

1995

Annual Epidemiologic
Surveillance Report for

Savannah River Site



Analyze and
Report Findings

DOE Workers

Absences
of 5 or
More Days

This report was prepared by the staff of the Center for Epidemiologic Research, within the Basic and Applied Research Program of the Oak Ridge Institute for Science and Education, in conjunction with the Office of Epidemiologic Studies, U.S. Department of Energy. Questions or comments may be directed to:

**Dr. Cliff Strader or Dr. Bonnie Richter
U.S. Department of Energy
Office of Epidemiologic Studies
Mail Stop: 270CC/EH-62
19901 Germantown Road
Germantown, MD 20874-1290**

Additional information about the Department of Energy's Office of Epidemiologic Studies, the Epidemiologic Surveillance Program, and annual reports for DOE sites participating in this program can be found at:

<http://tis-nt.eh.doe.gov/epi>

Introduction	5		
Savannah River Site at a Glance — 1995	6		
Site Overview	7		
Timeline of Major Activities at SRS	7		
The SRS Work Force	8		
The Work Force by Gender and Age	8		
Racial Composition of the Work Force by Gender	9		
The Work Force by Gender and Occupation ..	9		
Percentage of Workers in Different Occupations by Gender	10		
Most Common Job Titles in Each Occupational Group	10		
Number and Length of Absences	11		
Percentage of Workers with at Least One Health Event by Gender and Age	13		
Percentage of Men with at Least One Health Event by Occupation	13		
Percentage of Women with at Least One Health Event by Occupation	14		
Number of Days Absent by Gender and Age	14		
Number of Days Absent by Gender and Occupation	15		
Diagnostic Categories	16		
Total Number of Health Conditions Reported and Total Number of Days Absent from Work by Gender and Diagnostic Category	17		
Health Conditions Reported Under Selected Diagnostic Categories by Gender ..	18		
Three Diagnostic Categories Reported Most Often by Gender and Age	18		
Three Diagnostic Categories Reported Most Often by Gender and Occupation	19		
Rates of Disease Occurrence	20		
Rates per 1,000 for All Diagnostic Categories Combined by Gender, Age, and Occupation	22		
		Rates per 1,000 for Selected Diagnostic Categories by Gender, Age, and Occupation	22
		Cancer	22
		Heart/Circulatory	23
		Lung/Respiratory	23
		Injury and Poisoning	23
		Occupational Sentinel Health Events	24
		Characteristics of Health Events for SHEOs and Days Absent by Gender	24
		Number of Accidents by Gender, Age, and Occupation	25
		Disability Among Active Workers	25
		Workers Placed on Long-Term Disability by Gender, Age, and Occupation	25
		Deaths Among Active Workers	26
		Active Workers Who Died by Gender, Age, and Occupation	26
		OSHA-Recordable Events	26
		Percentage of Workers with at Least One OSHA Event by Gender and Age	27
		Percentage of Men with at Least One OSHA Event by Occupation	27
		Percentage of Women with at Least One OSHA Event by Occupation	28
		Lost and Restricted Workdays by Gender and Age	28
		Lost and Restricted Workdays by Gender and Occupation	29
		Diagnostic and Accident Categories for OSHA-Recordable Events	30
		Health Conditions by Gender and Diagnostic Category	30
		Types of Accidents and the Number of Lost or Restricted Workdays by Gender	31
		Injuries Associated with Each Type of Accident by Gender	31
		Three Diagnostic Categories Reported Most Often by Gender and Age	31
		Three Accident Categories Reported Most Often by Gender and Age	32



Three Diagnostic Categories Reported Most Often by Gender and Occupation	32
Three Accident Categories Reported Most Often by Gender and Occupation	33
Rates of OSHA-Recordable Events	33
Rates per 1,000 for All Diagnostic Categories Combined by Gender, Age, and Occupation	34
Rates per 1,000 for Injury and Poisoning by Gender, Age, and Occupation	34
Glossary	35
Explanation of Diagnostic Categories	37
Reader Response	42
Savannah River Site 1995 Appendixes	44

Introduction

The U.S. Department of Energy's (DOE) commitment to assuring the health and safety of its workers includes the conduct of epidemiologic surveillance activities that provide an early warning system for health problems among workers. A number of DOE sites participate in the Epidemiologic Surveillance Program. This program monitors illnesses and health conditions that result in an absence of five or more consecutive workdays, occupational injuries and illnesses, and disabilities and deaths among current workers.

This report provides a summary of epidemiologic surveillance data collected from the Savannah River Site (SRS) from January 1, 1995 through December 31, 1995. The data were collected by a coordinator at SRS and submitted to the Epidemiologic Surveillance Data Center, located at Oak Ridge Institute for Science and Education, where quality control procedures and data analyses were carried out.

The annual report for 1995 has been redesigned from reports for previous years. Most of the information in the previous reports is also in this report, but some material now appears in the appendixes instead of the main body of the report. The main sections of the report are the same as in previous years, namely work force characteristics; absences that lasted at least five consecutive workdays (health events); workplace injuries, illnesses, and deaths that were reportable to the Occupational Safety and Health Administration (OSHA-recordable events); and disabilities and deaths among current workers. This 1995 report provides additional information describing the work force by age and occupational groups.

The information presented in the main body of the report provides a descriptive analysis of the data collected from the site. Additional information in the appendixes provides more detail. The report also contains an expanded Glossary and Explanation of Diagnostic Categories which gives examples of health conditions to illustrate the content of each category.

The data presented here apply only to SRS. The DOE sites are varied, so comparisons of SRS with other DOE sites should be made with caution. It is important to keep in mind that many factors can affect the completeness and accuracy of health information collected at the sites as well as affect patterns of illness and injury observed.

Savannah River Site At a Glance — 1995:

- The number of health events reported by Savannah River Site (SRS) workers dropped about 49% between 1994 and 1995. We noted reductions in most diagnostic categories. The decline most likely reflects the implementation of new policies in mid-1994 which relaxed requirements for return-to-work medical clearance. A growing number of workers also chose alternative work schedules, and it is possible that compliance with medical clearance requirements were affected by confusion about when to report an absence. Workers' self-reported reasons for absence given when clearing back to work through the occupational medical clinic provide most of the health information used to assess illness and injury in the work force, so noncompliance has a direct effect on the accuracy of rates presented in this and similar reports.
- SRS workers showed patterns of illness and injury similar to those observed at other sites in epidemiologic surveillance. About 8.4% of the SRS work force reported at least one absence of five or more days due to illness or injury, compared with 14% in 1994. This percentage ranges from about 5% to 15% among sites participating in epidemiologic surveillance.
- Among men, the highest diagnosis rate was for injuries and poisoning (15 per 1,000), followed by conditions affecting the muscles and skeleton (14.5 per 1,000) and respiratory conditions (14.4 per 1,000). Diagnoses involving pregnancy and childbirth had the highest rate among women (38.7 per 1,000), followed by respiratory (35.7 per 1,000) and genitourinary conditions (26.8 per 1,000).
- The absence rate for all cancers combined among all SRS workers was 4.4 per 1,000 in 1995, an increase over the 2.8 per 1,000 observed in 1994. The increase occurred among men, whose rate rose from 2.4 per 1,000 in 1994 to 4.5 in 1995. The increase was not associated with any particular type of cancer. The absence rate for cancer among women was essentially unchanged for the two years. Absence rates tend to be higher than incidence rates because a worker may have several absences during the year related to a single cancer diagnosis. The absence rates observed among SRS workers were similar to the incidence rate of 3.557 cancers per 1,000 population reported by the Savannah River Region Health Information System for 1991-1993, the most recent cancer registry published.
- The 1995 Epidemiologic Surveillance report has been redesigned to make health and safety information more accessible and to summarize a wider range of information. Extensive tables of rates and risk estimates no longer appear in the body of the report, although the numbers have been retained in appendixes for those who want more detail. The detailed tables are referenced in the narrative. An explanation is provided for some of the calculations used to summarize the information. Greater emphasis is given to separate evaluations of men and women workers because their work patterns are frequently different even within the same occupational category and because their rates of injury and illness also show distinct differences.

Site Overview

SRS is a 320-square-mile facility located on the Savannah River near Aiken, South Carolina, and Augusta, Georgia. It is owned by DOE and operated by the Westinghouse Savannah River Company (WSRC).

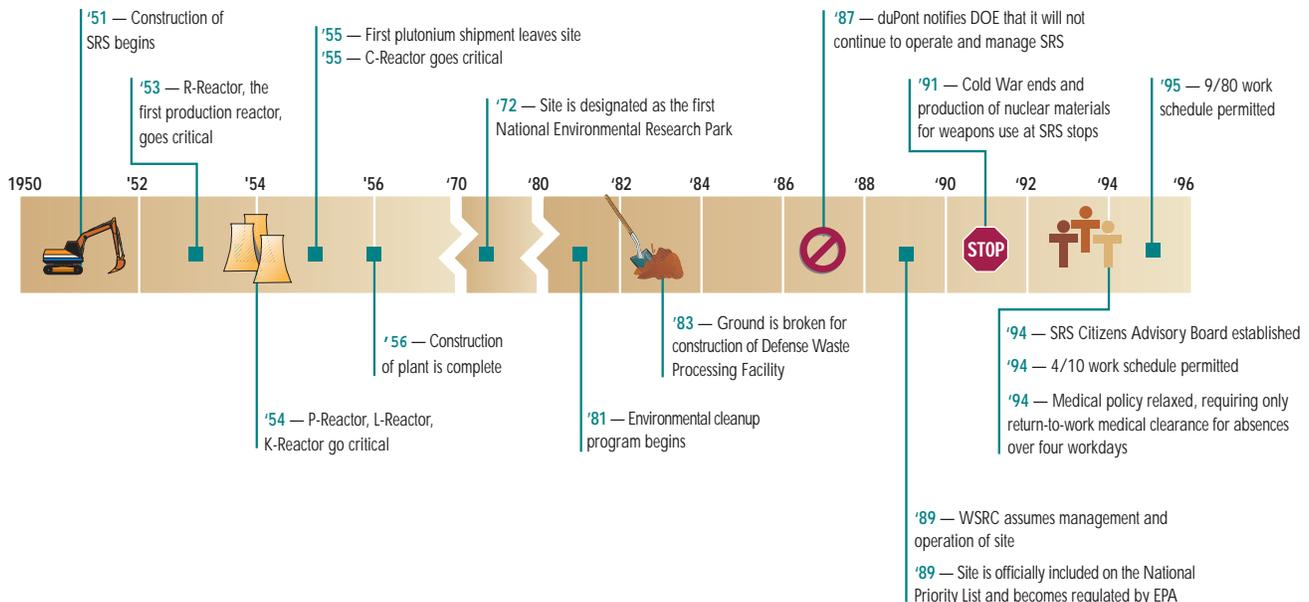
The facility was constructed during the 1950s and produced nuclear weapons materials (tritium and plutonium-239) for the United States defense program from that time through the 1980s. The site contained five reactors, two chemical separations plants, a heavy water extraction plant, a nuclear fuel and target fabrication facility, and waste management facilities. The years of weapons materials production has resulted in unusable by-products, such as intensely radioactive waste, low-level liquid and solid radioactive wastes, transuranic waste, hazardous waste, and mixed wastes.

After the end of the Cold War, the mission for SRS changed from nuclear materials production to environmental restoration and waste management. All five original production reactors are

permanently shut down. There are over 400 inactive waste and groundwater units in the site's environmental restoration program. This work is expected to take decades to complete. Decontamination and decommissioning of surplus facilities is also being conducted, with more than 600 facilities presently being assessed.

Part of the site's mission is to recycle and reload tritium to keep the nation's supply of nuclear weapons ready. SRS is the nation's only source for recycling tritium from reservoirs of nuclear weapons no longer in service. This process allows the United States to stretch its tritium supplies.

Currently, about 16,000 people are employed at SRS, with 80% being employed by WSRC and its prime subcontractor Bechtel Savannah River, Inc. The site is focusing on national security work, economic development and technology transfer initiatives, and environmental and waste management activities.



Timeline of Major Activities at SRS

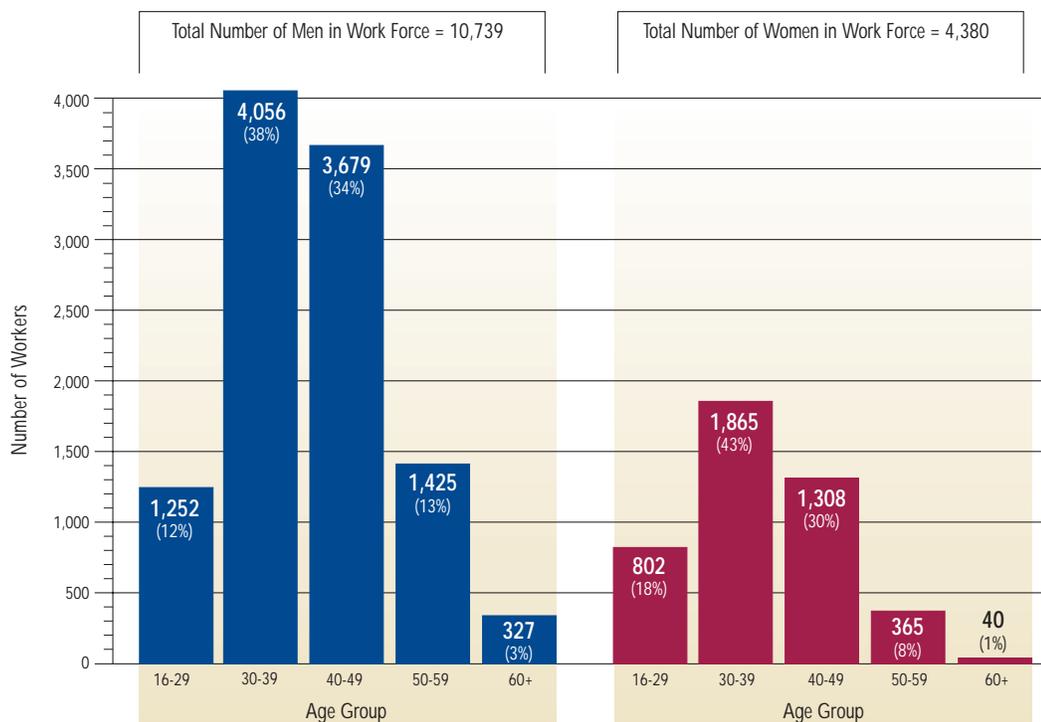
The SRS Work Force

A total of 15,119 SRS employees were included in epidemiologic surveillance in 1995, 635 fewer workers than were present in 1994. There were almost two and a half times as many men (10,739) as women (4,380) (figure 1). The SRS work force was relatively young compared to the general population. The average age of male SRS workers was 40 years old and 38 among females (figure 1). The majority of the workers was White (78%). African Americans comprised about 19% of the work force; Hispanics, Asians, Native Americans, and others made up the remainder (figures 2a and 2b).

Not all occupations pose equal risks for illness or injury, so we compared rates among several occupational categories to determine whether some occupational groups are at greater risk than others for these health events. The number of illnesses or injuries reported in any specific occupation may be very small in a given year or the number of workers

in a given occupation may be small. These small numbers limit the certainty with which illness and injury rates can be calculated and compared, and in some cases were so few in number that we could not analyze them separately. The analyses in this report use broad occupational categories (figure 3) because there were not enough health events in many specific occupations to permit more detailed analyses. You can find which occupational category you are in by referring to figure 5 which lists many of the job titles that are grouped into each of the categories used for the analyses. Men and women were not distributed equally among the various occupational groups; we noted the largest gender differences in the office management and administration and engineering, scientific, and health care groups (figure 4). Appendix A contains a more detailed distribution of the work force by gender, age, and occupational group.

Figure 1. The Work Force by Gender and Age



Figures 2a and 2b. Racial Composition of the Work Force by Gender

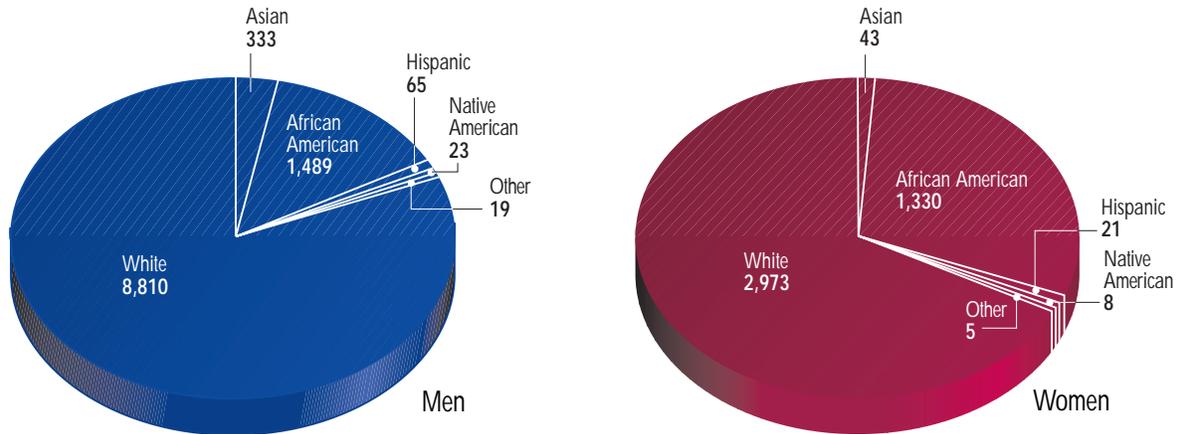
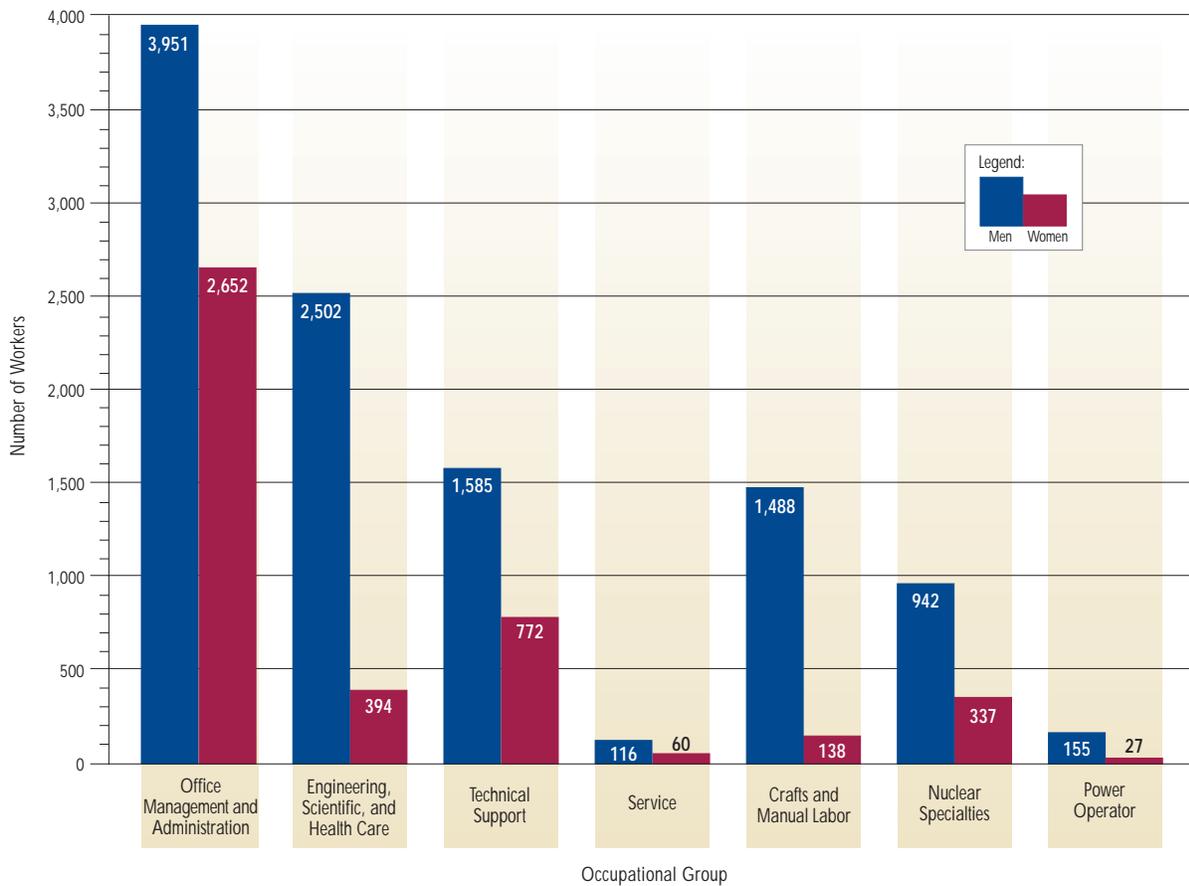


Figure 3. The Work Force by Gender and Occupation



Figures 4a and 4b. Percentage of Workers in Different Occupations by Gender

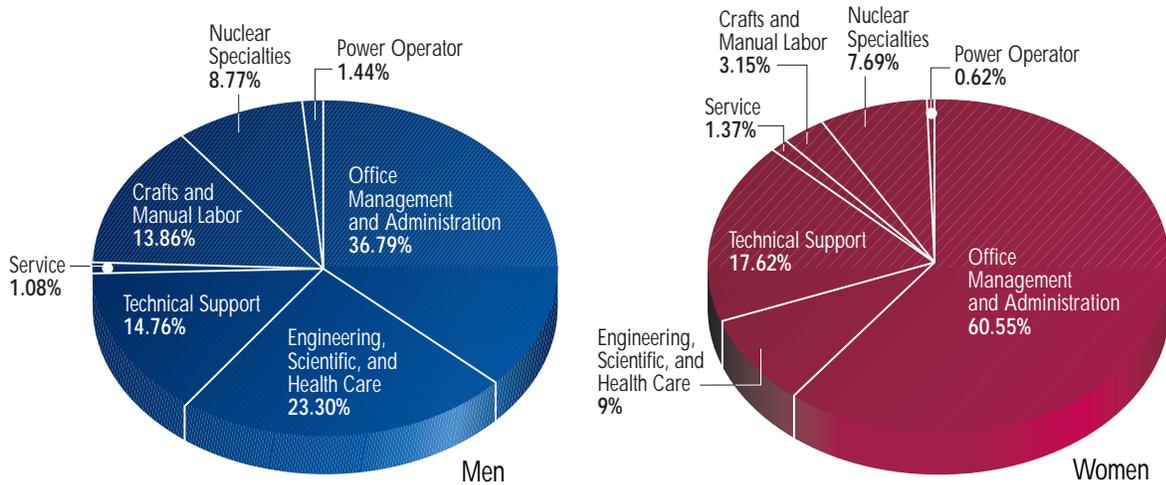


Figure 5. Most Common Job Titles in Each Occupational Group

<p>OFFICE MANAGEMENT AND ADMINISTRATION ACCOUNTING/BUSINESS I ACCOUNTING/BUSINESS II ADMINISTRATIVE SUPERVISORS ADMINISTRATIVE SUPPORT I ADMINISTRATIVE SUPPORT II ADMINISTRATIVE/SECRETARIAL COMMUNICATIONS/PR COMPUTER 1 COMPUTER II EXECUTIVES FACILITY SUPERVISORS HUMAN RESOURCES MISCELLANEOUS CLERICAL MID LEVEL ADMIN MANAGERS MID LEVEL BUS, FIN, & ACCTG MG MID LEVEL ENGG MANAGERS MID LEVEL QA/HP SFTY & PS MGRS MID LEVEL TECHNICAL MANAGERS</p>	<p>MID LEVEL WORKS ENGG MANAGERS MID LEVEL WORKS OPS MANAGERS MIDDLE MANAGEMENT OPERATIONS SUPERVISORS PROCEDURE WRITERS PROCUREMENT I PROCUREMENT II PROFESSIONAL PROGRAM & PLANNING SERVICES QA/HP SUPERVISORS SENIOR PROFESSIONAL STAFF MANAGERS STUDENT SUPPORT TRAINEE TRAINING/TOTAL QUALITY UP LEVEL ADMIN MANAGERS UP LEVEL QA/HP SAFETY & PS MGR UPPER LEVEL ENGG MANAGERS UPPER LEVEL TECHNICAL MANAGERS UPPER LVL BUS, FIN, & ACCTG MG</p>	<p>UPPER MANAGEMENT WORKS ENGG SUPERVISORS</p> <p>ENGINEERING, SCIENTIFIC, AND HEALTH CARE ENGINEERS FELLOW/ADVISORY ENGINEERS FELLOW/ADVISORY SCIENTISTS LEGAL & HEALTH SERVICES LEGAL & HEALTH SUPPORT PRINCIPAL ENGINEERS PRINCIPAL SCIENTISTS QA/SAFETY/HP SUPP. SPECIALISTS SCIENTISTS SENIOR ENGINEERS SENIOR SCIENTISTS</p> <p>TECHNICAL SUPPORT MISCELLANEOUS TECHNICIAN OPER/TECH SPEC SUPP I</p>	<p>OPER/TECH SPEC SUPP II OPER/TECH SPEC SUPP III TECHNICAL SERVICES TECHNICAL SUPPORT</p> <p>SERVICE FIRE & SAFETY SERVICES GENERAL SERVICE OPERATOR</p> <p>CRAFTS AND MANUAL LABOR ELECTRICAL & INSTRU MECHANIC EQUIPMENT OPERATOR EQUIPMENT REPAIR MECHANIC MAINTENANCE MECHANIC</p> <p>NUCLEAR SPECIALTIES PRODUCTION OPERATOR</p> <p>POWER OPERATOR POWER OPERATOR</p>
--	--	--	--

Number and Length of Absences

As in the 1994 report, this report includes absences that lasted at least five consecutive workdays. Epidemiologic surveillance refers to absences for illness or injury as “health events” and uses the five-day length of absence because DOE Order 440.1 requires contractor management to notify Occupational Medicine when a worker has been absent for five or more consecutive workdays. Although occupational injuries and illnesses must be reported regardless of duration of absence, nonoccupational illnesses and injuries that involve absences shorter than five consecutive workdays do not routinely require a medical clearance for return to work. As a result, nonoccupational injuries and illnesses involving fewer than five workdays are not identified consistently.

We observed a striking decline in the number of health events involving return-to-work medical clearances in 1995. SRS reported only about 47% as many health events as were reported in 1994. A number of policy changes implemented at the site in 1994 may explain the decline. Prior to May 1, 1994, employees were required to go to a private physician or report to the site’s occupational medicine department by the second day of illness. A new policy went into effect May 1, 1994, no longer requiring employees to seek medical attention by a certain period of time. Workers were only required

to be cleared through the site’s occupational medicine department if they were absent more than four workdays. Full implementation of this policy may have taken some time to be communicated fully to the work force. If so, the impact of this policy change would not have been as noticeable in 1994 as in 1995.

Another noteworthy change was the increased use of alternative work schedules among SRS workers. Four-day, 10-hour shifts were implemented in November 1994; nine-day, 80-hour schedules in April 1995. Twelve-hour shifts were already an option for many workers, but more workers started this schedule in 1994 and 1995. Recent shift schedule statistics show that workers still using the five-day, 40-hour work schedule are a distinct minority.

Work Schedule	Workers
5-day, 40-hour straight days	1,390
9-day, 80-hour straight days	4,136
4-day, 40-hour straight days	4,734
12-hour rotating shift	2,011
24-hour shift	73

Guidance in DOE Order 440.1, the Worker Protection Order, indicates that return-to-work medical clearance is required following nonoccupational illnesses or injuries causing absence from work for five consecutive workdays or 40 hours or more. Occupational illnesses and injuries must be reported regardless of whether an absence is involved. The duration of absence is clearly defined for anyone who works a straight five-day, 40-hour work week, but the guidance is not clear about whether someone on an alternate work schedule should count hours or days absent. Confusion about when to report absences associated with nonoccupational health events may also have contributed to the decline in health events reported through return-to-work medical clearances.

How Are Percentages Calculated?

The percentages are calculated by dividing the number of workers with at least one health event in a given age and gender group by the number of employees in the same group. This number is multiplied by 100 to give a percent. The number of employees in each group is shown in figure 1. An example is given below:

$$\begin{array}{r} 35 \text{ (number of men aged 16-29 with at} \\ \text{least one health event from figure 6)} \\ \div 1,252 \text{ (number of men in the work force} \\ \text{aged 16-29 from figure 1)} \\ \hline = .027 \times 100 = 3\% \end{array}$$

Throughout this report, the analyses take gender, age, and occupation into account because the risk of illness and injury varies by these factors. For analyses that examine duration of absence, the reported number of days absent includes weekends unless otherwise stated.

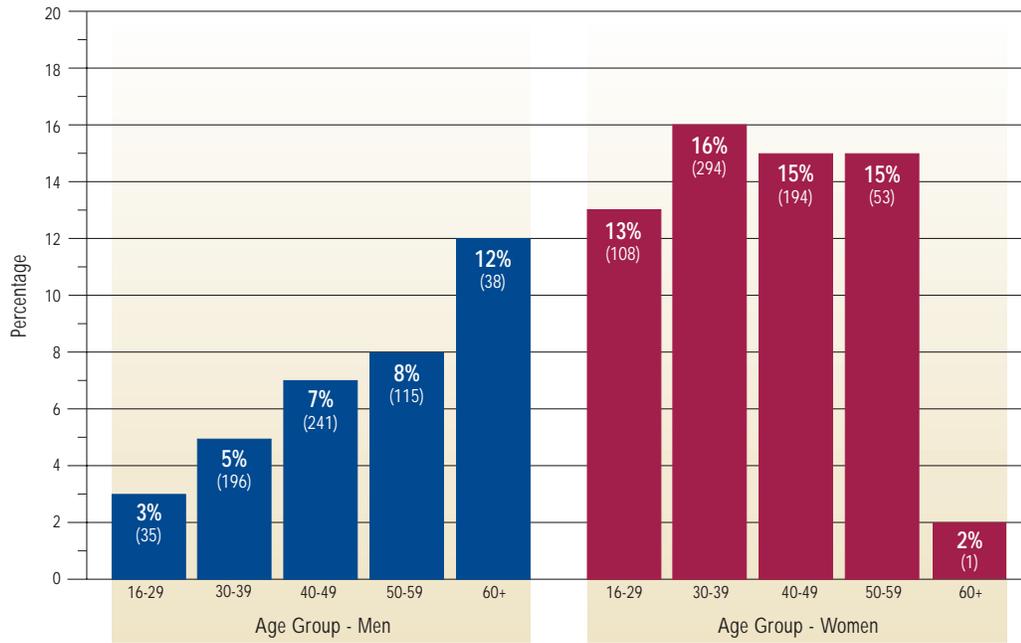
Men and women had about the same number of health events during 1995, but the percentage of women with at least one health event (15%) was more than twice that of men (6%) because the work force contained over twice as many men as women (figure 6). This gender difference was also seen in 1994, although in 1994 the percentage of both men and women with one or more absences was higher (23% of women, 10.8% of men). An explanation of how these percentages were calculated is in the shaded box.

The percentage of men reporting at least one health event increased with age to a high of 12% in those aged 60 or older. The percentage of women reporting at least one health event was fairly consistent for all age groups except the 60+ category, for which only one health event was reported (figure 6). The duration of absence was similar for men and

women 40 or more years of age, but women in the 16-29 and 30-39 age groups reflected substantially longer absences (35.4 days for women versus 19.9 days for men). The longer average duration of absences among women aged 16 to 39 may reflect maternity leave. Pregnancy/childbirth was the diagnostic category most frequently reported for women in these age groups (figure 13), accounting for over 9,400 days of absence in 1995.

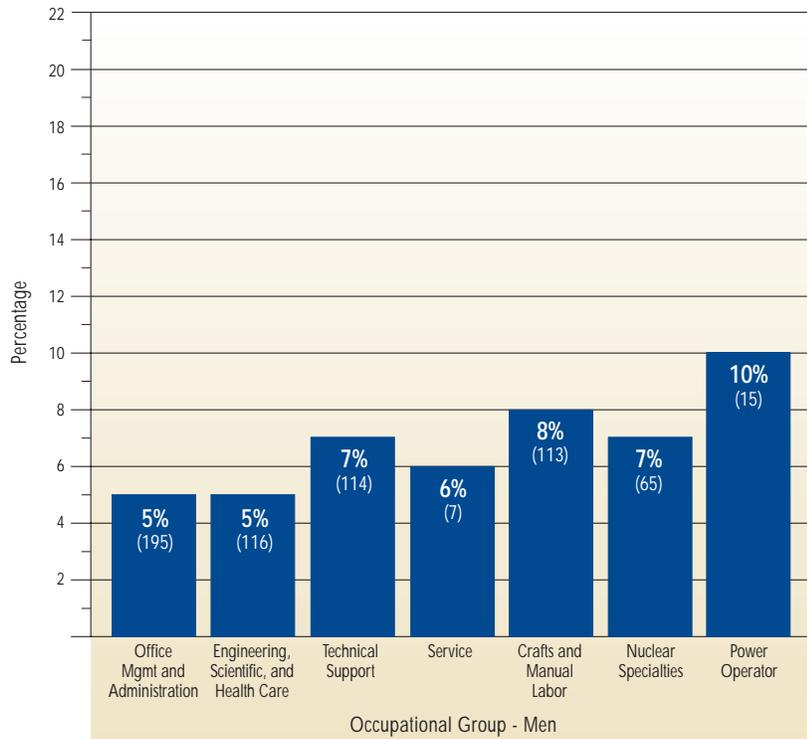
The technical support and nuclear specialties groups had the highest percentage of workers (11%) with a health event. Although the percentage of nuclear specialties workers with at least one absence was higher, the average length of their absences varied little from other occupational groups. Service workers had the highest average number of days absent (32.1 days) per health event, followed by the technical support group (29.9 days) (figure 10). Additional information about the number and length of absences for men and women in different age and occupational groups is in appendixes B-E. The Rates of Disease Occurrence section of this report examines the diagnoses underlying these absences.

Figure 6. Percentage of Workers with at Least One Health Event by Gender and Age*



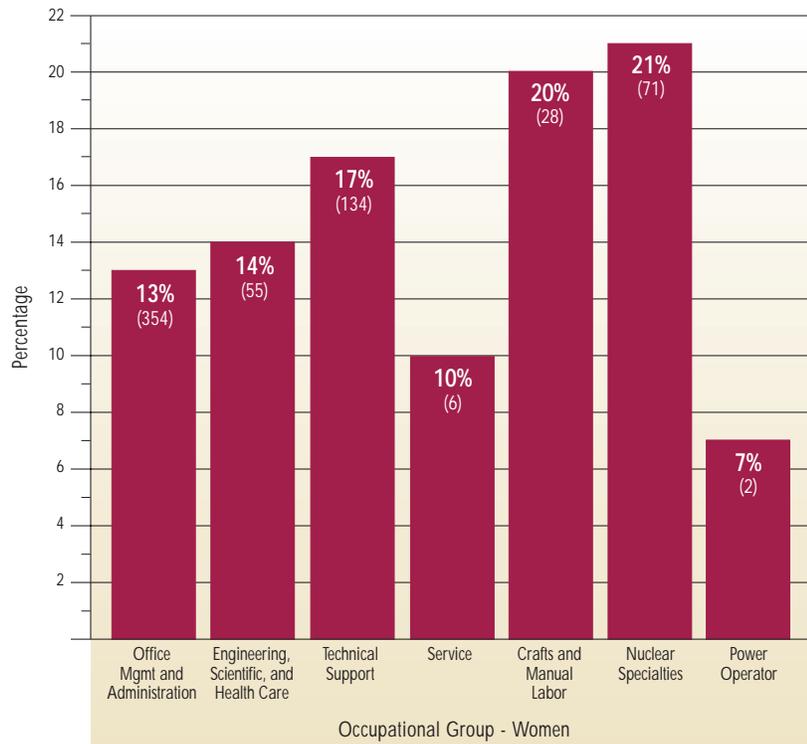
*Numbers in parentheses represent the number of workers with at least one event.

Figure 7. Percentage of Men with at Least One Health Event by Occupation*



*Numbers in parentheses represent the number of men with at least one event.

Figure 8. Percentage of Women with at Least One Health Event by Occupation*



*Numbers in parentheses represent the number of women with at least one event.

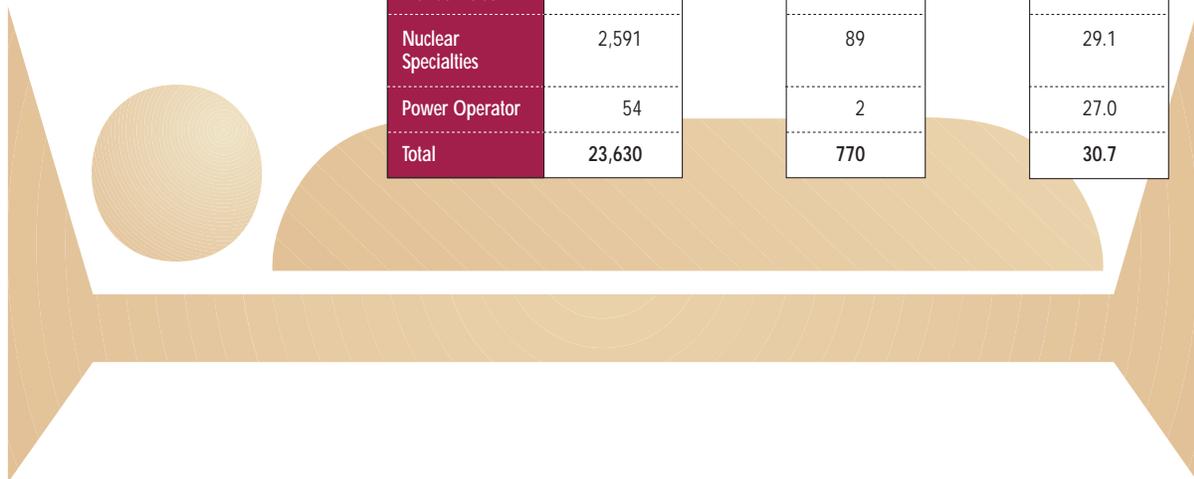
Figure 9. Number of Days Absent by Gender and Age

	Age Group	Total Number of Days Absent	Total Number of Health Events	Average Number of Days Absent
Men	16-29	882	39	22.6
	30-39	4,193	216	19.4
	40-49	6,383	276	23.1
	50-59	3,377	129	26.2
	60+	1,502	47	32.0
	Total	16,337	707	23.1
Women	16-29	4,852	126	38.5
	30-39	11,805	344	34.3
	40-49	5,433	233	23.3
	50-59	1,497	66	22.7
	60+	43	1	43.0
	Total	23,630	770	30.7

Figure 10. Number of Days Absent by Gender and Occupation

	Occupation	Total Number of Days Absent	Total Number of Health Events	Average Number of Days Absent
Men	Office Management and Administration	4,469	214	20.9
	Engineering, Scientific, and Health Care	3,536	139	25.4
	Technical Support	3,127	129	24.2
	Service	171	7	24.4
	Crafts and Manual Labor	2,951	125	23.6
	Nuclear Specialties	1,722	77	22.4
	Power Operator	361	16	22.6
	Total	16,337	707	23.1

	Occupation	Total Number of Days Absent	Total Number of Health Events	Average Number of Days Absent
Women	Office Management and Administration	12,370	414	29.9
	Engineering, Scientific, and Health Care	1,897	63	30.1
	Technical Support	5,422	157	34.5
	Service	310	8	38.8
	Crafts and Manual Labor	986	37	26.6
	Nuclear Specialties	2,591	89	29.1
	Power Operator	54	2	27.0
	Total	23,630	770	30.7



Diagnostic Categories

Epidemiologic surveillance monitors both occupational and nonoccupational illnesses and injuries among active workers. For many health conditions it is not possible to say with certainty what caused the health problem, so epidemiologic surveillance assesses the health of the work force by including both occupational injuries and illnesses and health problems that are not necessarily attributed to workplace exposures. Most of the diagnoses are reported by the workers when they visit their site's occupational medicine clinic for a return-to-work clearance following an absence. In contrast, health events are recorded on the OSHA 200 Log because they are occupationally related. We conduct separate analyses of the occupational injuries and illnesses recorded in the OSHA 200 Log because they have been designated as occupational, whether or not they involve an absence.

This report organizes diagnostic categories based on the type of disease or condition (e.g., cancer) or body system (e.g., lung/respiratory) affected. Categories can be broken down into specific health conditions. For example, rheumatism is one health condition under the diagnostic category of muscles and skeleton. Bronchitis is a condition in the lung/respiratory category. You can find specific health conditions in the Explanation of Diagnostic Categories on pages 33-37 of this report. A health event can involve more than one diagnosis, and epidemiologic surveillance includes all diagnoses reported. If a worker reported more than one health condition for a single absence and all of these health conditions fell into the same diagnostic category, all of them were counted.

As in 1994, lung/respiratory health conditions were one of the three most frequently occurring categories among both men and women. Injuries and conditions affecting the muscles and skeleton also remained prominent among men in 1995, and injuries and poisonings replaced unspecified symptoms as the third most commonly reported health event category. For women,

genitourinary problems and pregnancy/childbirth were the other events most frequently reported. In 1995, genitourinary problems replaced the category of unspecified symptoms. With the exception of lung/respiratory conditions, these diagnostic categories also tended to reflect the most calendar days of absence (figure 11). Some of the more common diagnoses within the frequently occurring categories for 1995 are shown in figure 12.

The most frequently reported health conditions varied with age and gender (figure 13 and appendix F). Conditions affecting the muscles and skeleton ranked among the top three categories for men aged 30 to 59. About 63% of these diagnoses involved back problems and another 23% were arthritis. Lung/respiratory and injury and poisoning were also among the top three diagnosis groups for men under age 50. Acute respiratory infections accounted for 21% of the lung/respiratory conditions. Sinusitis, pneumonia, flu, and bronchitis made up the remainder. Cancer and diseases of the heart and circulatory system were more prominent among men in older age groups. The heart/circulatory category ranked high among men 40 and older. Ischemic heart disease (restricted blood flow through an artery) accounted for 42% and hemorrhoids and varicose veins accounted for 20% of these diagnoses. Injury and poisoning was also a common category in men over age 60. Among men, frequently reported injuries were fractures (17%), sprains and strains (20%), and dislocations (9%).

Diagnoses associated with pregnancy/childbirth were the most common reasons for absence for 16 to 39 year old women (figure 13). Lung/respiratory diagnoses were among the top two conditions reported for women under 60 years of age. The types of respiratory conditions reported by women were similar to those reported by men. Conditions related to the muscles and skeleton were common in women between the ages of 40 and 59, with back problems, arthritis, and rheumatism comprising the majority of the diagnoses. Another

frequently reported category among women in the 40-59 age group was unspecified symptoms, such as chills, fever, headache, chest pain, and stomachache.

Lung/respiratory diagnoses were among the top three categories reported for men in all occupational groups. Diagnoses for injury and poisoning also occurred relatively frequently in this work force. Only 4 (1.6%) of the 244 diagnoses were related to poisoning; all were allergic reactions to medicine. Complications of medical care are also included in the injury and poisoning category; 47 such diagnoses were reported. Over half of these diagnoses involved a postoperative infection or bruising following a medical procedure. Injury and poisoning was among the three most common diagnostic categories for men in all occupational

groups except service workers (figure 14). The predominant type of injury was sprains and strains, followed by fractures, dislocations, and open wounds. Muscles and skeleton was a third category frequently reported by men in all occupational groups except service workers and power operators. Among women, lung/respiratory diagnoses were common in all occupational groups except service workers and power operators. The genitourinary diagnostic category was one of the most frequently seen categories among women in all occupational groups except crafts and manual labor and service. The heart/circulatory category was the most common category among women service workers, but only four events were noted for this category, three of which involved diagnosis of hypertension (high blood pressure) (appendix H).

Figure 11. Total Number of Health Conditions Reported and Total Number of Days Absent from Work by Gender and Diagnostic Category

Diagnostic Category	Men		Women	
	Total Number of Health Conditions Reported	Total Number of Days Absent	Total Number of Health Conditions Reported	Total Number of Days Absent
Benign Growths	9	245	58	2,294
Blood	0	0	3	38
Cancer	31	1,211	10	454
Digestive	110	2,338	100	2,141
Endocrine/Metabolic	18	513	22	541
Existing Birth Condition	3	110	3	188
Genitourinary	47	584	3 117	2 3,281
Heart/Circulatory	117	3 2,811	36	700
Infections/Parasites	36	887	46	621
Injury and Poisoning	3 150	2 2,898	94	2,114
Lung/Respiratory	2 159	1,730	2 169	1,876
Mental	12	213	22	568
Muscles and Skeleton	1 175	1 4,638	105	3 2,859
Nervous System	44	1,001	41	819
Pregnancy/Childbirth	NA	NA	1 186	1 9,414
Skin	7	148	7	77
Unspecified Symptoms	61	982	76	1,288

Figure 12. Health Conditions Reported Under Selected Diagnostic Categories by Gender

Men		Women	
Cancer <ul style="list-style-type: none"> • Bladder • Bone and Bone Marrow • Brain • Colon • Digestive • Esophagus • Larynx • Liver • Lung • Lymphoma • Pancreas • Prostate • Skin • Thyroid 	Lung/Respiratory <ul style="list-style-type: none"> • Asthma • Bronchitis • Deviated Septum • Flu • Pneumonia • Sinusitis • Tonsillitis • Upper Respiratory Infection 	Cancer <ul style="list-style-type: none"> • Breast • Cervix • Gallbladder • Hodgkin's Disease 	<ul style="list-style-type: none"> • Disorders of Bone and Cartilage • Joint Disorders • Low Back Pain • Pathological Fractures • Rheumatism
Injury and Poisoning <ul style="list-style-type: none"> • Bruises • Dislocations • Fractures • Late Effects of an Injury • Open Wounds • Sprains and Strains 	Muscles and Skeleton <ul style="list-style-type: none"> • Acquired Toe Deformities • Arthritis • Back Problems • Disorders of Bone and Cartilage • Bone Spurs • Disc Disorders • Joint Disorders • Low Back Pain • Rheumatism 	Lung/Respiratory <ul style="list-style-type: none"> • Asthma • Bronchitis • Deviated Septum • Flu • Pneumonia • Sinusitis • Tonsillitis • Upper Respiratory Infection 	Genitourinary <ul style="list-style-type: none"> • Bladder Infections • Disorders of the Breast (Non-cancerous) • Disorders of the Female Reproductive Organs • Endometriosis • Kidney Stones • Ovarian Cysts • Pelvic Inflammatory Disease
		Muscles and Skeleton <ul style="list-style-type: none"> • Arthritis • Back Problems • Bunions • Disc Problems 	

Figure 13. Three Diagnostic Categories Reported Most Often by Gender and Age

		16-29	30-39	40-49	50-59	60+
Men	Most Common Diagnostic Category	Lung/Respiratory	Muscles and Skeleton	Lung/Respiratory; Muscles and Skeleton	Heart/Circulatory	Heart/Circulatory
	Second Most Common Diagnostic Category	Injury and Poisoning	Injury and Poisoning	Injury and Poisoning	Muscles and Skeleton	Cancer; Injury and Poisoning
	Third Most Common Diagnostic Category	Infections/Parasites	Lung/Respiratory	Heart/Circulatory	Digestive	Digestive
Women	Most Common Diagnostic Category	Pregnancy/Childbirth	Pregnancy/Childbirth	Lung/Respiratory	Muscles and Skeleton	Genitourinary
	Second Most Common Diagnostic Category	Lung/Respiratory	Lung/Respiratory	Muscles and Skeleton	Lung/Respiratory	(2)
	Third Most Common Diagnostic Category	Digestive	Genitourinary	Unspecified Symptoms	Unspecified Symptoms	(2)

(1) This diagnostic category was reported the same number of times as the one above it.
 (2) No additional health conditions were reported.
 (3) More than two diagnostic categories tied.

Figure 14. Three Diagnostic Categories Reported Most Often by Gender and Occupation

		Office Management and Administration	Engineering, Scientific, and Health Care	Technical Support	Service
Men	Most Common Diagnostic Category	Muscles and Skeleton	Injury and Poisoning	Muscles and Skeleton	Lung/Respiratory
	Second Most Common Diagnostic Category	Injury and Poisoning	Lung/Respiratory	Lung/Respiratory	Genitourinary
	Third Most Common Diagnostic Category	Lung/Respiratory	Muscles and Skeleton	Injury and Poisoning	(3)
Women	Most Common Diagnostic Category	Pregnancy/Childbirth	Pregnancy/Childbirth	Pregnancy/Childbirth	Heart/Circulatory
	Second Most Common Diagnostic Category	Lung/Respiratory	Genitourinary	Lung/Respiratory	(3)
	Third Most Common Diagnostic Category	Genitourinary	Lung/Respiratory	Genitourinary	(3)

		Crafts and Manual Labor	Nuclear Specialties	Power Operator
Men	Most Common Diagnostic Category	Lung/Respiratory	Muscles and Skeleton	Lung/Respiratory
	Second Most Common Diagnostic Category	Muscles and Skeleton	Injury and Poisoning	Heart/Circulatory; Digestive
	Third Most Common Diagnostic Category	Injury and Poisoning	Lung/Respiratory; Digestive	Injury and Poisoning (1)
Women	Most Common Diagnostic Category	Lung/Respiratory	Muscles and Skeleton	Nervous System
	Second Most Common Diagnostic Category	Pregnancy/Childbirth	Lung/Respiratory	Genitourinary (1)
	Third Most Common Diagnostic Category	Unspecified Symptoms; Injury and Poisoning	Genitourinary; Pregnancy/Childbirth	(2)

(1) This diagnostic category was reported the same number of times as the one above it.

(2) No additional health conditions were reported.

(3) More than two diagnostic categories tied.

Rates of Disease Occurrence

Some occupational groups had only a small number of workers who reported very few health events in 1995 (appendix H). Because events among a small number of workers can vary widely just by chance, the seven occupational groups were combined into five larger groups. The five age groups were also combined into two age groups for the same reasons (figure 15). The age groups, less than 40 years and 40 years and older, were chosen because the rates of many illnesses begin to change more rapidly among persons over 40 years of age.

The likelihood of getting cancer increases with age, and cancer rates in most occupational groups were higher among older workers (figure 16). Although this report discusses rates of cancer diagnoses, in fact, one cancer diagnosis can be associated with several absences over a year. The rates are not comparable to incidence rates, which reflect the number of new cancer diagnoses in a population over a specified period of time (usually one year). Incidence rates count a cancer diagnosis only once, but a worker who is absent for a week on four different occasions during the same year could have four diagnoses recorded for epidemiologic surveillance. Cancer rates presented in this report are really absence rates related to cancer, and because a worker may experience many absences related to the same cancer diagnosis, the cancer rates in this report can appear substantially higher than the actual incidence of cancer.

The 41 cancer diagnoses reported during 1995 included 31 diagnoses among 20 men and 10 diagnoses among 10 women. In 1994, 13 men reported 15 cancer diagnoses and 12 women reported 14 cancer diagnoses. Two men and one woman who reported cancer in 1995 reported the same cancer in 1994. There were no cancer diagnoses in 1995 among workers under age 30 (appendix F). Although a rate of 10 events per 1,000 workers was noted for women under 40 in the nuclear specialties/power operators group, the rate represented only two reports of cancer in situ of the

cervix. These were localized cancers that had not invaded surrounding tissue. Among men, the cancer diagnoses included seven prostate, four esophagus, three lung, three skin, two colon, two pancreas, two brain and spinal cord, and one each for bladder, bone and bone marrow, digestive system, larynx,

A Word about Rates...

The previous section considered the **number** of health events among various groups, but comparing these numbers may be misleading. For example, figure 11 shows that during 1995 men reported 150 diagnoses involving injuries; women reported 94. You can honestly say that men reported over one and a half times as many injuries as women. Does this mean that men were at greater risk of injury in 1995? Comparing the number of injuries among men versus women will not answer this question. To answer the question, the number of men and women in the work force must be considered (figure 1). Since there are almost two and a half times as many men as women at SRS, it is reasonable to expect more injuries among men than women. A more accurate way to compare men and women is to calculate the injury rate for each group. The rates are calculated by dividing the number of injuries in a given group by the number of employees in the same group. This number is multiplied by 1,000 to give a rate per 1,000 workers. For example:

$$(150 \text{ injuries} \div \text{among } 10,739 \text{ men}) = .014 \times 1,000 = 14 \text{ injuries per } 1,000 \text{ men}$$

$$(94 \text{ injuries} \div \text{among } 4,380 \text{ women}) = 0.21 \times 1,000 = 21 \text{ injuries per } 1,000 \text{ women}$$

These rates account for differences in the number of men and women in the work force, and comparing them suggests that the rate of reported injuries among women is 50% higher than that of men. They are called crude rates because they do not account for possible differences between men and women with regard to age, occupation, and other factors that might affect the individual's risk of getting an injury. Not all age groups are equally susceptible to various diseases and injuries, so epidemiologists often take age into account when calculating rates. For example, figure 16 shows that lung/respiratory rates vary not only by occupation but also by both age and gender. Rates for this category are generally higher among workers aged 40 and above. Women's rates for lung/respiratory conditions are higher than those for men. Definitions of diagnostic rates and age-specific rates appear in the Glossary of this report.

liver, lymphoma, thyroid, and unspecified site. Women reported four breast cancers, four cervical cancers, one cancer of the gallbladder, and one Hodgkin's disease. We found no evidence of an excess of any one type of cancer or any occupational group at significantly increased risk for this disease.

Men in the technical support, service/crafts and manual labor, and nuclear specialties/power operators groups showed the highest rates of disease affecting the heart/circulatory system (figure 16, appendix H). Ninety-three of the 117 diagnoses for men occurred in workers aged 40 and older; 53 of the diagnoses involved hypertension (high blood pressure) or ischemic heart disease (restricted blood flow through an artery) (appendix F). Women reported 36 diagnoses for heart/circulatory disease and half of these were for women in the 40-49 age group. Fifteen of the 36 diagnoses involved hypertension or ischemic heart disease (appendix F). A rate of 63 events per 1,000 workers was noted for women aged 40 and over in the service/crafts and manual labor group. This rate was considerably higher than the rate we observed in any other age/gender group; however it reflected four diagnoses, three of which were for high blood pressure (figure 16; appendix H).

The lung/respiratory category contains very different kinds of diseases: acute infectious diseases such as colds, influenza, and pneumonia; allergies, sinusitis, and bronchitis; and chronic diseases like asthma and emphysema. Of the 329 diagnoses, 141 (43%) involved acute infections (82; 25%) or pneumonia and influenza (59; 18%) (appendix H). Women had higher rates of lung/respiratory disease than men, and older workers (both men and women) generally had higher rates than younger workers (less than 40 years of age). The service/crafts and manual labor group showed the highest rates of lung/respiratory diagnoses for both men and women (figure 16). Women in this occupational group aged 40 and over also had the highest heart disease rate of any group. Women in the service/craft and manual labor workers group reported 21

(12%) of the 169 lung/respiratory diagnoses. This was a rate of 75 per 1,000 among women under age 40 and 172 per 1,000 for women aged 40 and over in this group. The rates for lung/respiratory problems among men did not vary as greatly by occupation, although men in the service/craft and manual labor occupations had higher rates than men in any other occupational group (figure 16 and appendix H). For both men and women, the most frequent conditions reported were bronchitis, sinusitis, pneumonia, flu, and upper respiratory infections. Women among the craft and manual labor workers were 2.1 times more likely to report a lung/respiratory diagnosis than women in other occupational groups (appendix J). Although the number of diagnoses are small, the high rates of heart and respiratory problems among women in the service/crafts and manual labor group suggest that these workers might be a candidate group for interventions to screen for early cardiovascular disease and further evaluation of risk factors for respiratory problems (figure 16).

In the injury and poisoning category, only 4 of the 244 diagnoses involved poisoning, so this category really focuses on injuries. Injury rates did not change consistently with age (figure 16). The types of injuries reported were the same for both men and women. Three types of injuries accounted for the majority of the diagnoses: sprains and strains (25%), complications of medical care (19%), and fractures (16%). The higher rates among women in the service/crafts and manual labor group were based on nine diagnoses, of which four were fractures (appendix H). There were 13 fractures among all women in 1995.

The nuclear specialties workers as a whole were 1.8 times more likely to report an injury and poisoning diagnosis than were other occupational groups. They were also 5.2 times more likely to report a lower limb fracture and 2.9 times more likely to report a back sprain or strain. Technical support workers were 3.4 times more likely to report a dislocation than were other occupational groups (appendix J). Six (38%) of the 16 dislocations reported were among technical support workers, who made up 16% of the work force.

Figure 15. Rates per 1,000 for All Diagnostic Categories Combined by Gender, Age, and Occupation

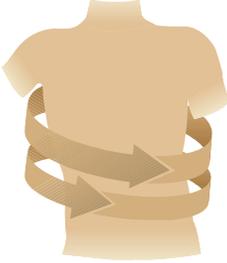
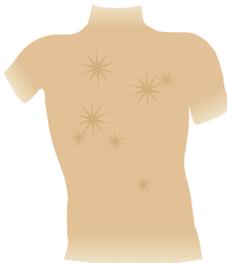
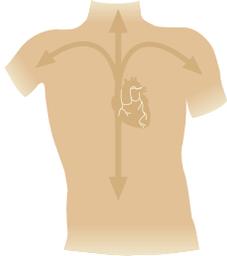
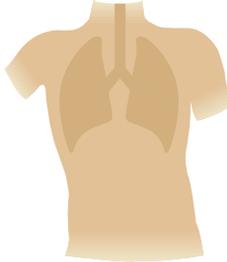
All Diagnostic Categories	Occupational Group	Age	Rate per 1,000	
			Men	Women
				
Office Management and Administration	<40	49	216	
	40+	97	219	
Engineering, Scientific, and Health Care	<40	40	169	
	40+	120	296	
Technical Support	<40	98	297	
	40+	118	316	
Service/Crafts and Manual Labor	<40	79	358	
	40+	157	500	
Nuclear Specialties/Power Operator	<40	82	357	
	40+	163	333	

Figure 16. Rates per 1,000 for Selected Diagnostic Categories by Gender, Age, and Occupation

Diagnostic Category	Occupational Group	Age	Rate per 1,000	
			Men	Women
				
Cancer	Office Management and Administration	<40	1	1
		40+	5	2
Engineering, Scientific, and Health Care	<40	1	0	
	40+	9	10	
Technical Support	<40	1	0	
	40+	0	10	
Service/Crafts and Manual Labor	<40	0	0	
	40+	7	0	
Nuclear Specialties/Power Operator	<40	0	10	
	40+	0	0	

(Continued)

Figure 16. Rates per 1,000 for Selected Diagnostic Categories by Gender, Age, and Occupation

Diagnostic Category	Occupational Group	Age	Rate per 1,000	
			Men	Women
 <p>Heart/Circulatory</p>	Office Management and Administration	<40	4	6
		40+	14	12
	Engineering, Scientific, and Health Care	<40	0	0
		40+	21	10
	Technical Support	<40	10	2
		40+	16	13
	Service/Crafts and Manual Labor	<40	5	0
		40+	19	63
	Nuclear Specialties/Power Operator	<40	6	5
		40+	22	18
 <p>Lung/Respiratory</p>	Office Management and Administration	<40	6	27
		40+	15	41
	Engineering, Scientific, and Health Care	<40	12	20
		40+	14	41
	Technical Support	<40	17	38
		40+	18	53
	Service/Crafts and Manual Labor	<40	21	75
		40+	30	172
	Nuclear Specialties/Power Operator	<40	9	51
		40+	27	48
 <p>Injury and Poisoning</p>	Office Management and Administration	<40	9	21
		40+	12	20
	Engineering, Scientific, and Health Care	<40	4	10
		40+	25	41
	Technical Support	<40	21	21
		40+	12	16
	Service/Crafts and Manual Labor	<40	10	52
		40+	15	31
	Nuclear Specialties/Power Operator	<40	22	15
		40+	20	30

Occupational Sentinel Health Events

An occupational sentinel health event (SHEO) is a disease, disability, or injury whose occurrence may serve as a warning signal that workplace conditions may need to be changed or additional attention may be required to reduce its occurrence. Injuries and poisonings resulting from accidents in the workplace and 64 disease conditions have been identified as SHEOs from studies of workplace exposures and disease in many different industries (appendix K). Although SHEOs may indicate an occupational exposure, many SHEOs can also result from nonoccupational exposures or may reflect the combined effects of both occupational and nonoccupational exposures. Because the occupational status of many SHEOs is uncertain, we assess them in the following three categories (appendix K has additional information about what diseases and conditions are included in each SHEO).

Definitely SHEOs: Consists of diseases that are unlikely to occur in the absence of an occupational exposure. Asbestosis, a lung condition resulting from exposure to asbestos, is an example of this group.

Possibly SHEOs: Includes such conditions as lung cancer and carpal tunnel syndrome, which may or may not be related to occupation.

Additional information about the person's hobbies, personal habits, and work history are required to establish a link between disease and occupation. For example, lung cancer can result from asbestos exposure as well as smoking. Carpal tunnel syndrome may result from a job requiring typing or from a hobby such as playing piano.

Accidents: Includes all types of on-the-job accidents and resulting health conditions. Accidents specifically identified as occurring in the home, on the farm, or during recreation are excluded.

We identified 105 of the 1,477 health events (7%) reported in 1995 as SHEOs, and 76 of the SHEOs involved accidents (figures 17 and 18). Only two of the accidents were specifically indicated as occurring in the workplace. Almost half (42%) of the accidents occurred in workers in the 30-39 age group. Of the 29 SHEOs that did not result from a specific accident, 19 involved carpal tunnel syndrome. SRS workers missed a total of 287 days due to this diagnosis. Thirteen (68%) of the carpal tunnel syndrome diagnoses were reported by workers in the office management and administration occupation group. Twelve of the diagnoses (63%) were reported by women, and 17 (89%) of the diagnoses of carpal tunnel syndrome were reported by workers aged 30 to 49.

Figure 17. Characteristics of Health Events for SHEOs and Days Absent by Gender

		Total Number of Workers	Total Number of Health Events	Total Number of Health Conditions	Total Number of Days Absent
Men	Definite	1	1	1	18
	Possible	10	12	12	626
	Accident	44	46	99	1,524
	Total	55	59	112	2,168
Women	Definite	1	1	1	23
	Possible	15	17	17	397
	Accident	27	28	59	596
	Total	43	46	77	1,016

Figure 18. Number of Accidents by Gender, Age, and Occupation*

Occupation	Age Group - Men					Age Group - Women				Total
	16-29	30-39	40-49	50-59	60+	16-29	30-39	40-49	50-59	
Office Management and Administration		6	3	1	2	4	8	5	1	30
Engineering, Scientific, and Health Care	1	1	2	5			1	1		11
Technical Support	1	3	5				2	1		12
Service			1							1
Crafts and Manual Labor		2	2				1			5
Nuclear Specialties	1	6	3				2	3		15
Power Operator			2							2
Total	3	18	18	6	2	4	14	10	1	76

*Blank space is equal to zero.

Disability Among Active Workers

During 1995, 6 women and 24 men were placed on long-term disability (figure 19). The reasons for these disabilities included six cancers, six back disorders, four disorders of the nervous system, three heart disease, two infectious disease, two joint disorders, two eye disorders, and one each for various

other disorders. While workers aged 50 to 59 made up 12% of the work force, they accounted for 33% of the disabled workers. The disabled workers were excluded from other analyses in this report because they were not actively working. SRS did not report disability data in 1994.

Figure 19. Workers Placed on Long-Term Disability by Gender, Age, and Occupation*

Occupation	Age Group - Men				Age Group - Women	
	30-39	40-49	50-59	60+	30-39	40-49
Office Management and Administration	1	3	3	2		1
Engineering, Scientific, and Health Care			2			
Technical Support	1	1	2		2	1
Crafts and Manual Labor		3	2			
Nuclear Specialties	1	1			2	
Power Operator		1	1			
Total	3	9	10	2	4	2

*Blank space is equal to zero.

Deaths Among Active Workers

During 1995, 12 deaths occurred among active workers; 11 men and 1 woman. As in 1994, the predominant causes of death were cancer and heart disease. Three deaths were due to heart/circulatory disease, three to cancer (one lung cancer, one pancreatic cancer, and one skin cancer), two to

head injuries, and one each to a digestive disorder, infectious disease, respiratory arrest, and unknown cause. Six of the deaths among men and the one death among women occurred in workers in the 40-49 age group. Additional characteristics of the workers who died are given in figure 20.

Figure 20. Active Workers Who Died by Gender, Age, and Occupation*

Occupation	Age Group - Men				Age Group - Women
	16-29	30-39	40-49	60+	40-49
Office Management and Administration		1	2	1	
Engineering, Scientific, and Health Care	1		3		1
Technical Support		1	1		
Crafts and Manual Labor				1	
Total	1	2	6	2	1

*Blank space is equal to zero.

OSHA-Recordable Events

The Occupational Safety and Health Administration (OSHA) requires employers to maintain a record of occupational injuries and illnesses occurring among employees and to make that information available to OSHA on request. Employers maintain the information from these OSHA-recordable events in the OSHA 200 Log. OSHA-recordable events differ from health events captured through return-to-work clearances in at least two important respects: 1) they do not necessarily result in days lost from work, and 2) they are usually accompanied by a specific determination that they are work-related.

This is the first year SRS has reported OSHA data to the Epidemiologic Surveillance Program. Men reported two and a half times as many OSHA

events as women in 1995, but the percentage of men and women with an OSHA event was the same and was relatively low (1%). The occurrence of OSHA-recordable injuries did not appear to be related to age (figure 21). The average number of workdays lost or with restricted activity was similar for women (5.2 days) and men (4.2 days) (figure 24).

With the exception of women power operators, no more than 2% of the workers in any occupational group had an OSHA event. The higher percentage among women power operators represented only one event among the 27 women in this occupational group in 1995. For men and women combined, the nuclear specialties (1.7%) and power operator (1.6%) groups had the highest percentages of workers with an OSHA event (figures

22 and 23). Men and women in all occupational groups had approximately the same percentage of workers with at least one event. The average number of days lost or restricted was quite low for most occupational groups. Power operators had the highest average number of workdays lost or with restricted activity (11 days). This number represents

three OSHA events, but only one involved days lost or restricted (figure 25). Appendixes L-N contain more detailed data about the number of OSHA events and days of work lost or with restricted activity for men and women in different age and occupational groups.

Figure 21. Percentage of Workers with at Least One OSHA Event by Gender and Age*

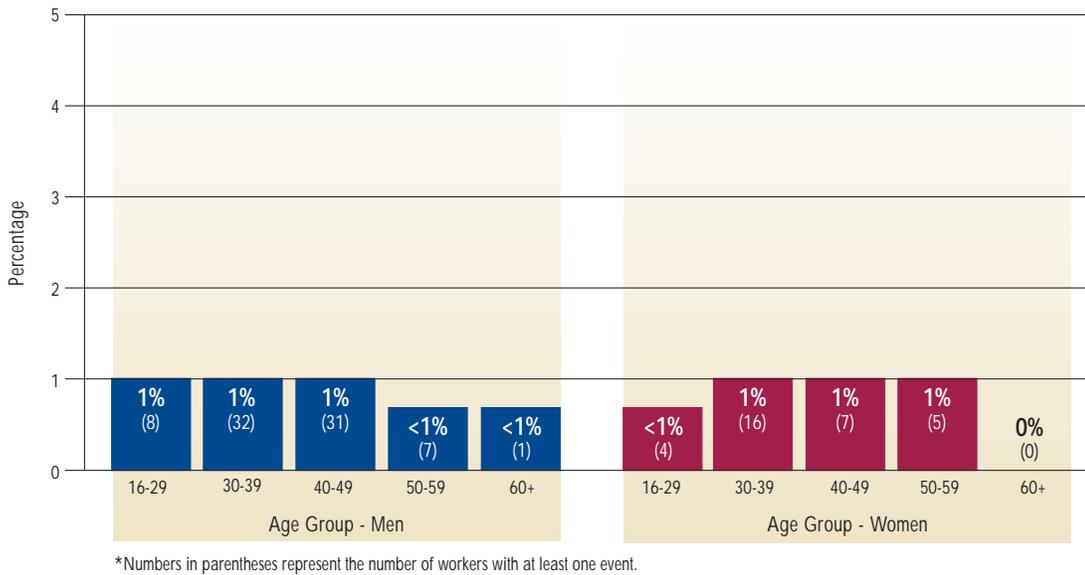


Figure 22. Percentage of Men with at Least One OSHA Event by Occupation*

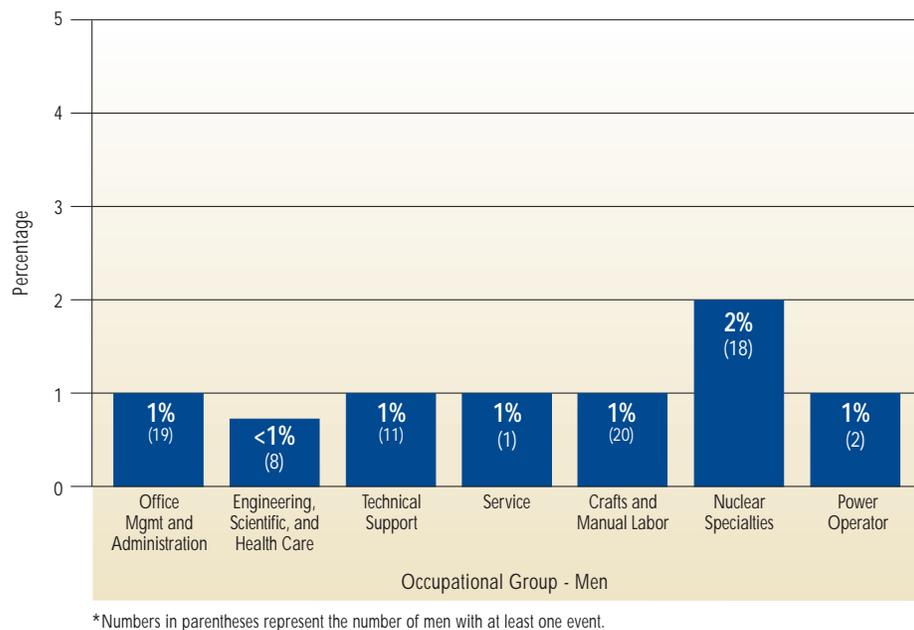
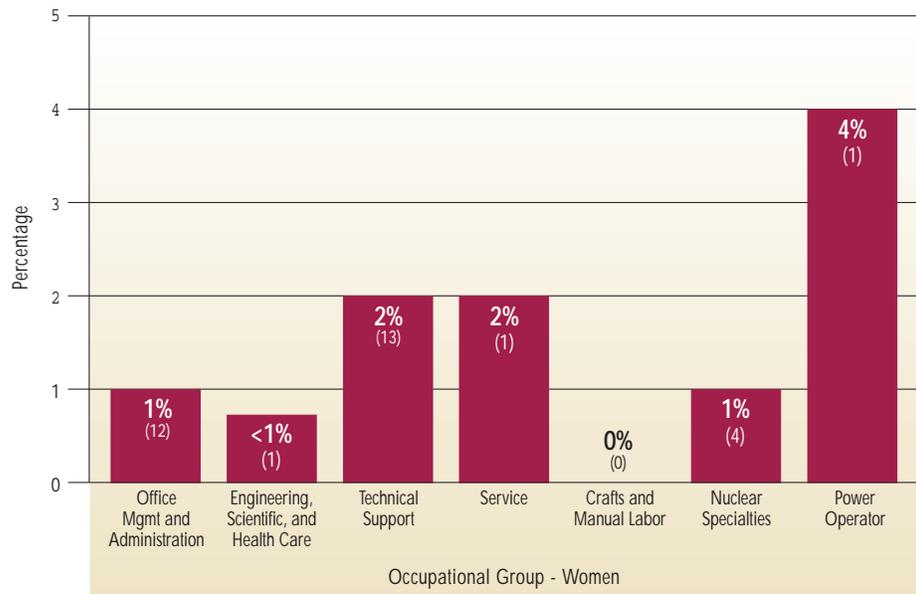


Figure 23. Percentage of Women with at Least One OSHA Event by Occupation*



*Numbers in parentheses represent the number of women with at least one event.

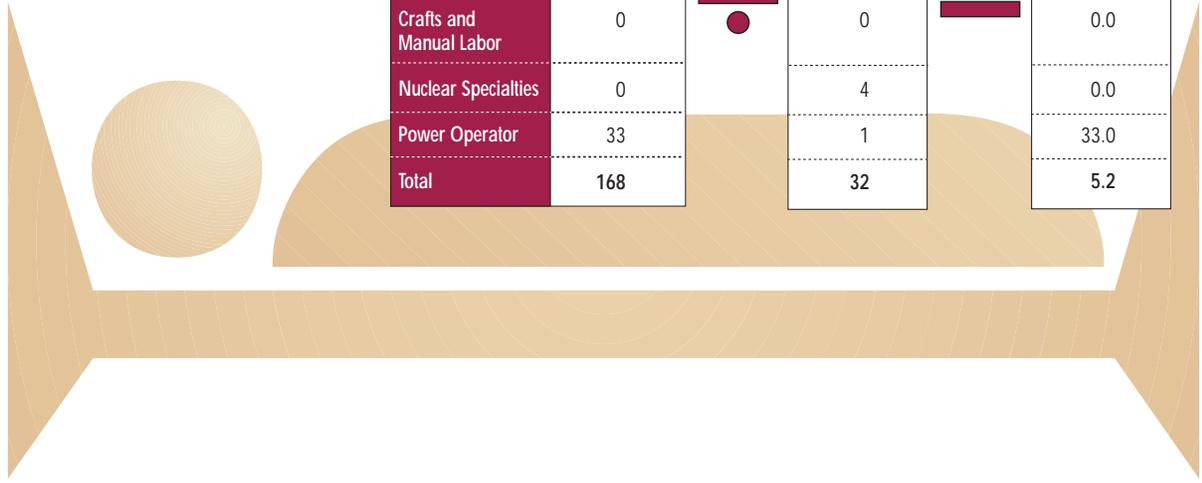
Figure 24. Lost and Restricted Workdays by Gender and Age

	Age Group	Total Number of Days Lost/Restricted	Total Number of OSHA Events	Average Number of Days Lost/Restricted
Men	16-29	13	8	1.6
	30-39	115	32	3.6
	40-49	146	32	4.6
	50-59	68	8	8.5
	60+	0	1	0.0
	Total		342	81
Women	16-29	6	4	1.5
	30-39	142	16	8.9
	40-49	11	7	1.6
	50-59	9	5	1.8
	60+	0	0	0.0
	Total		168	32

Figure 25. Lost and Restricted Workdays by Gender and Occupation

	Occupational Group	Total Number of Days Lost/Restricted	Total Number of OSHA Events	Average Number of Days Lost/Restricted
Men	Office Management and Administration	18	19	0.9
	Engineering, Scientific, and Health Care	60	9	6.7
	Technical Support	60	11	5.5
	Service	5	1	5.0
	Crafts and Manual Labor	78	21	3.7
	Nuclear Specialties	121	18	6.7
	Power Operator	0	2	0.0
	Total	342	81	4.2

	Occupational Group	Total Number of Days Lost/Restricted	Total Number of OSHA Events	Average Number of Days Lost/Restricted
Women	Office Management and Administration	24	12	2.0
	Engineering, Scientific, and Health Care	0	1	0.0
	Technical Support	111	13	8.5
	Service	0	1	0.0
	Crafts and Manual Labor	0	0	0.0
	Nuclear Specialties	0	4	0.0
	Power Operator	33	1	33.0
	Total	168	32	5.2



Diagnostic and Accident Categories for OSHA-Recordable Events

Over 85% of the health conditions reported were for injury and poisoning. Sprains and strains were the most common type of OSHA-recordable injury (35%) among men and women. Two other types of injuries reported relatively frequently by men were open wounds (19%) and burns (17%) (figures 26-29). Among the 13 burns reported, the largest number (6) were of the arm followed by 3 burns of the head and neck. All of the burns were second degree, which indicates blisters and loss of the outer layer of skin. Unspecified effects of external causes accounted for a high percentage (26%) of OSHA-recordable injuries among women. The high

percentage represents five cases of heat exhaustion reported during the summer months.

Sixteen OSHA events were not the result of a specific accident. Most of the events not attributed to a particular accident were related to the muscles and skeleton, with four diagnoses of back problems and five of rheumatism.

The type of accident was not reported for 91 of the 97 OSHA events that resulted from an accident. Among the six OSHA-recordable events that included a description of the accident, the types of accidents reported most often were accidental poisoning by other substances (inflammation of the skin from

Figure 26. Health Conditions by Gender and Diagnostic Category*

Diagnostic Category	Total Number of Health Conditions Reported	
	Men	Women
Lung/Respiratory		1
Skin	3	1
Muscles and Skeleton	8	2
Unspecified Symptoms	2	1
Injury and Poisoning	77	27
• Neck and Trunk Fractures	1	
• Upper Limb Fractures	5	1
• Lower Limb Fractures	2	
• Dislocations	3	
• Back Sprains and Strains	14	5
• Other Sprains and Strains	10	7
• Open Wounds - Head, Neck, Trunk	7	
• Open Wounds - Upper Limb	7	2
• Open Wounds - Lower Limb	1	
• Superficial Injuries	3	2
• Bruises	5	
• Foreign Bodies Entering Orifice	1	1
• Burns	13	
• Injury to Nerves and Spinal Cord	1	
• Unspecified Injuries	2	1
• Adverse Reaction to Nonmedical Substances		1
• Adverse Reaction to External Causes	2	7

*Blank space is equal to zero.

contact with a plant), adverse reaction to medication (tetanus vaccine), and accidents due to natural and environmental factors (three insect bites and one spider bite) (figures 27 and 28, appendix U). The type of accident did not appear systematically

related to age (figure 30) or occupational category (figure 32), but the small number of events that included information on the type of accident really do not provide sufficient information on which to draw conclusions.

Figure 27. Types of Accidents and the Number of Lost or Restricted Workdays by Gender*

Accident Category	Men			Women		
	Number of Accidents	Number of Days Restricted	Number of Days Lost	Number of Accidents	Number of Days Restricted	Number of Days Lost
Accidental Poisoning by Other Substances	1					
Natural/Environmental Factors	1			3		
Adverse Reaction to Medication				1		1

*Blank space is equal to zero.

Figure 28. Injuries Associated with Each Type of Accident by Gender*

Type of Injury	Type of Accident - Men	Type of Accident - Women	
	Natural/Environmental Factors	Natural/Environmental Factors	Adverse Reaction to Medication
Superficial Injury	1	2	
Adverse Reaction to Nonmedical Substances		1	
Adverse Reaction to External Causes			1

*Blank space is equal to zero.

Figure 29. Three Diagnostic Categories Reported Most Often by Gender and Age

		16-29	30-39	40-49	50-59	60+
Men	Most Common Diagnostic Category	Sprains and Strains	Sprains and Strains	Sprains and Strains	Sprains and Strains; Open Wounds	Sprains and Strains
	Second Most Common Diagnostic Category	Open Wounds (1)	Open Wounds	Burns	Superficial Injuries (1)	(2)
	Third Most Common Diagnostic Category	Bruises (1)	Burns	Muscles and Skeleton	Unspecified Injuries (1)	(2)
Women	Most Common Diagnostic Category	Sprains and Strains; Adverse Reaction to External Causes	Sprains and Strains	Sprains and Strains	Sprains and Strains	(2)
	Second Most Common Diagnostic Category	Skin (1)	Adverse Reaction to External Causes	(3)	Open Wounds; Superficial Injuries	(2)
	Third Most Common Diagnostic Category	Muscles and Skeleton (1)	(3)	(2)	Adverse Reaction to External Causes (1)	(2)

- (1) This diagnostic category was reported the same number of times as the one above it.
- (2) No additional health conditions were reported.
- (3) More than two diagnostic categories tied.

Figure 30. Three Accident Categories Reported Most Often by Gender and Age¹

		16-29	30-39	40-49	50-59	60+
Men	Most Common Accident Category	(2)	(2)	Accidental Poisoning by Other Substances	Natural/Environmental Factors	(2)
	Second Most Common Accident Category	(2)	(2)	(2)	(2)	(2)
	Third Most Common Accident Category	(2)	(2)	(2)	(2)	(2)
Women	Most Common Accident Category	(2)	Natural/Environmental Factors	Adverse Reaction to Medication	Natural/Environmental Factors	(2)
	Second Most Common Accident Category	(2)	(2)	(2)	(2)	(2)
	Third Most Common Accident Category	(2)	(2)	(2)	(2)	(2)

(1) Type of accident was not reported for 68 OSHA events among men and 23 OSHA events among women.
 (2) No additional accident categories were reported.

Figure 31. Three Diagnostic Categories Reported Most Often by Gender and Occupation

		Office Management and Administration	Engineering, Scientific, and Health Care	Technical Support	Service
Men	Most Common Diagnostic Category	Sprains and Strains	Sprains and Strains	Open Wounds	Sprains and Strains
	Second Most Common Diagnostic Category	Burns	Superficial Injuries (1)	Sprains and Strains; Burns	(2)
	Third Most Common Diagnostic Category	Open Wounds	Unspecified Injuries (1)	Muscles and Skeleton (1)	(2)
Women	Most Common Diagnostic Category	Sprains and Strains	Superficial Injuries	Sprains and Strains	Adverse Reaction to External Causes
	Second Most Common Diagnostic Category	Muscles and Skeleton	(3)	Adverse Reaction to External Causes	(2)
	Third Most Common Diagnostic Category	(3)	(3)	(3)	(2)

		Crafts and Manual Labor	Nuclear Specialties	Power Operator
Men	Most Common Diagnostic Category	Sprains and Strains	Sprains and Strains	Burns
	Second Most Common Diagnostic Category	Muscles and Skeleton	Fractures; Open Wounds	(2)
	Third Most Common Diagnostic Category	(2)	Bruises (1)	(2)
Women	Most Common Diagnostic Category	(2)	Sprains and Strains	Sprains and Strains
	Second Most Common Diagnostic Category	(2)	Adverse Reaction to External Causes (1)	(2)
	Third Most Common Diagnostic Category	(2)	(2)	(2)

(1) This diagnostic category was reported the same number of times as the one above it.
 (2) No additional health conditions were reported.
 (3) More than two diagnostic categories tied.

Figure 32. Three Accident Categories Reported Most Often by Gender and Occupation¹

		Office Management and Administration	Engineering, Scientific, and Health Care	Technical Support	Service
Men	Most Common Accident Category	Accidental Poisoning by Other Substances	Natural/Environmental Factors	(2)	(2)
	Second Most Common Accident Category	(2)	(2)	(2)	(2)
	Third Most Common Accident Category	(2)	(2)	(2)	(2)
Women	Most Common Accident Category	Natural/Environmental Factors	Natural/Environmental Factors	(2)	(2)
	Second Most Common Accident Category	Adverse Reaction to Medication	(2)	(2)	(2)
	Third Most Common Accident Category	(2)	(2)	(2)	(2)
		Crafts and Manual Labor	Nuclear Specialties	Power Operator	
Men	Most Common Accident Category	(2)	(2)	(2)	
	Second Most Common Accident Category	(2)	(2)	(2)	
	Third Most Common Accident Category	(2)	(2)	(2)	
Women	Most Common Accident Category	(2)	(2)	(2)	
	Second Most Common Accident Category	(2)	(2)	(2)	
	Third Most Common Accident Category	(2)	(2)	(2)	

(1) Type of accident was not reported for 68 OSHA events among men and 23 OSHA events among women.
 (2) No additional accident categories were reported.

Rates of OSHA-Recordable Events

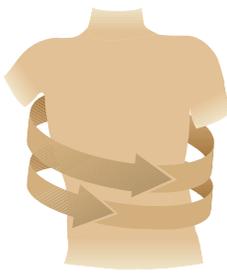
Among men, workers in the nuclear specialties/power operators and service/crafts and manual labor groups had the highest rates for all occupational health conditions combined. Among women, technical support workers and workers in the nuclear specialties/power operator group had the highest rates overall. Most of the OSHA health conditions involved occupational injury and poisoning. When the category of injury and

poisoning was considered separately, the nuclear specialties/power operators group had the highest rate for both men and women workers. Occupational injuries were responsible for a relatively small number of restricted and lost workdays, considering the size of the work force. Nuclear specialties workers accounted for 8.5% of the work force but reported 19.5% of the OSHA-recordable events. They were responsible for 30.1%

of the restricted workdays but only 17.6% of the lost workdays. The technical support group comprised 15.6% of the work force and reported 30.1% of the days restricted and 36.8% of the days lost (appendix N). Nuclear specialties workers were at a 5.5 times higher risk than other workers for sprains and strains other than back strains, but the actual number of sprains and strains reported by this group was small (five strains, appendix W). Power operators

showed a high risk for burns compared with other occupational groups (over 16 times higher than for other workers), but the high relative risk is based on only two second-degree burns reported among 182 workers categorized as power operators (appendix W).

Figure 33. Rates per 1,000 for all Diagnostic Categories Combined by Gender, Age, and Occupation



All Diagnostic Categories	Occupational Group	Age	Rate per 1,000	
			Men	Women
Office Management and Administration		<40	6	3
		40+	5	6
Engineering, Scientific, and Health Care		<40	2	3
		40+	5	0
Technical Support		<40	7	21
		40+	9	10
Service/Crafts and Manual Labor		<40	13	7
		40+	20	0
Nuclear Specialties/Power Operator		<40	23	15
		40+	15	12

Figure 34. Rates per 1,000 for Injury and Poisoning by Gender, Age, and Occupation



Diagnostic Category	Occupational Group	Age	Rate per 1,000	
			Men	Women
Injury and Poisoning	Office Management and Administration	<40	5	3
		40+	4	6
Engineering, Scientific, and Health Care		<40	2	3
		40+	5	0
Technical Support		<40	6	15
		40+	8	10
Service/Crafts and Manual Labor		<40	12	7
		40+	15	0
Nuclear Specialties/Power Operator		<40	22	15
		40+	12	12

Glossary

Adjustment: A mathematical procedure for rates in which the effects of differences of a characteristic (such as age or gender) between groups have been removed. The purpose of adjustment is to allow comparisons between two or more groups with the effect of the differences for the characteristic removed.

Age-Adjusted Rate: A rate that has been mathematically adjusted to account for the effects of differences in the age composition between groups. This allows one rate per group to be compared.

Age-Specific Rate: A rate that is calculated for a group that is a specific age (e.g., 16 to 29 years old). Only people in the specific age group are included in the calculation of the rate. The purpose of calculating age-specific rates is to identify differences in the rate that occur as the age changes. Any differences that are related to age can be seen by comparing age-specific rates for the different age groups.

Confidence Interval: A mathematical procedure used to determine in what range the true value of an event is likely to be. The width of the confidence interval (i.e., how wide the range is) is affected by the size of the group being studied and how often the event whose true value is sought occurs. Generally, as the size of the group or the frequency of the event increases, the width of the confidence interval decreases. The level of confidence, for example a 95% confidence level, indicates the percentage (e.g., 95%) of time that the true value is expected to fall within the confidence interval if the mathematical procedure is repeated 100 times.

Demographics: Characteristics of human populations related to their size, density, distribution, and health.

Diagnosis (diagnoses): Identification of a disease or health condition from its signs and symptoms.

Diagnosis Rate: The number of occurrences of a given disease or health condition observed among DOE workers during a given time period per 1,000 DOE workers at risk of getting that disease during the time period. It is calculated as follows (using 1995 as the time period):

$$\text{Diagnosis rate for a disease during 1995 (per 1,000 DOE workers)} = \frac{\text{Number of occurrences of the disease reported during 1995}}{\text{Number of DOE workers at risk for the disease during 1995}} \times 1,000$$

Diagnostic Category: A particular type of disease, a group of related health conditions, or diseases that all affect the same organ system. Cancer is an example of a diagnostic category that contains a particular type of disease, and pregnancy/childbirth is an example of one that contains a group of related health conditions. Lung/respiratory is an example of a diagnostic category that contains diseases that all affect the same organ system.

Epidemiologic Surveillance: The ongoing evaluation of the health of a human population which is based on the collection and interpretation of demographic and health information for that population.

Epidemiology: The study of the occurrence and distribution of diseases and health conditions in human populations.

Health Condition: A specific disease or medical condition. Health conditions are grouped together to form diagnostic categories. Tuberculosis is a specific disease that is part of the diagnostic category of infections/parasites. A fractured arm is a specific health condition included in the diagnostic category of injury and poisoning.

Health Event: An absence from work that lasted at least five consecutive workdays.

ICD-9-CM Code: An abbreviation for the *International Classification of Diseases, Ninth Revision, Clinical Modification*. It is internationally accepted as a standardized system for the classification of disease and health data collected from medical records and is useful to describe the disease and health characteristics of a population.

OSHA: An acronym for the Occupational Safety and Health Administration.

OSHA Event: An abbreviation used throughout this report for an OSHA-recordable event.

OSHA-Recordable Event: An accident that occurs on the job and involves fatalities (regardless of time between injury and death), time lost from work, transfer of employment, medical treatment other than first aid, loss of consciousness, or restriction of work or motion. Also included is any diagnosed occupational health event reported to the employer that is neither fatal nor results in workdays lost. By law, these events are recordable in the OSHA 200 Log.

Person-Year: A unit of measurement combining the number of people being studied with the time that each was observed equivalent to one person followed for one year. For example, 5 persons followed for one year contribute five person-years, as do 10 people each followed for half a year. In the epidemiologic surveillance reports, rates are often expressed as the number of events per 1,000 person-years.

Relative Risk: The rate of occurrence of a disease or health condition in one group compared to the rate of occurrence of that same disease or health condition in another group.

Explanation of Diagnostic Categories

Throughout this report, health conditions have been grouped into a number of diagnostic categories which come from the *International Classification of Diseases (ICD-9-CM)*. For the text of this report the categories are abbreviated to make the report easier to read. In the appendixes a different set of abbreviations was used for the categories. These names are the same as the ones

used in previous annual reports. The table that begins on the next page lists the categories in numeric order according to ICD-9-CM and gives examples of common diseases included in each category. The last column of the table below links the category names in the reports and the appendixes to the table that begins on the next page.

Diagnostic Categories Used in This Report	Diagnostic Categories Used in the Appendix and Previous Annual Reports	ICD-9-CM Codes
Benign Growths	Benign and Other Neoplasms	210-229,235-239
Blood	Blood and Blood Forming Organs	280-289
Cancer	Malignant Neoplasms	140-208,230-234
Digestive	Digestive System	520-579
Endocrine/Metabolic	Endocrine and Metabolic Diseases	240-279
Existing Birth Condition	Congenital Anomalies	740-759
Genitourinary	Genitourinary System	580-629
Heart/Circulatory	Circulatory System	390-459
Infections/Parasites	Infectious and Parasitic Diseases	001-139
Injury and Poisoning	Injury and Poisoning	800-999
Lung/Respiratory	Respiratory System	460-519
Mental	Mental Disorders	290-319
Muscles and Skeleton	Musculoskeletal System	710-739
Nervous System	Nervous System and Sense Organs	320-389
Pregnancy/Childbirth	Pregnancy and Childbirth	630-676
Skin	Skin and Subcutaneous Tissue	680-709
Unspecified Symptoms	Symptoms, Signs and Ill-Defined Conditions	780-799

Categories and Subcategories of Diagnoses	ICD-9-CM Codes	Diseases
All conditions	001-V82	All reported health events
Infectious and parasitic diseases	001-139	Diseases caused by bacteria, viruses, and parasites
• Intestinal infections	001-009	Infections of the bowel or gut
• Tuberculosis	010-018	TB in the lungs and other organs
• Zoonotic bacterial diseases	020-027	Bacterial diseases that animals transmit to humans
• Other bacterial diseases	030-041	Whooping cough, diphtheria, strep throat, and gangrene
• Human Immunodeficiency Virus (HIV) infection	042	AIDS
• Poliomyelitis and other nonarthropod diseases of central nervous system	045-049	Viral meningitis (swelling of the layers covering the brain and spinal cord); viral encephalitis (swelling of the brain); and polio
• Viral diseases accompanied by exanthem	050-057	Diseases accompanied by rashes or blisters like chickenpox, measles, shingles, and herpes
• Arthropod-borne viral diseases	060-066	Encephalitis (swelling of the brain) caused by bites from virus-carrying ticks or mosquitoes
• Other diseases caused by viruses and chlamydiae	070-079	Viral hepatitis, mumps, rabies, and mononucleosis
• Rickettsioses and other arthropod-borne diseases	080-088	Rocky Mountain spotted fever, malaria, and lyme disease
• Other spirochetal diseases	100-104	Trench mouth and Weil's disease (jaundice caused by coil-shaped bacteria)
• Mycoses	110-118	Athlete's foot; fungal infections of fingernails and toenails; and thrush
• Helminthiasis	120-129	Pinworms, tapeworms, roundworms, whipworms
• Other infectious and parasitic diseases	130-136	Lice, chiggers, scabies, and mites
• Late effects of infectious or parasitic diseases	137-139	Side effects of TB, chickenpox, or polio even though the disease is no longer active
Malignant neoplasms	140-208, 230-234	All cancers, regardless of the part of the body affected
• Lip, oral cavity, and pharynx	140-149	Lip, mouth, throat, and tongue
• Digestive organs and peritoneum	150-159	Cancers of the stomach, esophagus (tube that transports food to the stomach), intestines, colon, rectum, anus, liver, pancreas, and gallbladder
• Respiratory system and intrathoracic organs	160-165	Sinuses, throat, voice box, lungs, and heart
• Bone, connective tissue, and skin	170-173	Bone, muscle, ligament, tendon, blood vessels, fat, and skin
• Genitourinary organs	179-189	Cervix, uterus, prostate, kidney, and bladder
• Other and unspecified sites	190-199	Eye, brain, and thyroid
• Lymphatic and hematopoietic tissue	200-208	Leukemia, lymphoma, Hodgkin's disease, multiple myeloma, lymphosarcoma, and reticulum cell sarcoma
• Carcinoma in situ	230-234	A cancer that is confined to the site of origin (has not spread to neighboring tissue)
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature	210-229, 235-239	Tumors that are not cancerous or do not exhibit cancerous behavior, regardless of the part of the body affected
Endocrine, nutritional, and metabolic diseases and disorders of the immune system	240-279	Diseases affecting the hormone secreting glands and organs. Overactive thyroid; underactive thyroid; vitamin deficiency; diabetes; gout; and problems affecting the antibody producing system
Disorders of the blood and blood forming organs	280-289	Anemia and hemophilia (excludes leukemia)
Mental disorders	290-319	Psychiatric diagnoses - Nonpsychotic disorders: depression; anxiety, fear, and stress disorders; alcoholism; drug dependence; and eating disorders, such as anorexia; Psychotic disorders: dementia, schizophrenia, and manic depression
Diseases of the nervous system and sense organs	320-389	Huntington's chorea; Alzheimer's and Parkinson's disease; epilepsy; multiple sclerosis; migraine; diseases of the eye, such as cataract and glaucoma
• Inflammatory diseases of the central nervous system	320-326	Bacterial meningitis (swelling of the layers covering the brain and spine); bacterial encephalitis (swelling of the brain); and brain and spinal abscesses

(Continued)

Categories and Subcategories of Diagnoses	ICD-9-CM Codes	Diseases
<ul style="list-style-type: none"> • Hereditary and degenerative diseases of the central nervous system • Other disorders of the central nervous system • Disorders of the peripheral nervous system • Disorders of the eye • Diseases of the ear and mastoid process 	<p>330-337</p> <p>340-349</p> <p>350-359</p> <p>360-379</p> <p>380-389</p>	<p>Alzheimer's and Parkinson's disease, tremors, and Huntington's chorea</p> <p>Multiple sclerosis (MS), cerebral palsy, epilepsy, and migraine</p> <p>Nerve disorders of the face, carpal tunnel syndrome, muscular dystrophy</p> <p>Inflammation and ulcers of the eye and eyelid; detached retina; pink eye; problems with tear ducts; glaucoma; and cataracts</p> <p>Infections of the outer, middle, or inner ear; ringing of the ears; hearing loss</p>
<p>Diseases of the circulatory system</p> <ul style="list-style-type: none"> • Acute rheumatic fever • Chronic rheumatic heart disease • Hypertensive disease • Ischemic heart disease • Diseases of pulmonary circulation • Other forms of heart disease • Cerebrovascular disease • Diseases of the arteries and capillaries • Diseases of the veins, lymphatics, and other 	<p>390-459</p> <p>390-392</p> <p>393-398</p> <p>401-405</p> <p>410-414</p> <p>415-417</p> <p>420-429</p> <p>430-438</p> <p>440-448</p> <p>451-459</p>	<p>Rheumatic fever, heart murmurs, heart attacks, angina, hardening of the arteries, varicose veins, hemorrhoids, and phlebitis</p> <p>High fever and joint pain with possible heart damage</p> <p>Long lasting swelling and damage to the heart which results from rheumatic fever</p> <p>High blood pressure</p> <p>Heart attack and angina</p> <p>Blood clots in the lung and pulmonary aneurysm (bulge that develops in the wall of the pulmonary artery which is the artery that carries blood to the lungs)</p> <p>Swelling of the inner lining, middle lining, or sac enclosing the heart; heart failure; and irregular heartbeat</p> <p>Stroke, bleeding in the brain, and blockage or low blood flow in blood vessels of the brain</p> <p>Hardening of the arteries; aneurysm (bulge that develops in the walls of arteries); and blood clots</p> <p>Phlebitis (swelling of a vein) and thrombophlebitis (swelling of a vein which has a blood clot)</p>
<p>Diseases of the respiratory system</p> <ul style="list-style-type: none"> • Acute respiratory infections • Other diseases of the upper respiratory tract • Pneumonia and influenza • Chronic obstructive pulmonary diseases and allied conditions • Pneumoconiosis and other lung diseases caused by external agents • Other diseases of respiratory system 	<p>460-519</p> <p>460-466</p> <p>470-478</p> <p>480-487</p> <p>490-496</p> <p>500-508</p> <p>510-519</p>	<p>Colds, sinusitis, laryngitis, pneumonia, influenza, chronic bronchitis, asthma, and emphysema</p> <p>Colds, sore throat, sinus infections, swollen tonsils, and bronchitis</p> <p>Allergies, hay fever, sinus infections, bronchitis, and sore throat that continue for a long time</p> <p>"The flu" and pneumonia caused by a bacteria or virus</p> <p>Emphysema and asthma</p> <p>Black lung; miners' asthma; asbestosis; silicosis; berylliosis; and conditions caused by chemical fumes and vapors</p> <p>Pleurisy (swelling of the lining of the lungs), collapsed lung, and respiratory failure</p>
<p>Diseases of the digestive system</p> <ul style="list-style-type: none"> • Diseases of the oral cavity, salivary glands, and jaw • Diseases of the esophagus, stomach, and duodenum • Appendicitis • Hernia of the abdominal cavity • Noninfectious enteritis and colitis • Other diseases of the intestines and peritoneum • Other diseases of digestive system 	<p>520-579</p> <p>520-529</p> <p>530-537</p> <p>540-543</p> <p>550-553</p> <p>555-558</p> <p>560-569</p> <p>570-579</p>	<p>Diseases affecting the teeth and mouth, salivary glands, digestive tract, and the abdominal cavity. Examples include dental abscess, ulcers, appendicitis, hepatitis (excluding viral hepatitis), cirrhosis of the liver, gallstones, pancreatitis, abdominal hernia, and intestinal polyps</p> <p>Tooth problems (too many, too few, abnormal shape or size, cavities, bleeding gums, toothaches), and infections and swelling of the mouth, jaw, and tongue</p> <p>Ulcers of the esophagus (tube that transports food to the stomach), stomach, and small intestine; indigestion; and uncontrollable vomiting</p> <p>Swelling of the appendix (rupture, surgery, or both may result)</p> <p>Ruptures of the groin and diaphragm (muscle which separates the chest area from the lower part of the trunk)</p> <p>Crohn's disease and swelling of the intestine and colon</p> <p>Irritable bowel syndrome, blockage of the intestine, constipation, and diarrhea</p> <p>Diseases of the liver, gallbladder, and pancreas; hepatitis; blood in stool; and bleeding in the stomach and intestine</p>

(Continued)

Categories and Subcategories of Diagnoses	ICD-9-CM Codes	Diseases
Diseases of the genitourinary system	580-629	Diseases affecting the kidneys, the prostate, and testes; benign breast diseases; infertility (male and female); diseases of the ovary; pelvic inflammatory disease; and menstrual disorders
• Nephritis, nephrotic syndrome, and nephrosis	580-589	Swelling of the kidney; swelling of the small blood vessels in the kidney; and kidney failure
• Other diseases of the urinary system	590-599	Swelling and infection of the kidney and bladder; kidney stones; and difficulty urinating
• Diseases of the male genital organs	600-608	Enlarged prostate; swelling of the scrotum and prostate; and abscess of the prostate
• Disorders of the breast	610-611	Benign tumors, cysts, and infections of the breast
• Inflammatory disease of the female pelvic organs	614-616	Swelling of the uterus, ovary, fallopian tubes, or cervix
• Other diseases of the female genital tract	617-629	Conditions associated with menopause and postmenopause; PMS; infertility; and cramps
Complications of pregnancy, childbirth, and the puerperium	630-676	Miscarriage; complications of pregnancy, such as hemorrhage; pregnancy-related high blood pressure; preeclampsia; and premature labor or other complications of labor
• Ectopic and molar pregnancy	630-633	Development of fetus outside the uterus and growth of cysts
• Other pregnancy with abortive outcome	634-639	Miscarriage and complications associated with miscarriage
• Complications mainly related to pregnancy	640-648	Abnormal bleeding and possible miscarriage; infections; high blood pressure caused by pregnancy; and premature labor
• Normal delivery, and other indications for care in pregnancy, labor, and delivery	650-659	Delivery requiring little or no assistance; multiple births; breech birth; and problems of the fetus or placenta which affect care of mother
• Complications occurring mainly in the course of labor and delivery	660-669	Long labor; unusually fast delivery; and abnormal bleeding after delivery
• Complications of the puerperium	670-676	Infections of the breast; blood clot in lung; and varicose veins
Diseases of the skin and subcutaneous tissue	680-709	Acne, cellulitis, sunburn, psoriasis, and seborrhea
• Infections of the skin and subcutaneous tissue	680-686	Abscesses, boils, hair-containing cysts, and pus-filled blisters
• Other inflammatory conditions of skin and subcutaneous tissue	690-698	Skin rashes caused by detergents, oils, greases, solvents, sun, food, drugs, or medicine
• Other diseases of the skin and subcutaneous tissue	700-709	Corns, calluses, heat rash, swollen hair follicles, acne, and ingrown fingernails and toenails
Diseases of the musculoskeletal system and connective tissue	710-739	Arthritis, systemic lupus erythematosus, ankylosing spondylitis, herniated intervertebral disc ("slipped disc"), lumbago, sciatica, rheumatism, tendonitis, and osteoporosis
• Arthropathies and related disorders	710-719	Arthritis; joint pain and stiffness; and other diseases of the connective tissue which supports and connects internal organs, forms bones and blood vessel walls, and attaches to bones
• Dorsopathies	720-724	Swelling of the spine; rheumatoid arthritis of the spine; lumbago; and sciatica
• Rheumatism, excluding the back	725-729	Swelling and degeneration of joints, muscles, tendons; tennis elbow; and bursitis
• Osteopathies, chondropathies, and acquired musculoskeletal deformities	730-739	Fracture caused by bone disease; osteoporosis; curvature of the spine; flat foot; hammer toe; and development of deformities of the nose, toes, feet, legs, arms, and hands
Congenital anomalies	740-759	Spina bifida; cleft palate; harelip; and various chromosomal anomalies, such as Klinefelter's syndrome
Certain conditions originating in the perinatal period	760-779	Maternal high blood pressure; maternal malnutrition; ectopic pregnancy; breech birth; fetal malnutrition or slow growth; injuries related to birth trauma; and perinatal jaundice
Symptoms, signs, and ill-defined conditions	780-799	Blackout, chills, dizziness, fatigue, pallor, abnormal weight loss, undiagnosed chest pain, and heartburn
• Symptoms	780-789	Hallucinations, fainting, convulsions, dizziness, fatigue, fever, sleep disturbance, rash, headache, sore throat, chest pain, nausea, vomiting, and heartburn
• Nonspecific abnormal findings	790-796	Abnormal x-ray, blood, stool, and urine test results

(Continued)

Categories and Subcategories of Diagnoses	ICD-9-CM Codes	Diseases
<ul style="list-style-type: none"> • Ill-defined and unknown causes of morbidity and mortality 	797-799	Senility; asphyxia; respiratory arrest; nervousness; and unexplained death within 24 hours of onset of symptoms
Injury and poisoning <ul style="list-style-type: none"> • Fractures, all sites • Dislocations • Sprains and strains of joints and adjacent muscles • Intracranial injuries excluding those with skull fractures • Internal injuries of the thorax, abdomen, and pelvis • Open wounds • Other injuries and late effects of external causes 	800-999 800-829 830-839 840-848 850-854 860-869 870-897 900-999	Dislocation of joints; sprains and strains of associated muscles; concussions; bruises; cuts; internal injuries from crushing, puncture, tearing or blunt impact; burns; blisters; poisoning; frostbite; heatstroke; and complications of medical or surgical care Cracks or breaks of any bone Separation of a bone from its normal socket or joint Strains are injuries to muscle from overuse or stretching the muscle beyond its normal limit; sprains are injuries involving tearing or overextending the ligaments of a joint Concussions; internal bruises; and bleeding within the head without a fracture of the bones of the skull Bruising, crushing, tearing, or rupturing the chest, abdomen, and pelvis and the organs within these areas of the body Animal bites; cuts; lacerations; punctures; and amputations, excluding the arteries and veins Miscellaneous injuries, including injuries to the arteries and veins; problems that occur an extended period of time after the injury has taken place ("late effects"); superficial bruises and abrasions; burns; post-injury shock; poisoning; toxic side effects of chemicals; heatstroke; electrocution; and altitude sickness
Supplementary classifications related to personal or family history of disease	V10-V19	Covers situations in which the person is not ill or injured but has a personal or family history of problems, such as cancer, mental illness, allergies, or arthritis that may affect his or her risk of illness
Supplementary classifications related to health care for reproduction and child development	V20-V28	Problems related to pregnancy, postpartum care, contraception, outcome of delivery, and physical development of child
Contact with health services for reasons other than illness or injury	V50-V59	Care for workers who have been treated previously for an illness or injury that is no longer present but who receive care to complete treatment or prevent recurrence

Reader Response

To help us serve your information needs better, please take a moment to answer the following questions. Then fold this postage paid form into thirds along the dotted lines, **tape** (do not staple) it together, and return to us. Thank you for sharing your thoughts with us!

- 1) Overall, the information in this report was (circle one...)
- Too detailed About right Not detailed enough

- 2) Are there additional topics you would like to see covered in future reports?
- Yes No

If yes, please list additional topics:

- 3) Please list suggestions for improving the Epidemiologic Surveillance reports:

- 4) Which of the following occupational categories best describes the type of work you do? (check one...)

- Management/Administrative
- Technical
- Professional/Scientific
- Crafts/Trades
- Clerical

- 5) I am employed by (check one...)

- U.S. Department of Energy (DOE)
- DOE contractor or subcontractor
- Other Federal agency
- Military
- State or Local government
- Other



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 65 OAK RIDGE, TN

POSTAGE WILL BE PAID BY ADDRESSEE

ATTN: SANDRA KING, B&AR-CER, MS-45
Oak Ridge Associated Universities
PO Box 117
Oak Ridge, TN 37831-9923



Savannah River Site 1995 Appendixes

Appendix A.	Work Force by Gender, Age, and Occupation
Appendix B.	Total Number of Workers Who Reported at Least One Health Event by Gender, Age, and Occupation
Appendix C.	Total Number of Health Events by Gender, Age, and Occupation
Appendix D.	Distribution of the Number of Calendar Days Absent/Health Event by Gender and Age
Appendix E.	Distribution of the Number of Calendar Days Absent/Health Event by Gender and Occupation
Appendix F.	Number of Health Conditions in Each Diagnostic Category by Gender and Age
Appendix G.	Total Number of Calendar Days Absent in Each Diagnostic Category by Gender and Age
Appendix H.	Number of Health Conditions in Each Diagnostic Category by Gender and Occupation
Appendix I.	Total Number of Calendar Days Absent in Each Diagnostic Category by Gender and Occupation
Appendix J.	Relative Risk Estimates for Selected Diagnostic Categories Among Five-Day Absences
Appendix K.	Occupational Sentinel Health Events (SHEO)
Appendix L.	Number of Workers with at Least One OSHA Event by Gender, Age, and Occupation
Appendix M.	Total Number of Workdays Lost or with Restricted Activity from OSHA Events by Gender and Age
Appendix N.	Total Number of Workdays Lost or with Restricted Activity from OSHA Events by Gender and Occupation
Appendix O.	Number of Health Conditions in Each Diagnostic Category by Gender and Age
Appendix P.	Number of Workdays Lost or with Restricted Activity in Each Diagnostic Category by Gender and Age
Appendix Q.	Number of Occurrences in Each Accident Category by Gender and Age
Appendix R.	Number of Workdays Lost or with Restricted Activity for Each Accident Category by Gender and Age
Appendix S.	Number of Health Conditions in Each Diagnostic Category by Gender and Occupation
Appendix T.	Number of Workdays Lost or with Restricted Activity in Each Diagnostic Category by Gender and Occupation
Appendix U.	Number of Occurrences in Each Accident Category by Gender and Occupation
Appendix V.	Number of Workdays Lost or with Restricted Activity in Each Accident Category by Gender and Occupation
Appendix W.	Relative Risk Estimates for Selected Diagnostic Categories Among OSHA Events