites for toxins and to report findings to a central database within the Department of Fire Programs. The Department already compiles data regarding firefighter casualties and other statistics and is the logical source for the collection and maintenance of exposure statistics.

Respectfully submitted,

Delegate Robert B. Ball, Sr., *Chairman*
Senator Madison E. Marye, *Vice Chairman*
Delegate Riley E. Ingram
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Senator Charles R. Hawkins
Senator Charles L. Waddell
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**Virginia Workers' Compensation
Claims By Nature of Injury--1992**

Nature of Injury	Number of Claims	% of Total
Amputation	252	0.47
Angina Pectoris	2	0.00
Asbestosis	153	0.28
Black Lung I	247	0.46
Burn	768	1.42
Byssinosis	1	0.00
Cancer	2	0.00
Carpal Tunnel Syndrome	849	1.57
Concussion	153	0.28
Contusion	3,089	5.72
Crushing	424	0.79
Dermatitis	5	0.01
Dislocation	516	0.96
Drown	1	0.00
Dust Disease - NEC	4	0.01
Electric Shock	68	0.13
Exposure to AIDS	13	0.02
Fatal Asbestosis	4	0.01
Fatal Black Lung I	1	0.00
Fatal Concussion	1	0.00
Fatal Crime Victim	7	0.01
Fatal Crushing	9	0.02
Fatal Drowning	1	0.00
Fatal Dust Disease - NOC	1	0.00
Fatal Electric Shock	7	0.01
Fatal Fracture	3	0.01
Fatal Heart & Lung - Firemen	1	0.00
Fatal Heart & Lung - Police	3	0.01
Fatal Heart Attack	1	0.00
Fatal Injury NEC	60	0.11
Fatal Laceration	1	0.00
Fatal Mesothelioma	3	0.01
Fatal Myocardial Infarction	20	0.04
Fatal Occupational Disease NEC	1	0.00
Fatal Rupture	1	0.00
Foreign Body	336	0.62
Fracture	5,341	9.90

Nature of Injury	Number of Claims	% of Total
Freezing	2	0.00
Hearing Loss - Traumatic	33	0.06
Heart & Lung - Firemen	41	0.08
Heart & Lung - Police	79	0.15
Heat Prostration	43	0.08
Hernia	888	1.65
Infection	262	0.49
Inflammation	3,076	5.70
Injury NEC	13,978	25.90
Laceration	3,480	6.45
Loss of Hearing	137	0.25
Mental Disorder	1	0.00
Mesothelioma	5	0.01
Myocardial Infarction	57	0.11
Occupational Disease - NEC	19	0.04
Other Cumulative	42	0.08
Poisoning - Chemical	2	0.00
Poisoning - Metal	3	0.01
Prosthesis	44	0.08
Puncture	388	0.72
Radiation	3	0.01
Respiratory Disorders	6	0.01
Rupture	684	1.27
Severance	139	0.26
Sexual Assault	11	0.02
Silicosis	4	0.01
Sprain	5,099	9.45
Strain	12,990	24.07
Vascular	17	0.03
Victim of Crime	84	0.16
Vision Loss	5	0.01
Total	53,971	100%

Source: Virginia Workers' Compensation Commission, 1992 Year-end Statistical Report (February 1993).

Summary of Other States' Presumptive Cancer Coverage for Firefighters

Alabama	Ala. Code § 11-43-144 (1993 Supp.) (Pension)
Covers:	◆ Firefighters employed by municipality; adds cancer as "occupational disease" compensable through local pension system
Conditions:	◆ Cancer must develop while in service of department ◆ Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer) ◆ Must show carcinogen "reasonably linked" to cancer
Other:	◆ Presumption may be rebutted by municipality by a preponderance of evidence that the cancer was caused by other means
California*	Cal. Code § 3212.1 (West 1992 Supp.) (Workers' Compensation)
Covers:	◆ Active firefighting members of local fire departments, certain institutions of higher education, Department of Forestry and Fire Protection ◆ Volunteer or salaried firefighters
Conditions:	◆ Cancer must develop while in service of department ◆ Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer) ◆ Must show carcinogen "reasonably linked" to cancer
Other:	◆ "Disputable" presumption; may be controverted by other evidence; extended after termination of service for 3 months for each full year of service, not to exceed 60 months
Illinois	Ill. Ann. Stat. ch. 108 1/2 §§ 4-110.1 (1987) (Firefighters' Pension Fund); 6-112; 6-151.1 (1987) (Firemen's Annuity Fund)
Covers:	◆ In localities having a population over 500,000, active firefighters who have completed 10 or more years of service and who are unable to perform duties due to disabling cancer; adds cancer as "occupational disease" ◆ In localities having a population under 500,000, active firefighters who have completed 5 or more years of service and who are unable to perform duties due to disabling cancer; adds cancer as "occupational disease"
Conditions:	◆ Cancer must develop while in service of department

- ◆ Cancer must be the type caused by employment exposure to heat, radiation, or known carcinogen (as defined by International Agency for Research on Cancer)

Maryland* Ann. Code of Md., art. 101, § 9-503 (1992 Supp.) (Workers' Compensation)

Covers: ◆ Firefighters, fire instructors, and rescue squad personnel having 5 or more years of service and unable to perform duties due to cancer disability

- ◆ Salaried and certain volunteer personnel

Conditions: ◆ Throat, prostate, rectal, pancreatic cancer or leukemia

- ◆ Must show contact with toxic substance in the line of duty

Massachusetts Mass. Gen. Laws Ann. ch. 32, § 94B (West 1992 Supp.) (Pension Laws)

Covers: ◆ Paid firefighters

Conditions: ◆ Pre-employment physical revealing no cancer

- ◆ Skin, oral, and prostate cancer; cancer affecting central nervous, lymphatic, digestive, hematological, urinary, or skeletal systems

- ◆ Cancer must result in total disability or death

- ◆ Cancer must be of type "in general" resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer.

Other: ◆ Rebuttable by preponderance of evidence that non-service connected risk factors caused incapacity.

Minnesota* Minn. Stat. Ann. §176.011 (15)(c) (West 1992 Supp.) (Workers' Compensation)

Covers: ◆ Firefighters on active duty, unable to perform duties due to cancer disability

Conditions: ◆ Cancer of type resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer

- ◆ Must show carcinogen "reasonably linked" to disabling cancer

Missouri* Vernon's Ann. Mo. Stat., § 287.067 (1992 Supp.). (Workers' Compensation)

Covers: ◆ Paid firefighters

Conditions: ◆ Must establish a direct causal relationship between cancer and employment

- Other: ♦ Appears to add only carcinomas of the respiratory tract to heart/lung/hypertension statute as "occupational disease"
- Nevada*** Nev. Rev. Stat. § 617.453 (1991) (Workers' Compensation)
- Covers: ♦ Salaried and certain volunteer firefighters with 5 years of service
- Conditions: ♦ Cancer must develop while in service of department; must result in temporary or permanent disability
- ♦ Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer)
- ♦ Must show carcinogen "reasonably associated" with disabling cancer
- Other: ♦ Presumption may be "disputed" by other evidence; extended after termination of service for 3 months for each full year of service, not to exceed 60 months
- New Hampshire*** N.H. Rev. Stat. Ann. § 281-A: 17 (1991 Supp.) (Workers' Compensation)
- Covers: ♦ Volunteer, salaried, retired firefighters
- Conditions: ♦ Preemployment physical/ medical evidence that free of disease required for "call" and volunteer firefighters
- ♦ Cancer must be of type resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer
- Other: ♦ "Prima facie" presumption
- North Dakota*** N.D. Cent. Code § 65-01-02 (17)(d) (1991 Supp.) (Workers' Compensation)
- Covers: ♦ Full-time, paid firefighters having two years of continuous service
- Conditions: ♦ Preemployment physical
- ♦ Cancer must arise out of employment and result from exposure to smoke, fumes, or carcinogenic, poisonous, toxic, or chemical substances
- Other: ♦ Rebuttable by a showing of competent evidence
- Oklahoma** Okla. Stat. Ann. § 49-110 (West 1992 Supp.) (Firefighter Pension and Retirement System)
- Covers: ♦ Municipal firefighters disabled by cancer
- Conditions: ♦ Preemployment physical/ medical evidence that free of disease
- Other: ♦ Presumption of occurrence in line of duty rebuttable by "competent evidence"

Rhode Island R.I. Gen. Laws § 45-19.1-3 (1988) (Pensions)

- Covers: ♦ State and certain municipal volunteer and salaried firefighters unable to perform duties due to cancer disability; certain retired firefighters
- ♦ Defines "occupational cancer" as cancer arising out of employment due to exposure to smoke, fumes, or carcinogenic or toxic substances in performance of active duty
- Conditions: ♦ Cancer must develop while in service of department
- Other: ♦ Presumption unclear; apparently firefighter must still show disease arose out of employment

Tennessee Tenn. Code Ann. § 7-51-205 (1992 Supp.) (Local Government; Pensions)

- Covers: ♦ Regular and full-time firefighters in counties having a metropolitan form of government, an established form of compensation other than workers' compensation, and an ordinance authorizing a presumption
- Conditions: ♦ Disease must result in hospitalization, medical treatment, disability, or death; preemployment physical must indicate free of cancer

Texas Tex. Rev. Civ. Stat. Ann. art. 6243e.1 (6A) (1992 Supp.) (Pensions)

- Covers: ♦ Active firefighters of department in incorporated cities having population of not less than 1.2 million; firefighter must have 6 years of employment
- Conditions: ♦ Death or disability due to cancer; preemployment or pre-claim physical that free of disease

Other Special Firefighter Statutes

Florida 1988 Fla. Laws § 112.185 (West 1992 Supp.) (Public Officers)

- ♦ Establishes the Florida Firefighters, Paramedics, and Police Officers Health Project within the University of Miami School of Medicine; provides instruction to reduce the risk of cancer and coronary disease among emergency services personnel; adds a risk-reduction program to the standards for state certification as a firefighter, paramedic or police officer

Maine Me. Rev. State. Ann. tit. 39, § 189 (1) (1989) (Workers' Compensation)

- ♦ Provides an exception to the three-year statute of limitations for firefighters filing a claim for occupationally related cancer

*presumption under workers' compensation law
K.G. Harris Division of Legislative Services September, 1992

Meetings of the Joint Subcommittee, 1992-1993

Initial Meeting--2 p.m.--Tuesday, September 8, 1992

9th Floor West Conference Room--General Assembly Building

Kathleen G. Harris, staff attorney, Division of Legislative Services; Marion A. Long, Information Systems Manager, and Bobby L. Stanley, Director of Training, Department of Fire Programs; Lawrence D. Tarr, Chief Deputy Commissioner, Virginia Workers' Compensation Commission; Irvin Chilcoat, Loudoun County Fire & Rescue Department; R. Michael Mohler, Fairfax County Professional Firefighters.

Second Meeting--10 a.m.--Wednesday, December 9, 1992

9th Floor West Conference Room--General Assembly Building

Kathleen G. Harris, staff attorney, Division of Legislative Services; Margie Nichols, Virginia Municipal League.

Third Meeting--2 p.m.--Thursday, July 8, 1993

9th Floor West Conference Room--General Assembly Building

Kathleen G. Harris, staff attorney, Division of Legislative Services; Lawrence D. Tarr, Chief Deputy Commissioner, Virginia Workers' Compensation Commission; R. Rex Brookshire, Director of Administration, Maryland Workers' Compensation Commission; Jim Roberts, Deputy Director, House Appropriations Committee Staff.

Fourth Meeting--Work Session--2 p.m.--Monday, December 20, 1993

9th Floor Conference Room--General Assembly Building

HOUSE JOINT RESOLUTION NO. 47

Establishing a joint subcommittee to study the increased mortality rate and the increased rate of certain types of cancer among firefighters which are related to their occupation.

Agreed to by the House of Delegates, March 5, 1992
Agreed to by the Senate, March 3, 1992

WHEREAS, it has been documented that firefighters are exposed to thousands of different toxic chemicals in the course of their work; and

WHEREAS, many of these chemicals are known to be carcinogens; and

WHEREAS, firefighters are exposed to a variety of agents such as cadmium and various hydrocarbons which may be associated with an increased risk for cancer; and

WHEREAS, mortality studies concerning firefighters have concluded that firefighters may be more likely to die from cancer; and

WHEREAS, in recognition of these mortality studies, many states have enacted presumptive cancer laws; and

WHEREAS, firefighters have a rate of job-related fatalities four times higher than workers in private industry; and

WHEREAS, it has been documented that firefighters have an increased incidence of brain, rectum, colon and skin cancer, as well as leukemia; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That a joint subcommittee be established to study the increased mortality rate and the increased rate of certain types of cancer among firefighters which are related to their occupation. The subcommittee shall also examine presumptive cancer laws enacted by other states to determine if such legislation would be beneficial to the citizens of the Commonwealth.

The joint subcommittee shall consist of ten members to be appointed as follows: three members from the House of Delegates to be appointed by the Speaker of the House; three members of the Senate to be appointed by the Senate Committee on Privileges and Elections; and four members, including one representative from the State Fire Chiefs Association of Virginia, one representative from the Virginia Association of Professional Firefighters, one representative of county government, and one representative of city government.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1993 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be \$13,675; the direct costs of this study shall not exceed \$8,100.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

HOUSE JOINT RESOLUTION NO. 428

Continuing the Joint Legislative Subcommittee Studying Increased Mortality and Cancer Rates Among Firefighters in the Commonwealth.

Agreed to by the House of Delegates, February 7, 1993
Agreed to by the Senate, February 23, 1993

WHEREAS, exposure to a wide range of toxic chemicals and known carcinogens is commonplace in firefighting, and contact with these hazardous agents has been linked to a variety of cancers and may be responsible for high job-related fatalities among firefighters; and

WHEREAS, recognizing documented evidence of increased mortality and cancer rates among firefighters, the 1992 Session of the General Assembly adopted House Joint Resolution No. 47, establishing a 10-member joint subcommittee to study elevated mortality rates and increased rates of certain types of occupational cancers among firefighters; and

WHEREAS, directed to review work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth," the joint subcommittee sought the input and expertise of firefighters as well as representatives of the Department of Fire Programs, the Workers' Compensation Commission, and municipalities; and

WHEREAS, the joint subcommittee examined a wide range of issues, including prevention and safety measures for firefighters, current initiatives benefiting workers in other high health risk jobs, Virginia workers' compensation law and policy, and national and Virginia-specific data documenting mortality and cancer rates among firefighters; and

WHEREAS, while a number of studies have linked firefighting to certain forms of cancer, Virginia-specific data documenting exposure, disease, death, and disability remains limited; and

WHEREAS, expanding the current statutory presumption provided by the Virginia Workers' Compensation Act (§ 65.2-100 et seq.) to include cancer as well as heart and respiratory disease in firefighters necessitates further review of specific data linking cancer and firefighter exposure to carcinogens, consideration of the appropriate weight to be accorded predisposing physical factors and conditions, and analyses of financial and policy implications for the Commonwealth, localities, and public safety personnel; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Subcommittee Studying Increased Mortality and Cancer Rates Among Firefighters in the Commonwealth be continued for one additional year. The membership of the joint subcommittee shall continue as established by House Joint Resolution No. 47 (1992). Vacancies shall be filled by the Speaker of the House of Delegates, the Senate Committee on Privileges and Elections, and the Governor, as appropriate. In conducting its study, the joint subcommittee shall consider, among other things, (i) the potential fiscal impact of granting presumptive cancer coverage for salaried and volunteer firefighters, (ii) the need for a data collection system documenting exposure to carcinogens in fire emergencies, (iii) data documenting the frequency and outcome of claims for presumptive coverage in the Commonwealth and in states offering presumptive cancer coverage, and (iv) the adequacy of current firefighting procedures and protective gear in preventing or ameliorating exposure to carcinogens.

All agencies of the Commonwealth shall, upon request, assist the joint subcommittee in the conduct of its study.

The joint subcommittee shall submit its findings and recommendations to the Governor and the 1994 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be \$10,650; the direct costs shall not exceed \$7,200.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

1994 SESSION

LD5101124

HOUSE BILL NO. 732

Offered January 25, 1994

A BILL to amend and reenact § 65.2-402 of the Code of Virginia, relating to workers' compensation.

Patrons—Ball, Abbitt, Armstrong, Baker, Barlow, Behm, Brickley, Callahan, Christian, Cohen, Cooper, Copeland, Councill, Cranwell, Crittenden, Croshaw, Cunningham, Darner, Davies, Grayson, Griffith, Hall, Hamilton, Hargrove, Harris, Heilig, Hull, Ingram, Jackson, Jones, D. C., Jones, J.C., Keating, Mayer, Melvin, Moore, Morgan, Moss, Parrish, Phillips, Plum, Puller, Reynolds, Robinson, Scott, Shuler, Spruill, Stump, Thomas, Van Landingham, Van Yahres and Woodrum; Senators: Andrews, Calhoun, Earley, Gartlan, Holland, C.A., Holland, R.J., Houck, Howell, Lambert, Marye, Maxwell, Miller, Y.B., Norment, Quayle, Russell, Saslaw, Stolle, Stosch, Trumbo, Waddell, Walker, Wampler and Woods

Referred to Committee on Labor and Commerce

Be it enacted by the General Assembly of Virginia:

1. That § 65.2-402 of the Code of Virginia is amended and reenacted as follows:

§ 65.2-402. Presumption as to death or disability from respiratory disease, hypertension, heart disease, or cancer.

A. Respiratory diseases that cause (i) the death of volunteer or salaried fire fighters or (ii) any health condition or impairment of such fire fighters resulting in total or partial disability shall be presumed to be occupational diseases, suffered in the line of duty, that are covered by this title unless such presumption is overcome by a preponderance of competent evidence to the contrary.

B. Hypertension or heart disease causing the death of, or any health condition or impairment resulting in total or partial disability of (i) salaried or volunteer fire fighters, (ii) members of the State Police Officers' Retirement System, (iii) members of county, city or town police departments, (iv) sheriffs and deputy sheriffs, and (v) city sergeants or deputy city sergeants of the City of Richmond shall be presumed to be occupational diseases, suffered in the line of duty, that are covered by this title unless such presumption is overcome by a preponderance of competent evidence to the contrary.

C. Leukemia or pancreatic, prostate, rectal, or throat cancer that is caused by contact with a toxic substance that a volunteer or salaried fire fighter having completed three years of service has encountered in the line of duty and that causes (i) the death of such firefighter or (ii) any health condition or impairment of such fire fighter resulting in total or partial disability shall be presumed to be an occupational disease, suffered in the line of duty, that is covered by this title, unless such presumption is overcome by a preponderance of competent evidence to the contrary.

D. The presumptions described in subsections A and B, and C of this section shall only apply if persons entitled to invoke them have, if requested by the appointing authority or governing body employing them, undergone preemployment physical examinations that (i) were conducted prior to the making of any claims under this title that rely on such presumptions, (ii) were performed by physicians whose qualifications are as prescribed by the appointing authority or governing body employing such persons, (iii) included such appropriate laboratory and other diagnostic studies as the appointing authorities or governing bodies may have prescribed, and (iv) found such persons free of respiratory diseases, hypertension or heart disease at the time of such examinations.

E. Persons making claims under this title who rely on such presumptions shall, upon the request of appointing authorities or governing bodies employing such persons, submit to physical examinations (i) conducted by physicians selected by such authorities, bodies or their representatives and (ii) consisting of such tests and studies as may reasonably be required by such physicians. However, a qualified physician, selected and compensated by the claimant, may, at the election of such claimant, be present at such examination.

1 **EF.** Whenever a claim for death benefits is made under this title and the presumptions
 2 of this section are invoked, any person entitled to make such claim shall, upon the request
 3 of the appropriate appointing authority or governing body that had employed the deceased,
 4 submit the body of the deceased to a postmortem examination as may be directed by the
 5 Commission. A qualified physician, selected and compensated by the person entitled to
 6 make the claim, may, at the election of such claimant, be present at such postmortem
 7 examination.

8 **FG.** Volunteer lifesaving and rescue squad members, volunteer law-enforcement
 9 chaplains, auxiliary and reserve deputy sheriffs, and auxiliary and reserve police are not
 10 included within the coverage of this section.

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Official Use By Clerks	
<p style="text-align: center;">Passed By</p> <p>The House of Delegates</p> <p>without amendment <input type="checkbox"/></p> <p>with amendment <input type="checkbox"/></p> <p>substitute <input type="checkbox"/></p> <p>substitute w/amdt <input type="checkbox"/></p>	<p style="text-align: center;">Passed By The Senate</p> <p>without amendment <input type="checkbox"/></p> <p>with amendment <input type="checkbox"/></p> <p>substitute <input type="checkbox"/></p> <p>substitute w/amdt <input type="checkbox"/></p>
Date: _____	Date: _____
Clerk of the House of Delegates	Clerk of the Senate

1994 SESSION

LD5120749

SENATE JOINT RESOLUTION NO. 120

Offered January 25, 1994

Requesting the Virginia Fire Services Board to develop and maintain a statewide database for the collection and analysis of information documenting firefighter exposure to toxic substances.

Patrons—Waddell; Delegates: Ball and Mims

Referred to the Committee on Rules

WHEREAS, exposure to a wide range of toxic chemicals and known carcinogens is commonplace in firefighting, and contact with these hazardous agents has been linked to a variety of cancers and may be responsible for high job-related fatalities among firefighters; and

WHEREAS, recognizing documented evidence of increased mortality and cancer rates among firefighters, the General Assembly established a Joint Subcommittee pursuant to HJR 47 (1992) to study of these work-related health risks and authorized the Joint Subcommittee to continue in 1993 pursuant to HJR 428; and

WHEREAS, having explored firefighters' job-related exposure to toxic substances and the link between such exposure and increased health risks, the Joint Subcommittee's study has indicated a need for additional Virginia-specific data documenting cancer and firefighter exposure to carcinogens; and

WHEREAS, pursuant to § 9-155 of the Code of Virginia, the Virginia Fire Services Board, within the Department of Fire Programs, is responsible for promoting the coordination of the efforts of fire service organizations at the state and local levels and is statutorily directed to "develop and implement a statewide plan for the collection, analysis and reporting of data relating to fires in the Commonwealth, utilizing appropriate resources of other state agencies when deemed proper by the Board"; and

WHEREAS, consistent with this duty, the Board is also charged to evaluate state programs affecting fire prevention and protection and to make recommendations to the Governor and General Assembly regarding these issues; and

WHEREAS, documentation of firefighter exposure to toxic substances might facilitate the prevention and amelioration of this exposure through increased adherence to safety practices and the wearing of protective gear; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Virginia Fire Services Board is hereby requested to develop and maintain a statewide database for the collection and analysis of information documenting firefighter exposure to toxic substances. In establishing this database, the Board shall examine, among other things, the availability and use of appropriate protective gear and other prevention initiatives and the extent of compliance by individual firefighters with existing firefighter safety protocol.

The Department of Fire Programs shall provide staff support for the development of the database. All agencies of the Commonwealth shall provide assistance to the Department and the Board, upon request.

The Board shall report its progress on the database to the House Committee on Labor and Commerce and the Senate Committee on Commerce and Labor by November 1995 and shall submit its findings and recommendations to the Governor and the 1996 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.