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OFFICE OF THE VICE-PRESIDENT, HUMAN RESOURCES

June 13, 2001

Memorandum

To: Business Board

From: Angela Hildyard

Re: Agenda Item: 9(a)

Item Identification
Annual Report on Health and Safety

Sponsor
Professor Angela Hildyard – Vice-President – Human Resources
For information contact David Gorman, Director, Environmental Health and Safety (978-7831)

Jurisdictional Information
The Governing Council has delegated responsibility to the Business Board for the periodic review of programs to implement the Occupational Health and Safety Act, The Environmental Protection Act and other University policies concerning the health and safety of members of the University and visitors. This report is submitted annually to the Business Board to assist in fulfilling this mandate.

Previous Action Taken
None

Action Sought
Report for information only

Highlights
- Safety performance continues to be better than average earning a rebate on our assessment for 2001 of $137,000.
- A week-long evaluation of the radiation safety program by the Federal regulator concluded that the program is effective and well-run with no issues of non-compliance identified.
- Five visits by the Ministry of Labour resulted in a number of orders. All have been complied with.
- Major ongoing safety concerns relate to asbestos, mould and air quality in buildings, and ergonomics of computer workstations in offices.

Financial Implications
None

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ANNUAL REPORT ON HEALTH AND SAFETY - 2001
EXECUTIVE SUMMARY

The Occupational Health and Safety Act requires directors and officers of corporations to take all reasonable care to ensure that the corporation complies with the Act and its regulations. The terms of reference of the Business Board require that the President or his designate prepare and submit to the Board an annual report on health and safety activities undertaken to ensure compliance with the Occupational Health and Safety Act and the Environmental Protection Act. This report is submitted in compliance with these requirements.

This executive summary provides a number of measures and performance indices which track trends in our performance, and where possible, provide benchmarks against which we can compare with comparable external employers or groups.

1. ACCIDENTS/INJURIES

Critical Injuries

Critical injury has a specific definition under the Occupational Health and Safety Act. A critical injury is one that is of a serious nature that:

- places life in jeopardy;
- produces unconsciousness;
- results in substantial loss of blood;
- involves the fracture of a leg or arm but not a finger or toe;
- involves the amputation of a leg, arm, hand or foot, but not a finger or toe;
- consists of burns to a major portion of the body; or
- causes the loss of sight in an eye.

There were no critical injuries during 2001. There was one homicide on campus during 2001. The case is still under investigation by Metro Toronto police.

Lost Time Accident Frequency

The lost time accident frequency in 2001 for the University as a whole is 0.7% (7 accidents per 1000 employees). However, the frequency among subgroups of employees differs by more than a factor of 10 with the highest frequency being among the skilled trades (21%) and the lowest among the academics and librarians (0.03%). The distribution among the different employee groups is shown in Figure 1.

The following lost time accident frequency data are useful for comparison:

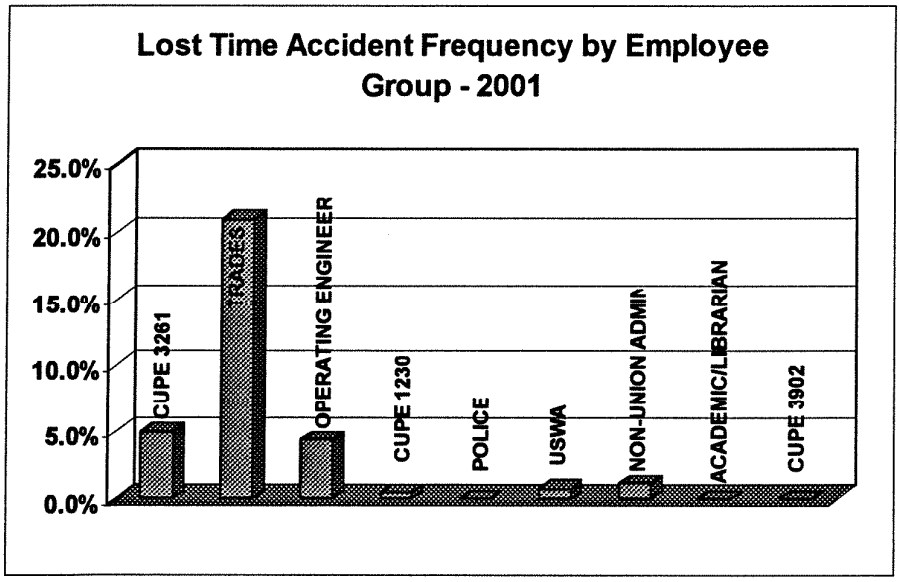
University of Toronto - Academics & Librarians:	0.03%
Companies with "world class" safety records:	< 0.5%
Ontario WSIB rate group 927 (Office Workers):	0.4%
University of Toronto - All employees:	0.7%
Ontario WSIB rate group 923 (Janitorial Services):	3%
Canadian and Ontario Industrial Average:	3%
University of Toronto - CUPE 3261:	5%
Ontario WSIB rate group 929 (Non clerical labour):	8%
University of Toronto - Skilled Trades:	21%

In comparison with our WSIB rate group 817 - Universities and Colleges, our overall frequency is 89% of the rate group average.

Taken as a single entity, the University's performance is slightly better than the average of our peer group in

Ontario. When we look at particular employee subgroups, however, the frequency appears to be not as good as the Canadian and Ontario average. Unfortunately, no comparable data on subgroups is currently available from other comparable institutions.

FIGURE 1



Lost Time Accident Severity

Figure 2 shows the lost time accident severity in terms of average days lost per lost time accident. The year 2001 shows a significant increase from previous years. This is due almost entirely to two repetitive strain injuries with a total days lost of 476 days (30% of the total days lost). Both of these are related to office work and computer usage.

Figure 3 gives the days lost per employee as a function of the different employee groups. In terms of this measure, the skilled trades has the highest severity at an average of 2.2 days per year. This is an increase from 2000 where the comparable figure was 0.9 days per employee. In contrast the caretaking group (CUPE 3261) has decreased the severity from 1.3 days in 2000 to 0.95 days in 2001.

Types of Accidents

Classification of lost time claims by type of incident giving rise to the claims in terms of number of accidents (Figure 4) shows that the major contributors are sprains and strains arising from lifting or overexertion and slips and falls. In terms of days lost (Figure 5) the repetitive strain injury takes over as the leading cause of lost days, with sprains/strains and falls being second.

FIGURE 2

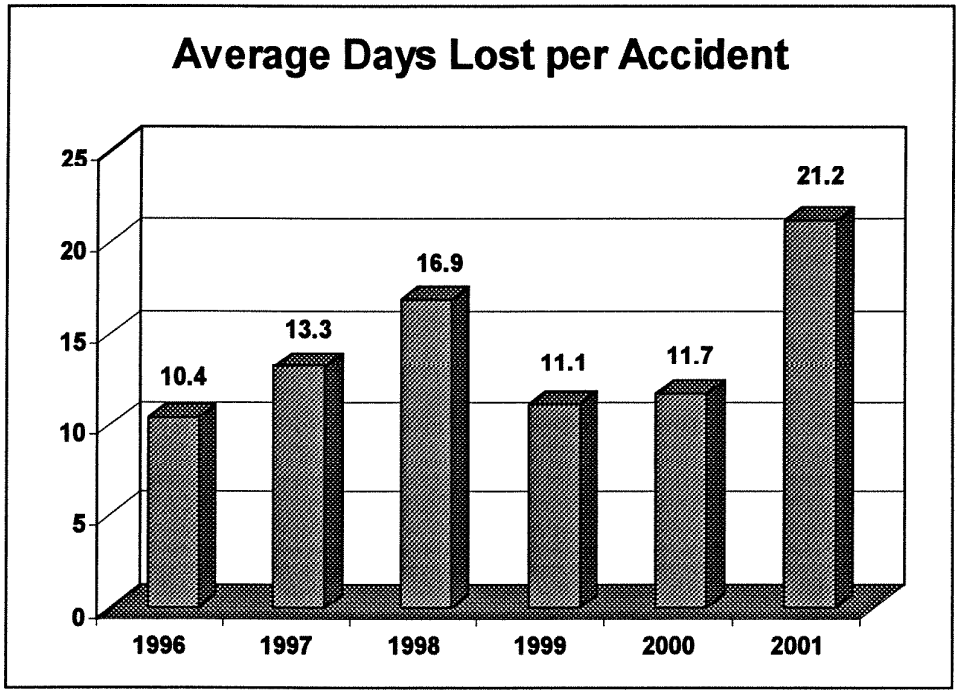


FIGURE 3

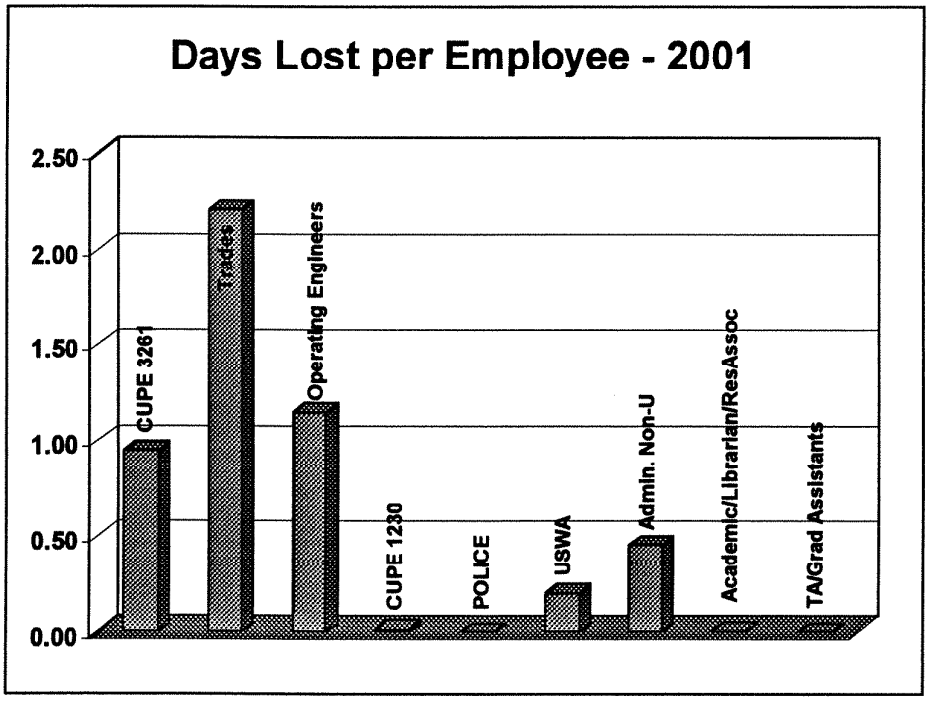


FIGURE 4

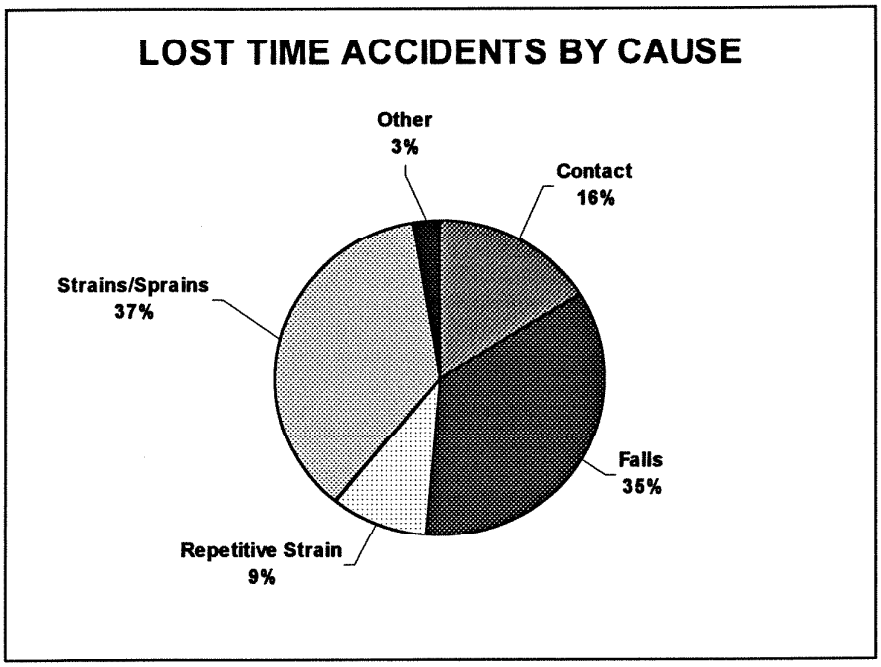
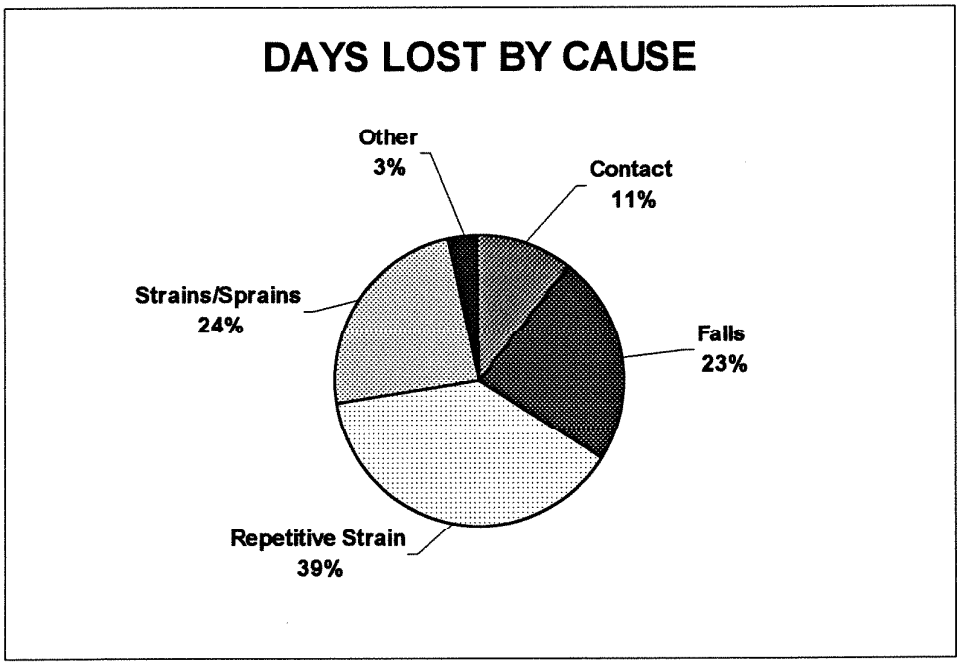


FIGURE 5



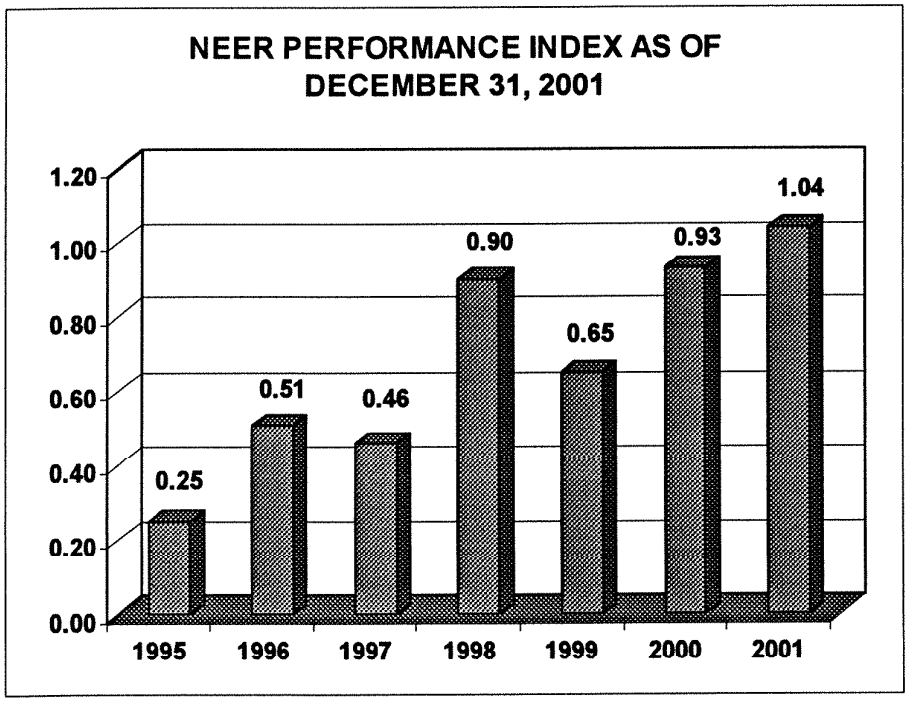
Accident Costs

Universities came under the Workers' Compensation Board's experience rating plan (NEER) as of January 1, 1995. The NEER performance index shown in Figure 6, is calculated by the WSIB and is based on our actual costs during the year compared with the "expected costs" which are based on the average performance of our rate group which includes all Ontario universities and colleges.

A performance index of less than one indicates that accident costs are lower than expected and results in a rebate on the premium; a performance index of greater than 1 indicates that accident costs are higher than expected and results in a surcharge. The NEER index has shown a steady increase from 0.5 in 1996 to around 1 in 2000 and 2001. The index is calculated over the three years after the year in which the accident occurs therefore only the indices up to and including 1999 are the final values. The numbers for 2000 and 2001 are still changing and can be reduced by effective rehabilitation and return to work programs. As of March 31, 2002 the index for 2001 has decreased to 0.90. This is a result of claims becoming inactive as the individuals return to work.

In December of 2001, the University received a rebate on our assessment of $137,450. This rebate is smaller than in previous years primarily because our assessment was reduced by approximately 30% in 2001. This means that the University paid less up front in assessments, however rebates will be more difficult to achieve in future. This is also a major reason why the performance index has increased to close to 1.

FIGURE 6



2. REGULATORY COMPLIANCE

Ministry of Labour Inspections and Orders

There were five separate instances of intervention by Ministry of Labour inspectors in 2001, some of which involved multiple visits. The visits were not part of a routine inspection program of the Ministry, but were occasioned by either an accident or a complaint by an employee.

Complaints of poor air quality in the Lash Miller Chemical Laboratories resulted in 5 orders being issued. The major order involved conducting extensive air sampling, tracer gas studies and rebalancing of the ventilation systems. The results of the air sampling were indeterminate as no significant levels of airborne contaminants were found. All orders have been complied with.

Seven orders were issued at OISE/UT regarding general safety issues and housekeeping (storage of ladders, securing of shelving, noise levels). All were complied with.

An inspector responded to a concern about mould at 1 Spadina Crescent. The inspector reviewed the actions being taken by the University at the time of the visit and no orders were written.

There were four separate visits to the Faculty of Dentistry in response to a work refusal related to air quality and a complaint regarding the functioning of the joint health and safety committee. Air sampling indicated that air concentrations of chemicals were well below the applicable standards. All orders were complied with.

An inspector investigated an incident where a manhole cover fell on a tradesman's foot. Two orders were issued and both have been complied with.

Canadian Nuclear Safety Commission

The University of Toronto Radiation Protection Program was evaluated by the Canadian Nuclear Safety Commission (CNSC), from February 5 - 9, 2001. This evaluation is likely the best measure of the effectiveness of the Radiation Protection Service at the University. Previous evaluations of similar institutions in the Toronto area resulted in the cancellation of radioisotope licences and the closing of over 100 research facilities

The evaluation team concluded that the radiation safety program is generally well-established and well organized and that the overall attitude towards radiation safety is a positive one. There were no identified instances of non-compliance with regulations, licence conditions, codes or standards and no directives or orders were issued by the evaluators. The chief evaluator, in his oral presentation to the University on February 9, 2001, noted that the evaluation of the Radiation Protection Program at the University of Toronto was the best yet experienced by the CNSC in Canada.

Five action notices were issued where, in the view of the evaluators, the radiation safety program could be improved. The only one which is still outstanding is the provision of additional laboratory and training space for the radiation protection service.

Divisional Audits

During their divisional audits, Internal Audit Division reviews 9 health and safety items for compliance with the Occupational Health and Safety Act and University health and safety policy. Six organzational units were audited in 2001. These were Scarborough-Physical Sciences, Transitional Year Program, Department of Psychology, University College Residence and Food Service, School of Graduate Studies-Graduate House, and the Department of Family and Community Medicine. Deficiencies related to posting of the Act, lack of a health and safety committee and no workplace inspections. These have either been rectified or are in the process of being addressed.

Inspections

The following safety inspections were carried out during 2001by Environmental Health and Safety:

- Inspections of friable asbestos fireproofing in the Edward Johnson Building to meet the requirements of the Ontario regulation respecting asbestos in buildings (external consultant used),
- Inspections (and repair if necessary) of all laboratory deluge showers (contracted to trades services),
- Inspections of all laboratory fumehoods and servicing of the alarming flow monitors. Any necessary repairs are performed by Utilities staff.
- Regular and ongoing inspections of all radioisotope laboratories as per the requirements of our Consolidated Radioisotope Licence.

In addition, EHS conducted a review and assessment of the usage and exposure to eleven "designated substances" in the Department of Chemistry. These are substances which have been designated by the Ministry of Labour for special regulation. Recommendations were made with respect to implementation of a control program to deal with spills of mercury, lead an isosyanates.

3. JOINT HEALTH AND SAFETY COMMITTEES

Table 1 summarizes the status of compliance of each committee with respect to two specific provisions under the Occupational Health and Safety Act of Ontario. Each committee is required by law to have at least two certified members and to meet at least once every three months. The certification process is administered through the Workplace Safety and Insurance Board and requires at least 2 days of health and safety training.

Two new committees were formed in 2001 - Borden Building and 1 Spadina Crescent. Of the 36 committees reporting, only 47% could be verified as having met the standard of 100% compliance during the year. In may cases these deficiencies are remedied during the year, an example being the training of certified members. The major deficiency is the lack of sufficient meetings. Six committees were severely deficient in that there is no record of their having met during the year. Environmental Health and Safety is working with divisional mangers and committees to remedy these problems.

The most positive note is that the number of certified members has continued to increase from 39 in 1996 to 45 in 1997, 53 in 1998 and 1999, 72 in 2000 and 100 in 2001. The increase in the number of certified members has been in large part on the worker side and is due to the actions of the Steelworker's union. It is proving much more difficult to recruit management representatives who are willing to take the certification training.

4. MAJOR HEALTH AND SAFETY CONCERNS

The Office of Environmental Health and Safety responded to a number of concerns raised by University staff during 2001. Among the most time consuming of these were the following:

Office Ergonomics

In 2001 EHS conducted over 50 ergonomic assessments of chairs, computer workstations, and environmental factors such as lighting and glare. In addition six seminars were offered on "Office Ergonomics". This is an ongoing problem due to the fact that many older workstations do not meet proper ergonomic standards and the fact that resulting repetitive strain injuries can be severely debilitating and very costly. A major amount of work was done in the Faculty of Dentistry, particularly the patient reception area. This latter area is undergoing a complete redesign and renovation in 2002.

Indoor Air Quality

Indoor air quality concerns range from temperature, humidity and air movement to contaminant build-up in occupied spaces. Investigations were conducted during the year in McLennan Building, Robarts Library, Rotman School of Management, Lash Miller Chemical Laboratories and the Koffler Student Services building. The Lash Miller indoor air quality problems were particularly time-consuming and involved the Ministry of Labour

and an extensive amount of air sampling and tracer gas studies.

Mould

Mould may become a problem in areas which are poorly ventilated with a source of moisture. Mould symptoms are primarily respiratory and allergic reactions. Significant mould problems were identified in 1 Spadina Crescent, Ramsay Wright Zoological Laboratories and the Visitor's centre in the basement of Knox College. Remedial work to remove visible mould is performed, however unless the source of water is removed the problems will likely recur.

Asbestos

There were three incidents involving asbestos in 2001, in Galbraith Building, 1 Spadina Crescent, and the Medical Sciences Building. These involved contractors not following appropriate procedures. A review of the University Asbestos Control Program is now being conducted by a joint management-union task force. The review is scheduled for completion mid-2002.

5. SUMMARY

- The University's safety performance continues to be slightly better than the average of our WSIB rate group and the University is still in the position of receiving a small rebate on our assessment. There is an ongoing effort within Facilities and Services to reduce accident frequency.
- The major factor which has the potential to significantly affect our performance is the increasing number of repetitive strain injuries. Increasing emphasis must be placed by all divisions on the prevention of these type of injuries through the provision of proper ergonomic furniture and work procedures. EHS continues to provide office ergonomic training courses and provides individual workstation assessments and recommendations on proper equipment.
- Our primary goal is to create a safe and healthy work and study environment by focussing on accident prevention and a reduction in the potential for accidents.
- This goal is accomplished through continuing emphasis on education and training of all employees, through the maintenance of the local joint health and safety committees, and by working with our employees and unions to create an appropriate safety culture.

Table 1
Joint Health and Safety Committees
Status Summary - Calendar Year 2001

#	Committee	# Meetings	# Certified Members	#	Committee	# Meetings	# Certified Members
1	Trades/Utilities	9	11	19	Faculty of Dentistry	5	7
2	Police	0	2	20	Faculty of Forestry	3	1
3	Library (CUPE 1230)	9	3	21	Faculty of Law	3	1
4	CUPE 3261	8	10	22	Rotman School of Management	3	2
5	USWA	10	3	23	Faculty of Music	3	3
6	Faculty of Engineering	3	2	24	Faculty of Nursing	4	2
7	Aerospace Studies	4	3	25	OISE/UT	4	3
8	Sidney Smith Hall	2	2	26	Faculty of Pharmacy	3	2
9	Department of Botany	0	1	27	Faculty of Physical Education and Health	4	5
10	Department of Chemistry	4	3	28	Faculty of Social Work	4	2
11	Department of Geology	4	0	29	Hart House	0	2
12	Department of Economics	2	2	30	215 Huron Street	0	1
13	McLennan Building	4	2	31	Koffler Student Service	4	3
14	Department of Zoology	5	3	32	School of Continuing Studies.	0	0
15	U of T at Scarborough	3	4	33	Simcoe Hall	2	1
16	U of T at Mississauga	4	4	34	21 King's College Circle	0	1
17	Faculty of Medicine	2	3	35	Borden Building	4	4
18	Faculty of Architecture & Landscape Architecture	4	2	36	1 Spadina Crescent	2	1

UNIVERSITY OF TORONTO

ANNUAL REPORT ON

HEALTH AND SAFETY

2001

Office of Environmental Health and Safety
May 2002

UNIVERSITY OF TORONTO ANNUAL REPORT ON HEALTH AND SAFETY – 2001

TABLE OF CONTENTS

1. INTRODUCTION

This report summarizes the activities and the progress made in addressing health and safety issues at the University of Toronto during the calendar year 2001. The report has been prepared by the Office of Environmental Health and Safety (EHS).

The Terms of Reference of the Business Board require that the President or his designate prepare and submit to the Business Board an annual report on environmental health and safety activities undertaken to ensure compliance with the Occupational Health and Safety Act and the Environmental Protection Act. This report is submitted in compliance with these requirements.

2. ORGANIZATIONAL ARRANGEMENTS FOR HEALTH AND SAFETY

It is the duty of senior management of the University and the Governing Council and its Boards to take all reasonable care to ensure that the University complies with the Occupational Health and Safety Act and regulations. This means that they must be able to demonstrate that they have exercised "due diligence" in carrying out these duties.

The definition of "due diligence" provided by the Supreme Court of Canada hinges on the employer being able to demonstrate two things:

- a proper system has been developed to prevent the occurrence of the offence, and
- reasonable steps were taken to ensure the effective operation of the system.

Ultimate responsibility for safety within the University lies with the line of supervision. Supervisors and managers are legally responsible for health and safety in the workplaces under their control. They are assisted in this task by various staff support groups and a number of joint health and safety committees which are mandated by law. Staff of the Office of Environmental Health and Safety attend as many of local joint health and safety committee meetings as possible in order to provide technical advice and assistance, to coordinate common programs, and to monitor the effectiveness of the committees.

There are also within the administrative structure a number of central regulatory committees. These are the University of Toronto Radiation Protection Authority, the Biosafety Committee and the Laser Safety Committee. The functions of these Committees are to oversee and regulate specific hazards related to ionizing radiation, infectious biohazardous agents and lasers. The chairs of these committees sit on the Senior Management Committee on Health and Safety which reports to the Vice-President, Human Resources.

The Office of Environmental Health and Safety reports to the Vice-President, Human Resources and has as its purpose to *"enhance research, teaching and learning at the University by fostering a healthy and safety work and study environment and by promoting employee health and well-being"*. In addition to providing specialized central health and safety services to the University community, the Office participates in the development and implementation of policies procedures and programs, and monitors and audits compliance with health and safety legislation and University policies.

Table 2.1 lists the staff of the Office as of January 2002.

TABLE 2.1

ENVIRONMENTAL HEALTH AND SAFETY STAFF

Director	David J. Gorman, B.Sc., Ph.D., DIH, CRSP
Business Officer	Rosalyn Figov, B.A., M.A.
Secretaries	Shamin Ramjit Cyrilene Beckles
Biosafety Officer	John Valant, B.Sc.
Disbility Claims & Accommodation Consultant - WSIB	Meg Durham
Manager, Environmental Protection, Hazardous Materials	Elizabeth Krivonosov, B.A.Sc., DIH, P.Eng., CIH, ROH
Chemical Technicians	Rob Provost, B.Sc. Mario Reyes, B.Eng.
Radiation Service Technicians	Luis Ponte Peter Smith
Manager, Occupational Hygiene & Safety	Chris. NcNeill, B.Sc., M.Eng., CIH, ROH
Occupational Hygienists	Sandra Deike, B.Sc., MHSc. Margaret Fung, B.Sc., MHSc., CIH Michal Zitnik, B.Sc., MHSc.
Manager, Radiation Protection	Ray Ilson, B.Sc., M.Eng., CIH, CRSP
Radiation Safety Officers	Hack Chung, B.Sc. Valerie Phelan, B.Sc., M.Sc. Zenobia Siddiqui, B.A.Sc.
Manager, Occupational Health Services	Jacqueline Thompson, RN, COHN, COHN(C), COHN (US)
Occupational Health Nurse (part time)	Glenna Hilborn, RN, COHN(C)
Occupational Health Physician (part time)	Gabor Lantos, B.Eng., MBA, MD, P.,Eng

Health and safety is best assured in the workplace when supervisors, managers and employees are aware of and committed to fulfilling their responsibilities, where they are given the proper training, information and tools to do so, and where employees have a meaningful input into the identification and resolution of health and safety concerns. The system of joint health and safety committees provides for the latter, and the Office of Environmental Health and Safety is targeting its efforts on education, development of control programs for specific hazards, the provision of information to staff, and auditing the implementation of University programs, policies and procedures within the various divisions.

One of the major tools in the dissemination of health and safety information is the world-wide-website of the Office of Environmental Health and Safety. The site may be accessed through the main University of Toronto web page or directly at **http://www.utoronto.ca/safety/ehshome.htm**.

3. LEGISLATION AND POLICIES

3.1 Health and Safety Policy

As required by the Occupational Health and Safety Act, and recommended by the EHS Review Committee in 2000, a review of the University Health and Safety Policy (see Appendix 1) was initiated in 2001 by the Office of Environmental Health and Safety in consultation with the various joint health and safety committees. The review will be completed in 2002.

3.2 Legislative Changes

There were no major changes in occupational health and safety legislation in 2001. Implementation of the new regulations of the Canadian Nuclear Safety Commission which began in 2000 continued with increased emphasis on security following the events of September 11. 2001.

4.3 Health and Safety Audits

In order to for the University to demonstrate that it is being "duly diligent" in making every reasonable attempt to comply with the law, Environmental Health and Safety continued the process whereby Internal Audit Department includes health and safety as part of their audits of University departments. A health and safety checklist consisting of 9 items was provided to Internal Audit. These items address compliance with the Occupational Health and Safety Act and the University Health and Safety Management System. In addition to Internal Audit's own recommendations for corrective actions, copies of the completed checklists are provided to Environmental Health and Safety for followup on major issues.

Issues identified by Internal Audit during 2001 and their resolution are as follows:

1, Scarborough - Physical Sciences

Occupational Health and Safety Act not posted. Action completed

2. Transitional Year Program

In compliance - no actions required

3. Department of Psychology

Problems with health and safety committee, inspections, and posting of Act and University health and safety policy. Actions :Department is located in Sidney Smith Hall and 1 Spadina - committees for these two buildings have since been reconstituted

4. University College Residence and Food Service

No health and safety committee and inspections not being done. Action: committee is in the process of being formed.

5. School of Graduate Studies - Graduate House

Health and Safety Act and University Policy not posted, no health and safety committee or inspections taking place, no first aid station. Action: situation has been rectified.

6. Department of Family and Community Medicine

Health and safety committee had not recently inspected the workplace. Action: Medicine health and safety committee is reviewing its inspection procedures and committee terms of reference.

The selection of departments to be audited in 2002 is made by Internal Audit.

4. HEALTH AND SAFETY COMMITTEES

4.1 Divisional Joint Health and Safety Committees

The Occupational Health and Safety Act requires employers to establish and maintain joint (worker and management) health and safety committees in the workplace. The committee is an advisory group of worker and management representatives, and is considered to be the backbone of the internal responsibility system (a cooperative effort regarding workplace health and safety which encourages participation and self-regulation by employers, supervisors and workers). The workplace partnership to improve health and safety very much depends on this committee; it meets regularly to discuss health and safety concerns, inspect the workplace on a regular basis, and make recommendations to management respecting workplace health and safety.

Because the University is a large, decentralized institution, a number of joint committees have been established based on criteria such as employee group or union, faculty, department or building. These are local committees reporting to a senior academic or administrative manager such as a Dean, Department Chair or Director, who is responsible for supporting the committee and meeting the regulatory requirements with respect to committee composition and meetings.

Table 4.1 lists the committees and summarizes their status of compliance with respect to two specific provisions under the Occupational Health and Safety Act of Ontario. Each committee is required by law to have at least two certified members and to meet at least once every three months (4 times a year). The certification process is administered through the Workplace Safety and Insurance Board and requires at least 2 days of health and safety training (see Section 8.3 of this report for further details on certification).

As in previous years achieving total compliance is an ongoing task. Only 47% of the 36 committees could be verified as having met the standard of 100% compliance during the year. In many cases the deficiencies are remedied during the year, examples being the training of certified members. The major deficiency is the lack of sufficient meetings. Sixteen percent of the committees (six committees) are severely deficient in that there is no record of their having met during the year.

The most positive note is that the number of certified members has continued to increase from 39 in 1996 to 45 in 1997, 53 in 1998 and 1999, 72 in 2000 to 100 in 2001. This is attributed in large part to the actions of the Steelworker's union to appoint certified members representing them. More work is required to train management representatives.

The lack of sufficient committee meetings and management certified representatives are related issues and Environmental Health and Safety will work with the responsible managers and committees in 2002 to ensure that they are aware of their obligations and to assist them in carrying them out.

4.2 Senior Management Committee on Health and Safety

The Senior Management Committee on Health and Safety is not a joint committee under the Health and Safety Act. It is a management committee whose major function is to approve regulations and other actions related to the Occupational Health and Safety Act, the Environmental Protection Act, other pertinent legislation and policies on health and safety approved by the Governing Council. Its membership is given in Appendix 2. The chairs of the Radiation Protection Authority, the Biosafety Committee and the Laser Safety Committee sit on the Senior Management Committee. The Committee is chaired by and provides advice to the Vice-President Human Resources.

The Committee met three times in 2001, on April 23, June 14, and October 11. Major issues discussed included the following:

- Accident statistics and appropriate benchmarking data,
- Air quality problems in Lash Miller Chemical Laboratories,
- Mould in the Ramsay Wright Zoological Laboratories,
- Certification training for management members of joint health and safety committees,
- Revisions to the University Smoking Policy

The committee also received regular reports from the Radiation Protection Authority, the Biosafety Committee and the Laser Safety Committee about problem areas the manner in which they were being dealt with.

4.3 Central USWA Health and Safety Committee

This committee has been formed under the terms of the collective agreement with the United Steelworkers of America and it is composed of three representatives from USWA and three from the University. This committee met ten times in 2001.

Major issues considered by the committee were:

- Ongoing problems with workstation ergonomics and repetitive strain injuries,
- Mould and air quality problems in various buildings,
- The establishment of new joint health and safety committees
- Safety issues associated with deferred maintenance
- Asbestos - particularly monitoring of external contractors

Table 4.1
Joint Health and Safety Committees
Status Summary - Calendar Year 2001

#	Committee	# Meetings	# Certified Members	#	Committee	# Meetings	# Certified Members
1	Trades/Utilities	9	11	19	Faculty of Dentistry	5	7
2	Police	0	2	20	Faculty of Forestry	3	1
3	Library (CUPE 1230)	9	3	21	Faculty of Law	3	1
4	CUPE 3261	8	10	22	Rotman School of Management	3	2
5	USWA	10	3	23	Faculty of Music	3	3
6	Faculty of Engineering	3	2	24	Faculty of Nursing	4	2
7	Aerospace Studies	4	3	25	OISE/UT	4	3
8	Sidney Smith Hall	2	2	26	Faculty of Pharmacy	3	2
9	Department of Botany	0	1	27	Faculty of Physical Education & Health	4	5
10	Department of Chemistry	4	3	28	Faculty of Social Work	4	2
11	Department of Geology	4	0	29	Hart House	0	2
12	Department of Economics	2	2	30	215 Huron Street	0	1
13	McLennan Building	4	2	31	Koffler Student Services	4	3
14	Department of Zoology	5	3	32	School of Continuing Studies.	0	0
15	U of T at Scarborough	3	4	33	Simcoe Hall	2	1
16	U of T at Mississauga	4	4	34	21 King's College Circle	0	1
17	Faculty of Medicine	2	3	35	Borden Building	4	4
18	Faculty of Architecture & Landscape Architecture	4	2	36	1 Spadina Crescent	2	1

5.0 WORK-RELATED INJURIES AND ILLNESS

5.1 Critical Injuries

Critical injury has a specific definition under the Occupational Health and Safety Act. A critical injury is one that is of a serious nature that:

- places life in jeopardy;
- produces unconsciousness;
- results in substantial loss of blood;
- involves the fracture of a leg or arm but not a finger or toe;
- involves the amputation of a leg, arm, hand or foot, but not a finger or toe;
- consists of burns to a major portion of the body; or
- causes the loss of sight in an eye.

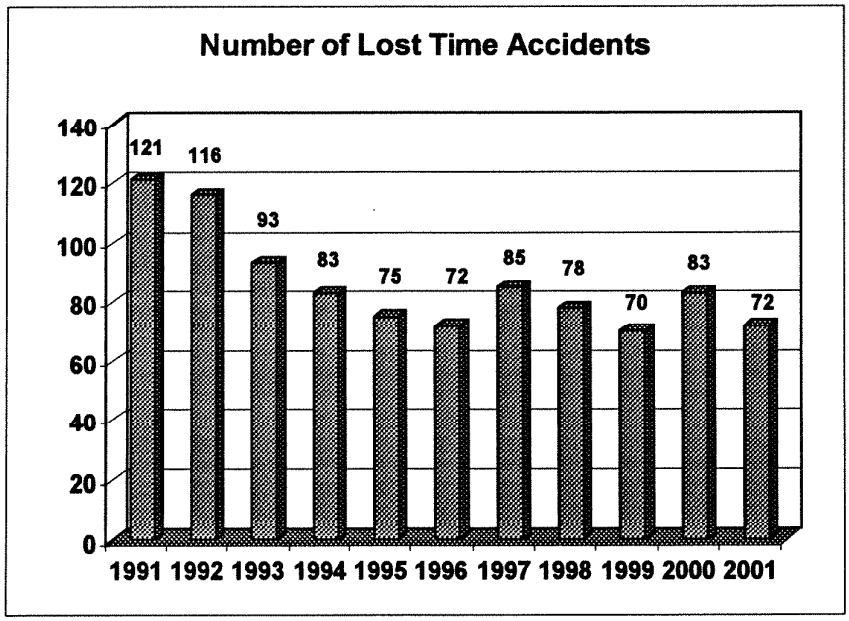
There were no critical injuries in 2001. There was one homicide on campus during 2001. The case is still under investigation by Metro Toronto police.

5.2 Lost Time Accidents

Figure 5.1 shows the historical data on the number of lost time accidents compensated by the Workplace Safety and Insurance Board (WSIB) from 1991 to 2001.

There were 72 lost time accidents in 2001 (allowed and pending as of January 2002), down from 83 in 2000.

FIGURE 5.1



5.3 Health Care Accidents

A Health Care accident is one which requires professional medical attention but involves no time lost from work past the day of the accident. There were 86 allowed health care accidents in 2001, which is an increase from 82 in 2000.

5.4 Accident Severity

Figures 5.2 and 5.3 provide measures of accident severity in terms of the average days lost per accident and the distribution of the number of accidents as a function of the days lost.

The total number of days lost due to accidents in 2001 was 1570. This is an increase from 1017 in 2000. The average number of days lost per accident in 2001 was 21.2. This increase is due almost entirely to two repetitive strain injuries with lost time of 234 days and 242 days. Both are related to office work and computer use. The two individuals are still off work as of January 2002 as they have not been able to be accommodated.

Figure 5.3 shows the distribution of lost days. Thirty-five percent of the individuals returned to work within five days, 57% within ten days, and 76% within 20 days.

FIGURE 5.2

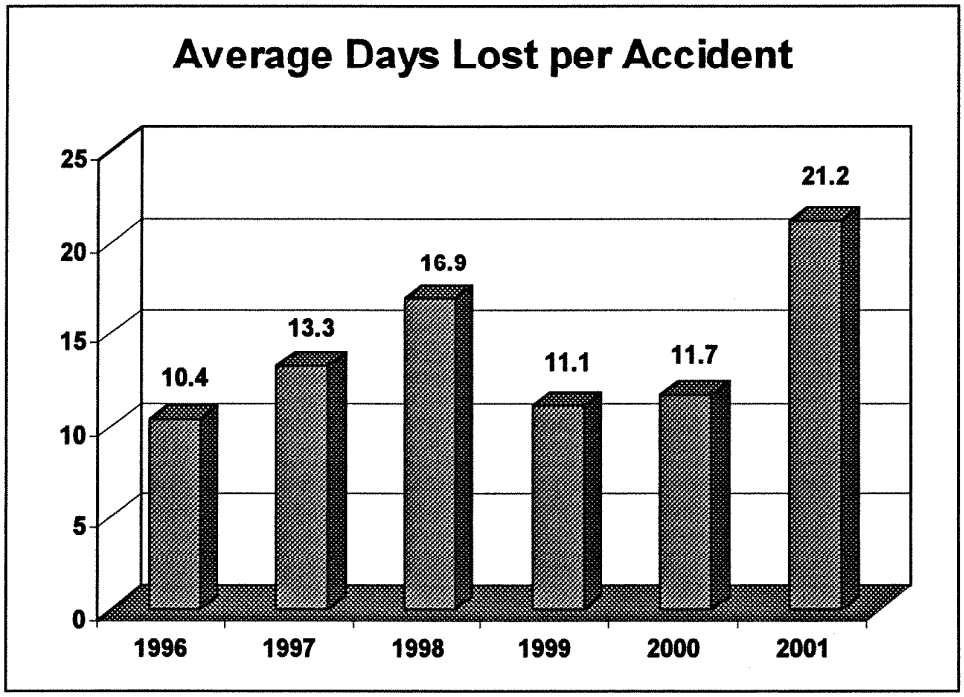
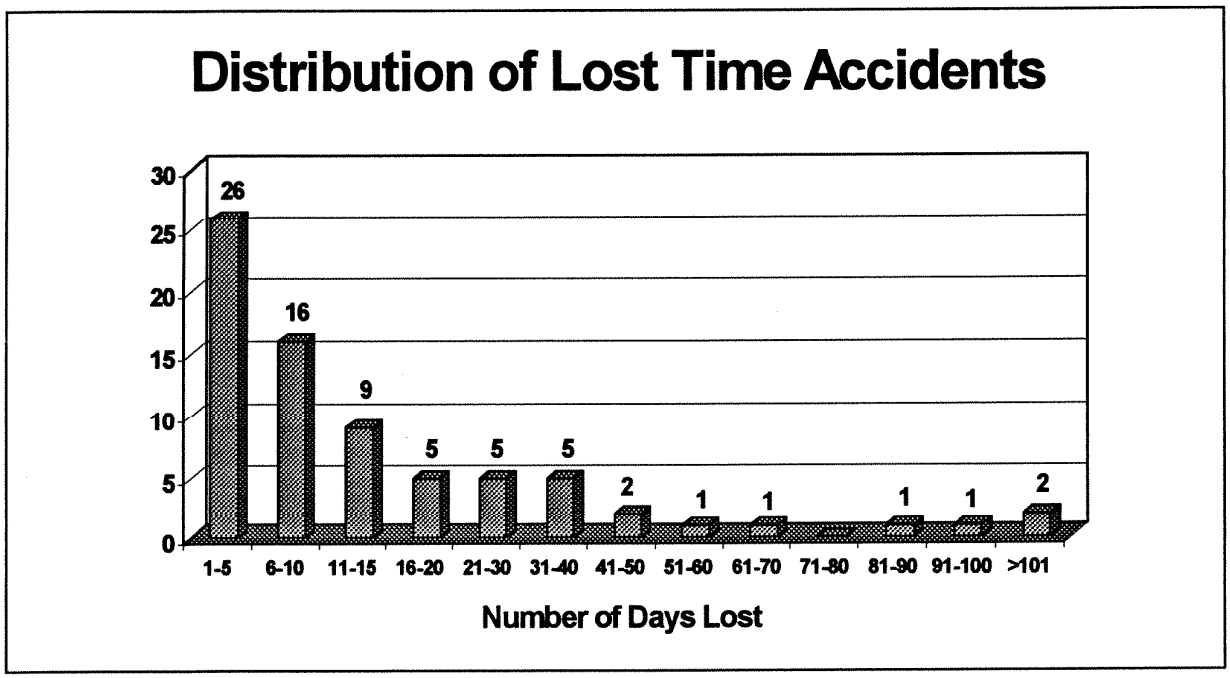


FIGURE 5.3



5.5 Claims Breakdown by Employee Group

Figures 5.4 shows the breakdown of lost time claims by employee group. The majority of lost time claims arise among the CUPE 3261 group (34%) and the USWA group (31%). The former is comprised of caretaking and grounds staff at St. George, Scarborough, Erindale, and Hart House, and animal care workers in Medicine and Zoology. For the latter USWA group, the majority are administrative staff.

Normalizing the number of accidents to the number of employees in each group gives the lost time accident frequency in Figure 5.5. This is the number of lost time accidents per 100 staff members in the identified group. It is expressed as a percentage. Using this measure the highest frequency lies in the skilled trades group (21%) with the CUPE3261 group being second at 5%. Using this measure the USWA group frequency is only 0.8%.

The severity (Figure 5.6) is expressed as the average number of days lost per employee in the identified group. In terms of this measure, the skilled trades group has the highest severity at an average of 2.2 days per employee per year. This is an increase from 0.92 days per employee in 2000.For the caretaking group the average days lost per employee has decreased from 1.3 days in 2000 to 0.95 days in 2001.

Thus, while the frequency for the University as a whole is 0.7% (0.7 lost time accidents per 100 employees) that for specific subgroups can vary by more that a factor of 10. The highest being for the skilled trades at 21% and CUPE3261 at 5% and the lowest being for academics and librarians at 0.03%.

FIGURE 5.4

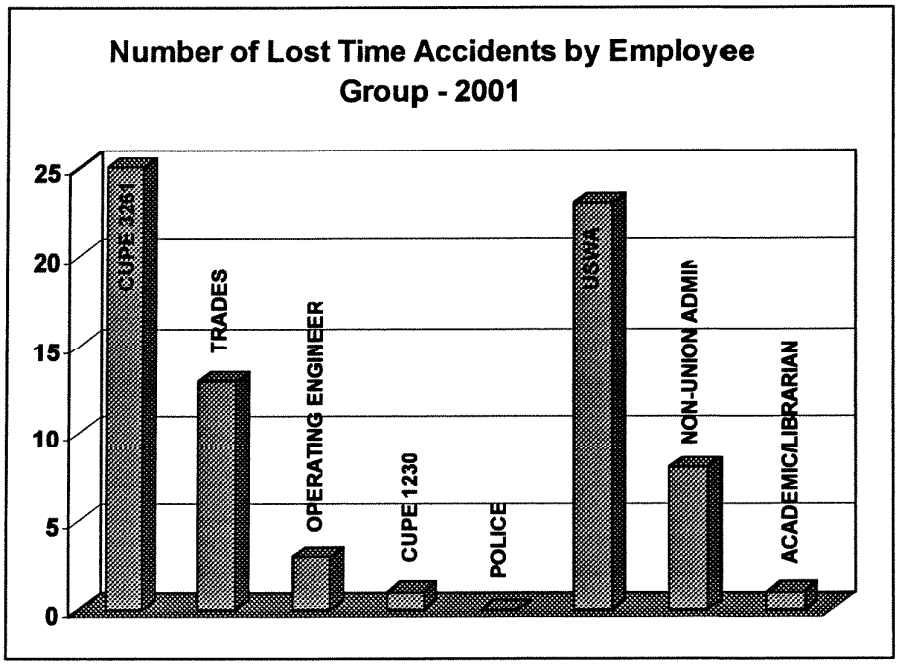


FIGURE 5.5

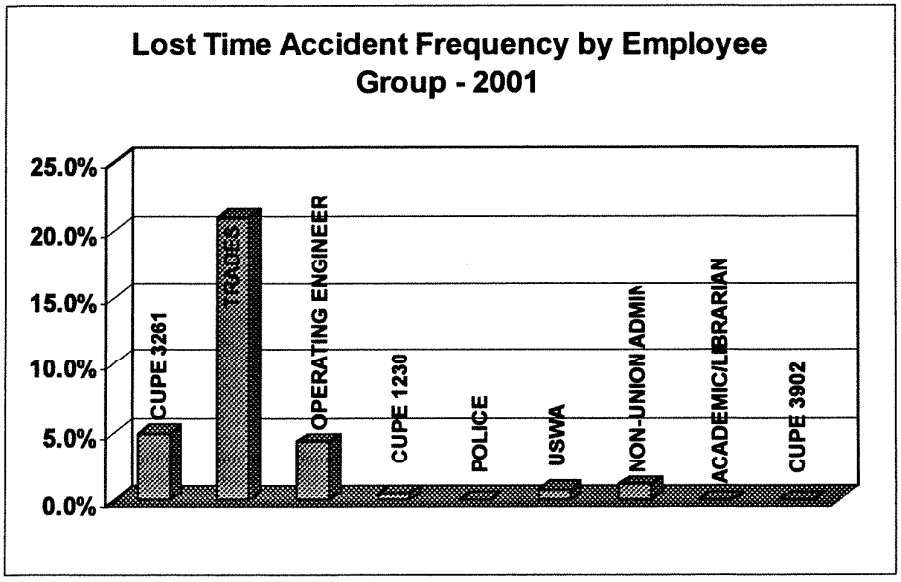
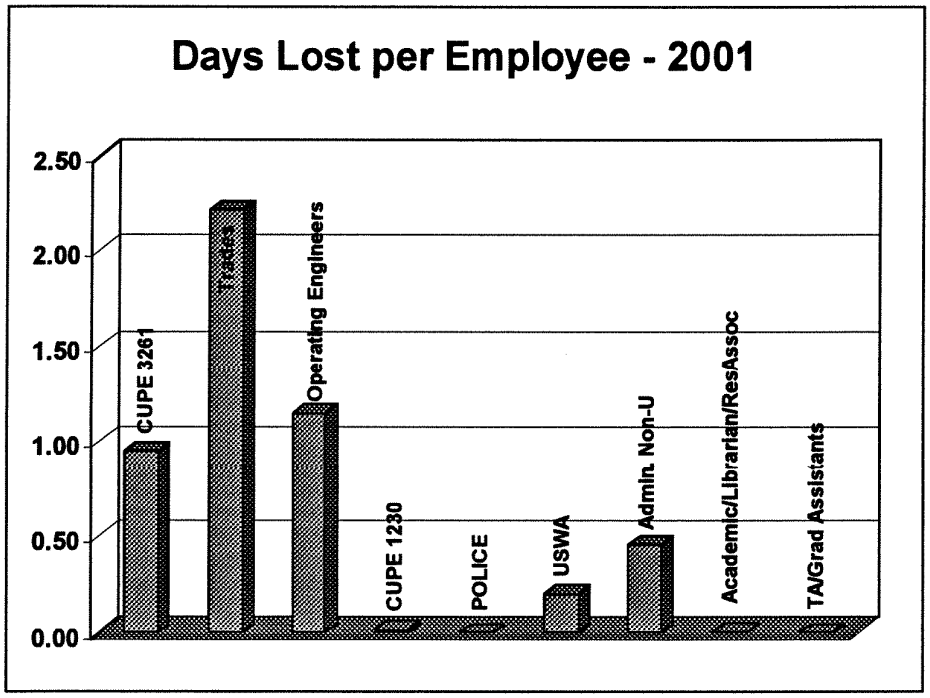


FIGURE 5.6



The following numbers for lost time accident frequency (number of lost time accidents per year per 100 workers) can be used as benchmarks against which to judge our safety performance.[1]

- University of Toronto average (all employee groups) - 0.7%
- Canadian and Ontario Industrial Average - 3%

- Companies with exceptional "world class" safety records - less than 0.5% in any one year with a long term average less than 0.25%.

Other comparison data from the Ontario Workplace Safety and Insurance Board are:

- Ontario WSIB Rate Group 923 (Janitorial Services) - 3%

- Ontario WSIB Rate Group 927 (Office Workers) - 0.4%

- Ontario WSIB Rate Group 929 (Supply of Non Clerical Labour) - 8%

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1. J.M. Stewart. Managing for World Class Safety. Report on Research on the Management of Safety. The Rotman School of Management, University of Toronto. June 1999.

The University's performance is somewhat better than our peer institutions in Ontario. Data provided by the Ontario WSIB for our rate group comprising Universities and Colleges shows that our average lost time accident frequency over the period 1996 to 2001 is 89% of our rate group average, and our severity in terms of days lost per employee is 75% of our rate group average.

The standard for world class safety performance is a lost time frequency of less than 5 accidents per 1000 employees in any one year and less than 2.5 accidents per 1000 employees per year as a long term average. This standard was met in 2001 for certain employee subgroups such as academics/librarians, U of T police, and CUPE 3902 (see figure 5.5). In order to improve our overall performance of 7 accidents per 1000 employees we need to target the subgroups with the highest frequency such as the skilled trades, CUPE 3261 and the Operating Engineers. It is significant that the frequency among the CUPE 3261 group has decreased from 9.2% in 2000 to 5% in 2001. Management within caretaking services has made a concerted effort over the last year to reinforce safety.

5.6 Claims Breakdown by Type of Incident

Classification of lost time claims by type of incident giving rise to the claim shows that there are three major types of incident: These are:

- Strains and sprains arising from lifting or overexertion (37%),
- Falls (35%), and
- Contact with moving or stationary objects (16%)

These three account for 88% of all claims. Figure 5.7 shows the percentage of lost time claims arising from the specified types.

FIGURE 5.7

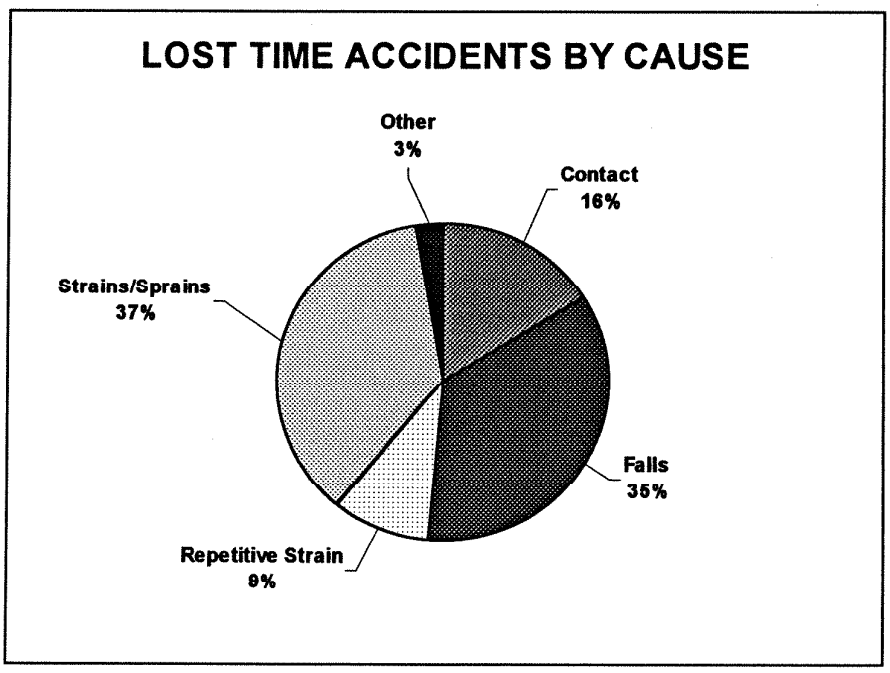
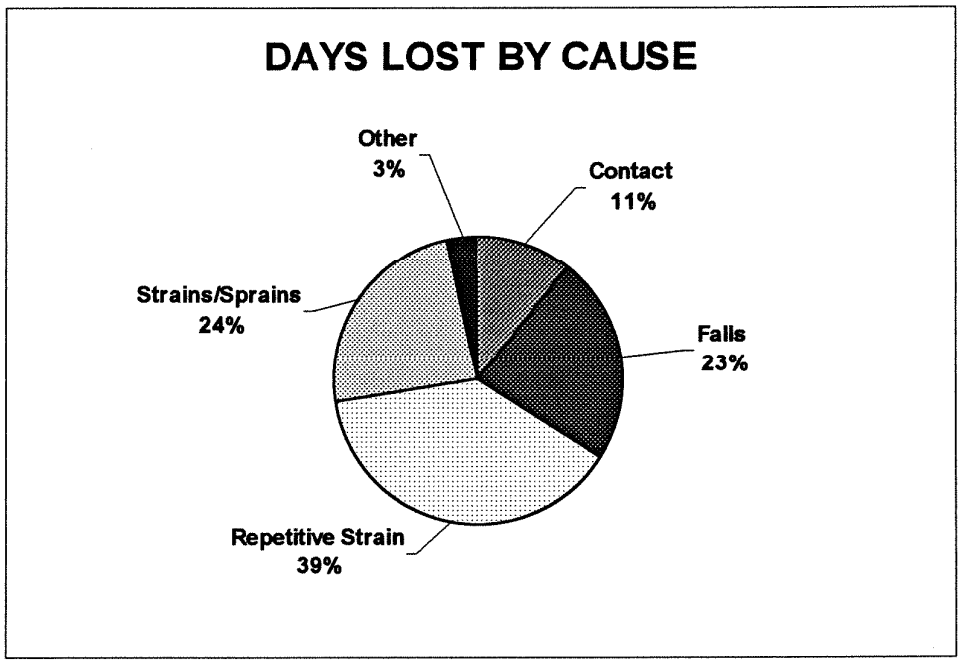


Figure 5.8 shows the breakdown of lost days by accident type. The major contributors to lost days are repetitive strain injuries (7 claims, 39% of the lost days), strains and sprains (27 claims, 24% of lost days) and falls (26 claims, 23% of lost days).

FIGURE 5.8



5.7 Accident Costs

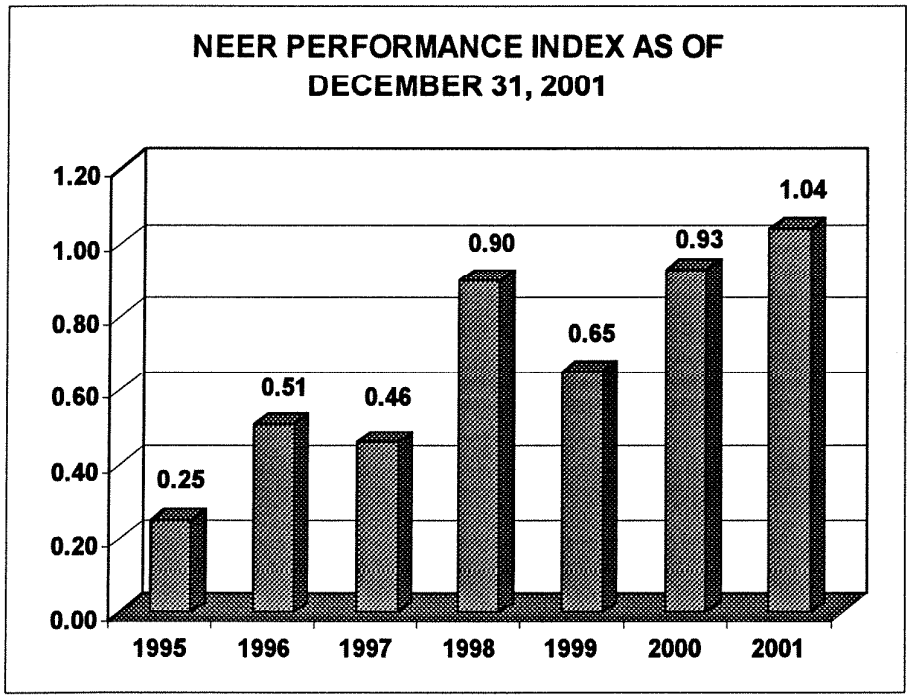
NEER, or New Experimental Experience Rating, is a plan that redistributes assessments via refunds and surcharges to individual employers within the rate group. The University of Toronto and all other universities, colleges, and museums entered into experience rating with WSIB for the first time as of January 1, 1995. The Workplace Safety and Insurance Board calculates a "performance index" based on an employer's actual costs during the year to the "expected costs" which is based on the average performance of the rate group.

A performance index of less than 1.0 indicates that accident costs are lower than expected and results in a rebate on the premium; a performance index greater than one indicates that accident costs are higher than expected and results in a surcharge. Costs are tracked for three years following the year of the accident. Rebates/surcharges are payable in December of each year based on the account status as of September 30. Thus the rebate or surcharge for the 2000 calendar year is payable in December of 2001.

Performance indices for 1995 through 2001 are shown in Figure 5.9. The NEER index for 2001 is preliminary only as it changes quarterly depending primarily on whether the claim is active during the year. The value of this index is expected to decrease to below 1 in first quarter of 2002 as many of the 2001 claims become inactive as the individuals return to work.

In December of 2001, the University received a rebate from the WSIB of $137,450. This rebate is smaller than in previous years primarily because the rate group assessment was reduced by approximately 30% in 2001. This means that the University paid less up front as an assessment and hence rebates will be more difficult to achieve in future.

FIGURE 5.9



5.8 Summary

Analysis of the University accident data indicates the following priority areas:

- The high frequency and severity of lost time accidents among physical plant staff, particularly the skilled trades
- Debilitating and high cost repetitive strain injuries among office workers
- Slips, trips and falls across all employee groups
- Sprains and strains, primarily among physical plant workers

This pattern of a high number of slips, trips, falls, and sprains and strains is not unique to the University and is general across North America. In 2002, EHS will be increasing the educational effort among staff and local health and safety committees to deal with the latter three areas. Management within Facilities and Services has made progress among caretaking and is currently addressing the problems among the skilled trades.

The Senior Management Committee on Health and Safety has struck a subgroup to look in depth at the accident statistics. Consultations have been initiated with the Institute for Work and Health which is affiliated with the Department of Public Health Sciences at the University.

6.0 OCCUPATIONAL HEALTH SERVICES

The mandate for the Occupational Health Service includes:

1) Occupational disease prevention
2) Client support
3) Health promotion (individual and/or group)
4) Advice and consulting on occupational health matters

Table 6.1 summarizes the numbers of clients associated with each of the four mandates. The numbers in parentheses represent the percentage of client visits related to a specific mandate

Table 6.1

Summary of Client Visits to the Occupational Health Service

Mandates	1995	1996	1997	1998	1999	2000	2001
Occupational Disease Prevention	835 (43%)	1024(80%)	693 (78%)	677 (79%)	803(80%)	1615(90%)	1135(78%)
Client support	1105(57%)	255(20%)	194(22 %)	178(21%)	198(20%)	143(8%)	170(12%)
Health Promotion Information Sessions					3 Back 2 Stress	21 (2%) 3 Back 1 Stress	148 (10%) .Back .Stress .Infectious Disease Information
Total Visits	1940	1279	887	855	1001	1779	1453

6.1 Occupational Disease Prevention Programs

Occupational disease prevention relates to the actual or potential impact of biological, chemical, and physical hazards on workers. Based on legislation or specific identified risk factors certain worker groups are provided with baseline health evaluations, ongoing medical surveillance and provision of appropriate vaccines as indicated.

Major medical surveillance programs in effect in 2001 were:

Tuberculosis

Annual screening for workers in dental clinics and student health services.

Zoonotic Diseases

Animal care workers undergo immunization for rabies and surveillance for exposure to Q-Fever (exposure to sheep) psittacosis (exposure to birds) and Simian B Herpes (exposure to non-human primates).

Laser Workers

Baseline histories and eye examinations are performed on workers using Class 3B and 4 Lasers.

Influenza Immunization

Influenza immunization clinics were held in the fall of 2001, and 540 individuals participated.

Tables 6.2 and 6.3 summarize the medical surveillance and immunization programs.

Table 6.2

Summary of Medical Surveillance Programs

PROGRAM	NUMBER OF PARTICIPANTS
Animal Care Workers	62
Human Genetics	3
Laser Surveillance	45
Audiometric Testing	223
Mercury Surveillance	13
Student Health Services	20
Campus Police Pre-Placement	11
Dentistry - Tuberculosis	8
TOTAL	**385**

Table 6.3

Summary of Immunization Programs

Immunization /Testing	Number of Participants
Screening for Tuberculosis (Faculty of Dentistry & Student Health Services)	56
Influenza	544
Rabies	34
Tetanus/Diphtheria/Polio	27
Hepatitis A	12
Hepatitis B	77
TOTAL	**750**
Serological tests completed (frequently as part of health reviews or medical monitoring)	249
Stored sera obtained and cryogenically Maintained (off campus) in a confidential manner.	64

6.2 Occupational Exposures/Incidents

There was 1 exposure to Simian Herpes B requiring the utilization of the emergency protocols. This was an isolated incident involving a monkey spitting in the face of a staff member. Appropriate face protection has been implemented to reduce the likelihood of such events in future.

6.3 Client Support

Client support includes the following:

- counselling and referral related to anxiety, depression, workplace conflicts, chemical misuse and/or family issues
- providing advice and information on musculoskeletal joint complaints, workplace/environmental exposures to chemicals and pathogens.
- Assisting in the reintegration of employees into the workplace, monitoring health status and providing counsel.

These are primarily staff-initiated contacts with the Health Service and referrals are made when appropriate to other internal or external resources such as the Employee Assistance Program.

6.4 Health Promotion

The Occupational Health Service continued to promote healthy lifestyles by identifying hazards, planning strategies and implementing programs to meet the community needs. Individual and group information sessions were directed at reducing health risks and/or maintaining the health of each employee in the University of Toronto.

Group sessions involving 62 employees were held on Back Awareness, Stress and Wellness, and Infectious and Communicable Diseases.

7.0 OCCUPATIONAL HYGIENE AND SAFETY

The major functions of this unit are to provide advice on health & safety issues, to evaluate potentially hazardous situations involving chemical, physical and ergonomic stressors, to develop and assist in the implementation of programs to protect the health and safety of employees and students, and to evaluate the effectiveness of these programs.

7.1 Ministry of Labour Visits/Orders

There were five separate instances of intervention by the Ministry of Labour during 2001. Some of these involved multiple visits. None of the visits were part of a routine inspection program by the Ministry, but were initiated either in response to an accident or to a telephone call by an employee.

Department of Chemistry

There were three separate visits by a Ministry Inspector (January 12, February 28, and March 1) to investigate air quality complaints in the Lash Miller Chemical Laboratories. A total of 5 orders were written as a result. All have since been complied with. The major order was to conduct an assessment of worker exposure to airborne contaminants. Extensive air sampling and tracer gas studies were conducted by Environmental Health and Safety during the year and the ventilation systems were rebalanced by Facilities & Services. The results of the sampling were indeterminate as no significant levels of airborne contaminants were found.

OISE/UT

An inspection was conducted of the OISE building at 252 Bloor Street West on March 2, 2001. Seven orders were issued to the University with respect to noise levels in the boiler room, storage of ladders and general housekeeping. In addition, one order was issued to Sodexho Marriott with respect to securing of shelving in a storage room. All orders have been complied with.

1 Spadina Crescent

An inspector conducted a visit to 1 Spadina Crescent on August 8, 2001 in response to a concern regarding mould. The inspector reviewed the actions being taken by the University at the time of the visit and no orders were written.

Faculty of Dentistry

There were four separate visits to the Faculty of Dentistry (November 2, November 5. November 13, and November 20) to deal with a work refusal and a complaint regarding the functioning of the joint health and safety committee. Three orders were written and all have been complied with. Air sampling for chemicals, conducted by Environmental Health and Safety indicated that the levels were well below the applicable standards and the Ministry inspector concluded that worker health was unlikely to be affected.

Trade Services

The Ministry of Labour investigated an incident where a manhole cover slipped from a person's grasp and fell on his foot. Two orders were issued with respect to notification of the Ministry regarding accidents and precautions to be taken in future. Both orders have been complied with. To prevent future such injuries, all manhole covers have been retrofitted such that the proper tool can be used in lifting.

7.2 Hazard Control Programs

Asbestos Control Program

As required by Ontario legislation and the University Asbestos Control Program, EHS (using an external consultant) carried out inspections of sprayed asbestos-containing fireproofing in one building: Edward Johnson Building. The preliminary report indicates that the asbestos-containing fireproofing in the building is generally in fair condition and that there is no requirement to repair, seal, remove or enclose material at this time. At several inspection locations there are significant quantities of fallen fireproofing material present on surfaces above suspended ceilings. This fallen fireproofing along with such material previously identified in six other buildings on the St. George campus will be cleaned up beginning in May, 2002.

In 2001, there were a few incidents of potential worker exposure to airborne asbestos: Galbraith Bldg.,1 Spadina Cresc., and the Medical Sciences Bldg. This has prompted a review of the University of Toronto Asbestos Control Program, and a joint management-union task force has been set up chaired by the Vice-President, Human Resources. The task force is scheduled to complete its work by June 30, 2002.

Noise Control Program

The Noise Control Program applies to all University employees who work in noise hazard areas or who have the potential to develop noise-induced hearing loss as a result of their occupation.

EHS continued its program of identification and education of additional employees who are potentially "noise-exposed" at the University. In 2001, we provided training for 25 employees.

Workplace Hazardous Materials Information System (WHMIS)

In accordance with Ontario right-to-know legislation, University departments are required to implement WHMIS in workplaces where chemicals or other hazardous materials are handled. In 2001, EHS continued to provide assistance to individual departments in complying with WHMIS requirements for appropriate labelling, material safety data sheets (MSDS), and worker education and training. The EHS web site includes links to a number of electronic MSDS databases.

In 2001, EHS provided generic WHMIS training to a total of 309 employees and graduate students from a number of academic departments. To facilitate the training of fairly large numbers of individuals at different times throughout the year, EHS is in the process of developing a generic web-based WHMIS training program for the University community.

Working in Hot Environments

A "hot" work environment is one in which conditions in the workplace (in terms of air temperature, radiant temperature, humidity, air velocity, clothing and/or activity) provide a tendency for harmful body heat storage. The result of the body's inability to deal with the heat burden may lead to heat disorders, disability or even death. Examples of such areas are the steam tunnels, parts of the central steam plant, and small mechanical rooms in attics of some older houses. Temperatures in these areas can be in excess of 50 C.

The program documents the responsibilities of various pertinent individuals/groups and provides employees with an overview of the health and safety hazards associated with working in hot environments and alerts them to the precautions which should be taken to prevent injuries and other problems due to heat stress.

In 2001, EHS, in conjunction with Facilities & Services continued its program of identification and assessment of "hot work" areas at the University of Toronto.

Laser Safety Program

The Office of Environmental Health and Safety (EHS) in conjunction with the University's Advisory Committee on Laser Safety has developed a laser safety program in accordance with the general provisions of the Occupational Health and Safety Act of Ontario and the guidelines of the American National Standards Institute (ANSI) Standard for the Safe Use of Lasers — Z136.1-1993

In 2001, EHS decided to continue the suspension of laser inspections but to provide the laser safety training; three seminars provided training to a total of 59 laser supervisors and laser workers. EHS expects the reintroduction of inspections of Class 3b and Class 4 Lasers and Laser Systems in 2002/2003.

Designated Substances in the Workplace

Eleven substances have been designated for control by regulation made under the Occupational Health and Safety Act of Ontario; they are Acrylonitrile, Arsenic, Asbestos, Benzene, Coke Oven Emissions, Ethylene Oxide, Isocyanates, Lead, Mercury, Silica and Vinyl Chloride.

The regulations apply to every employer and worker at a workplace where the designated substance is present, produced, used, handled or stored and where the worker is likely to inhale, ingest or absorb the substance. These regulations include provisions for an assessment of the likelihood of worker exposure in the workplace and a control program that includes provisions for engineering controls, work practices and facilities, air monitoring, record keeping and medical surveillance.

In 2001, EHS began a process of reviewing "Designated Substances" at the University of Toronto. Reassessments of all of these substances were conducted in the Department of Chemistry. In many laboratories, some of these designated substances are being used but other than emergency situations, worker health is not likely to be affected and therefore there are no requirements for the provision of control programs. EHS will conduct the next reassessment of "Designated Substances" in the Faculty of Dentistry.

7.3 Safety Equipment Testing/Validation

Fume Hood Alarm Monitor Recalibration/Fume Hood Performance Testing Program

The "Ventalert" air-system alarm continuously and effectively monitors the operating efficiency of by-pass fumehoods, confirming adequate performance or warning the operator when a partial or complete failure of the exhaust system occurs by emitting both audible and visual warning signals.

This program incorporates an established protocol for the testing and recalibration (on an annual basis) of all these alarm monitors as well as monitoring fume hood "face velocity" as a measure of relative performance of these fume hoods.

In 2001, we continued our annual program of revalidation of installed "Ventalert" air system alarms and fume hood performance audits. The vast majority of fume hoods (in the high 90% range) appear to be performing adequately (with respect to "face velocity" measurements). Where fumehoods are not functioning adequately these are, tagged, identified to the users and referred to Facilities and Services for repair.

Deluge Shower Testing Program

Under the Occupational Health and Safety Act of Ontario, the University has a legal obligation to provide deluge showers in or near chemical laboratories and also to ensure that they are functioning properly. This requires that these showers be tested on a regular basis.

An annual testing program has been carried out since 1995. At that time the failure rate of tested deluge showers was 18%. This rate declined sharply over the next 3 years to an average of 4% per year over the last 4 years.

Showers not functioning are immediately repaired.

7.4 Training Programs

Certification Training

The Occupational Health and Safety Act requires that one worker and one management member of each Joint Health and Safety Committee be "certified" (provided with special training) to enable them to effectively carry out their functions and support the internal responsibility system.

Certification training is administered through the Workplace Safety and Insurance Board (WSIB) and is based on a two-part process:

1) Completion of ***Basic Certification Training***, and

2) Completion of ***Workplace-Specific Hazard Training***

Basic Certification Training is generic and applies to all workplaces where certified members are required. It consists of four main components:

- Health and Safety Law
- Hazard Identification and Control
- Investigation Techniques
- Prevention Resources

The training is obtained through any certification training program approved by the WSIB. The Office of Environmental Health and Safety arranges for this training and pays the registration fee for the two individuals appointed by their health and safety committee. In 2001, thirty six individuals designated by local joint health and safety committees/unions took the basic certification training through the Workers Health and Safety Centre (WHSC) or the consulting firm (Resource Environmental Associates – REA).

Workplace-Specific Hazard Training provides additional information on hazards and work practices specific to the industry or workplace. EHS has developed a number of workplace-specific training modules which are offered to certified members of our health and safety committees.

In four separate sessions in 2001, the eighteen (18) seminars that form the basis of the "Workplace-Specific Hazard Training" were made available to these designated members.

Following are the training modules offered by Environmental Health and Safety:

1) Harassment and Violence in the Workplace
2) Ergonomics for VDT Users
3) Slips, Trips and Falls

4) Respiratory Protection
5) Understanding Noise
6) Working in Hot Environments
7) Working in Confined Spaces
8) Asbestos: Evaluating and Controlling the Hazard
9) Chemical Safety in the Workplace
10) Biological Safety in the Workplace
11) Ionizing Radiation
12) Fire Safety in the Workplace
13) Chemical and Radiological Waste
14) Materials Handling
15) Back Awareness
16) Stress Management and Wellness

In addition, some certified members have taken "Workplace-Specific Hazard Training" courses offered by the Workers Health and Safety Centre (WHSC).

The training courses provided by Occupational Hygiene and Safety and the numbers trained are summarized in Table 7.1.

7.5 Major Health and Safety Concerns

As in the past few years, the major health and safety concerns of the general University community involved office ergonomic issues and indoor air quality.

In 2001, there were over 50 ergonomic assessments of chairs, computer workstations and environmental factors such as lighting and glare; many of these assessments were the result of requests from individuals experiencing pain or discomfort. Additionally, EHS delivered six seminars on "Office Ergonomics" that dealt with issues such as workstation design, posture, lighting and job design. We also continued with our program of providing different types of ergonomic equipment and devices to employees on a short-term basis.

As usual, EHS investigated many indoor air quality concerns; these ranged from comfort parameters of temperature, humidity and air-movement to contaminant build-up in occupied spaces. These investigations occurred in various departments/buildings including:-

- McLennan Bldg. – Dept of Astronomy (14th floor)(contaminant build-up following floor stripping/ waxing
- Robarts Library – AV Section (temperature, ventilation)
- Rotman School of Management – various rooms (dust)
- Lash Miller Bldg – Dept of Chemistry(Rm 119) (ventilation issue, contaminant build-up)
- Koffler Student Services Bldg - Career Centre – (odours, flooding and ventilation issues related to adjacent construction activities)

Other notable health and safety concerns include:-

- Concerns regarding mould contamination were investigated after a staff member at 1 Spadina experienced a range of symptoms, including respiratory and allergy-type symptoms. Mould growth and favourable conditions for growth were identified in a non-functioning walk-in freezer. Although no airborne dissemination of mould was apparent, it was deemed necessary to minimize conditions for microbial growth and remove all materials contaminated with mould using stringent precautions.

- Significant mould contamination was identified in many areas throughout the Ramsey Wright Building – the primary areas were associated with the glycol lines and many of the environmental chambers/cold rooms. Access to many rooms were restricted and many researchers/graduate students had to be relocated to uncontaminated rooms; individuals who had to enter the restricted areas were provided with appropriate respiratory protection and instructed in the proper use of this equipment. Major remediation work was carried out on the glycol lines and replacement of ceiling tiles.

- Over the entire year (2001), assessments of worker exposures to airborne contaminants were conducted in many rooms/laboratories of the three floors of the Undergraduate Wing, Lash Miller Chemical Laboratories. In order to trace possible routes of migration or to determine "unknown" chemical contaminants, a number of non-standard analytical methodologies were used, including Inductively Coupled Plasma (ICP), Thermal Desorption/Gas Chromatography/Mass Spectrometry and Tracer Gas Analysis using sulphur hexafluoride. Results did not indicate any significant or obvious sources of chemical contamination or infiltration from lab to lab, however EHS has expressed concern regarding "improper work practices" in some laboratory activities and the thorough review of course procedures. We expect the issue to continue into the next year.

- A number of water quality concerns related to levels of turbidity and elevated levels of iron, copper, zinc and possibly lead. Generally, the water tests indicate that the quality of water in the pipe run is acceptable according to the Ontario Drinking Water Standard. In many of these situations EHS recommends allowing the water to run for a about a minute (particularly, first thing in the morning) prior to using the water for drinking, coffee,etc. or the use of bottled water.

- Concern regarding worker exposure to waste anesthetic gases in a research laboratory in the Dental Bldg. An assessment revealed leakage points in the delivery and scavenging systems and very poor room dilution ventilation. Recommendations included minimizing leakage and improved ventilation. The recommendations were implemented by the laboratory staff.

- Long-standing concern regarding significant discomfort of workers at the Patient Reception Area, Faculty of Dentistry. EHS conducted a reassessment of several ergonomic issues associated with the area and recommended a complete redesign of the workstations. In response to these concerns, the reception area was redesigned and is being reconstructed in 2002.

Table 7.1

SUMMARY OF TRAINING PROVIDED BY EHS IN 2001

COURSE	DESCRIPTION	# of COURSES	# of ATTENDEES
Respiratory Protection	This half-day seminar combines classroom-style presentation with practical instruction in the proper selection, use and care of respirators.	9	58
Understanding Noise	This two-hour seminar provides "noise exposed" employees with information regarding the effects of noise and the control of noise hazards.	2	14
Working in Confined Spaces	This half-day seminar provides employees with an overview of the health and safety hazards associated with working in confined spaces, and focuses on the precautions which must be followed when entering and working in confined spaces.	1	7
Asbestos: Evaluating and Controlling the Hazard	This one-day seminar provides employees with classroom-style instruction about the hazards of asbestos and the work procedures to follow when working with or in close proximity to asbestos-containing materials.	8	118
WHMIS (Workplace Hazardous Materials Information)	All employees who work with or in proximity to hazardous chemicals are required to be provided with training which informs them about the potential hazards as well as the safe use of these chemicals EHS provides training to summer employees (mainly students) and participates in seminars organized by departments.	8	309
Occupational Health and Safety Responsibilities: Business Management Program/ Supervising in a Unionized Environment Program	This half-day seminar emphasizes the role and responsibilities of managers/supervisors with respect to health and safety. Included is an overview of health and safety at the university, the responsibilities of the various workplace parties, pertinent legislation and policies, and health and safety resources at the University.	4	105
Office Ergonomics	This two-hour seminar is designed to increase awareness of some of the common causes of fatigue and discomfort while working at Video Display Terminals, to introduce relevant ergonomic principles and to provide examples of how to apply this information to the workplace.	6	47
Laser Safety	This one-day seminar provides laser workers with information regarding the safe use of Class 3b and Class 4 Lasers and Laser Systems.	3	59
Workplace Inspections	This two-hour program provides employees with sufficient knowledge to enable them to identify hazards with a view to correcting them.	2	22
Basic Certification Training (Part 1)	This 2/3/4 day seminar represents generic training for members of Joint Health and Safety Committees who have been designated to be "certified"; the training consists of four main components:- Health and Safety Law, Hazard Identification and Control, Investigation Techniques and Prevention Resources.	8	36
Certification Training (Part 2) – Workplace-Specific Hazard Training	Those designated members who have already completed Part 1 (Basic Certification Training) are eligible and required to obtain Workplace-Specific Hazard Training. The Office of Environmental Health and Safety has developed a number of seminars that form the basis of the "Workplace-Specific Hazard Training".	46	265
TOTALS		97	1040

8.0 ENVIRONMENTAL PROTECTION SERVICES (HAZARDOUS MATERIALS)

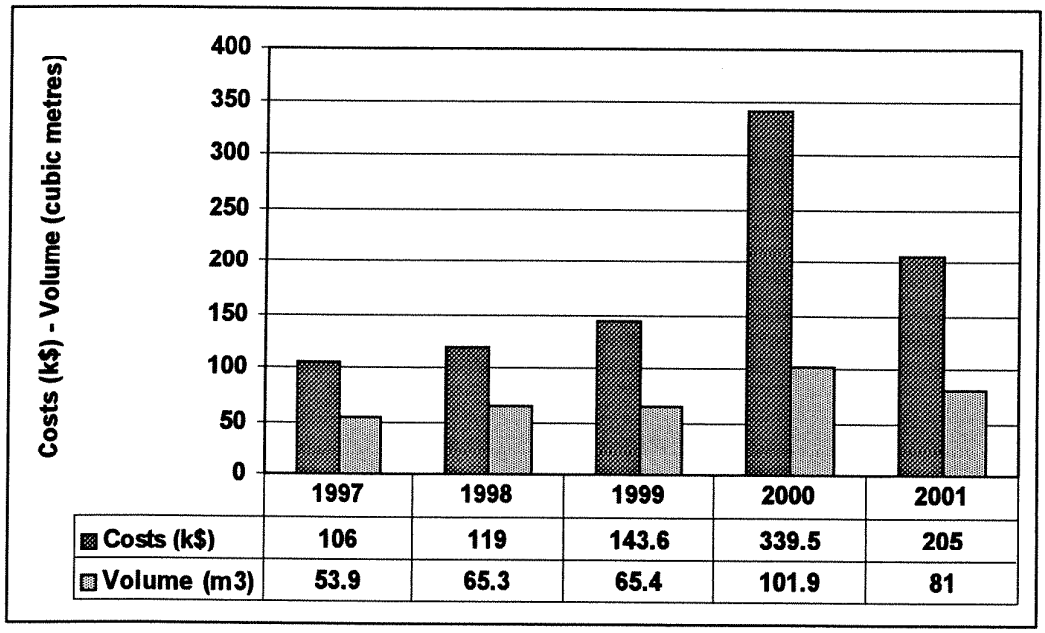
Environmental Protection Services (Hazardous Materials) is responsible for the hazardous waste disposal program for chemical and radioactive wastes, responding to major chemical spills, and providing training, information and advice relating to disposal and environmental protection legislation for hazardous materials.

8.1 Chemical Waste Management

In November 1999, the University's central chemical waste transfer facility was demolished to accommodate the construction for the Bahen Centre for Information Technology building. Subsequent to this, arrangements were made with an external waste disposal contractor to directly remove chemical waste from all buildings generating chemical wastes. Currently thirty-two locations on the St George campus are being serviced.

Figure 8.1 compares the disposal costs for chemical wastes to amounts disposed from 1997 to 2001. The disposal costs include the costs for actual disposal, transportation, contractor labour and materials.

FIGURE 8.1: Chemical Waste Disposal - Volumes and Costs



	1997	1998	1999	2000	2001
Costs (k$)	106	119	143.6	339.5	205
Volume (m3)	53.9	65.3	65.4	101.9	81

With the demolition of the central waste facility, the University's efforts towards more cost-effective packaging through consolidation of waste materials had to be discontinued, due to the lack of proper environmental and safety facilities. The impact on the University has been reduced service in collecting chemical waste from the laboratories and a dramatic increase in costs. The lack of consolidation space and the reliance on external contractor labour to individually service the thirty-two sites on the St. George campus explains the dramatic increase in costs from 1999 to 2001. In 2001, the University negotiated a more favourable contract with a new service provider for chemical waste disposal services and this, along with a reduction in the amounts of chemical waste generated, has resulted in an overall reduction in costs from 2000 to 2001.

Table 8.1 compares the breakdown of disposal costs before and after the central facility was demolished. The total costs rose from $143,000 in 1999 to $ 339,500 in 2000 and fell to $205,000 in 2001. This reduction is primarily due to the reduction in external contractor labour costs achieved through tendering and renegotiation of the contract. In 2001, only 71% of the costs are being directed for actual waste disposal costs, compared to 98% in 1999 when the University's central facility was in operation. The remainder of the costs are primarily for external labour.

There are currently no plans to provide a new central waste facility due to the lack of a suitable location on the St. George campus where the majority of the wastes are generated.

TABLE 8.1: BREAKDOWN OF CHEMICAL DISPOSAL COSTS

YEAR	Waste Disposal Costs (% of total costs)	Contractor Labour Costs (% of total costs)	Costs for Supplies (% of total costs)	TOTAL COSTS	Waste Volume (m^3)	Total Cost per m^3
1998	$113,600 (95%)	$3,650 (3%)	$1,750 (2%)	$119,000	65.3	$ 1,822
1999	$140,800 (98%)	$235 (0.2%)	$2,560 (1.8%)	$143,600	65.4	$ 2,196
2000[a]	$208,324 (61%)	$120,395 (35%)	$10,750 (3%)	$339,500	101.9	$ 3,332
2001	$146,756 (71%)	$48,440 (24%)	$10,420 (5%)	$205,615	83.3	$ 2,468

Note a: First full year operating without a central waste facility

8.2 Chemical Exchange Program

The Chemical Exchange Program is no longer operating due to the elimination of the storage space when the central chemical waste facility was demolished. There are no plans to re-institute the program due to the reasons identified in section 8.1. The implications of this are not major, as in the last year of operation of the program, only 20kg of chemicals were diverted from the waste stream and recycled.

8.3 PCB Waste Management

The University maintains a central PCB waste storage site at the Institute for Aerospace Studies. The Ontario Ministry of the Environment requires companies to submit to the Ministry a disposal plan for its PCB wastes in storage. The University has done this and is now in year three of a seven-year plan, to eliminate the current PCB waste inventory at a cost of approximately $35,000 per

year. In June 2001, the University disposed of fifty-four (54) drums or almost 25,000 kg of PCB-containing light ballasts. Currently, the inventory at the storage site includes 204 drums of PCB-contaminated materials.

No transfers to the storage site occurred in 2001. However, some PCB waste materials were disposed of directly from the point of generation. Over the course of the year, Environmental Health and Safety assisted Facilities and Services in the disposal of approximately 3,000-kg of PCB-containing ballasts from various buildings.

There was one inspection conducted by the Ministry of the Environment on June 2001. This was part of the Ministry's routine inspection program for such sites. A written report has not been issued, but a verbal report from the inspector, indicated no major non-compliance issues.

8.4 Emergency Response

The Environmental Protection Services (Hazardous Materials) responded to 15 chemical emergencies last year. This was a decrease from 26 from 2000. The majority of spills involved mercury, flammable solvents and inorganic acids. Given the amount and type of chemicals in use on campus, this number of spills is not inordinately large.

8.5 Laboratory Decommissioning

The Office continued to offer laboratory-decommissioning services to the academic departments. Several departments and researchers have utilized this free service offered by Environmental Health and Safety. In 2001, 27 laboratories were decommissioned, producing 8100 kg of chemical waste. This is a decrease from 2000 when 31 laboratories (producing 9800 kg) were decommissioned.

8.6 Radioactive Waste Management

In February 2001, the Canadian Nuclear Safety Commission (CNSC) conducted an intensive 5-day audit of the radiation program at the University. Included in this process was an evaluation of the radioactive waste program. The final report concluded that the radioactive waste program was a strength of the radiation protection program and no weaknesses were found.

Table 8.2 shows the amounts of radioactive waste produced for disposal by the University.

Table 8.2: TYPES AND AMOUNTS OF RADIOACTIVE WASTE

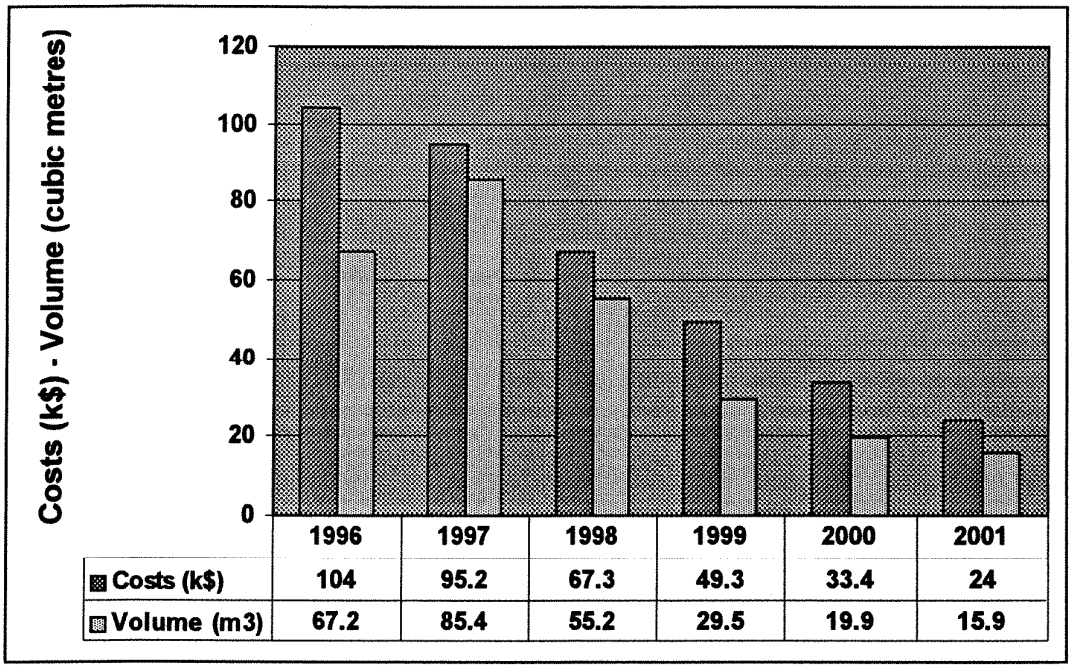
	1997	1998	1999	2000	2001
Volume generated for shipments to AECL Waste Management Systems, Chalk River (m^3)	85.4	55.2	29.5	19.9	15.9
Number of drums of Liquid Scintillation Counting vials	64	56	43	38	35

The steady reduction of volume from 1997 is a result of phased implementation of a program involving more efficient packaging of solid waste and the University's successful delay and decay

program to eliminate short-lived isotopes from the waste stream. By 2001, the program had reached maturity and resulted in a volume reduction to 15.9 m3.

As shown in Figure 8.2, $24,000 was spent for disposal of low-level radioactive laboratory waste material in 2001. This includes a one time only cost of $5,600 spent on disposing of sealed sources that had been in storage, but were no longer required by researchers. Despite a 9% increase in low-level radioactive waste disposal prices (to $1170/m3) in 2001, University expenditures were lower than in the previous year. This decrease in costs by 39% can be directly attributed to the University's successful volume reduction program, despite an increase in disposal costs of 20% over the last two years.

FIGURE 8.2: RADIOACTIVE WASTE DISPOSAL - VOLUMES AND COSTS



	1996	1997	1998	1999	2000	2001
Costs (k$)	104	95.2	67.3	49.3	33.4	24
Volume (m3)	67.2	85.4	55.2	29.5	19.9	15.9

8.7 CNSC Inspections

Staff from the Canadian Nuclear Safety Commission (formerly Atomic Energy Control Board) conducted one inspection of the radioactive waste storage facilities on November 21, 2001. No major deficiencies were noted.

8.8 Training

Training seminars were conducted on chemical waste handling and disposal and emergency response for the Faculty of Medicine, Departments of Pharmacology, Botany, Forestry, Geology, and the University of Toronto

9.0 RADIATION PROTECTION SERVICES

The Radiation Protection Service administers the University's Consolidated Radioisotope Licence under the direction of the University Radiation Protection Authority. The Service ensures that the University and its radiation permit holders meet the requirements of the Nuclear Safety and Control Act and the requirements of the Radioisotope Licence. Duties include the approval of all radioisotope purchases, the inspection of radioisotope laboratories carrying out of radiation dosimetry for those exposed to ionizing radiation and training of all laboratory staff and students using radioactive materials.

9.1 Radiation Protection Authority

Ultimate responsibility for the control of radioactive materials within the University lies with the Radiation Protection Authority, the membership of which is listed in Appendix 2.

The Authority met three times during 2001, on February 7, April 25, and September 13. The Authority receives reports on radiation safety matters at the University. After discussion amongst the members, decisions and recommendations are made for actions by the Chair, members, or Radiation Protection Service staff.

9.2 Operational Statistics

Table 9.1 presents a brief summary of operations of the Radiation Protection Service from calendar year 1999 through 2001.

TABLE 9.1

Operational Statistics	2001	2000	1999
Active Radioisotope Permits	235	261	248
Approved Radioisotope Purchases	1793	2205	2417
No. of Radioisotope Laboratories	636	610	618
Radiation Protection Course Attendees	201	179	147
Trained Summer/Project Students	86	83	123
Persons in Thyroid Bioassay Program	37	51	42
Persons in Urinalysis Bioassay Program	4	4	5
Persons in Dosimetry Program (est. avg.)	800	800	1000

The table indicates that the number of active permit holders and permitted laboratories has remained relatively stable over the last several years, while the number of purchases of radioactive materials has declined by approximately 25% by December 2001. This decline in purchases reflects the strict regulatory environment and the development of alternative methods.

The relatively stable numbers of permit holders and permitted locations indicate that radioactive materials continue to be used extensively in our research laboratories, although the average usage per permit is declining.

Staff numbers have remained quite stable, although the number of individuals using radioactive materials and therefore completing the training course is increasing. This represents approximately 25% turnover of staff annually, which re-emphasizes the need for adequate training and follow-up.

It should be noted that the numbers in the table include only those actively using radioactive materials. These numbers do not include approximately 200 additional staff who have received training as they may have incidental exposure to radioactive materials. The radiation safety program and protection measures have been addressed with these individuals, including trades and administrative staff, receivers/recycling staff, housekeepers, police etc.

9.3 Radiation Safety Training Program

The Radiation Safety Training Program continues to be offered monthly. Beginning February 2001, the Radiation Protection Course has provided increased emphasis on the receipt of radioactive material. Our research staff do not ship radioactive materials without documentation provided by the Radiation Protection Service.

The lecture portion of the training program is being updated for placement on the RPS website. This is planned to be completed by June 30, 2002. Successful completion of the computer-based portion of the course will lead to the 4 hour "hands-on" portion of the course, and a subsequent written examination in the classroom.

Since February 2001, all students who have successfully completed the full Radiation Safety Training Program and examination are visited on site in their workplace/laboratory and the procedures reviewed with them. A checklist is completed and retained for each student. This provides a performance assessment of the student's knowledge of the information provided in the training and the implementation and effectiveness of this training in the actual workplace.

9.4 Radiation Doses

No members of the University community, whether considered Member of the General Public or Nuclear Energy Workers, received a radiation dose in excess of that allowed to any member of the Canadian public within the year.

9.5 Security and Emergency Measures

A comprehensive review of all security issues was conducted following the events of September 11, 2001.

The security of our large radiation storage areas was reviewed and the alarm systems tested. In addition, the hoist required to access the neutron sources was tested and an additional lock provided. A review of all access to our irradiators was also performed. Locks were changed and key issues and the logging of all usage confirmed. Specific permits for the locations were prepared, allowing these locations to be removed from the more general publicly posted permits.

The Radiation Protection Service has reviewed the security systems for laboratories with Campus Police at one campus location, with the other two campuses being scheduled.

Increased emphasis has been placed on inventory control and security of laboratories during our laboratory inspections.

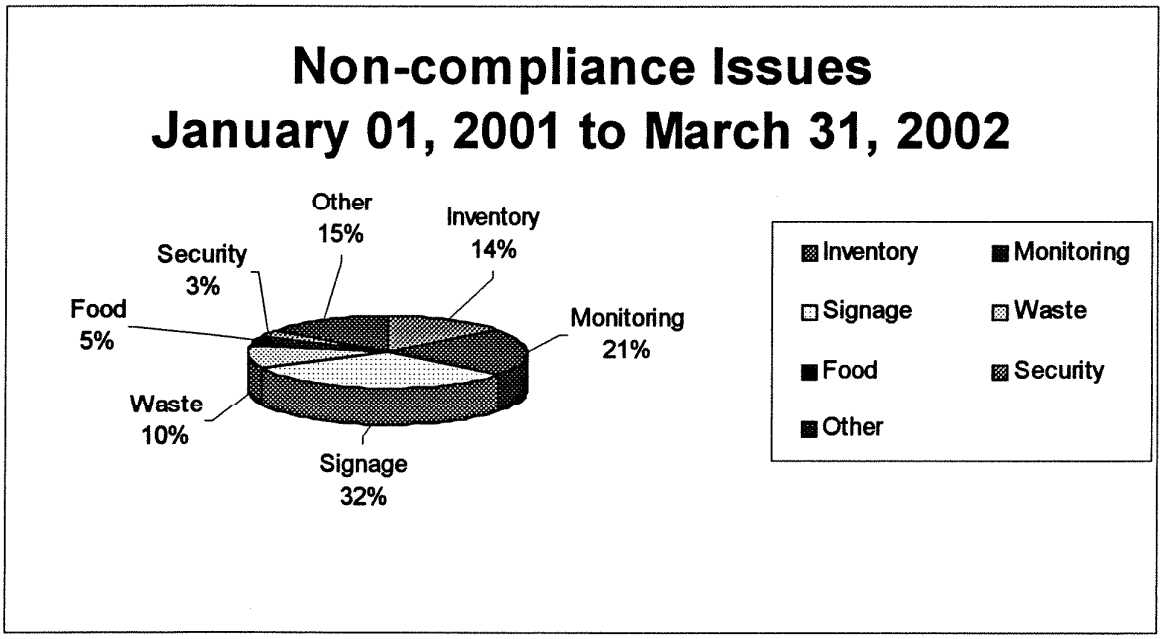
Emergency procedures were updated in early 2001 and are currently under review.

9.6 Summary of Internal Compliance Activities

There were 282 laboratory inspections during the reporting period. This total does not include follow-up visits on issues of non-compliance. This is less than our target of two visits per permit per year, but staff changes resulted in considerable downtime due to training of new staff and allowing them time to gain experience with our workplace and procedures.

Figure 9.1 illustrates the percentage occurrence of each non-compliance category for the Year 2001 through Quarter 1 of 2002.

FIGURE 9.1



Previous statistics show that the bulk of non-compliance was with inventory documentation, contamination monitoring, and signage. Security and signage issues have been given increased emphasis during laboratory inspections. We expect to see these numbers decrease as the year progresses.

All laboratory inspections result in a report to the permit holder noting the issues of non compliance, suggested corrective actions, and a deadline for corrective actions.

Non-compliance issues requiring immediate response, such as evidence of eating and drinking or security issues are dealt with on-site during the visit.

The Radiation Safety Officers follow-up on the non-compliance issues discovered in these inspections, noting that the issues have been corrected or filing a second report in the event of continued non-compliance.

Permit holders are responsible for ensuring that all requirements of the regulations and the policies of the University are followed in their laboratories. Failure to meet the requirements can result in action being taken against the University's Radioisotope Licence. There is a four step procedure for disciplinary actions taken against non-compliant permits to protect the consolidated licence and responsible permit holders.

STEP 1: Oral Warning
STEP 2: Written Warning
STEP 3: Transfer of Permit to Chair/Senior Permit Holder
STEP 4: Cancellation of the Permit

The period of disciplinary action under each step is determined based on the issue and the record of the permit holder, but will usually consists of one year of follow up by the Radiation Safety Officers.

Currently, there is one permit holder on step 2 of the discipline policy. There are generally about twelve permit holders on step 1 at any given time, however most return to compliance quickly with no further action being required.

9.7 Unusual Occurrences

There have been no major occurrences during the calendar year 2001 or during the period from January to March 31, 2002. There have been a few minor spills of radioactive materials, none resulting in any exposure to individuals nor spread of radioactive material outside the permitted areas.

The permit holder and laboratory staff involved had been trained in such emergency and spill response and handled each of these minor occurrences safely and adequately. Radiation Protection Staff followed up on each occurrence until only background readings were confirmed.

9.8 Evaluation of the Radiation Safety Program by the Canadian Nuclear Safety Commission

The University of Toronto Radiation Protection Program was evaluated by the Canadian Nuclear Safety Commission (CNSC), from February 5 - 9, 2001. This evaluation is likely the best measure of the effectiveness of the Radiation Protection Service at the University. Previous evaluations of similar institutions in the Toronto area resulted in the cancellation of radioisotope licences and the closing of over 100 research facilities. A poor evaluation of our Radiation Protection Program would have devastating results on research at the University, as well as negative repercussions for the reputation of the University of Toronto in the academic and research community in Canada and beyond.

The evaluation team concluded that the radiation safety program is generally well-established and well organized and that the overall attitude towards radiation safety is a positive one. There were no identified instances of non-compliance with regulations, licence conditions, codes or standards and no directives or orders were issued by the evaluators. The chief evaluator, in his oral presentation to the University on February 9, 2001, noted that the evaluation of the Radiation Protection Program at the University of Toronto was the best yet experienced by the CNSC in Canada.

Five action notices were issued where, in the view of the evaluators, the radiation safety program could be improved. These are:

- To correct deficiencies in the training program to ensure all personnel using or coming into contact with radioactive materials receive appropriate training,
- To provide additional physical space to the radiation safety staff,
- To revise the internal radioisotope permits to accurately reflect quantities used,

- To implement mechanisms to monitor the operation of the radiation safety program on an ongoing basis, and
- To change the methods of storing and handling radiation dosimetry badges.

All of these action notices have been complied with, with the exception of the provision of additional laboratory/training space for the Radiation Protection Service. Numerous attempts have been unsuccessful in identifying appropriate space and the deadline for compliance has passed, although work continues to try to identify and equip new space. The regulator has not yet indicated what actions they may take.

9.9 Decommissioning of Slowpoke Reactor Facility

The SLOWPOKE Research Reactor Facility was safely and successfully defuelled and decommissioned in June and October/November 2000, and the licence to abandon the SLOWPOKE facility was obtained in February 2001. This work constituted the first successful decommissioning of a SLOWPOKE research reactor in Canada.

During the course of the work, concerns arose from staff and students in adjacent buildings as to the potential radiation doses received by them from this work. To address these concerns, the Office of Environmental Health and Safety in conjunction with the Steelworker's Union agreed to commission an independent assessment of the potential doses. This assessment was done by the Radiation Safety Institute of Canada. The report concluded that maximum dose which the most exposed person, other than those working on the project, could have received was equivalent to about 4% of the dose received from natural background radiation and that this dose was "not significant" and "should not be cause either for concern or for anxiety in relation to potential health effects".

The report also identified, however, what they termed deficiencies in the safety culture associated with the project. Although the technical safety aspects of the project were well considered and effectively implemented, the "human context" - that is the understanding of the concerns of staff associated with radiation and effectively communicating with the staff and involving them beforehand in the planning- was deficient.

The University has agreed to put in place procedures to ensure that, in the future, there is full, meaningful and effective communication on such issues with joint health and safety committees and individual staff members.

10. BIOSAFETY

The functions of the University of Toronto Biosafety Committee and the Biosafety Office are to promote appropriate standards of biological safety in laboratories and to enable compliance with these standards, as detailed in University of Toronto Biosafety Policies and Procedures Manual. Research and teaching activities involving the use of hazardous or potentially hazardous biological agents (viruses, bacteria, animal cells, recombinant DNA, etc.) must be conducted in accordance with the requirements of this document and applicable legislation.

10.1 Biosafety Committee

During the year, approximately 110 application forms for new University of Toronto Biosafety Certificates were received, reviewed and subjected to a risk assessment. Of these, only 5 were approved and issued to Principal Investigators for projects requiring Containment Level 3 laboratory conditions. Of the remainder, 41 were approved for projects requiring Containment Level 1, and 63 were approved for projects requiring Containment Level 2, based on known and perceived risks posed by the biological agents and the intended manipulations.
(NOTE: Currently, only 1 location at U of T provides Containment Level 3 laboratory conditions. No activities requiring a higher level of containment were approved; U of T has no Containment Level 4 laboratories.)

A subcommittee of the Biosafety Committee met to discuss and compile the comments to be included in a written submission to Health Canada in response to "The Laboratory Biosafety Guidelines, 3rd Edition - Draft". The Chairman of the U of T Biosafety Committee drafted and submitted a response on behalf of the University of Toronto. Several Biosafety Committee members also submitted individual responses directly to Health Canada. Health Canada will review the submitted comments. The finalized document is expected after April 2002. This revised Health Canada document will serve as the basis of the next edition of the University of Toronto Biosafety Policies and Procedures Manual.

The Biosafety Officer also reviewed the draft Health Canada document and participated in meetings to formulate a University response. As well, a separate submission was prepared and sent to Health Canada for review.

10.2 The Shared Level 3 Containment Facility

This laboratory which has been in operation since 1982 in the Medical Sciences Building was decommissioned. The Biosafety Office prepared the protocols for the decontamination of laboratory surfaces and equipment. The Faculty of Medicine intends to provide a new Level 3 Containment Facility within the same space. Proposals were reviewed and discussed at meetings with engineering consultants and the intended laboratory users. A final decision regarding the design and the contractor selection is expected soon.

The Biosafety Officer attended a 3 day information session in Ottawa regarding the requirements for the construction, operation and maintenance of a Level 3 Containment laboratory.

10.3 Biosafety Orientation Seminars

General and specific issue seminars were presented to U of T Police, operating engineers, laboratory personnel, Health & Safety Committee members, and project course and summer students. These were presented either as single 'stand alone' seminars or as part of a larger program involving other aspects of safety, to inform persons of the need to observe appropriate precautions and safe waste disposal practices in the workplace.

10.4 Laboratory Waste Disposal

The Biosafety Office continues to receive requests for the removal of laboratory materials that are abandoned in walk-in cold rooms, refrigerators, and freezers. In most cases, the original owner of this material is either unavailable or unknown. Disposable supplies were sorted and packaged for removal, consistent with University procedures.

APPENDIX 1

UNIVERSITY OF TORONTO HEALTH AND SAFETY POLICY

The University of Toronto is committed to providing a safe and healthy work and study environment for its employees, students, visitors and contractors. The University will ensure that the measures and procedures prescribed by the Occupational Health and Safety Act and its regulations and other relevant legislation concerning health and safety are complied with. This includes establishing and maintaining programs to identify and appropriately control workplace hazards; providing for joint health and safety committees to identify and address workplace hazards and workplace health and safety issues; providing appropriate tools and equipment; and providing suitable training to employees concerning workplace health and safety.

Under the Occupational Health and Safety Act and its regulations all employees of the University, including faculty, librarians, administrative staff, and employees in bargaining units covered by collective agreements have responsibilities for ensuring health and safety in the workplace.

Supervisors have an obligation to ensure that employees work in the manner and with the protective devices, measures and procedures required by the Occupational Health and Safety Act and its regulations. This includes supervisors ensuring that appropriate safety procedures are followed by employees and advising employees of the existence of any potential or actual danger to their health and safety of which the supervisor is aware. Supervisors must also take every precaution reasonable in the circumstances for the protection of an employee. In addition, all employees, including supervisors, have an obligation to work in compliance with the Occupational Health and Safety Act and its regulations and to use or wear the equipment, protective devices or clothing that the University requires to be used or worn.

Employees, including supervisors, have knowledge of their actual working conditions and they have an obligation to report any safety hazards or possible contraventions of the Occupational Health and Safety Act and its regulations of which they are aware to their immediate supervisor, so that any safety hazards or contraventions can be remedied.

All employees who fail to meet their obligations concerning health and safety may, depending on the circumstances, face discipline up to and including discharge.

While students are not covered by the Occupational Health and Safety Act or its regulations, the University is also committed to fulfilling its responsibilities concerning the health and safety of its students, and the University believes that this policy helps to facilitate that objective. Students are responsible for conducting themselves in a manner which is consistent with the health and safety of themselves and others and shall be given appropriate training to do so. Students who fail to meet these responsibilities may, depending on the circumstances, face sanctions under the provisions of the Code of Student Conduct.

All members of the University community must accept their responsibilities concerning the provision of a safe environment in which to work and study.

June 22, 1993

The Governing Council of the University of Toronto

APPENDIX 2

COMMITTEE MEMBERSHIP

Senior Management Committee on Health and Safety

Prof. Michael G. Finlayson (chair)*	- Vice-President, Administration and Human Resources
Prof. Angela Hildyard (chair)**	- Vice-President, Human Resources
Dr. James B. Campbell	- Chair, University of Toronto Biosafety Committee
Prof. Michael Charles *	- Dean, Faculty of Applied Science and Engineering
Prof. Anastasios Venetsanopoulos **	- Dean, Faculty of Applied Science and Engineering
Dr. Tania Watts	- Chair, University of Toronto Radiation Protection Authority
Dr. David J. Gorman	- Director, Environmental Health and Safety
Mr. David Keeling	- Administrative Officer, Faculty of Medicine
Prof. Robert Baker	- Associate Dean of Sciences, UT Mississauga
Prof. David Farrar	- Chair, Department of Chemistry
Ms. Janice Oliver	- Assistant Vice-President, Operations & Services
Prof. Pekka Sinervo	- Associate Dean, Science, Faculty of Arts & Science
Ms. Kim McLean	- Director, Administration, UT Scarborough
Prof. James W. Smith	- Department of Chemical Engineering & Applied Chemistry
Prof. Robin Marjoribanks	- Chair, Laser Safety Committee
Prof. Ian Orchard	- Vice-Provost, Students

* January 1 to June 30, 2002
** July 1 - December 31, 2002

University of Toronto Radiation Protection Authority

The membership of the UTRPA as of 31 December 2001 is as follows:

Dr. Tania Watts (Chair)	Academic	Immunology
Dr. David Hampson(Vice-Chair)	Academic	Pharmacy
Dr. P. Brubaker	Academic	Physiology
Dr. Robin Cameron	Academic	Botany
Dr. Sela Cheifetz	Academic	MRC Group, Peridontal Physiology
Dr. Alan Cochrane	Academic	Medical Genetics and Microbiology
Dr. Herbert Gaisano	Academic	Clinical Sciences
Dr. David Gorman	Administrative	Environmental Health and Safety
Mr. Ray Ilson	Administrative	Senior Radiation Safety Officer, EHS
Dr. Angela Lange	Academic	Life Sciences, UT Mississauga
Dr. Michael Pharoah	Academic	Dentistry
Dr. David Riddick	Academic	Pharmacology
Dr. M. Ringuette	Academic	Zoology
Dr. Julie C. Silver	Academic	Life Sciences, UT Scarborough
Dr. David Williams	Academic	Biochemistry
Ms. E. Krivonosov	Administrative	Manager, Environmental Protection, EHS
Ms. S. Ramjit	Recording Secretary	Office of Environmental Health and Safety

University of Toronto Biosafety Committee (2001-2002)

Dr. J.B. Campbell (Chairman)	(Medical Genetics and Microbiology)
Dr. C. Bergeron [Tanz Building]*	(CRND)
Dr. S. Cheifetz [Dentistry & FitzGerald Bldg.]*	(Dentistry)
Dr. A.G. Clark [Medical Sciences Building, Banting Inst. & All Other]*	(Medical Genetics and Microbiology)
Dr. J. Coleman [Earth Sciences Building]*	(Botany)
Dr. S. Kish [Clarke Institute of Psychiatry]*	(Clarke Institute of Psychiatry)
Dr. A.B. Lange [U of T Mississauga]*	(Biology, U of T Mississauga)
Dr. A. Marks [Best Institute]*	(BBDMR)
Dr. M. Ringuette [Ramsay Wright Building]*	(Zoology)
Dr. S. Ross [Pharmacy Building]*	(Pharmacy)
Dr. J. Silver [U of T Scarborough]*	(Biology, U of T Scarborough)
Ms. C. Marshall	(Public Affairs)

*Local Biosafety Co-ordinator [jurisdiction in brackets]
Note: Dr. A. Gavin Clark is serving as the Local Biosafety Co-ordinator for all other locations on the St. George campus that do not have an on site co-ordinator.

Members, Ex officio:

Dr. A. Hildyard	Vice-President, Human Resources
Dr. H. Munroe-Blum	Vice-President, Research & International Relations
Dr. D.J. Gorman	Director, Environmental Health & Safety
Ms. J. Chadwick	Director, Research Grants, ORS
Dr. C.C. Yip	Vice-Dean, Research, Faculty of Medicine
Mr. J. Valant	University Biosafety Officer

Associate Members:

Mr. R. Ilson	Senior Radiation Safety Officer, U of T
Mr. F. Galberg	PMD&C, F&S, U of T
Ms. R. Kogan	Public Health, City of Toronto
Dr. M.S. Mahdy	Ontario Ministry of Health
Mr. M.R. Paull	DOMed, U of T
Dr. R. Renlund	DCM, U of T

Adjunct Members:

Dr. J. Brunton	Toronto Hospital
Dr. M.J. McGavin	Sunnybrook Health Science Centre
Ms. A. Monteath	Hospital for Sick Children
Dr. L. Holness	St. Michael's Hospital
Ms. R. Wallace	Mount Sinai Hospital
Dr. J. Woodgett	Ontario Cancer Institute / Princess Margaret Hospital

Laser Safety Committee (1999-2000)

Prof. James Donaldson	- Chemistry
Prof. Robin Marjoribanks (Chair)	- Physics
Prof. Aephraim Steinberg	- Physics
Prof. Peter Herman	- Electrical & Computer Engineering
Prof. Andreas Mandelis	- Mechanical & Industrial Engineering
Mr. Nokolay Stoev	- Photonics Research Ontario
Dr. David Gorman	- Environmental Health & Safety
Mr. Chris McNeill	- Environmental Health & Safety

Central Health and Safety Committee (USWA):

Prof. Donald DeWees	- Department of Economics (Management)
Dr. David Gorman	- Environmental Health and Safety (Management)
Mr. David Keeling	- Faculty of Medicine (Management) (to June 30,2001)
Ms. Rose DaSilva	- USWA
Ms. Mary Ann DeFrancis	- (USWA)
Ms. Cynthia Kazadi	- Faculty of Dentistry (USWA)