

***GOLDEN TRIANGLE
BUSINESS ROUNDTABLE***



***CONTRACTOR SAFETY
SURVEY***

2003 REPORT

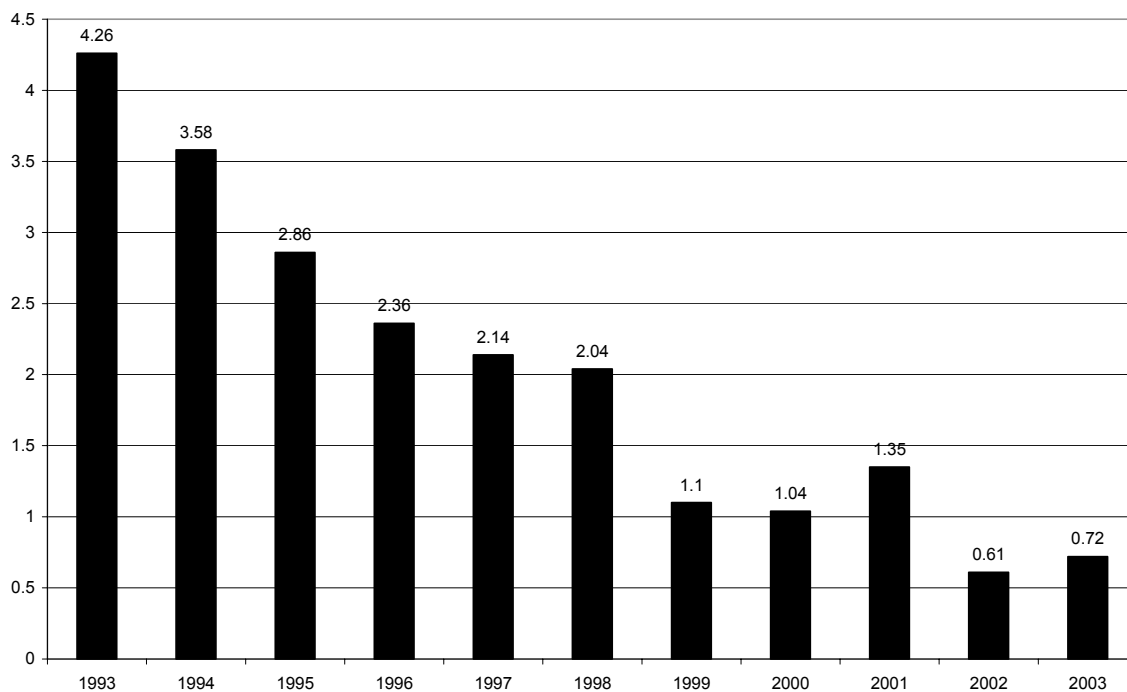
Executive Summary

This report is compiled by the Industrial Safety Training Council from voluntary responses to the Golden Triangle Business Roundtable Contractor Incident Data Survey. Historical data for 1993 through 2002 is reported here as well as the results received from the 2003 survey.

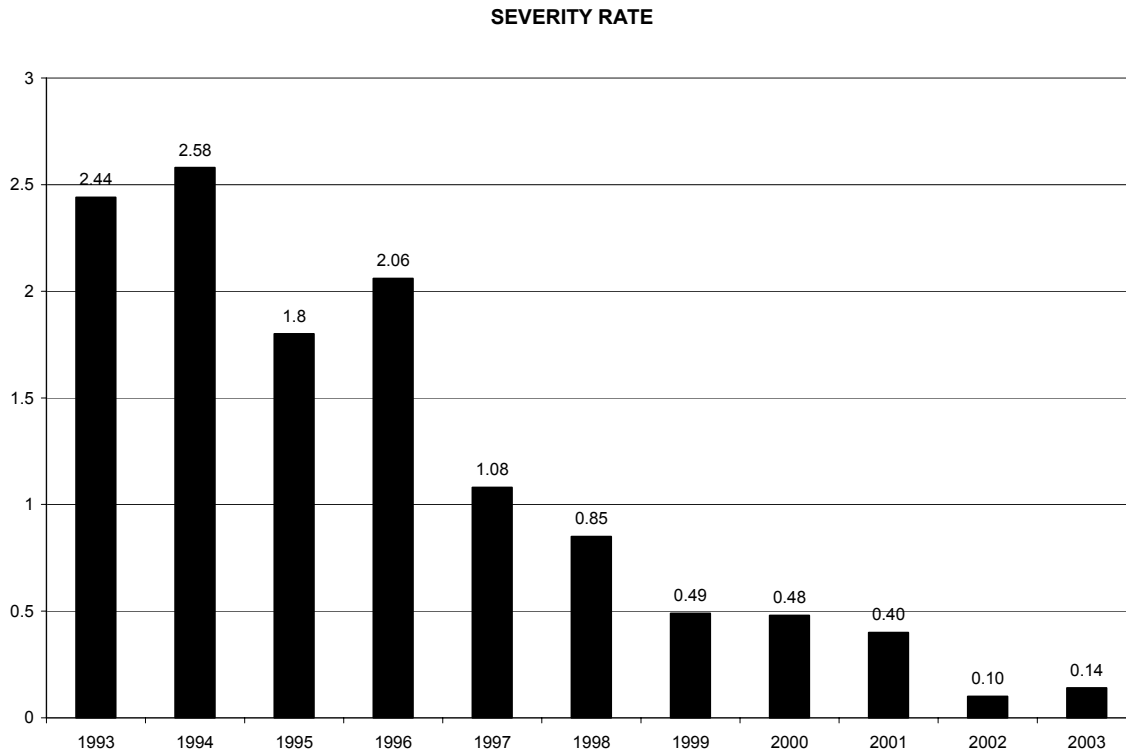
Trends

1. The total number of OSHA Recordable Incidents continues to decrease.
2. A decrease in average Experience Modifier Rates.
3. A decrease in incident rates 1992-2003, with the exception of a slight increase in 2001 and 2003.

INCIDENT RATE



4. Incident severity rate has decreased from 1996-2003, with the exception a slight increase in 2003.



5. Golden Triangle Area statistics reported are far below national trends as reported by the Bureau of Labor Statistics, U.S. Department of Labor.

Incident Specific Analysis - 2003

Most frequent response for each category:

1. Type of contact: STRUCK BY/AGAINST
2. Nature of illness/injury: FRACTURE and CUT/PUNCTURE
3. Body part injured: FINGER/HAND
4. Possible causes at time of incident: DECISION MAKING
5. Pre-existing causes: RISK TAKING

This data was compiled from survey responses reporting more than 18 million exposure hours and 67 recordable incidents, 13 with lost time and 54 medical treatment cases.

Tables of all survey results can be found in the Appendix.

Purpose

This Contractor Incident Data Survey is conducted to collect data on the contractor accident experience and safety performance for the Golden Triangle Area. Information specific to each OSHA Recordable accident is analyzed to identify target areas where the greatest impact can be made to eliminate accidents.

Scope

Data collection surveys are distributed requesting data from all Contractor employers currently listed as subscribers to the Industrial Safety Training Council. Historical data for the years 1994-2000 has been compiled to include the following:

- Total number of OSHA Recordable incidents
- Total number of lost workday cases
- Exposure hours
- Experience Modifier Rate
- Standard Industrial Classification (SIC) Code

Subsequent annual surveys request the following information:

- Exposure hours
- Statistics from OSHA 200/300 Log
- Number and types of OSHA recordables
 - * Type of contact
 - * Nature of illness/injury
 - * Body part injured
 - * Possible incident/accident causes

Examples of all forms used can be found in the Appendix.

Disclaimer

This report is a compilation of the responses to the annual survey conducted of area contractors by the Golden Triangle Business Roundtable. Those not responding are not in the compilation and so the reader should not assume that the compilation represents the experience of all area contractors or even all area contractors working at Roundtable member facilities, only the experience of those responding to the survey. As a matter of policy, the Roundtable has maintained the confidentiality of those responding and the sites for which they have responded.

Methodology

In order to analyze the data received, information was entered into an Excel spreadsheet by year with the statistical formula established for:

Incident Rate*

$$\frac{\text{Total OSHA Recordable Incidents} \times 200,000}{\text{Exposure Hours}}$$

Incident Severity Rate*

$$\frac{\text{Total Lost Workday Cases} \times 200,000}{\text{Exposure Hours}}$$

Average Experience Modifier

$$\text{Average} = \frac{\text{Sum of EMR numbers}}{\text{total responses}}$$

Percent Distributions

$$\% = \frac{\text{category responses}}{\text{total responses}} \times 100$$

*where 200,000 is the base for 100 full-time workers (40 hours per week, 50 weeks per year)

Conclusions

The responses to the 2003 GTBR Safety Survey reveal that, although the Incident Rate figure for 2003 is slightly higher than 2002, we still have a substantial decrease for the overall reporting period of 1993-2003. Although the Severity Rate for 2003 is slightly higher than 2002, it shows an overall decrease for previous reporting periods. Data reported that although recordable incidents are down from 2002, the lost time incidents are slightly up and medical treatment cases have decreased. Based on survey responses, reductions in the following categories are noted for the period 1993-2003.

<u>Category</u>	<u>Reduction reported</u>
Incident Rate	83%
Severity Rate	94%

The largest percentages of injuries reported by *type of contact* are as follows:

<u>2002</u>		<u>2003</u>	
Caught by/between	30%	Struck by/against	43%
Struck by/against	22%	Slip (same level)	18%
Slip (same level)	9%	Caught by/between	13%
Fall (to lower level)	8%	Fall (to lower level)	8%

The largest percentages of injuries reported by *nature of illness/injury* are as follows:

<u>2002</u>		<u>2003</u>	
Fracture	42%	Cut/puncture	30%
Cut/puncture	30%	Fracture	30%
Sprain/strain	17%	Sprain/strain	8%

The largest percentages of injuries reported by *body part injured* are as follows:

<u>2002</u>		<u>2003</u>	
Finger/hand	42%	Finger/hand	35%
Knee	8%	Face/head	8%
Ankle	8%	Foot/toes	7%

The final category of information requested was possible incident/accident causes, both at the time of the incident and pre-existing causes. The results are as follows:

2002

At time of incident:

Decision making	30%
Physical acts	30%
Tools/equipment	14%

Pre-existing causes:

Communication	24%
Risk taking	22%
Job procedures	17%

2003

At time of incident:

Decision making	39%
Workplace hazards	23%
Physical acts	16%

Pre-existing causes:

Risk taking	39%
Job procedures	14%
Other	14%

Recommendations

1. More emphasis on hazard recognition and analysis to mitigate or remove workplace hazards. Increase worker awareness of the physical hazards and measures to be taken to protect themselves from injury.
2. Hand and finger injuries continue to be the leading injuries reported. Reinforced efforts to reduce hand injuries through awareness and diligent use of PPE, engineering controls, and training.
3. Decision making and workplace hazards are reported as leading accident causes.
 - Emphasize a workplace culture where risk taking and unsafe acts are not tolerated.
 - Take steps to insure that employees are aware of hazards and know how to protect themselves.
 - Continue with efforts to eliminate or control workplace hazards.
4. Develop a proactive approach involving line workers in a job safety analysis (JSA) to identify the potential for injury and to determine the measures to take in order to complete each task injury free.
5. Caught by/between and struck by/against have accounted for a vast majority of the injuries reported for the last two years. Increased focus on reducing this type of contact through awareness, training and hazard controls would have a dramatic impact on worker injuries. Slips on the same level were reported increased this year. Increased focus on the importance of good housekeeping in the workplace should decrease this type of accident.
6. Cuts and punctures, sprains and strains, and fractures have led the nature of illness/injury category for the past two years and combine to be a factor in 68% of the injuries reported for 2003. Use of PPE, training in proper lifting techniques, conditioning and body positioning could help to reduce these types of contact.

APPENDIX

DATA TABLES
HISTORICAL DATA

Totals of all Data by Year

<u>Year</u>	<u>Exposure Hours</u>	<u>OSHA Recordables</u>	<u>LWD* Cases</u>
1993	27,440,266	585	316
1994	31,600,604	567	408
1995	38,165,872	546	345
1996	38,864,397	457	400
1997	39,508,566	423	214
1998	32,092,756	327	120
1999	29,101,172	160	71
2000	19,658,830	102	47
2001	13,492,250	91	27
2002	22,447,655	69	11
2003	18,577,738	67	13

*LWD, Lost Work Day

Statistical Analysis by Year

	<u>Incident Rates</u>		<u>EMR+ Average</u>
	<u>Frequency</u>	<u>Severity</u>	
1993	4.26	2.44	0.89
1994	3.58	2.58	0.80
1995	2.86	1.80	0.75
1996	2.36	2.06	0.72
1997	2.14	1.08	0.71
1998	2.04	0.75	0.70
1999	1.10	0.49	0.70
2000	1.04	0.48	0.76
2001	1.35	0.40	0.79
2002	0.61	0.10	0.69
2003	0.68	0.14	0.68

**Bureau of Labor Statistics Estimates of
Nonfatal Occupational Injury and Illness
Incident Rate for Selected Industries
2002***

<u>Industry</u>	<u>SIC Code</u>	<u>Incident Rates</u>	
		<u>Frequency</u>	<u>Severity</u>
Construction		7.9	4.0
Heavy Construction (except building)	1600	7.8	4.0
Special Trade Contractors	1700	8.7	4.4

**Estimates of
Nonfatal Occupational Injury and Illness
Incident Rate for Selected Industries
Golden Triangle Area, 2003**

<u>Industry</u>	<u>SIC Code</u>	<u>Incident Rates</u>	
		<u>Frequency</u>	<u>Severity</u>
All Responses		0.68	0.14
Heavy Construction (except building)	1600	0.65	0.08
Special Trade Contractors	1700	0.88	0.34

*U.S. Department of Labor

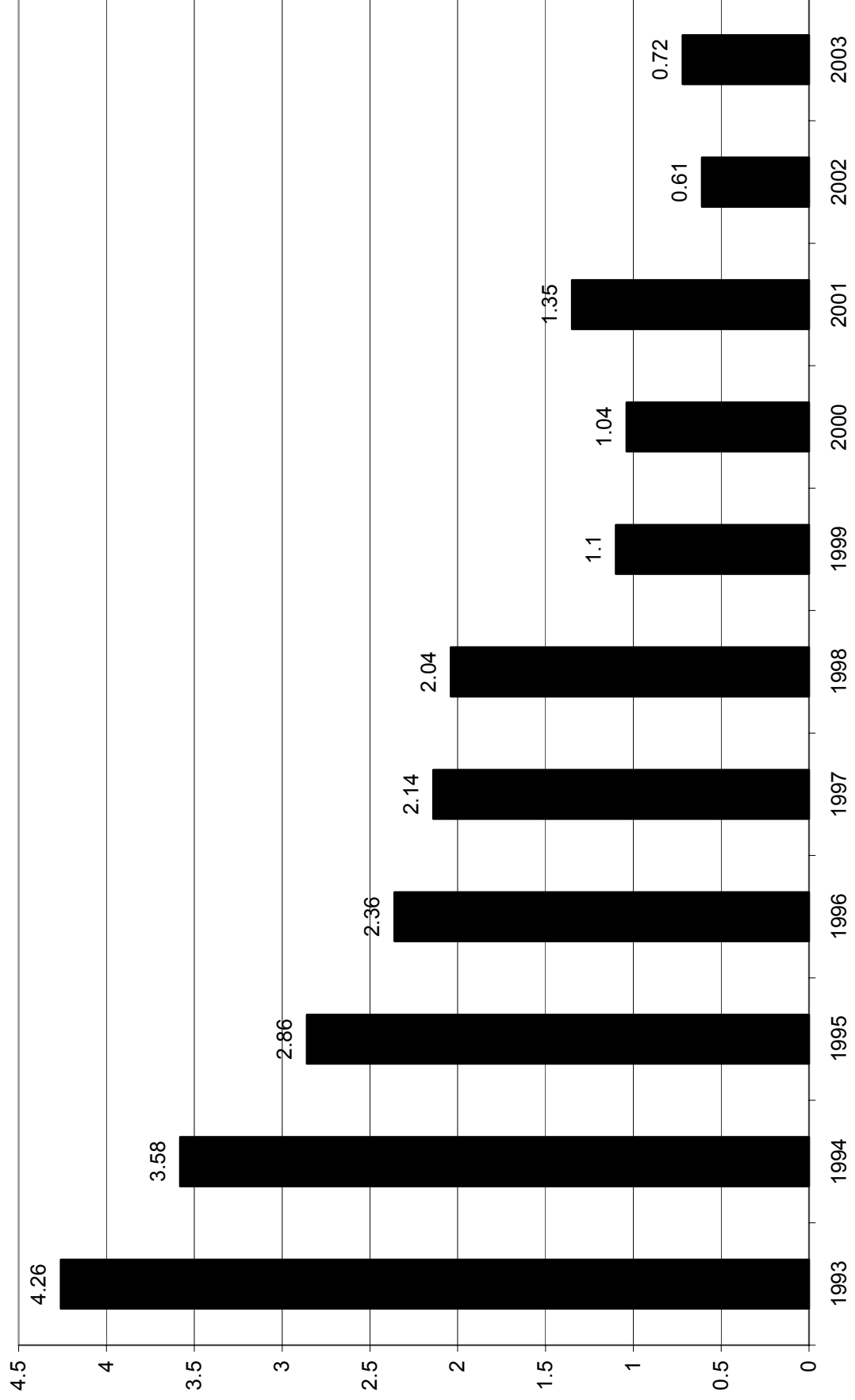
DATA TABLES
INCIDENT ANALYSIS

INCIDENT SPECIFIC DATA 2003

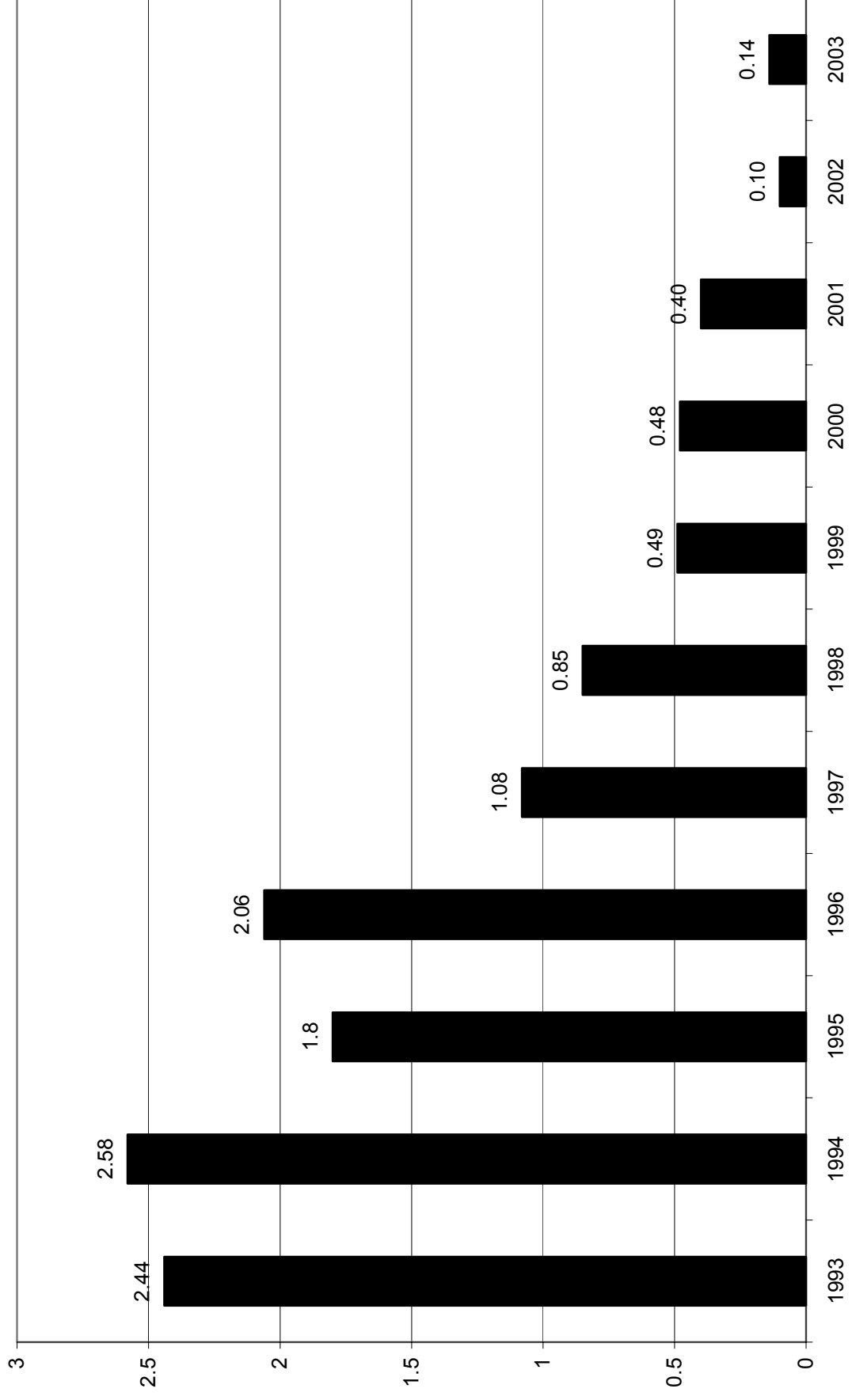
Type of Contact	%	Nature of Illness/Injury	%	Body Part Injured	%	Possible Incident/Accident Causes	%
Struck By/Against	29	Death	0	Shoulder	4	At Time of Incident	
Slip (Same Level)	12	Amputation	0	Elbow	1	Use of Guards	1
Fall (To Lower Level)	5	Thermal Burn	2	Wrist	3	Use of PPE	5
Caught By/Between	9	Chemical Burn	0	Finger/Hand	25	Tools/Equipment	4
Electrical Exposure	1	Irritation/Infection	1	Arm	1	Workplace Hazards	14
Fire/Explosion	1	Crushed	4	Chest/Ribs	2	Decision Making	24
Thermal Exposure	0	Cut/Puncture	20	Back	4	Physical Act	10
Temp Exposure (Other)	1	Bruise	5	Hip	1	Procedures	3
Chemical Exposure	2	Fracture	20	Knee	4	TOTALS	61
Noise Exposure	0	Sprain/Strain	5	Foot/Toes	5		100
Welding Flash	0	Joint Dislocation	1	Ankle	4		
Radiation Exposure	0	Repeated Trauma	0	Leg	3		
Repetitive Motion	1	Electrical Shock	0	Abdomen	0	Pre-existing Causes	
Overexertion	2	Hernia	0	Groin	0	Physical Incapacity	2
Other	4	Inhalation	3	Eye	0	Knowledge/Skills	4
		Poisoning	1	Ear	1	Internal Factors	1
		Heat Disorder	2	Face/Head	6	Risk Taking	17
		Other	3	Mouth	0	Engineering/Design	1
				Internal	1	Job Procedures	6
				Multiple	2	Maintenance	2
				Other	5	Error Inducing	0
						Org. Factors	1
						Training	1
						Communication	3
						Other	6
TOTALS	67	TOTALS	67	TOTALS	72	TOTALS	44
	100		100		100		100

CHARTS

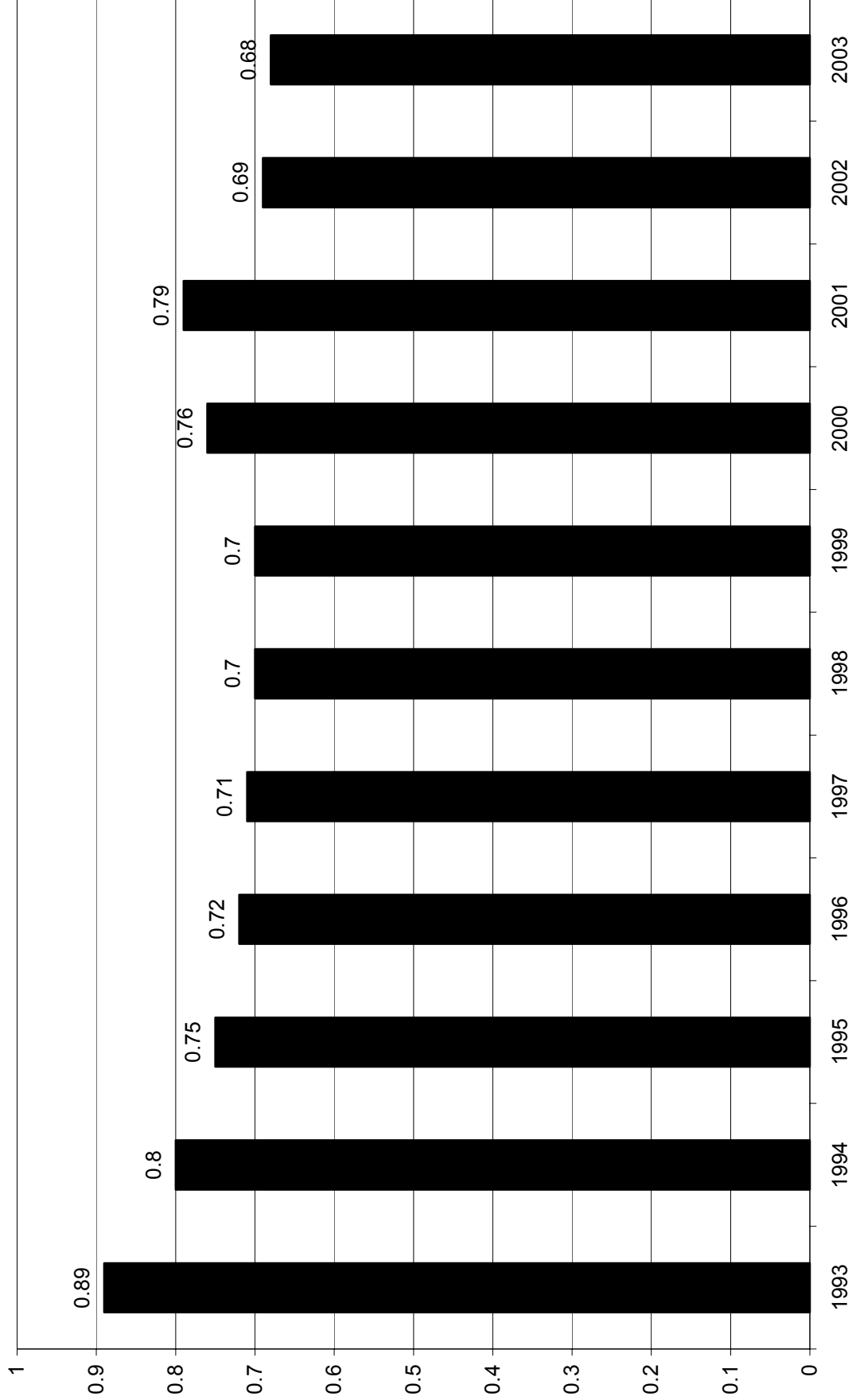
INCIDENT RATE



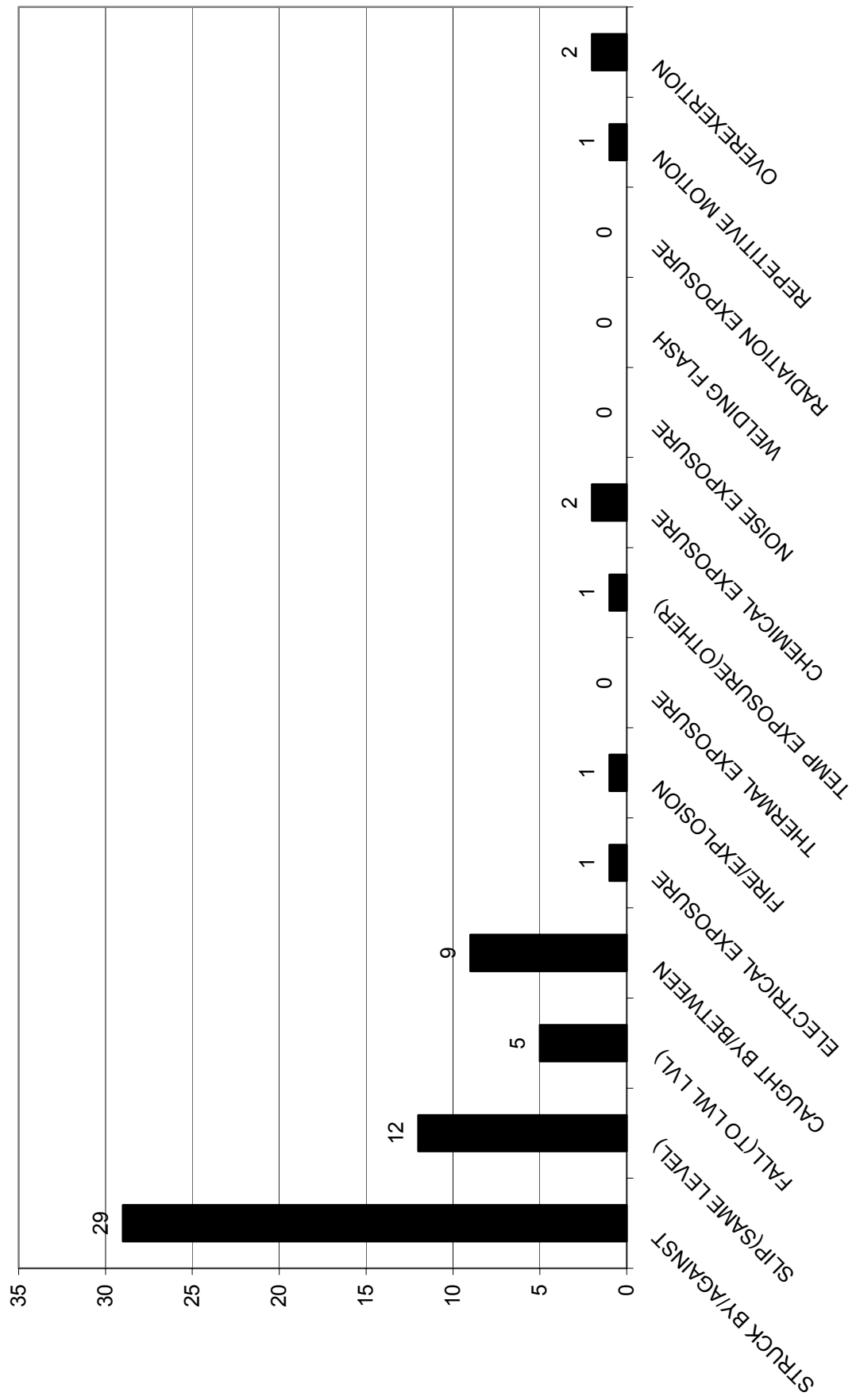
SEVERITY RATE



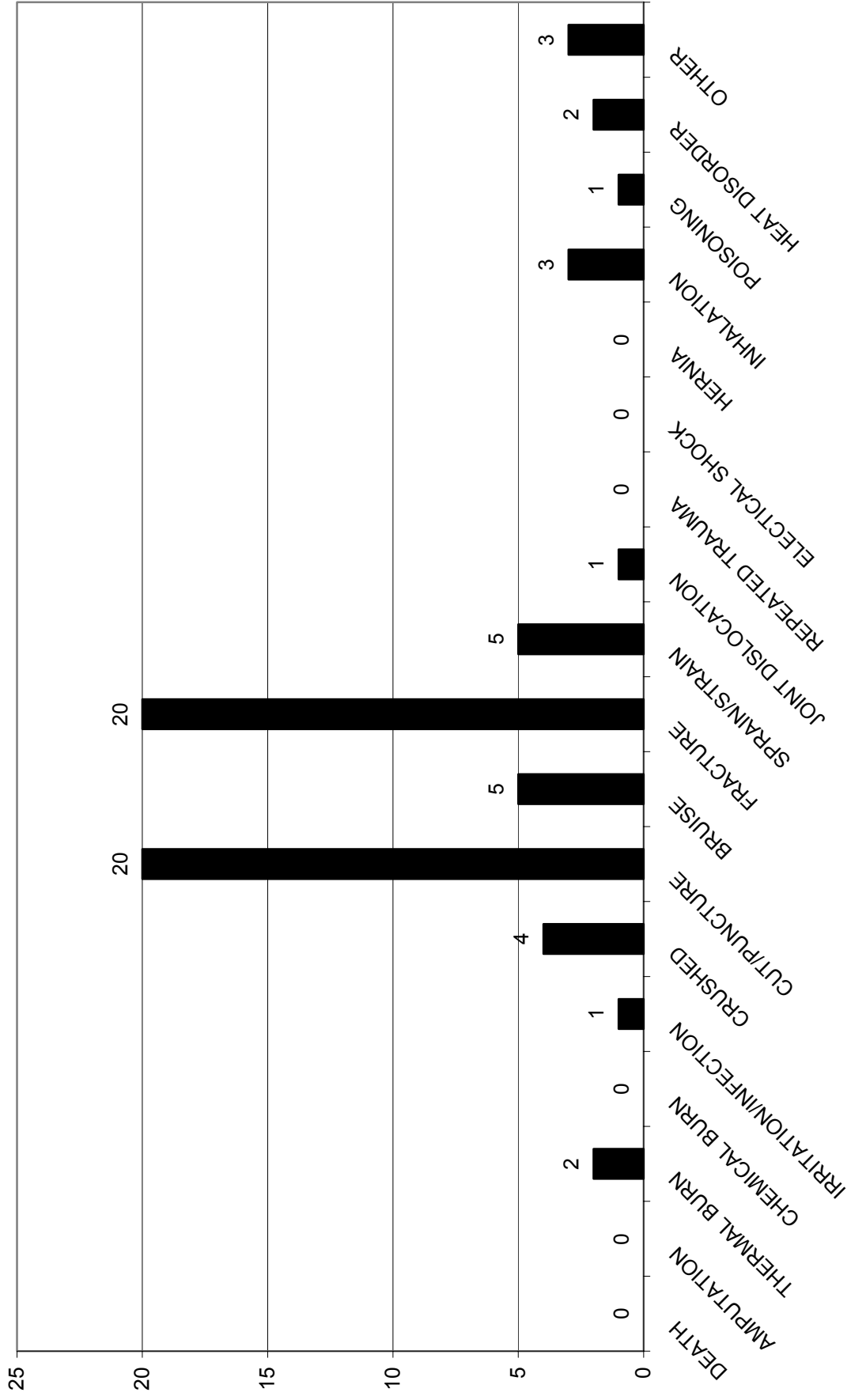
Average EMR



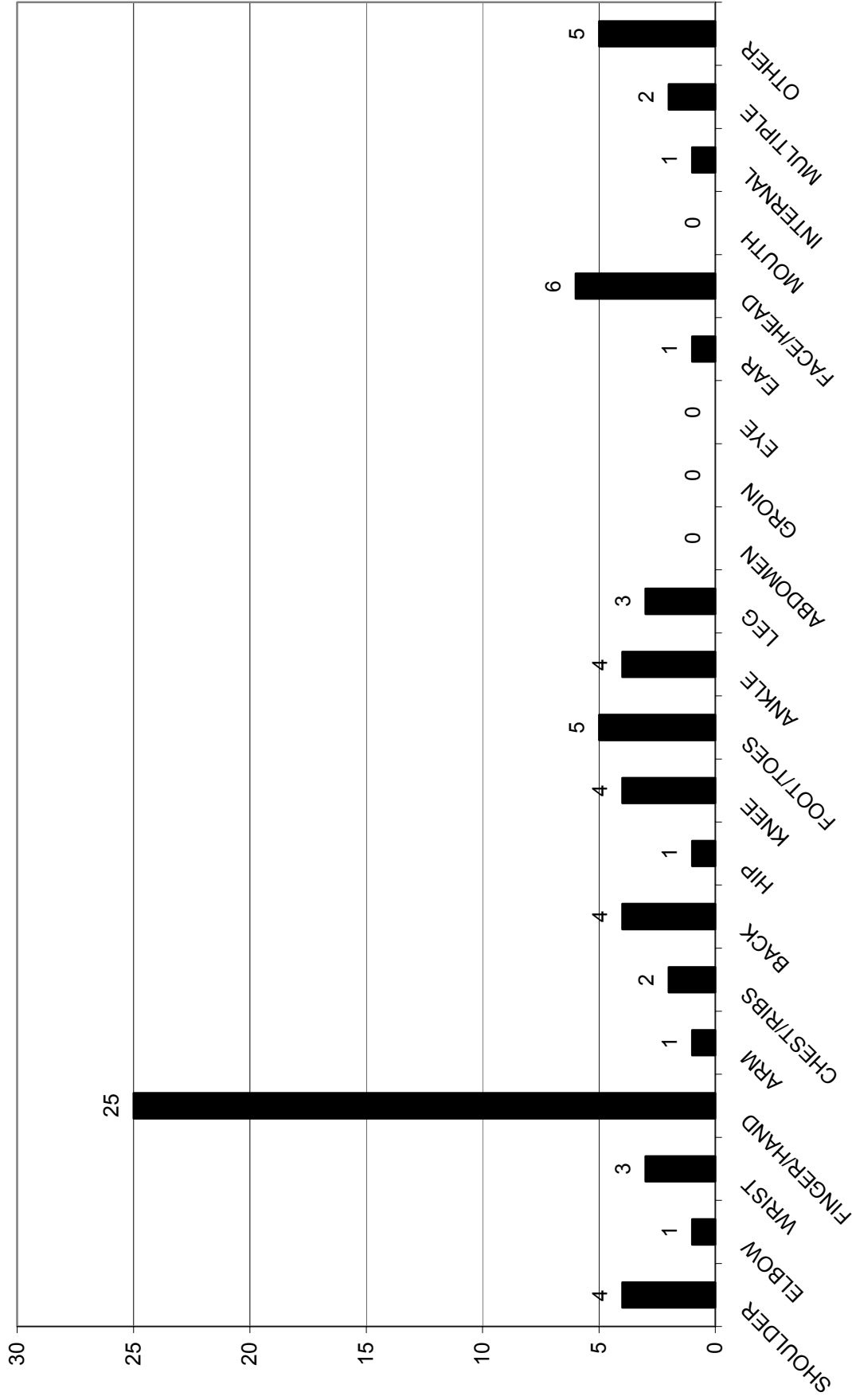
TYPE OF CONTACT



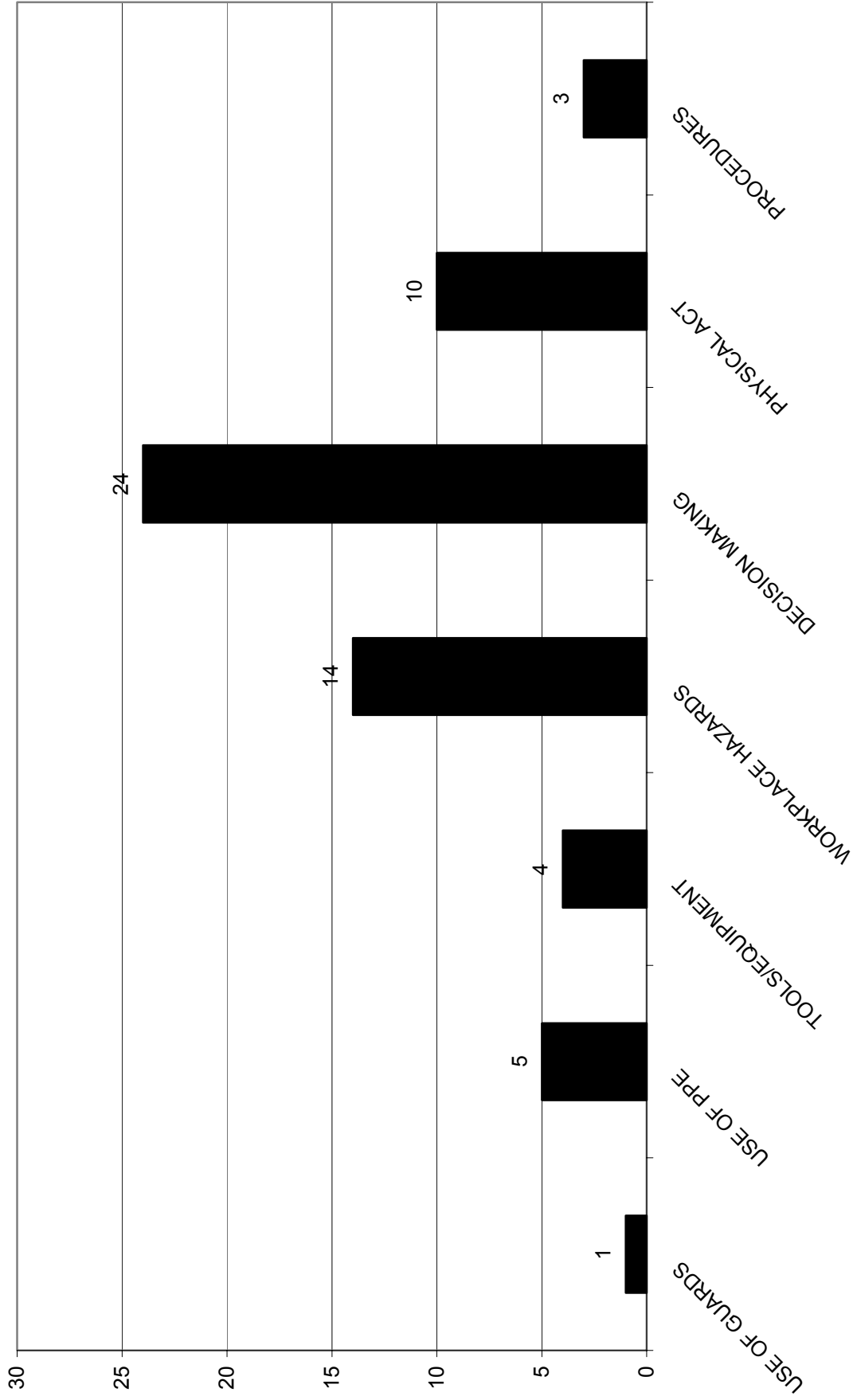
NATURE OF ILLNESS/INJURY



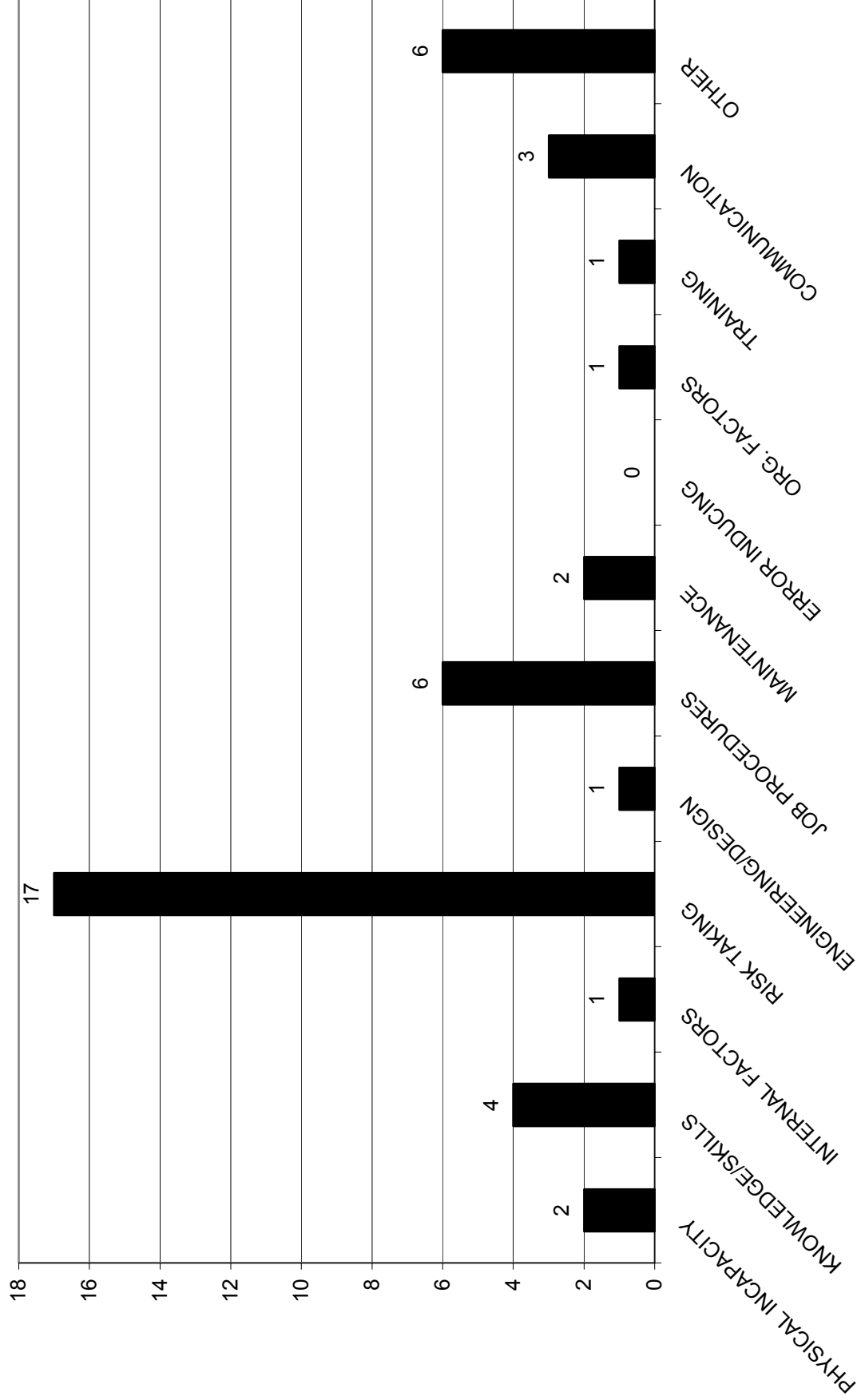
BODY PART INJURED



POSSIBLE CAUSES AT TIME OF ACCIDENT



POSSIBLE PRE-EXISTING CAUSES



EXAMPLES OF FORMS

GTBR SAFETY SURVEY (Golden Triangle Area Only)

COMPANY NAME: _____

COMPANY ADDRESS: _____

SIC Code* :1500 _____
 1600 _____
 1700 _____

NOTE: Company name & address, SIC Code, EMR, and Golden Triangle Exposure Hours <i>must be provided for a valid response.</i>

1. EXPERIENCE MODIFIER RATE (EMR) _____

2. EXPOSURE HOURS _____
(REPORT ONLY HOURS FOR PERSONNEL WORKING IN THE GOLDEN TRIANGLE)

3. STATISTICS FROM OSHA 300 LOG - Number of incidents involving:
 FATALITIES (G) _____ DAYS AWAY (L) _____
 LOST TIME (H) _____ MEDICAL TRTMT (I&J) _____

QUESTIONS 4-7: INDICATE NUMBER, EACH TYPE OSHA RECORDABLE

4. TYPE OF CONTACT

___ Struck By/Against	___ Fire/Explosion	___ Welding Flash
___ Slip (Same Level)	___ Thermal Exposure	___ Radiation Exposure
___ Fall (To Lower Level)	___ Temp Exposure (other)	___ Repetitive Motion
___ Caught By/Between	___ Chemical Exposure	___ Overexertion
___ Electrical Exposure	___ Noise Exposure	___ Other

5. NATURE OF ILLNESS/INJURY

___ Death	___ Cut/Puncture	___ Electrical Shock
___ Amputation	___ Bruise	___ Hernia
___ Thermal Burn	___ Fracture	___ Inhalation
___ Chemical Burn	___ Sprain/Strain	___ Poisoning
___ Irritation/Infection	___ Joint Dislocation	___ Heat Disorder
___ Crushed	___ Repeated Trauma	___ Other

6. BODY PART INJURED

___ Shoulder	___ Hip	___ Eye
___ Elbow	___ Knee	___ Ear
___ Wrist	___ Foot/Toes	___ Face/Head
___ Finger/Hand	___ Ankle	___ Mouth
___ Arm	___ Leg	___ Internal
___ Chest/Ribs	___ Abdomen	___ Multiple
___ Back	___ Groin	___ Other

7. POSSIBLE INCIDENT/ACCIDENT CAUSES

<u>AT TIME OF ACCIDENT</u>	<u>PRE-EXISTING CAUSES</u>	
___ Use of Guards	___ Physical Incapacity	___ Maintenance
___ Use of PPE	___ Knowledge (Skill)	___ Error Inducing
___ Tools/Equipment	___ Internal Factors	___ Organization Factors
___ Workplace Hazards	___ Risk Taking	___ Training
___ Decision Making	___ Engineering/Design	___ Communication
___ Physical Act	___ Job Procedures	___ Other
___ Procedures		

* Please see attached sheet for explanation of SIC Codes.

SIC CODES 1500, 1600, 1700

1500 - Building Construction - General Contractors and Operative Builders

- 1521 General Contractors - Single Family Houses
- 1522 General Contractors - Residential Buildings, Other Than Single Family
- 1531 Operative Builders
- 1541 General Contractors - Industrial Buildings and Warehouses
- 1542 General Contractors - Nonresidential Buildings, Other Than Industrial Buildings and Warehouses

1600 - Heavy Construction Other Than Building Construction - Contractors

- 1611 Highway and Street Construction, Except Elevated Highways
- 1622 Bridge, Tunnel, and Elevated Highway Construction
- 1623 Water, Sewer, Pipeline, and Communications and Power Line Construction
- 1629 Heavy Construction, N.E.C., EXCEPT Dredging and Surface Cleanup Activities

1700 - Construction - Special Trade Contractors

- 1711 Plumbing, Heating, and Air-Conditioning
- 1721 Painting and Paper Hanging
- 1731 Electrical Work
- 1741 Masonry, Stone Setting, and Other Stone Work
- 1742 Plastering, Drywall, Acoustical and Insulation Work
- 1743 Terrazzo, Tile, Marble, and Mosaic Work
- 1751 Carpentry Work
- 1752 Floor Laying and Other Floor Work, N.E.C.
- 1761 Roofing, Siding, and Sheet Metal Work
- 1771 Concrete Work
- 1781 Water Well Drilling
- 1791 Structural Steel Erection
- 1793 Glass and Glazing Work
- 1794 Excavation Work
- 1795 Wrecking and Demolition Work
- 1796 Installation or Erection of Building Equipment, N.E.C.
- 1799 Special Trade Contractors, N.E.C., EXCEPT Base Housing Maintenance

DEFINITIONS OF POSSIBLE CAUSES

AT TIME OF ACCIDENT - Act/condition which immediately led to the incident

<u>Use of Guards</u>	Guards, alarms, etc., not used, not used properly, disabled, faulty, or inadequate, or equipment not properly secured or isolated
<u>Use of PPE</u>	PPE not used, not used properly, faulty or inadequate
<u>Tools/Equipment</u>	Wrong tool used, correct tool unavailable or failed during use
<u>Workplace Hazards</u>	Dangers in the work setting - poor lighting, walking or working surfaces, housekeeping clearances, ventilation, heights
<u>Decision Making</u>	Inappropriate decision - unaware of hazards, distraction, inattention, improper work speed, poor judgment, body position or overexertion
<u>Physical Act</u>	Activity inappropriate, horseplay, operating equipment without authority, improper mixing of chemicals, poor placement/loading of materials
<u>Procedures</u>	Written procedures available but not used (Safety Procedures, Operating Procedures, or Maintenance Practices)

PRE-EXISTING CAUSES - Underlying factors contributing to the incident

<u>Physical Incapacity</u>	Permanent/temporary disability contributed (vision, hearing, injury, illness, drugs, alcohol, fatigue)
<u>Knowledge/Skills</u>	Lacked experience/training, misunderstood directions
<u>Risk Taking</u>	Actions taken without evaluation of consequences, actions could have been rewarded or not properly punished in the past, improper expectations from supervision
<u>Engineering/Design</u>	Improper/incomplete design/construction, field change orders not evaluated, released by operations before ready
<u>Job Procedures</u>	Task procedures not available/inadequate (standards, reference documents, hazard evaluation, etc.)
<u>Maintenance</u>	Improper/incomplete preventative/reparative maintenance (wear/corrosion, service life extension, etc.)
<u>Error Inducing</u>	Conditions conducive to errors (noise, repetitive tasks, physical demands, extreme concentration, O2 deficiency, etc.)
<u>Organization Factors</u>	Management systems inadequate or otherwise contributed (poor follow-up on unsafe conditions, inspection programs, purchasing procedures, job placement, management of change, etc.)
<u>Training</u>	Training was inadequate, unavailable or ineffective
<u>Communication</u>	Instructions not given, incomplete, unclear, ineffective, etc. (horizontally, vertically, between different organizations)
<u>Other</u>	Cause other than one mentioned