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STATE OF NEW JERSEY



Report
Concerning
the
State Employees
Safety Program



Prepared by the
BUREAU OF ENGINEERING & SAFETY
N.J. DEPT. OF LABOR & INDUSTRY



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PROGRESS REPORT

NEW JERSEY STATE EMPLOYEES SAFETY PROGRAM

GOVERNOR MEYNER CONCERNED WITH THE PROBLEM OF OCCUPATIONAL INJURIES TO EMPLOYEES OF THE STATE OF NEW JERSEY REQUESTED THAT EVERY DEPARTMENT PARTICIPATE IN A STATE EMPLOYEES SAFETY PROGRAM, WHICH WOULD BEGIN IN NOVEMBER, 1958.

REASON FOR PROGRAM - The program was established on the fact, as expressed by Governor Meyner, that "while many state governments enforce accident prevention regulations in private industry, safety programs for their own employees often receive little attention". The increasing number of accidental injuries to State employees, annually, spells out a moral obligation the State has to provide safe working conditions and work methods to protect the employees from occupational injury, which causes untold suffering and loss of financial resources. Costs, resulting from time lost from work, medical and compensation payments for injuries constitute a budgetary expense which must be reduced.

PROGRAM INITIATED - The program was officially initiated at the cabinet meeting in November, 1958 when the Governor directed each department appoint a Safety Coordinator and a central safety committee and arrange for the establishment of safety committees in the various divisions and installations of the departments. The Governor directed the Department of Labor and Industry to correlate accident information and perform required coordinating services.

BUREAU OF LABOR STANDARDS ASSISTANCE - A safety program of proven worth, developed by the United States Department of Labor, Bureau of Labor Standards, Division of Safety Standards and Services, was introduced as a guide in developing safety consciousness in State employment. The application and implementation of these recognized safety activities and promotional techniques outlined in the program was assigned to each Safety Coordinator and each Department Central Safety Committee.

TRAINING IN SAFETY LEADERSHIP - Because few of the people appointed to participate in Safety Committee activities had any previous experience in this particular endeavor arrangements were made to conduct a series of two-day meetings under the able leadership of a safety training specialist loaned to the State by the Federal Bureau of Labor Standards. A total of 157 State employees, representing all grades of employment, participated in the seminars.

PROGRAM APPLICATION - Upon completion of the training sessions the fourteen Department Safety Coordinators met to discuss procedures and policies to pursue in getting the Employees Safety Program underway. The most immediate problem was to distribute and implement use of the twelve (12) monthly "safety program aids", developed by the U. S. Bureau of Labor Standards, designed to cover accident problems in public works activities. Plans were made to distribute one safety program subject each month as a guide to the committees safety activities. Four (4) different categories of work activities in government work are discussed in the program aids, as follows:

- a. Twelve Safety Program Aids relating to accident causes and work problems in office activities. Copies of this group of program aids were distributed to all departments.
- b. Twelve Safety Program Aids relating to accident causes and work problems, such as machine shop repair, road maintenance, and repair and other work activities in Highway Departments. The Department of Defense also receives certain aids appropriate to their shop maintenance operations from this group.
- c. Twelve Safety Program Aids relating to accident causes and operational hazards in Conservation and Forestry Work. Some of the program aids discuss forest fire fighting, boat hazards, and tree felling.
- c. Twelve Safety Program Aids relating to accident causes and occupational hazards in Institutional Work. Some of the program aids discuss the patient and inmate handling problem, service centers such as laundry and food service operations, and fire and building maintenance in Institutions.

The program aids were reproduced by the Department of Labor and Industry in sufficient quantities for all members of Safety Committees in the State for their guidance in the monthly inspection and safety discussion activities.

ACTIVITIES OF THE COMMITTEES

GENERAL AGREEMENT - The Department Safety Coordinators agreed to meet regularly on the third Thursday of each month to discuss progress and problems relating to the State Employees Safety Program. It was unanimously agreed at the first meeting to limit the activities for the first year to the application of the information contained in the safety "program aids" for the purposes of training and inspection by the various safety committees. Based upon developments, programs would be promulgated to continue safety activities on a statewide basis after the completion of the initial year.

EXISTING SAFETY ACTIVITIES - Two departments in the State government have an organized safety program, ably lead. The Department of Highways has a staff of safety inspectors engaged in field safety activities such as project inspection, accident investigation and enforcement. The need for this service is apparent since much of the work in the Highway Department is considered high hazard work.

The Department of Institutions and Agencies has a safety program primarily based upon the activities of a safety committee organization in each institution. These committees function well and have been very active in inspection and accident investigation.

The other twelve departments had only occasional emphasis on accident prevention and no active leadership in Safety until the inception of the present safety committee activities.

FIRST AID AND MEDICAL CARE - Except in those areas where formal first-aid stations are available to employees or in areas where clinical services are part of an installation, injured employees were usually dependent for "first-aid", upon some employee who had the forethought to maintain some band-aids and iodine in his desk. Arrangements were made to equip each office isolated from clinical services, with a standard first-aid kit and make a supervisor responsible for rendering first-aid and recording the injury. An appraisal of injuries treated in clinics by professional state employees, tends to show that medical costs to the State would be extremely high if this service were not available to a majority of all State employees.

REPORTING LOST-TIME CASES AND DAYS LOST - Accurate information concerning the number of injuries resulting in lost-time and the actual days lost apparently was never maintained for the purposes of developing frequency and severity rates. Total annual compensation costs as reported by the Claims Bureau are not the whole cost picture to the State for injuries. "Sick leave due to injury", known as S.L.I. payments, is an element of cost to the State for injuries not included in the Claims Bureau's expenditures.

To collect accurate information concerning this vital cost factor, arrangements were made with the Civil Service Department, in conjunction with the Personnel Council, to establish a procedure whereby copies of S.L.I. payment approvals would be forwarded to the Claims Bureau beginning November 15, 1959.

INSPECTIONS - The Safety Committees have organized an active inspection program and on some occasions have requested and obtained the services of a trained Safety Inspector from the Safety Promotion Section of the Bureau of Engineering and Safety to train committee members in inspection technique and assist in making the inspections.

The impact of an inspection was often lost when limited funds prevented correction of the unsafe conditions, replacement of unsafe equipment or the purchase of safeguards as recommended. However, many recommendations brought about desirable results in the elimination of accident hazards and dangerous work habits.

Thorough inspection of a facility is important in providing safe working environment for employees. In one instance where an inspection was made of the premises at 1 West State Street, a total of 30 hazardous conditions were found, many involving fire hazards and fire protection which if not corrected could prove disastrous to the welfare of the occupants. This case is cited as an example of the thoroughness of many inspection developments.

ACCIDENT REVIEW

The Claims Bureau of the Department of Law and Public Safety has been extremely helpful by preparing information relating to accidents reported to the Bureau. As shown in the following table, there has been a steady

increase annually in the total number of accidents reported to the Bureau. Accidental injury costs, approved by the Bureau, have also increased annually.

TABLE I
ANNUAL ACCIDENT CASE LOAD AND COST

<u>Item</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
1. Total injuries reported	3,503	3,783	4,416	4,635
2. Total cases investigated	1,325	1,392	1,643	1,576
3. Total cases settled	1,148	1,364	1,334	1,503
4. Total costs for cases settled	\$166,990	\$216,071	\$358,440	N. A.

The expenditure approved by the Claims Bureau (Item 4 - Table I) does not include the payment of wages to an employee who is disabled by injury occurred while in the performance of his duty (known as S.L.I. payment.)

During the first six months of 1959 the number of accident reports submitted to the Bureau showed a marked increase over the previous years and by projecting this experience for a full year, it appeared that a total of 4,800 to 4,900 accidents would be reported. However, an improvement in accident experience during the last 6 months reduced this estimate to 4,635 cases; a 5% increase over 1958, less than the increase in State employment. See Table II below.

TABLE II
PERSONAL INJURY REPORTS

Submitted to the Claims Bureau
December 15, 1958 to December 15, 1959

<u>Department</u>	<u>Number of Reports</u>
Agriculture.....	14
Banking and Insurance.....	4
Civil Service.....	4
Conservation and Economic Development.....	135
Defense.....	18
Education.....	141
Health.....	34
Highway.....	679
Institutions and Agencies.....	3,126
Labor and Industry.....	99
Law and Public Safety.....	190
Public Utilities.....	3
Treasury.....	82
State.....	1
Total	<u>4,530*</u>

* The total does not include 105 accidents reported by the Judiciary, Chief Executives Office, Legislative Agencies or various Commissions.

Information set forth in Tables I, II and III plus information submitted quarterly by the Department Safety Coordinator and the Claims Bureau provides sufficient facts to establish the following conclusions and assumptions.

1. Approximately one-third of all accident reports submitted to the Claims Bureau, annually, result in some expenditure by the Bureau for medical, hospital, legal, permanent total or permanent partial disability awards. The other 66% of the accident reports received are usually the result of a minor injury where only first aid was rendered or where the employee was given clinical treatment in a State hospital facility. Reporting of all minor injuries serves a dual purpose. It safeguards both the employee and the State by establishing a time and place of the incident.
2. The Department of Institutions and Agencies shows the largest number of accident reports submitted to the Claims Bureau annually. Its figure represents approximately 68% of all accidents reported, and appears to be a consistent picture for the past four years. The Department also employs approximately 41% of the total State employment. There is reason to expect a higher percentage of accidents from this department since many accidents reported are the result of an involvement with a patient.
3. The Highway Department accounts for approximately 15% of all the accidents reported to the Claims Bureau annually. The accident potential in highway work is extremely high since employees engaged in road maintenance and repair are exposed to vehicular traffic and high hazard automotive and mechanical equipment accidents.
4. INJURY FREQUENCY - No true measure of "injury rates" in State employment has been maintained in the past years to establish accident frequency comparisons with other employment areas. Many Department Safety Coordinators were in a position to provide this information. However, some departments were in the process of developing a control program and therefore short-term samplings were obtained and the experience projected for one year. Latest employment figures published by the Civil Service Department were used to determine the annual man-hour accumulation. Using the base figure of 27,700 State employees (exclusive of 3,159 employees at Rutgers) weighted against an average man-hour production per employee annually of *1,750 man-hours, the accidental injury samplings developed a 21.2 accident frequency rate (number of lost-time injuries per million man-hours of work). This rate is almost twice that experienced by the New Jersey manufacturing plants with a three year average of 11.3 and is, in some instances 5 to 7 times as high as certain low frequency rated industries. It is also excessively high when compared to the Federal Government employees frequency rate of 8.1 (exclusive of Military Personnel).

The average man-hours worked per employee is based upon known holidays, average vacations and a national average of sick leave taken charged against the total hours worked by employees with average 35 and 40 hour weeks of work.

5. SEVERITY RATES - Too many factors enter into developing a severity rate (No. of days lost or charged per million man-hours of work) that are not available at this time. However, with the accumulation of approved S.L.I. payment information next year, standard charges of 6,000 days for deaths and a study of all permanent total and permanent partial disability cases, a true rate can be established quarterly.

The whole cost picture for accidents can better be understood when severity rates are shown. Actual money spent each year for compensation does not show the total obligation of indebtedness extended over some years. For example, a death or permanent total disability could obligate the State to make payments for 16 years to dependents. Awards made by the Compensation courts could extend payments far beyond the actual days lost from work due to injury.

The Civil Service Commission approved payment of 2343 days of time lost from work due to an injury during the first two months data was collected. This appears to be a near average monthly total when compared with previously reported information. Therefore, it is possible to assume that it is costing the State an average of about 14,000 mandays annually or approximately \$250,000 for S.L.I. payments based on the average daily wage of State employees. This represents an average loss of 12 days for each injury for which S.L.I. payments are made. This cost can fluctuate annually since it is controlled by the Severity of injuries.

In 1959 the Claims Bureau closed or settled a total of 1,503 cases as follows: (many closed cases were injuries occurring prior to 1959)

Formal Hearing	60 cases
Informal Hearing	25 cases
Direct Settlement	49 cases
Others - No action, medical bills, etc.	1,369 cases
	<u>1,503 cases</u>

However, still on the calendar for future action on cases still open at the end of the year were 983 cases of injuries occurring mostly during 1959.

Formal Hearing	111 cases
Informal Hearing	33 cases
Direct Settlement	11 cases
Other Action Cases	<u>828 cases</u>
	983 cases

With the number of accident cases still awaiting final disposition it can be expected that the State's future obligations will be considerably higher

than the annual actual compensation costs shown in Table III. Also based on the total number of accidents where awards will be made for permanent or partial disabilities plus the actual days lost for which S.L.I. payments were made and known days charged for six deaths, it is fair to assume that the severity rate for State employment will be slightly more than 1,000 days per million man hours worked. This is an extremely high rate for one of the largest employers in the State when compared with the 1958 rate of 652 days for the New Jersey Manufacturing Industry and the severity rate of 501 days in Federal employment.

6. DEPARTMENT FREQUENCY RATE

Department of Conservation and Economic Development

The reported lost-time injuries for one year in this department develops a frequency rate of 17.1. This department has many high hazard occupations, especially in its state park services, water control activities, and forest fire-fighting. The possibility of a major catastrophe is ever present whenever a forest fire occurs. The need for thorough training and adequate safeguards to meet such emergencies is of utmost importance to minimize such possibilities. Many facets of the department's operations must have advance planning to meet safely the problems relating to exposure during time of fire, floods and severe storms.

Department of Institutions and Agencies

A full year's accident experience was not available for this report and, therefore, the frequency rate of 33.0 is based upon a projected sampling of five months' experience. Since approximately 90 percent of the Department's personnel is employed in mental hospitals, penal and correctional institutions and schools for the mentally deficient in which there is a wide diversification of work areas, many injuries are the direct result of patient-attendant problems. This singular work hazard therefore plays a large part in influencing the frequency of accidents in this department. No comparable accident experience totals are available from other states or federal facilities for so complex an organization and it would be unfair to use published figures for private hospitals for comparison purposes. However, the measure of injury rate based upon reporting of all minor and major injuries to the Claims Bureau is approximately 1 in every 3 1/2 employees in the department, a frequency considerably higher than the state average of 1 in every 6 employees. Actual cost for injuries in 1959 (Table III) would be considerably higher if medical services were not available in many of the institutional installations for the treatment of injuries.

Highway Department

The information relating to lost-time cases for one year developed a frequency rate of approximately 25.0 for the Highway Department. This rate is considerably lower than the national average frequency rate of 34.4 experienced by the Highway and Street Construction Contractors. The severity of accidents experienced in this high hazard occupation is expressed in the annual compensation costs in Table III. Many accidents in this Department are the result of a third party contribution involving reckless and careless driving.

Department of Labor and Industry

Information available for one year shows a frequency rate of 6.8 for the year. This rate is considerably higher than the Federal Department of Labor with a frequency rate of 3.3. The personnel of some of the Bureaus are exposed to field hazards when pursuing their inspection responsibilities and may therefore contribute to the higher rate.

Treasury Department

From information made available for one year an injury frequency rate of 13.5 was developed. In order to show some comparisons with near similar occupational hazards, the frequency rate of 4.3 and 8.3 for the U. S. Treasury Department and the U. S. General Services Department are quoted.

Department of Health

The experience in this department developed a 9.9 frequency rate. The total employment in this department has a low annual man-hour accumulation with the result a single injury will raise the frequency rate more than one full point.

Department of Law and Public Safety

The information available from this department, projected for 1 year, shows a frequency rate of 10.7. The major portion of the accidents reported occurred in the Division of Motor Vehicles and State Police; two areas of the department employing approximately 90% of the department's personnel.

The only available comparable figures are those of the Federal Department of Justice with a frequency rate of 4.3 and a published frequency rate of 33.1 for State and local government police work as published by the Federal Bureau of Labor Statistics.

Department of Education

A three month sampling shows a frequency rate of 6.1. While this sampling is small, the figure appears to be fairly consistent with the 7.6 frequency rate for privately owned colleges. Better reporting is planned for 1960.

Other Departments (6)

The other six departments employ approximately 4% of the total State employment. The accident rate in total numbers has little effect upon the State average, however, one or more accidents in any one of the departments would produce an extremely high frequency rate. For example, any number of accidents resulting in lost-time in the State Department would produce a frequency rate 10 times the number of accidents.

TABLE III

COMPENSATION PAYMENTS *

January 1 to December 31, 1959

Department of Law and Public Safety	\$ 27,751.86
Department of Treasury	10,192.28
Department of State	885.88
Department of Civil Service	88.54
Department of Banking and Insurance	129.28
Department of Agriculture	137.05
Department of Defense	7,574.25
Department of Public Utilities	119.46
Department of Health	1,406.08
Department of Labor and Industry	29,744.31
Department of Conservation and Economic Development	23,765.82
Department of Institutions and Agencies	120,593.43
Department of Education	12,775.56
Highway Department	131,082.02
Other	<u>19.75</u>
	\$366,352.87

* These are actual disbursements for injuries and do not include possible payments resulting from the still pending cases. Cases awaiting formal or informal hearing before settlement may result in long-term disbursements based on the type of injury involved and may, therefore, increase the annual cost considerably.

What Can an Accident Cost

Statisticians claim the gross cost of an accident is usually four (4) times the actual expenditure for medical care and compensation payments. These indirect costs result from wage losses, administrative costs of claim settlement, property and material damages and work interruption of others. The State of New Jersey made a direct outlay of \$367,000 in compensation payments, a figure expected to be considerably below the estimated obligation for accidental injuries settled by the Claims Bureau and when either of these sums is added to the approximately \$250,000 S.L.I. payments, the direct and indirect cost for injuries when applying the 4 to 1 formula, would be \$2,500,000 to \$3,000,000 annually.

It has been said 88% of all accidents are the result of human failure; 10% the result of mechanical failure and 2% charged to an "act of god". The severity of an injury is seldom manifested in the type of accident nor is it possible to measure the extent of human suffering. Most accidents are preventable and every effort should be directed to teach people safe habits and provide them with a safe working environment. It is far better to spend for safety than to waste money to pay for a careless moment or an overlooked or neglected unsafe condition as exemplified in the following discussions of accidents that should not have occurred.

Example 1

An employee received injuries to head and hand when struck by a falling "Door-stop" as she walked through a doorway. The door-stop had apparently been loosened by usage. The employee lost 20 days from work for which S.L.I. payments were made. In addition, the State paid compensation for a permanent partial disability, legal fees and services in the amount of \$1,668.50. The accident would not have occurred if regular inspections were made and immediate preventive maintenance instigated.

Example 2

An employee while cutting grass came upon some electric wire on the ground, left there apparently after the adjacent building had been re-wired and serviced with a newly installed underground wiring system. Believing the wires "dead" he attempted to move them out of the way and received severe electrical burns of his extremities, resulting in permanent disability. This case cost a grand total of \$12,828.58 for hospital, medical, mechanical arm and disability payment. Additional S.L.I. payment was also made for time lost. Since the wires served no purpose, the current should have been cut and the wires removed by those responsible for the new underground installation. The accident was unnecessary and is a direct result of neglect and ignorance.

Example 3

Four men were injured when they were thrown violently some distance from a crane they were working around when the crane boom made contact with overhead high tension wires. One employee is seeking compensation

for permanent injury to his head, back, nerves, right arm, and for internal injuries. Another employee had not returned to work since the accident occurred fourteen months ago, and it is now anticipated that he will seek "service connected disability", which would entitle him two-thirds pay for the balance of his life. The other two employees received minor injuries of less consequence. The cost for this accident has not as yet been ascertained. However, it is estimated that total compensation and medical costs will be in excess of \$20,000.00.

Example 4

A clerical employee, in getting up from her desk, stumbled over a file drawer that had been left open by one of her fellow employees. Bruises to her lower left leg caused her to lose time from work, for which S.L.I. payments were made. Medical costs to the State for the treatment of the injury amounted to approximately \$25. This is a typical office accident that should never occur providing employees have been trained in safe office habits. The injury resulting from an accident of this type has often been extremely severe and in some instances causes death.

CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of the Safety Coordinators that the Safety Committee approach, in reducing accidents, is good but has its limitations and that more must be done to conserve our human resources. It is their opinion that the State's responsibility, towards the safety of its employees and the public, demands an intensification in safety activities, in as broad a sense as possible, to eliminate waste of man-power and an increasing economic loss, due to accidents.

It is their considered opinion that the approximately 30,000 State employees, engaged in the State's many activities, are exposed to as many potential accidental injuries as those employed in the industrial world and, therefore, the highest degree of accident control can only be achieved by careful attention to safety activities.

Experience has demonstrated that the most successful organizations in controlling accidents are those engaged in conducting intensive safety educational programs designed to stimulate employee attitude towards safety, teach safe work methods and develop sound work practices. This was not accomplished under the present safety committee program since the Department Safety Coordinators and members of the Safety Committees found it increasingly difficult to give as much time to this added responsibility and still accomplish the many tasks in their already busy work schedule. On many occasions, the Safety Coordinators were unable to attend scheduled safety meetings due to conflicting responsibilities.

It is the opinion of the Safety Coordinators, a statewide safety promotional campaign to educate all levels of employment in safe thinking and doing, will bring about an improved accident experience. A well-balanced active program should strive for a 10% reduction in accidental injuries in State employment.

The Commissioner of each department should be kept currently (quarterly) informed of the accident rate, accident costs and other matters relating to all facets of safety activities.

RECOMMENDATIONS

1. It is essential the Safety Committee program be continued and the Department Safety Coordinator intensify its direction, especially after the use of the twelve "Safety Program Aids" is completed.
2. Develop a standard accident report designed to provide information for cause analysis, frequency and severity rates of all disabling injuries. This is not to conflict with present reporting requirements of the Claims Bureau or present procedure in accumulating S.L.I. costs.
3. Prepare quarterly reports of accident experience by departments with consonant costs for distribution to Commissioners and Safety Coordinators for their use and knowledge.
4. Intensify the work of the Safety Committees in the areas of accident investigations, inspection and promotion of safe work practices.
5. Establish a group consisting of trained safety personnel to lend assistance to the Central Safety Committees and sub-committees of the various departments of the State government in inspection and promotional activities as follows:
 - a. Develop visual and lecture training programs designed to encourage employees to think and work safely.
 - b. Develop visual educational media such as safety poster, "throw-aways", concerning specific problems in work environment and possibly a State Employees Quarterly Safety News letter, containing items relating to "on the job", and "off the job" accidents.
 - c. Provide trained assistance to all departments, upon request of the Department Safety Coordinators, to make inspections of work areas for purposes of determining safe work conditions and safe work methods.
 - d. Make special investigations of all major accidents involving deaths, multi-injury or heavy property damage accidents and report findings, with recommendations to the respective Commissioners. All investigations or inspections would be made in conjunction with the Department Safety Coordinator or Safety Supervisor.
 - e. Prepare an Employee Manual which tells the employee what is expected of him and what he can expect of the State, regarding safe practices, work rules, medical services, compensations, etc.

- f. Work in close harmony with the Claims Bureau in developing standards in reporting accidents and preparing statistics.
- g. Arrange special programs to keep interest in safety alive such as award and special prizes programs where recognition is given for outstanding performances in safety.

