



SAFETY AND ENVIRONMENTAL HEALTH HANDBOOK

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

August 1989



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ENVIRONMENTAL
HEALTH
HANDBOOK**

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FORWARD

This Safety Handbook (445-1-H.) supplements the Geological Survey Safety Management Program objectives set forth in Survey Manual 445.1. Specifically, it provides a compact source of basic information to assist management and employees in preventing motor vehicle accidents, personal injuries, occupational diseases, fire, and other property damage or loss.

All work situations incidental to the Geological Survey cannot be discussed in a handbook, and such complete coverage is not intended in this document. However, a wide range of subjects are covered in which a "common sense" approach to safety has been expressed. These subjects have been organized such that Chapters 1-5 address administrative issues, Chapters 6-12 address activities usually conducted within a facility, and Chapters 13-20 address field activities. No information contained in the Handbook is intended to alter any provision of any Federal law or executive order, Department of the Interior or Survey directive, or collective bargaining agreement.

Questions or suggestions regarding the content of the Safety Handbook may be directed to the Survey Safety Manager, Administrative Division, Office of Facilities and Management Services, National Center, Reston, Virginia, Mail Stop 246. The previous edition of the Safety Handbook is superseded.

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Chapter 1. SAFETY ORGANIZATION

1. Safety Officials – Geological Survey.

A. Bureau Safety Manager.

- (1) Develops and implements Bureauwide safety and health programs and policy.
- (2) Reviews and disseminates information on Federal and State rules and regulations.
- (3) Provides recommendations and technical assistance to management on abatement of hazardous conditions.
- (4) Conducts evaluations of regional, divisional, and district safety programs.

B. Regional Safety Manager.

- (1) Implements programs for their respective region.
- (2) Conducts evaluations of district and field safety programs.
- (3) Disseminates information on safety and health regulations and issues, and provides recommendations and technical assistance on abatement of hazardous conditions.
- (4) Regional safety managers are located in Menlo Park, California (Western); Denver, Colorado (Central); and Reston, Virginia (Eastern).

C. Divisional Safety Officer.

- (1) Oversees safety and health programs that address issues relevant to their respective division.
- (2) Coordinates divisional compliance with and implementation of Bureau programs.
- (3) Provides management with information on safety and health issues, as well as recommendations and technical assistance in abatement of hazardous conditions.

D. Regional Division Safety Officer.

- (1) Oversees safety and health programs that address issues relevant to their respective division and region.
- (2) Coordinates the region's divisional compliance with and implementation of Bureau programs through the Divisional Safety Officer.
- (3) Coordinates division's safety committee activities within the region.

E. District Safety Officers.

- (1) Notifies supervisors of hazardous conditions.
- (2) Serves as primary focal point for all safety issues within their district.
- (3) Implements applicable Bureau safety programs.
- (4) Coordinates activities of district safety committees, including inspections, training, and program planning.
- (5) Serves as a liaison between district management and the Bureau Safety Office.

F. Other Collateral Duty Safety Personnel (Branch, Office, other Organizations).

- (1) Notifies supervisors of hazardous conditions.
- (2) Acts on employee complaints of safety and health hazards.
- (3) Serves as liaison between management and the Bureau Safety Office.

2. **Supervisory Involvement.** Although not specifically considered part of the formal safety organization, supervisors manage safety and health issues within their respective office, branch, etc. Supervisors should inform their employees of job-related safety or health hazards, encourage participation in safety and health training programs (ensuring attendance of mandatory courses), correct hazardous conditions within their areas, and request assistance

when the condition requires work or resources beyond their control.

3. **Committees.** Safety and health committees assist both professional and collateral duty safety personnel in carrying out the Bureau's safety program. Committees should discuss Federal and State rules and regulations as they apply to the Bureau, and recommend to management programs to comply with the requirements. Training needs are identified and courses, either contracted or in-house, are implemented. Information from seminars and exhibits on safety and health issues or equipment should be disseminated to employees, as appropriate. Promotional information and programs are recommended. Committee representatives can also play a major role in conducting facility inspections.
4. **Employee Involvement.**
 - A. Employees should comply with all established safety and health rules and regulations. If in doubt, they should see their supervisor for assistance.
 - B. Employees are encouraged to volunteer for collateral duty positions and/or to be monitors for their Occupant Emergency Program for evacuation purposes. Contact your supervisor for approval or your safety officer for information.
 - C. Questions, concerns, or complaints related to safety and health should be given to your supervisor or collateral duty safety officer. If no collateral duty safety officer is available, contact your divisional safety officer. Any suggestions you have for improving the safety and health program are welcomed and encouraged. Suggestions should be submitted to your safety officer or your regional safety manager.

Chapter 2. SAFETY PROMOTION

1. Meetings.

A. Safety meetings can be held at anytime, but are especially effective as part of staff meetings.

B. Tailgate, lunchbox, or regularly scheduled weekly or monthly meetings should be a part of your safety program.

C. Award ceremonies should include any noteworthy safety achievement. Any individual or group safety awards should be announced at that time. A ceremony solely to present safety awards is also encouraged.

2. Posters.

A. Safety posters are an integral part of a good safety program.

B. Posters should be displayed at prominent locations and changed on a regular basis.

C. Poster themes should be consistent with any local or national promotional programs, such as Fire Prevention Week, Safe Boating Week, etc.

3. Awards.

A. Safety Management Award.

(1) Presented to an employee based on outstanding safety achievement.

(2) Any supervisor may nominate an employee.

(3) Nominations are concurred by divisional heads and are ultimately approved by the Bureau Safety Committee in Reston, Virginia.

(4) A certificate signed by the Director and the Bureau Safety Manager is awarded to the nominee. A cash award not to exceed \$500 may also be approved.

B. Safe Driving Award.

- (1) Presented to any employee who has driven more than 100,000 work related miles without a motor vehicle accident.
- (2) Documentation of the target mileage and nomination is the responsibility of the employee's supervisor.
- (3) A Certificate signed by the Director and Bureau Safety Manager is awarded to the nominee.

4. Films and Literature.

- A. Safety films or videos should be presented to coincide with promotional themes.
- B. Themes should be established for the time of the year such as winter driving, safe boating, fire prevention, etc., and be rotated monthly.
- C. Safety literature or pamphlets are another promotional device to get your message to the target group.
- D. A list of available safety films and videos is available on request from the Safety Management Office in Reston, Virginia.

Chapter 3. RIGHTS AND RESPONSIBILITIES

1. Employer Responsibilities.

- A. Comply with safety and health standards issued under Section 6 of the Occupational Safety and Health Act.
- B. Ensure that all worksites are inspected by technically qualified personnel.
- C. Ensure that all identified hazardous conditions are abated.
- D. If hazardous conditions are discovered, ensure that a notice of these hazards is posted in the workplace.
- E. Ensure that all work-related accidents are reported and are recorded on Form DI-134.
- F. Ensure that all personnel receive appropriate safety training.

2. Employee Responsibilities.

- A. Comply with all Department of the Interior (DOI) and/or Geological Survey standards contained in regulations, manuals, handbooks, or other regulatory publications.
- B. Use required personal protective equipment and other safety equipment.
- C. Report all unsafe or unhealthful working conditions to your supervisor.
- D. Report all work-related accidents, injuries, or illnesses to your supervisor.
- E. Ensure that you follow all work procedures for the tasks assigned.

3. Employee Rights.

- A. All employees are encouraged to participate in the safety program. When appropriate, employees will be authorized official time to participate in committee meetings, safety training, or other officially sanctioned safety activities.

- B. No employee may be subjected to restraint, interference, coercion, or reprisal for participating in officially sanctioned safety activities.
- C. All employees may examine any or all appropriate safety and health standards applicable to their job.
- D. All employees may have access to all accident injury, or illness statistics relating to the Geological Survey or the Department of the Interior.
- E. All employees may examine DOI or Bureau safety and health program policy documents.
- F. Any employee may request an inspection of their work area by a qualified safety inspector.

Chapter 4. SAFETY TRAINING

1. General Requirements.

A. Training will be conducted by persons qualified by education and/or experience in the subjects to be taught.

B. Skills and knowledge can be obtained by on-the-job training, as well as informal and formal training programs.

2. Specific Requirements. Following are specific skills and knowledge established for each employee group to satisfy DOI requirements:

A. All Employees.

(1) Orientation in the Basic Program Elements for Federal Employee Safety and Health Program. Emphasis will be given to the rights and responsibilities under OSHA (29 CFR 1960).

(2) Orientation in the provisions of the Departmental Occupational Safety and Health Program and of specific Bureau programs.

(3) All specific skills and knowledge necessary to perform assignments in conformance with accepted trade and professional standards. Training will include:

(a) Knowledge of relevant codes/standards.

(b) Proper use of tools and equipment.

(c) Selection, care, and use of personal protective equipment.

(4) Recognition of hazards inherent in the work, the tools and equipment, and the working environment.

B. Supervisors.

(1) Requirements cited for all employees.

(2) Application of all codes and standards relevant to the area of their responsibility.

- (3) Accident investigation.
- (4) DOI accident/incident and data analysis.
- (5) Facility inspection and data analysis.
- (6) Job hazard analysis.
- (7) Hazard abatement.
- (8) Training for employees.

C. Managers.

- (1) Requirements cited for all employees.
- (2) Principles of safety and health management.
- (3) Legal aspects of managing a safety program.

D. Collateral Duty Safety Officers.

- (1) Requirements cited for all employees.
- (2) Application of pertinent safety and health codes and standards.
- (3) Facility inspection and reporting.
- (4) Accident investigation.
- (5) DOI accident/incident reporting.
- (6) Data analysis.
- (7) Basic industrial hygiene concepts and monitoring.
- (8) Reporting and investigation of employee complaints, reprisal, allegations, etc.
- (9) Hazard reporting and abatement.

E. Safety Committee Members.

- (1) Requirements cited for all employees.
- (2) Accident analysis and followup.
- (3) Inspection techniques and followup.

(4) Analyzing and processing employee suggestions, hazard reports, etc.

F. Safety Specialists.

(1) Requirements cited for all employees.

(2) Requirements cited for Collateral Duty Safety Officers.

(3) Technical monitoring and application of industrial hygiene principles.

(4) Designing for safety (ergonomics).

(5) Hazard recognition and control and safety consultation.

(6) Testing and technical evaluations.

(7) Application of special codes and standards as applicable to the assignment: i.e., Life Safety Codes, Highway Safety Codes, etc.

G. Employee Representatives. Representatives of recognized bargaining units may be trained in safety and health in Government classes subject to the following criteria.

(1) Such training does not supplant other employees for whom the training was designated and designed.

(2) Such training is funded in accordance with Departmental policies and regulations.

H. Executives.

(1) The Department will develop an executive training course for top management.

(2) The Bureau will develop the training for their executives, in addition to that provided by the Department, to meet specific safety management requirements.

Chapter 5. REPORTING AND RECORDKEEPING

1. Accident Reporting.

A. Any accident which involves injury or illness to an employee on official duty or damages Government property must be reported on Form DI-134 to the regional safety manager within 5 days. (For instructions on completing the Form and a copy of Form DI-134, see Appendix A.)

B. If motor vehicles, watercraft, or aircraft are involved, a Form DI-134 must be completed regardless of the amount of property damage. For accidents involving other property, only those which result in greater than \$50 damage need to be reported.

C. If property damage is less than \$50 and/or no personal injury occurred, accidents need not be reported unless more serious injury or greater property damage could have resulted.

2. Motor Vehicles Leased by the General Services Administration.

A. Standard Forms 91, 91A, and 94 must be completed for GSA-leased vehicles. (See copy of forms in Appendix A.) These forms do not have to be forwarded to the regional safety manager.

B. Optional Form 26, "Data Bearing Upon Scope of Employment of Motor Vehicle Operator," (see Appendix A) is used to clarify the official duty at the time of accident. This form is forwarded along with Standard Forms 91, 91A, and 94 to the appropriate GSA motor pool official.

3. Watercraft Accidents.

A. Any watercraft accident which occurred in any body of water within the territorial boundaries of the United States must be reported on Coast Guard Form 3865 (see Appendix A), if property damage was greater than \$200 and/or injury or death occurred to the occupant(s).

B. If death or injury occurred, Form 3865 must be completed and forwarded within 48 hours to the reporting authority in the State where the accident occurred. Reports in other cases must be submitted within 10 days.

C. A Form DI-134 is also required for all watercraft accidents, submitted to the regional safety manager.

4. Aircraft Accidents.

A. Any unplanned event that does damage or causes injury when associated with the operation of an aircraft, occurring between the time the engine(s) is/are started or rotors turning for the purpose of sustaining flight, until the aircraft comes to rest with engines, propellers, or rotors stopped and all persons have disembarked, is considered to be an aircraft accident.

B. The Bureau Safety Manager should be notified as soon as practicable in the event of any aircraft accident.

C. If injury or damage occurs, Form OAS-78 (see Appendix A), should be completed by either the pilot or appropriate USGS project chief. The Form is to be retained locally and will be used to transmit appropriate information to investigating teams.

D. Within 5 days after the accident, Form OAS-34 (see Appendix A), should be completed by the pilot or project chief and submitted to the Director, Office of Aircraft Services.

E. A Form DI-134 should also be prepared by the project chief and submitted to the Bureau Safety Manager within 5 days.

F. Supplies of Form OAS-34 are available from the Office of Aircraft Services, Boise, ID 83705.

5. Office of Workers' Compensation Programs (OWCP) Forms.

A. The Office of Personnel administers the Office of Workers' Compensation Programs.

B. When an accident occurs which results in traumatic injury, the injured employee must notify his/her immediate supervisor as soon as practicable by completion of the CA-1. If an employee develops an occupational illness, then the supervisor should be notified through the completion of the CA-2. (A copy of both forms is found in Appendix A.)

C. After the supervisor has acknowledged your injury or illness, the Form CA-1 or CA-2 should be forwarded to the local OWCP office. However, if medical expenses are not expected in connection with the injury, then the CA forms should only be retained in the employee's medical file.

1. Form DI-134

Form DI-134 (January 1978)
 Exception to SF-91A-92
 Approved by Bureau of the Budget
 March 1963

U. S. DEPARTMENT OF THE INTERIOR
 Safety Management Information System

REPORT OF ACCIDENT/INCIDENT

FIELD REPORT NO.

DATE

1. REPORTING UNIT AND ADDRESS											
2. NAME OF PERSON INVOLVED (last, first, middle initial) ADDRESS (include zip code)						3. AGE		4. SEX <input type="checkbox"/> Male <input type="checkbox"/> Female		6. EMPLOYMENT STATUS	
						5. SOCIAL SECURITY NUMBER				7. OCCUPATIONAL CODE (last digit here) →	
Use separate form for each person involved											
8. DATE AND TIME OF INCIDENT						20. LOST TIME DATA					
YR.	MO.	DAY	HR.	MIN.	9. ACTIVITY	a. Date unable to perform regularly established duties		MO.	DAY	YR.	
						b. Date returned to work (Regularly established duties)					
10. STATE IN WHICH INCIDENT OCCURRED						c. Date returned to work (Restricted work activities)					
11. TYPE OF ACCIDENT/INCIDENT						d. Date terminated					
12. RESULT OF ACCIDENT/INCIDENT						e. Date permanently transferred to lighter duty					
13. NATURE OF INJURY/ILLNESS						f. Number of days of restricted work activity					
14. SEVERITY OF INJURY/ILLNESS						TO BE COMPLETED BY SAFETY MANAGER ONLY					
15. PART OF BODY AFFECTED						g. Number of days lost (Optional) (ANSI-Z16.1)					
16. SOURCE (What was used, done, contacted, etc?)						h. Number of lost workdays (Required) (OSHA-29 CFR 1960.2 (n))					
17. HUMAN FACTOR						i. Recordable occupational injury/illness (OSHA-29 CFR 1960.4)		YES	NO		
19. REPORT SENT TO OWCP?											
21. PROPERTY OWNERSHIP						23. IDENTIFICATION OF PROPERTY INVOLVED (name, model number, size, make, type, etc.)					
22. AMOUNT OF PROPERTY DAMAGE (Dollars Only)						a. Government:					
a. GOVERNMENT			b. OTHER			b. Other:					
\$						\$					
					0 0						0 0
24. NARRATIVE OF ACCIDENT/INCIDENT (Include who, what, when, where, and how)											

Continue on separate sheet, if necessary

25. CORRECTIVE ACTION TAKEN OR PLANNED

WHEN: Now _____ Fiscal Year _____

Signature and title of reporting official

Initials of Bureau Safety Manager

Signature of reviewing authority

Date

Date

2. Instructional Memorandum for Completing Form DI-134

USGS 9-2030
(Aug. 1983)

Department of the Interior
U.S. GEOLOGICAL SURVEY INSTRUCTIONAL MEMORANDUM

No. ADMIN/Safety 88-01

Date: December 9, 1987

Subject: Accident Reporting Procedures

Reference: 485 DM 5.5

1. Purpose. This Instructional Memorandum provides guidelines to all employees and supervisors of the U.S. Geological Survey. It describes policies and procedures for reporting accidents to the Departmental Safety Manager within 15 workdays following the date of the accident.

2. Policy. Department of the Interior policy (485 DM 5.5) requires the receipt of a Form DI-134, Supervisor's Report of Accident/Incident, within 15 workdays following the date of a work-related accident which results in damage to Government property of greater than \$50 and/or personal injury. In order to meet this Departmental reporting requirement, USGS policy requires the supervisor to forward the Form DI-134 to their appropriate Regional Safety Manager within 5 days after receiving notice of the accident (445-1-H.7.2B).

3. Responsibilities. Employees. An employee must report to his/her supervisor within 3 workdays all work-related accidents which result in damage to Government-owned or -leased property and/or personal injury.

Supervisors. Supervisors must investigate work-related accidents which occur within their purview. A Form DI-134 must be completed and forwarded through divisional reporting channels to the appropriate regional safety manager within 5 workdays after receiving notice of the accident. This is especially important if an employee has completed an Office of Workers' Compensation Programs (OWCP) Form CA-1 or CA-2.

Regional Safety Managers. Regional safety managers must review each DI-134 for completeness and technical accuracy, and forward to the Bureau Safety Manager within 2 workdays after receipt. A copy of the report should be forwarded to the respective divisional safety officer.

4. Procedures. The Form DI-134 is a four part snap-out form and is the supervisor's official report of an accident/incident. A copy of the DI-134 and instructions for completion are attached. The Safety Management Office has provided additional instructions for individual block numbers listed below:

OPR: ADMIN/Safety
DISTRIBUTION: E

2. Instructional Memorandum for Completing Form DI-134 (Cont'd)

ADMIN/Safety 88-01

December 9, 1987

- Block 1.** The organization for which the accident is being reported should be entered here. The organizational code should be placed in the 9-block area to the right. The first three digits will always be 080 (this indicates to the Department that it is a Survey organization). The remaining six digits will be your assigned organizational code. These codes can be found in the USGS Safety Handbook, Section 7.4.
- Block 2.** The name of the individual who is injured or is an operator of a vehicle which received property damage should be entered here. If the accident was a fire or general property damage, then the item which was damaged should be placed here, (i.e. building, trailer, lab hood, etc).
- Blocks 3-7.** These must be completed for the individual named in Block 2. If an individual is not involved, then these may be blank.
- Block 8.** This must be completed for the date and time of the accident. Time data should be entered using the 24-hour clock system. If either the date or time is not known exactly, then an estimate is acceptable.
- Blocks 9-18.** Use the codes shown in the DI-134 instructions which best describe the accident. All blocks must be completed.
- Block 19.** Indicate whether or not the CA-1 or CA-2 form has been or will be sent to OWCP.
- Block 20.** Section (a) of this block must be completed if Block 14 of the Form is an 03, 04, 05, or 06. Otherwise Block 20a is blank.
- Sections b, c, d, e, and f of Block 20, should be filled in with the data if known at the time the DI-134 is being completed. Do not wait for the injured employee to return to work to complete these sections. A Supplemental Report (DI-134-C) can be completed when the employee returns to full-time status.
- Blocks 20 g, h, and i are to be completed by the Bureau Safety Manager and thus should be left blank.
- Blocks 21-23.** Must be completed if Block 12 is coded 03 or 04 (Property Damage involved). Otherwise leave blank.
- Block 22 can be a rough estimate of the damage if not known at the time the report is being completed.

2. Instructional Memorandum for Completing Form DI-134 (Cont'd)

ADMIN/Safety 88-01

December 9, 1987

- Block 24.** Provide a short but informative narrative of the accident.
- Block 25.** Provide action which management has taken to prevent recurrence of the reported accident.
- Block 26.** Reporting Official. The signature of the Reporting Supervisor must appear.
- Block 27.** Reviewing Authority. The signature of the Reporting Supervisor's Supervisor (District Chief or his/her delegate, Branch Chief, Office Chief, etc).
- Block 28.** The Bureau Safety Manager will initial here, and thus should be left blank.

Upon completion of the Form DI-134 and signature by the reporting official, it should be sent directly to the "local" collateral duty safety officer for review. The local safety officer should initial in the lower left hand margin. At this time the Form should be sent directly to the reviewing authority for signature and then sent to the appropriate regional safety manager. Before forwarding to the regional safety manager, the reporting organization should retain the pink copy of the Form.

For Western Region accidents, the Form should be sent to:

Bill Gall
U.S. Geological Survey
345 Middlefield Road, MS 225
Menlo Park, CA 94025

For Central Region accidents, the Form should be sent to:

Ernie Ray
U.S. Geological Survey
Box 250461, MS 205
Denver Federal Center
Denver, CO 80225

2. Instructional Memorandum for Completing Form DI-134 (Cont'd)

ADMIN/Safety 88-01

December 9, 1987

For Eastern Region and headquarters accidents, the Form should be sent to:

Larry Finisecy
U.S. Geological Survey
National Center, MS 246
12201 Sunrise Valley Drive
Reston, VA 22092

In order to facilitate the reporting of accidents that occur during extended field activities, a couple of DI-134s and CA-1s should be included in the field pack.

5. Form DI-134-C (Supplemental Accident/Incident Report). When the original Form DI-134 requires update, correction, deletion, etc., a Form DI-134-C should be completed. The Form DI-134-C is especially useful for lost time accident information (Blocks 20b, c, d, e, and f), which may not be known when the original accident report is being completed.
6. Accident Forms Acquisition. Forms DI-134 and DI-134-C may be obtained from the Regional Safety Managers listed above. All organizations should have the Form DI-134 readily available. The DI-134-C can be requested on an as needed basis.



Jack J. Stassi
Assistant Director for Administration

Attachments

Distribution: E

INSTRUCTIONS FOR COMPLETING FORM DI-134

NOTE: This is a four part snap-out form. Retain the last copy for your files, send the remaining copies, still assembled, through normal bureau/office channels. Tear off this page of instructions to assist you in completing the form.

INSTRUCTIONS: Complete all applicable blocks, inserting the appropriate code where called for. All information on this report refers to person named in Block 2 and/or property identified in Block 23. Information contained in this report may be added to and/or corrected by use of Form DI-134-C "Supplementary Accident/Incident Report."

3. Codes to be used in Blocks of Form DI-134

Appendix A

USGS HANDBOOK 445-1-H

FIELD REPORT NO. - The use of a number here is optional unless required by bureau or office.

DATE - Enter date of report.

BLOCK 1 - REPORTING UNIT AND ADDRESS - This code identifies the bureau/office and subdivisions thereof. Organizational codes are assigned by the Bureau/Office Safety Manager.

BLOCK 2 - NAME OF PERSON INVOLVED - Enter name of person who had accident, was injured, or became ill. When more than one person is injured in the same accident or occupational illness, complete separate report form for each person injured. (Leave blank when there is no way to identify a person with property damage or fire.)

ADDRESS - When reporting accidents/incidents involving persons other than employees, enter complete home address of individual. Addresses of employees is optional to bureau requirements.

BLOCK 3 - AGE - Enter age of person involved. If unknown, give best estimate.

BLOCK 4 - SEX - Check appropriate box, when applicable.

BLOCK 5 - SOCIAL SECURITY NUMBER - Enter number of the employee involved. Not required for non-employees.

BLOCK 6 - EMPLOYMENT STATUS - Enter the code which identifies the person involved in the accident or illness:

- | | | | |
|-----------------|--------------------------------|--------------------------------|--|
| 01 Permanent* | 06 Concessioner | 11 Vol. in the Parks | 16 CITA |
| 02 Temporary | 07 Youth Con. Corps (Staff)** | 12 Vista | 17 Young Adult Con. Corps (Staff)** |
| 03 Emergency | 08 Youth Con. Corps (Enrollee) | 13 Employee Family Member | 18 Young Adult Con. Corps
(Corpsmember) |
| 04 Job Corpsman | 09 Public (Visitor) | 14 Tribal Member | 19 Student (BIA) |
| 05 Contractor | 10 Public (Other) | 15 Other (Explain in Block 24) | |
- *Includes Job Corps Staff **Use code 01 or 02 when applicable

BLOCK 7 - OCCUPATIONAL CODE - Enter pay plan and occupational series code. (Employees only.) Examples: G S 0 3 0 1 W B 5 8 0 2

BLOCK 8 - DATE AND TIME OF INCIDENT - Enter date and time of accident or discovery of occupational illness. Example: July 4, 1976 at 1:35 p.m. is recorded as 7 6 0 7 0 4 1 3 3 5 using the 24-hour clock system.

BLOCK 9 - ACTIVITY - Enter the code which best describes the activity the person named in Block 2 was engaged in at time of accident or occupational illness:

- | | | |
|---|---|--|
| 00 Not applicable | 09 Materials Handling | 17 Training (Trainee) |
| 01 Administrative/Clerical | 10 Observing, Inspection, Surveying, Etc. | 18 Transport-Operator (Vehicle, Aircraft, Watercraft, Animal) |
| 02 Fire Fighting | 11 Operating Hand Tools (Powered and Non-Powered) | 19 Transport-Passenger (Vehicle, Aircraft, Watercraft, Animal) |
| 03 Heavy Equipment Operation | 12 Operating Machinery | 20 Food Preparation/Handling |
| 04 Inactive (Rest, Sleep, Etc.) | 13 Performing Service, NEC ¹ | 21 Housekeeping |
| 05 Law Enforcement | 14 Recreation | 80 Other, NEC |
| 06 Locomotion (Walking, Running, Etc.) | 15 Search & Rescue | 99 Unknown |
| 07 Maintenance and Repair (Buildings, Grounds, Roads, Etc.) | 16 Training (Instructor) | |
| 08 Maintenance and Repair (Machinery and Equipment) | | |

A-6

3. Codes to be used for Blocks of Form DI-134 (Cont'd)

BLOCK 10 - STATE IN WHICH INCIDENT OCCURRED - Enter two-letter state abbreviation as used in Zip Code Directory. For outside United States and its Territories, use 00 as code.

BLOCK 11 - TYPE OF ACCIDENT/INCIDENT - Enter appropriate code.

01 Struck Against	11 Contact With Electric Current	Motor Vehicle Accidents:
02 Struck By	12 Contact With Temperature Extremes	20 Collision or Sideswipe With Another
03 Fall From Different Level	13 Contact With Radiations, Caustics,	Vehicle Both Vehicles in Motion
04 Fall on Same Level	Toxic and Noxious Substances	30 Collision or Sideswipe With a Standing
05 Slip or Twist (Not Fall)	14 Noise Exposure	Vehicle or Stationary Object
06 Caught In, Under or Between	15 Occupational Disease	40 Noncollision Accidents - Overturned,
07 Rubbed or Abraded	16 Bite (Animal, Insect, Etc.)	Ran Off Roadway, Sudden Stop or Start, Etc.
08 Bodily Reaction	17 Explosion	50 Not Chargeable As Motor Vehicle Fleet Accident
09 Overexertion	18 Fire	As Defined in ANSI-D15.1 ¹
10 Drowning	19 Immersion	80 Accident Type, NEC
		99 Unclassified, Insufficient Data

BLOCK 12 - RESULT OF ACCIDENT/INCIDENT - Enter the appropriate code:

00 Incident (No Injury or Property Damage)	03 Property Damage Only
01 Personal Injury Only	04 Personal Injury With Property Damage
02 Occupational Illness	

BLOCK 13 - NATURE OF INJURY/ILLNESS - Enter the appropriate code:

00 No Injury	11 Electric Shock, Electrocutation	22 Respiratory Condition (Toxic Agents)
01 Amputation	12 Fracture	23 Scratches, Abrasions
02 Asphyxia, Strangulation, Drowning	13 Freezing, Frostbite, Exposure	24 Sprains, Strains
03 Burn or Scald (Heat)	14 Hearing Loss or Impairment	25 Stroke
04 Burn (Chemical)	15 Heat Stroke, Sun Stroke, Exhaustion	26 Multiple Injuries
05 Concussion	16 Heart Attack	27 Disorders Due to Physical Agents
06 Contagious or Infectious Diseases	17 Hernia, Rupture	28 Disorders Due to Repeated Trauma
07 Contusion, Crushing, Bruise	18 Inflammation or Irritation of Joints	80 Occupational Illness, NEC
08 Cut, Laceration, Puncture	19 Poisoning, Systemic	81 Other Injury, NEC
09 Dermatitis	20 Pneumoconiosis	99 Unclassified, Not Determined
10 Dislocation	21 Radiation Effects, Sunburn, Etc.	

BLOCK 14 - SEVERITY OF INJURY/ILLNESS - Enter the appropriate code:

00 No Injury Involved	03 Disabling Injury (Temporary)	05 Disabling Injury (Permanent Total)
01 First Aid Only	04 Disabling Injury (Permanent Partial)	06 Disabling Injury (Fatal)
02 Medical Only (Physician)		

¹ NEC = Not Elsewhere Identified.

3. Codes to be used for Blocks of Form DI-134 (Cont'd)

BLOCK 15 - PART OF BODY AFFECTED - Enter the appropriate code:

- 00 No Part of Body Injured
- 01 Head Other Than Eye, Face and Ear
- 02 Ear
- 03 Eye
- 04 Face
- 05 Neck
- 06 Arm
- 07 Wrist
- 08 Hand

- 09 Fingers)
- 10 Upper Extremities, Multiple
- 11 Trunk Area Other Than Back
- 12 Back
- 13 Leg
- 14 Ankle
- 15 Foot
- 16 Toe(s)

- 17 Lower Extremities, Multiple
- 18 Multiple Body Parts
- 19 Multiple Area Skin Problem
- 20 Internal Injuries
- 21 Body System (Heart, Lungs, Etc.)
- 80 Body Parts, NEC
- 99 Unclassified, Insufficient Information

BLOCK 16 - SOURCE (WHAT WAS USED, DONE, CONTACTED, ETC?) - Enter appropriate code:

- 01 Aircraft
- 02 Air Pressure
- 03 Animals, Insects, Birds, Reptiles
- 04 Bicycle
- 05 Boilers, Pressure Vessels
- 06 Boxes, Barrels, Containers, Etc.
- 07 Buildings and Structures
- 08 Chemicals, Chemical Compounds, Vapors, Gases
- 09 Clothing, Apparel, Shoes
- 10 Coal and Petroleum Products
- 11 Cold (Environmental)
- 12 Conveyors
- 13 Cranes, Lifts
- 14 Drugs and Medicines
- 15 Dusts
- 16 Electrical Apparatus
- 17 Firearms
- 18 Flame, Fire, Smoke
- 19 Flammable Gases, Vapors

- 20 Food Products
- 21 Furniture, Fixtures, Furnishings
- 22 Glass Items, NEC
- 23 Hand Tools, Not Powered
- 24 Hand Tools, Powered
- 25 Heat (Environmental)
- 26 Heating Equipment, NEC
- 27 Hoisting Apparatus, NEC
- 28 Infectious and Parasitic Agents, NEC
- 29 Ladders (Fixed)
- 30 Ladders (Portable)
- 31 Liquids, NEC
- 32 Machines
- 33 Mechanical Power Transmission Apparatus
- 34 Metal Fumes
- 35 Metal Items, NEC
- 36 Mineral Items, Metallic, NEC
- 37 Mineral Items, Nonmetallic, NEC
- 38 Motor Vehicles

- 39 Noise
- 40 Paper and Pulp Items, NEC
- 41 Particles
- 42 Plants, Trees, Vegetation
- 43 Plastic Items, NEC
- 44 Pumps and Prime Movers
- 45 Radiating Substances and Equipment
- 46 Soaps, Detergents, Cleaning Compounds
- 47 Scrap, Debris, Waste Materials, NEC
- 48 Stairs, Steps, Etc.
- 49 Steam
- 50 Textile Items, NEC
- 51 Water (River, Lake, Etc.)
- 52 Watercraft
- 53 Wood Items, NEC
- 54 Working Surfaces
- 55 Human Being
- 80 Miscellaneous, NEC
- 99 Unknown, Unidentified

BLOCK 17 - HUMAN FACTOR - Enter the appropriate code.

- 00 No Human Factor
- 01 Failure to Shutdown
- 02 Failure to Use Available Personal Protective Equipment
- 03 Failure to Wear Safe Personal Attire
- 04 Failure to Secure or Warn
- 05 Horseplay

- 06 Improper Use of Equipment
- 07 Improper Use of Hands and Body Parts
- 08 Inattention to Footing or Surroundings
- 09 Operating or Working at Unsafe Speed
- 10 Taking Unsafe Position or Posture
- 11 Driving Errors
- 12 Unsafe Placing, Mixing, Combining, Etc.
- 13 Using Unsafe Equipment

- Personal Factors:
- 14 Improper Attitude
- 15 Lack of Knowledge or Skill
- 16 Bodily Defects
- 17 Disregard of Instructions
- 80 Unsafe Act, NEC
- 99 Unclassified, Undetermined, Insufficient Data

BLOCK 18 - PHYSICAL/ENVIRONMENTAL FACTOR - Enter the appropriate code:

- 00 No Physical/Environmental Factor
- 01 Defects of Accident Source
- 02 Dress or Apparel Hazards
- 03 Environmental Hazards, NEC

- 04 Hazardous Methods or Procedures
- 05 Hazardous Placement
- 06 Hazards of Outside Work Environment
- 07 Inadequately Guarded

- 08 Public Hazards, NEC
- 80 Hazardous Conditions, NEC
- 99 Undetermined, Insufficient Information

3. Codes to be used for Blocks of Form DI-134 (Cont'd)

BLOCK 19 - REPORT SENT TO OWCP? - Indicate if applicable Office of Workers' Compensation Programs (OWCP) Forms have been sent to appropriate district office of the Office of Workers' Compensation Programs, Employment Standards Administration, U.S. Department of Labor (Employees only.)

BLOCK 20 - LOST TIME DATA - Enter the appropriate code(s) as follows: (Employees only.)

- A. Enter date of first full day following date employee was unable to perform regularly established duties
- B. Enter date employee first returned to work and/or performed his regularly established duties.
- C. Enter date employee returned to work and/or was assigned restricted work activities.
- D. Enter date employee was terminated.
- E. Enter date employee was permanently transferred to lighter duty
- F. Enter total number of days of restricted work activity before employee returned to regularly established duties.

Items G, H and I to be completed by Bureau/Office Safety Manager only.

BLOCK 21 - PROPERTY OWNERSHIP - Enter the appropriate code:

- | | | |
|----------------------------------|-----------------|--------------------------------|
| 00 No Property Involved | 04 Leased | 07 Privately Owned |
| 01 Interior Owned | 05 Contractor | 08 Other Federal |
| 02 Inter-Agency (GSA) Motor Pool | 06 Concessioner | 09 Other (Explain in Block 23) |
| 03 Employee-Owned on O. B. | | |

BLOCK 22 - AMOUNT OF PROPERTY DAMAGE - Enter total amount of damage to government and/or other property. When more than one report is completed on a single incident, report only the amount of damage to property identified in Block 21.

BLOCK 23 - IDENTIFICATION OF PROPERTY INVOLVED - Enter appropriate code(s) to identify property involved in accident/incident and give complete description, including license number of vehicles, in space provided:

MOTOR VEHICLES		OTHER
01 Passenger Car	09 Recreation Vehicle (Snowmobiles, etc.)	40 Buildings
02 Station Wagon	10 Motorcycle, Scooter, Etc.	41 Structures
03 Bus	11 Construction-Type Vehicles	42 Furnishings
04 Pick-up Truck	12 Motor Vehicle With Trailer	43 Equipment
05 Truck, 1 Ton and Under	13 Tracked, A.T.V., Etc.	44 Machinery
06 Truck, 1 1/2 - 2 1/2 Tons	14 Farm Tractor	45 Tools
07 Truck, 3 Tons and Over	19 Motor Vehicle, NEC	46 Construction Materials
08 4-Wheel Drive Vehicles (All Sizes)		47 Any Combination of Above
		48 Forest, Range and Tundra
		49 Animals (Horses, Burros, Etc.)
Aircraft	Watercraft	50 Bicycle
20 Fixed Wing - Single Engine	30 Less Than 16'	80 Other Property, NEC
21 Fixed Wing - Multi-Engine	31 16' to Less Than 26'	00 No Property Involved
22 Rotary Wing - Helicopter	32 26' to Less Than 65'	
23 Unpowered - Gliders, Balloons, Etc.	33 65' and Over	
	34 Airboat	

BLOCK 24 - NARRATIVE OF ACCIDENT/INCIDENT - Give a complete summary of the events leading up to the accident.

BLOCK 25 - CORRECTIVE ACTION TAKEN OR PLANNED - Give a brief description of the action(s) taken or planned to prevent similar incidents in the future. Indicate when actions were or will be taken and by whom

4. Motor Vehicle Accident Codes for Block 11 of Form DI-134

MOTOR VEHICLE ACCIDENT CODES

BLOCK 5 - TYPE OF ACCIDENT/INCIDENT

Collision or Sideswipe with Another Vehicle - Both vehicle in motion.

- 20 - BACKING
- 21 - MISJUDGED CLEARANCE/DISTANCE
- 22 - TOO FAST/SLOW
- 23 - LOST CONTROL/SKID
- 24 - DRIVER DISTRACTION
- 25 - UNPREPARED FOR HAZARD (Substitute for FAIL TO DRIVE DEFENSIVELY since most preventable accidents would fall into this category). (This code will let us put together other accidents where the driver should have been anticipating danger. For example, hitting a deer in deer country, maneuvering where visibility is obstructed, and other accidents where the driver should have been more alert).
- 26 - FAILED TO YIELD
- 27 - FOLLOWING TOO CLOSE
- 28 - IMPROPER MANEUVER/FAIL TO SIGNAL - (This code would include Fail to Use Horn as well as signal lights).
- 29 - NONE OF ABOVE - (This code would be used only for non-preventable accidents. Item would be the catch-all for preventables which did not fit elsewhere).

Collision or Sideswipe with a Standing Vehicle or Stationary Object.

- 30 - BACKING
- 31 - MISJUDGED CLEARANCE/DISTANCE
- 32 - TOO FAST/SLOW
- 33 - LOST CONTROL/SKID
- 34 - DRIVER DISTRACTION
- 35 - UNPREPARED FOR HAZARD
- 36 - FAILED TO YIELD
- 37 - FATIGUE
- 38 - AVOID COLLISION
- 39 - NONE OF ABOVE

Noncollision Accidents - Overtaken, Ran off Roadway, Sudden Stop or Start, etc.

- 40 - BACKING
- 41 - MISJUDGED CLEARANCE/DISTANCE
- 42 - TOO FAST/SLOW
- 43 - LOST CONTROL/SKID
- 44 - DRIVER DISTRACTION
- 45 - AVOID COLLISION
- 46 - FATIGUE
- 47 - NO WHEEL CHOCKS
- 48 - ROAD CONDITIONS
- 49 - NONE OF ABOVE
- 50 - Not Chargeable as Motor Accident as Defines in AHST - D-15.1 - (This code is for use where the accident involves a motor vehicle but the vehicle operation or maintenance is not a factor. For example, a properly parked car is hit by another car, or has a tree fall on it. Another example is when repairing a flat tire, the bumper breaks).

5. Operator's Report of Motor Vehicle Accident - GSA Form 91

THIS FORM TO BE FILLED OUT BY THE GOVERNMENT OPERATOR AT THE TIME AND AT THE SCENE OF THE ACCIDENT, INSOFAR AS POSSIBLE.

OPERATOR'S REPORT OF MOTOR-VEHICLE ACCIDENT

DEPARTMENT OR AGENCY

NAME AND LOCATION OF ORGANIZATION TO WHICH YOU ARE ASSIGNED

I OPERATOR	PLEASE PRINT FULL NAME <i>(Last, First, Middle Initial)</i>		AGE	RANK, RATING, OR TITLE	
	SERVICE NUMBER OR SOCIAL SECURITY NUMBER		OPERATOR'S GOV. PERMIT NUMBER		
	HOME ADDRESS <i>(Street, city, State, ZIP Code)</i>			TELEPHONE <i>(Home)</i>	
II TIME AND PLACE	DATE AND DAY OF WEEK OF ACCIDENT		TIME:	HOURS ON DUTY PRIOR TO ACCIDENT	
	PLACE OF ACCIDENT <i>(If accident in city, give city, street and number, and State; if outside city limits, indicate mileage to nearest city or other landmark.)</i>				
	FROM WHAT PLACE TO WHAT PLACE WERE YOU BOUND				
FOR WHAT PURPOSE					
III YOUR VEHICLE	MAKE		TYPE	REGISTRATION NUMBER OR OTHER IDENTIFICATION	
	PARTS OF VEHICLE DAMAGED <i>(Describe)</i>				
	IF THIS IS A BACKING ACCIDENT, WAS GUIDE AVAILABLE? <input type="checkbox"/> YES <input type="checkbox"/> NO				
IF AVAILABLE, WAS GUIDE USED? <input type="checkbox"/> YES <input type="checkbox"/> NO					
IV OTHER VEHICLE AND PROPERTY <i>(For additional vehicles see page 3)</i>	MAKE		TYPE	YEAR	
	OPERATOR'S STATE PERMIT NUMBER		VEHICLE LICENSE NUMBER, AND STATE		
	OPERATED BY <i>(Name)</i>		VEHICLE OWNED BY		
	OPERATOR'S HOME ADDRESS <i>(Street, city, State)</i>		OWNER'S ADDRESS <i>(Street, city, State)</i>		
	PARTS OF VEHICLE DAMAGED <i>(Describe)</i>				
OTHER VEHICLE OR PROPERTY DAMAGED <i>(Describe)</i>					

5. Operator's Report of Motor Vehicle Accident - GSA Form 91
(Cont'd)

V PERSONS INJURED	NAMES		HOME ADDRESSES		
VI OCCUPANTS IN YOUR VEHICLE					
VI OCCUPANTS IN OTHER VEHICLE					
VIII WITNESSES AND POLICE					
	POLICE OFFICER		BADGE NO.	PRECINCT OR HQS.	
IX THE ACCIDENT	YOUR VEHICLE		OTHER VEHICLE		
	DIRECTION OF TRAVEL		DIRECTION OF TRAVEL		
	SIDE OF STREET OR HIGHWAY		SIDE OF STREET OR HIGHWAY		
	APPROXIMATE SPEED (<i>Miles per hour</i>)		APPROXIMATE SPEED (<i>Miles per hour</i>)		
	CONDITION OF ROADWAY (<i>Wet or dry, icy, etc.</i>)				
	WEATHER (<i>Clear, foggy, rain, snow, etc.</i>)		TYPE OF ROADWAY (<i>Concrete, macadam, etc.</i>)		
	OTHER INFORMATION (<i>Indicate stop signs, traffic lights, obstructions, etc.</i>)				

6. Statement of Witness - GSA Form 94

Standard Form 94
Revised June 1953
Bureau of the Budget
Circular A-5 (Rev.)
(94-103)

STATEMENT OF WITNESS

(Use additional sheets if necessary)

BUDGET BUREAU
APPROVAL NO. 90-R110

1. DID YOU SEE THE ACCIDENT?	2. WHEN DID IT HAPPEN? (Time and date)	3. WHERE DID IT HAPPEN? (Street location and city)
------------------------------	--	--

4. TELL IN YOUR OWN WAY HOW THE ACCIDENT HAPPENED

5. WHERE WERE YOU WHEN THE ACCIDENT OCCURRED?

6. WAS ANYONE INJURED, AND IF SO, EXTENT OF INJURY IF KNOWN?

7. DESCRIBE THE APPARENT DAMAGE TO PRIVATE PROPERTY

8. DESCRIBE THE APPARENT DAMAGE TO GOVERNMENT PROPERTY

9. IN TRAFFIC CASES STATE APPROXIMATE SPEED (Miles per hour?)	(a) GOVERNMENT VEHICLE	(b) OTHER VEHICLE
---	------------------------	-------------------

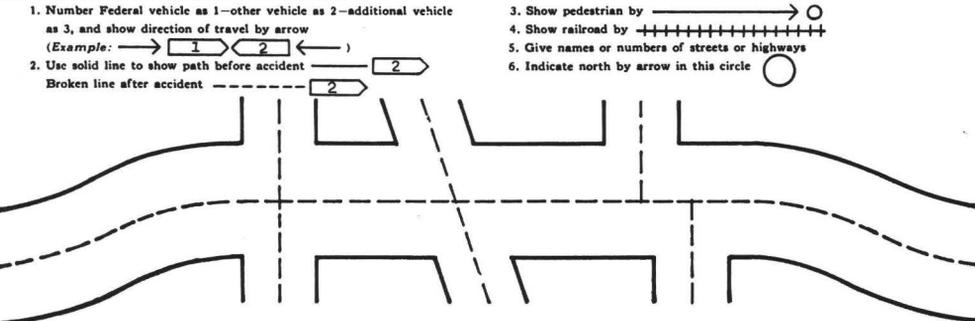
10. GIVE THE NAMES AND ADDRESSES OF ANY OTHER WITNESSES TO THE ACCIDENT

NAMES	ADDRESSES

11. DATE	SIGNATURE
----------	-----------

12. HOME ADDRESS	TELEPHONE NO.
------------------	---------------

13. BUSINESS ADDRESS	TELEPHONE NO.
----------------------	---------------



6. Statement of Witness – GSA Form 94 (Cont'd)

FILE REFERENCE:

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This office has been advised that you witnessed an accident which occurred

It will be helpful if you will answer, as fully as possible, the questions on the back of this letter.

Your courtesy in complying with this request will be appreciated. An addressed envelope, which requires no postage, is enclosed for your convenience in replying.

Sincerely yours,

Encl.

(OVER)

7. Data Bearing Upon Scope of Employment of Motor Vehicle Operator - GSA Form 26

DATA BEARING UPON SCOPE OF EMPLOYMENT OF MOTOR VEHICLE OPERATOR		This form is to be completed by the operator at the time and at the scene of the accident, insofar as possible, and attached to the completed Standard Form 91, Operator's Report of Motor Vehicle Accident. See the Privacy Act Statement below.			
SECTION I OPERATOR DATA	1. NAME		2. TITLE AND JOB CLASSIFICATION		
	3. AGENCY NAME		BEGINNING DATE OF DUTY	4. ESTABLISHED WORKING HOURS	FROM <small>a.m.</small> TO <small>a.m.</small>
	5. IMMEDIATE SUPERVISOR'S NAME		6. SUPERVISOR'S TITLE		
SECTION II VEHICLE DATA	7. VEHICLE OWNERSHIP (Mark "X" in appropriate block)		8. IF ITEM 7b IS MARKED, IS TITLE OF VEHICLE REGISTERED IN OPERATOR'S NAME		
	a. GOVERNMENT OWNED <small>Give vehicle identification number</small>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <small>If "No," give details as to how the vehicle is titled.</small>		
	b. NOT GOVERNMENT OWNED <small>Give vehicle license number</small>				
	9. VEHICLE WAS ASSIGNED TO OPERATOR BY (Mark one)		10. AUTHORITY FOR OPERATOR'S USE OF VEHICLE WAS GIVEN		
a. GSA MOTOR POOL <small>Give motor pool location</small>		<input type="checkbox"/> ORALLY <input type="checkbox"/> IN WRITING <small>Give details:</small>			
b. OTHER ACTIVITY <small>Name of activity that assigned vehicle</small>					
11. ORIGIN		12. DESTINATION			
13. EXACT PURPOSE OF TRIP		14. TRIP BEGAN			
		DATE	TIME	<small>a.m.</small>	
				<small>p.m.</small>	
		15. ACCIDENT OCCURRED			
		DATE	TIME	<small>a.m.</small>	
				<small>p.m.</small>	
SECTION III DETAILS OF TRIP DURING WHICH ACCIDENT OCCURRED	16. AUTHORITY FOR THE TRIP WAS GIVEN TO THE OPERATOR		17. WAS THERE ANY DEVIATION FROM DIRECT ROUTE		
	<input type="checkbox"/> ORALLY <input type="checkbox"/> IN WRITING <small>Give details:</small>		<input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> "Yes," explain in detail:		
	18. WAS THE TRIP MADE WITHIN ESTABLISHED WORKING HOURS		19. DID THE OPERATOR, WHILE ENROUTE, ENGAGE IN ANY ACTIVITY OTHER THAN THAT FOR WHICH THE TRIP WAS AUTHORIZED		
<input type="checkbox"/> YES <input type="checkbox"/> NO <small>If "No," explain:</small>		<input type="checkbox"/> NO <input type="checkbox"/> YES <small>If "Yes" explain:</small>			
In compliance with the Privacy Act of 1974, the following information is provided: Solicitation of the information requested on this form is authorized by Title 40 U.S.C. Section 491. Disclosure of the information by a Federal employee is mandatory, as it is the first step in the Government's investigation of a motor vehicle accident. The principle purposes for which the information is intended to be used are to provide necessary data for use by legal counsel in legal actions resulting from accidents and to provide accident information/statistics for use in analyzing accident causes and developing methods of reducing accidents. Routine use of the information may be by Federal, State or local governments or agencies, when relevant to civil, criminal, or regulatory investigations or prosecution.		20. GIVE FULL DETAILS OF THE AUTHORITY FOR, NATURE OF, AND CIRCUMSTANCES SURROUNDING THE TRIP, NOT COVERED ABOVE OR ON THE ACCOMPANYING SF 91 (continued on the reverse)			
		OPERATOR		DATE	
		The information contained herein is true and correct to the best of my knowledge and belief.			
Sign here		OPERATOR'S SUPERVISOR		DATE	
Sign here					

5026-103

U.S. - G.P.O. - 1983-381-526/8265

OPTIONAL FORM 26 (REV. 11-76)
GENERAL SERVICES ADMINISTRATION
FPMR (41 CFR) 101-39.705

8. Boating Accident Report - CG Form 3865

DEPARTMENT OF TRANSPORTATION U.S. COAST GUARD CG-3865 (Rev. 1/88)		BOATING ACCIDENT REPORT			FORM APPROVED OMB NO. 2115-0010			
The operator/owner of a vessel used for recreational purposes is required to file a report in writing whenever an accident results in: loss of life or disappearance from a vessel; an injury which requires medical treatment beyond first aid; or property damage in excess of \$200 or complete loss of the vessel. Reports in death and injury cases must be submitted within 48 hours. Reports in other cases must be submitted within 10 days. Reports must be submitted to the reporting authority in the State where the accident occurred. This form is provided to assist the operator in filing the required written report.								
COMPLETE ALL BLOCKS. (indicate those not applicable by "NA")								
NAME AND ADDRESS OF OPERATOR		AGE OF OPERATOR		OPERATOR'S EXPERIENCE				
		DATE OF BIRTH		This type of boat Other Boat Operating Exp.				
OPERATOR TELEPHONE NUMBER		OWNER TELEPHONE NO.		<input type="checkbox"/> Under 20 Hours <input type="checkbox"/> Under 20 Hours <input type="checkbox"/> 20 to 100 Hours <input type="checkbox"/> 20 to 100 Hours <input type="checkbox"/> 100 to 500 Hours <input type="checkbox"/> 100 to 500 Hours <input type="checkbox"/> Over 500 Hours <input type="checkbox"/> Over 500 Hours				
NAME AND ADDRESS OF OWNER		RENTED BOAT?	NUMBER OF PERSONS ON BOARD	FORMAL INSTRUCTION IN BOATING SAFETY				
		<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> None <input type="checkbox"/> State <input type="checkbox"/> USCG Auxiliary <input type="checkbox"/> U.S. Power Squadrons <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> U.S. Power Squadrons <input type="checkbox"/> American Red Cross <input type="checkbox"/> Other (Specify)				
VESSEL NO. 1 (this vessel)								
BOAT REGISTR. NO.	BOAT NAME	BOAT MAKE	BOAT MODEL	MFR. HULL IDENTIFICATION NO.				
TYPE OF BOAT	HULL MATERIAL	ENGINE	PROPULSION	CONSTRUCTION				
<input type="checkbox"/> Open Motorboat <input type="checkbox"/> Cabin Motorboat <input type="checkbox"/> Auxiliary Sail <input type="checkbox"/> Sail (only) <input type="checkbox"/> Rowboat <input type="checkbox"/> Canoe <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Wood <input type="checkbox"/> Aluminum <input type="checkbox"/> Fiberglass <input type="checkbox"/> Rubber/vinyl <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Outboard <input type="checkbox"/> Inboard gasoline <input type="checkbox"/> Inboard diesel <input type="checkbox"/> Inboard-outdrive <input type="checkbox"/> Jet <input type="checkbox"/> Other (Specify)	No. of engines _____ Length _____ Horsepower (total) _____ Type of fuel _____ Has boat had a Safety Examination? <input type="checkbox"/> YES <input type="checkbox"/> NO For current year? <input type="checkbox"/> YES <input type="checkbox"/> NO Year _____ Indicate whether <input type="checkbox"/> USCG Auxiliary Courtesy Marine Exam. <input type="checkbox"/> State/local examination <input type="checkbox"/> Other	Year built (boat) _____ Day _____ Night _____ <input type="checkbox"/> Good <input type="checkbox"/> <input type="checkbox"/> Fair <input type="checkbox"/> <input type="checkbox"/> Poor <input type="checkbox"/> <input type="checkbox"/> Storm (Over 25 mph)				
ACCIDENT DATA								
DATE OF ACCIDENT	TIME	am	pm	NAME OF BODY OF WATER	LOCATION (Give location precisely)			
STATE	NEAREST CITY OR TOWN		COUNTY					
WEATHER	WATER CONDITIONS		TEMPERATURE	WIND	VISIBILITY			
<input type="checkbox"/> Clear <input type="checkbox"/> Rain <input type="checkbox"/> Cloudy <input type="checkbox"/> Snow <input type="checkbox"/> Fog <input type="checkbox"/> Hazy	<input type="checkbox"/> Calm (waves less than 6") <input type="checkbox"/> Choppy (waves 6" to 2') <input type="checkbox"/> Rough (waves 2' to 6') <input type="checkbox"/> Very Rough (greater than 6') <input type="checkbox"/> Strong Current		(Estimate) Air _____°F Water _____°F	<input type="checkbox"/> None <input type="checkbox"/> Light (0 - 6 mph) <input type="checkbox"/> Moderate (7 - 14 mph) <input type="checkbox"/> Strong (15 - 25 mph) <input type="checkbox"/> Storm (Over 25 mph)	Day _____ Night _____ <input type="checkbox"/> Good <input type="checkbox"/> <input type="checkbox"/> Fair <input type="checkbox"/> <input type="checkbox"/> Poor <input type="checkbox"/> <input type="checkbox"/> Storm (Over 25 mph)			
OPERATION AT TIME OF ACCIDENT	TYPE OF ACCIDENT		WHAT IN YOUR OPINION CONTRIBUTED TO THE ACCIDENT? (Check all applicable)					
(Check all applicable) <input type="checkbox"/> Commercial Activity <input type="checkbox"/> Cruising <input type="checkbox"/> Maneuvering <input type="checkbox"/> Approaching Dock <input type="checkbox"/> Leaving Dock <input type="checkbox"/> Water Skiing <input type="checkbox"/> Racing <input type="checkbox"/> Towing <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Drifting <input type="checkbox"/> At Anchor <input type="checkbox"/> Tied to Dock <input type="checkbox"/> Fueling <input type="checkbox"/> Fishing <input type="checkbox"/> Hunting <input type="checkbox"/> Skin Diving/ Swimming <input type="checkbox"/> Being Towed		<input type="checkbox"/> Grounding <input type="checkbox"/> Capsizing <input type="checkbox"/> Flooding <input type="checkbox"/> Sinking <input type="checkbox"/> Fire or Explosion (Fuel) <input type="checkbox"/> Fire or Explosion (Other than fuel) <input type="checkbox"/> Fallen Skier <input type="checkbox"/> Collision with Vessel <input type="checkbox"/> Collision with Fixed Object <input type="checkbox"/> Collision with Floating Object <input type="checkbox"/> Falls Overboard <input type="checkbox"/> Falls in Boat <input type="checkbox"/> Hit By Boat or Propeller <input type="checkbox"/> Other (Specify)			<input type="checkbox"/> Weather <input type="checkbox"/> Excessive Speed <input type="checkbox"/> No Proper Lookout <input type="checkbox"/> Restricted Vision <input type="checkbox"/> Overloading <input type="checkbox"/> Improper Loading <input type="checkbox"/> Hazardous Waters <input type="checkbox"/> Alcohol use <input type="checkbox"/> Drug Use <input type="checkbox"/> Fault of Hull <input type="checkbox"/> Fault of Machinery <input type="checkbox"/> Fault of Equipment <input type="checkbox"/> Operator Inexperience <input type="checkbox"/> Operator Inattention <input type="checkbox"/> Other (Specify)		
PERSONAL FLOTATION DEVICES (PFD'S)			PROPERTY DAMAGE	FIRE EXTINGUISHERS				
Was the boat adequately equipped with COAST GUARD APPROVED FLOTATION DEVICES? <input type="checkbox"/> Yes <input type="checkbox"/> No Were they accessible? <input type="checkbox"/> Yes <input type="checkbox"/> No Were they serviceable? <input type="checkbox"/> Yes <input type="checkbox"/> No Were they used by survivors? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type? <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, <input type="checkbox"/> V (specify) _____ Were PFD's properly Used? <input type="checkbox"/> Yes <input type="checkbox"/> No Adjusted? <input type="checkbox"/> Yes <input type="checkbox"/> No Sized? <input type="checkbox"/> Yes <input type="checkbox"/> No			Was the vessel carrying NON approved flotation devices? <input type="checkbox"/> Yes <input type="checkbox"/> No Were they accessible? <input type="checkbox"/> Yes <input type="checkbox"/> No Were they used? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, indicate kind _____	Estimated amount This Boat \$ _____ Other Boat \$ _____ Other Property \$ _____	Were they used? (If yes, list Type(s) and number used.) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA Types: _____			
Describe any comments on PFD's under ACCIDENT DESCRIPTION on other side of form			DESCRIBE PROPERTY DAMAGE NAME AND ADDRESS OF OWNER OF DAMAGED PROPERTY					

COMPLETE OTHER SIDE

8. Boating Accident Report - CG Form 3865 (Cont'd)

If more than 3 fatalities and/or injuries, attach additional form(s).					
DECEASED					
NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?
NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?
NAME	ADDRESS	DATE OF BIRTH	WAS VICTIM? <input type="checkbox"/> Swimmer <input type="checkbox"/> Non Swimmer	DEATH CAUSED BY <input type="checkbox"/> Drowning <input type="checkbox"/> Other <input type="checkbox"/> DISAPPEARANCE	WAS PFD WORN? <input type="checkbox"/> Yes <input type="checkbox"/> No What Type?
INJURED					
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY		MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY		MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY		MEDICAL TREATMENT <input type="checkbox"/> Yes <input type="checkbox"/> No
ACCIDENT DESCRIPTION					
DESCRIBE WHAT HAPPENED (Sequence of events. Include Failure of Equipment. If diagram is needed attach separately. Continue on additional sheets if necessary. Include any information regarding the involvement of alcohol and/or drugs in causing or contributing to the accident. Include any descriptive information about the use of PFD's.)					
VESSEL NO. 2 (if more than 2 vessels, attach additional form(s)).					
Name of Operator	Address			Boat Number	
Telephone Number				Boat Name	
Name of Owner	Address				
WITNESSES					
Name	Address			Telephone Number	
Name	Address			Telephone Number	
Name	Address			Telephone Number	
PERSON COMPLETING REPORT					
SIGNATURE	Address			Telephone Number	
QUALIFICATION (Check One) <input type="checkbox"/> Operator <input type="checkbox"/> Owner <input type="checkbox"/> Investigator <input type="checkbox"/> Other				Date Submitted	
(do not use) - FOR REPORTING AUTHORITY REVIEW (use agency date stamp)					
Causes based on (check one) <input type="checkbox"/> This report <input type="checkbox"/> Investigation and this report <input type="checkbox"/> Investigation <input type="checkbox"/> Could not be determined		Name of Reviewing Office		Date Received	
Primary Cause of Accident		Secondary Cause of Accident		Reviewed By	

9. Boating Accident Report Addendum to CG 3865 for Reporting Authority

BOATING ACCIDENT REPORT				
ADDENDUM				
FOR REPORTING AUTHORITY				
NAME OF OPERATOR:			DATE OF ACCIDENT:	
ALCOHOL				
For operator and each passenger indicate:				
OPERATOR	TEST FOR ALCOHOL TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	TYPE OF TEST <input type="checkbox"/> BLOOD <input type="checkbox"/> BREATH <input type="checkbox"/> URINE <input type="checkbox"/> OTHER	TEST RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE	BAC ____%
PASSENGER	TEST FOR ALCOHOL TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	TYPE OF TEST <input type="checkbox"/> BLOOD <input type="checkbox"/> BREATH <input type="checkbox"/> URINE <input type="checkbox"/> OTHER	TEST RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE	BAC ____%
PASSENGER	TEST FOR ALCOHOL TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	TYPE OF TEST <input type="checkbox"/> BLOOD <input type="checkbox"/> BREATH <input type="checkbox"/> URINE <input type="checkbox"/> OTHER	TEST RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE	BAC ____%
PASSENGER	TEST FOR ALCOHOL TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	TYPE OF TEST <input type="checkbox"/> BLOOD <input type="checkbox"/> BREATH <input type="checkbox"/> URINE <input type="checkbox"/> OTHER	TEST RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE	BAC ____%
PASSENGER	TEST FOR ALCOHOL TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	TYPE OF TEST <input type="checkbox"/> BLOOD <input type="checkbox"/> BREATH <input type="checkbox"/> URINE <input type="checkbox"/> OTHER	TEST RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE	BAC ____%
DRUGS				
For operator and each passenger indicate:				
OPERATOR	TEST FOR DRUGS TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE		
PASSENGER	TEST FOR DRUGS TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE		
PASSENGER	TEST FOR DRUGS TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE		
PASSENGER	TEST FOR DRUGS TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE		
PASSENGER	TEST FOR DRUGS TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO	RESULTS <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE		
NAME OF REVIEWING OFFICE		REVIEWED BY		



10. Initial Report of Aircraft Mishap – OAS Form 78

OAS-78
(3/30)

Date of Report _____
Time of Report _____

Office of Aircraft Services

INITIAL REPORT OF AIRCRAFT MISHAP

Instructions: If this mishap (1) is an accident, (2) involves injury(ies), or (3) incurs property damage; contact OAS immediately by most expeditious means available and relay the information outlines below. If mishap is an accident with no injuries or damage, submit Form OAS-34 to OAS as initial notification (OAS-78 not necessary). See 352 DM 6 for detailed aircraft accident/incident reporting procedures.

A. TYPE OF MISHAP:

Date & Time of Occurrence: _____

Location of Occurrence: _____

Aircraft Involved: Type _____ Registration No. _____

B. Name of Pilot: _____

Operator/Company: _____

Number of Persons on Board: _____ Duty Status: _____

Agency(ies) Involved: _____

Injuries: _____

C. Brief Description of Occurrence: _____

D. Estimated Damage: Gov't Property \$ _____

Non-Gov't Property \$ _____

Aircraft Damage: _____

E. Local Actions Planned: _____

F. Name of NTSB Representative Notified: _____

Phone No. _____ Location _____

G. Person Making This Report: _____

Title & Agency _____

Location _____ Telephone _____

11. Aviation Mishap Information System – OAS Form 34**THINGS TO DO FIRST:**

- Aid in rescue and care of the injured.
- Search the wreckage and adjacent areas for survivors.
- Take actions as necessary to prevent injury or death to the survivors.
- Notify the nearest medical facility if necessary.
- Notify the nearest fire department if there is a fire or threat of a fire.
- Notify the local authorities and seek their cooperation in guarding the wreckage site.

THINGS TO DO NEXT:

- When everything has been done to help the injured and to secure the wreckage then notify OAS at FTS 554-9494 or commercial 208/334-9494. These are 24 hour service numbers. Ask for the Safety Manager, Safety Specialist, or Chief, Division of Technical Services.
- Give the information on the reverse side of this form to OAS.

11. Aviation Mishap Information System – OAS Form 34 (Cont'd)

OAS-34 (05/89)		U. S. Department of the Interior Office of the Secretary Office of Aircraft Services AVIATION MISHAP INFORMATION SYSTEM	1. Specify one: <input type="checkbox"/> INCIDENT <input type="checkbox"/> HAZARD <input type="checkbox"/> MAINTENANCE	Control Number AMIS 2. OAS Use Only 3. Bureau Aviation Safety Manager
FOR SAFETY-OF-FLIGHT SITUATIONS, CALL YOUR BUREAU AVIATION SAFETY MANAGER AS SOON AS PRACTICAL.				
THIS FORM SHALL BE UTILIZED TO REPORT ANY DAMAGE OR INJURY LESS THAN ACCIDENT CRITERIA AND ANY CONDITION, ACT, OBSERVANCE, MAINTENANCE DEFICIENCY OR CIRCUMSTANCE WHICH HAS POTENTIAL TO CAUSE AN AVIATION-RELATED ACCIDENT. THESE SITUATIONS MAY INCLUDE AN INCIDENT, AVIATION HAZARD OR MAINTENANCE DEFICIENCY DEFINED IN 352 DM 6				
Submit original report to: OAS AVIATION SAFETY MANAGER 3905 VISTA AVENUE P.O. BOX 15428 BOISE, IDAHO 83715-9998			4. Submit yellow copy to: BUREAU AVIATION SAFETY MANAGER	
5. DATE AND TIME	6. OCCURRENCE LOCATION	7. STATE	8. MISSION/PROJECT	9. <input type="checkbox"/> GENERAL USE <input type="checkbox"/> SPECIAL USE
AIRCRAFT DATA	10. REGISTRATION	11. MAKE	12. MODEL	13. OWNER/OPERATOR/VENDOR
	14. <input type="checkbox"/> CONTRACT <input type="checkbox"/> RENTAL <input type="checkbox"/> DOI <input type="checkbox"/> OTHER GOVT <input type="checkbox"/> MILITARY <input type="checkbox"/> PRIVATE			
15. PERSONNEL DATA	PILOT		NAME	DEGREE OF INJURY
	CO-PILOT			TELEPHONE
	PASSENGER			
	PASSENGER			
	PASSENGER			
16. BRIEFLY EXPLAIN WHAT THE PROBLEM IS/WAS OR WHAT COULD HAPPEN, ACTIONS TAKEN OR RECOMMENDED: (TYPE OR PRINT LEGIBLY - DO NOT USE THE BACK OF THIS FORM).				
17. REPORTED BY: NAME		TELEPHONE	BUREAU	DATE OF SUBMISSION

WHITE Copy to OAS

YELLOW Copy to Bureau Aviation Safety Manager

Retain GREEN Copy

11. Aviation Mishap Information System – OAS Form 34 (Cont'd)

18. **BUREAU AVIATION SAFETY MANAGER:** Notify OAS immediately when aircraft damage or personal injury is indicated. Ensure a thorough investigation of the circumstances and initiate appropriate corrective action. Note such actions here. Inform the originator, if possible. Forward yellow copy to OAS-Aviation Safety Manager with your actions/recommendations beyond your control. Retain a copy for your files.

DATE RECEIVED
DATE FORWARDED TO OAS

19. **OAS AVIATION SAFETY MANAGER:** Review above actions/recommendations and make appropriate comments. Input data to OAS AMIS system. Forward a copy of completed actions to originator within 15 days of receipt of report from Bureau Aviation Safety Manager.

DATE RECEIVED - FIELD
DATE RECEIVED - BASM
DATE RETURNED ORIGINATOR

11. Aviation Mishap Information System – OAS Form 34 (Cont'd)

OAS-34
05/89

**INTERIOR AVIATION MISHAP INFORMATION SYSTEM
(AMIS)
INCIDENT/AVIATION HAZARD/MAINTENANCE DEFICIENCY REPORT**

This is the document for implementing the Interior Aviation Mishap Information System (AMIS). The AMIS is utilized for reporting any occurrence, act, condition or circumstance which has potential to cause an aviation accident. These circumstances may include an Incident, Aviation Hazard or Maintenance Deficiency defined below. For additional information, refer to Departmental Manual 352 DM 6.

AIRCRAFT INCIDENT - An unplanned event that does damage which is less than aircraft accident criteria, or injury less than serious. A situation involving an aircraft and/or personnel which has the potential of resulting in an accident will be considered an aircraft incident. Examples of incidents are:

- Injury to Personnel - Medical attention or first aid
- Damage to Aircraft - Any damage less than substantial with engines/rotors turning and there is an intent to fly.
- Forced Landing - A landing necessitated by failure of engines, systems or components which makes continued flight impossible, and which may or may not result in damage.
- Precautionary Landing - A landing necessitated by apparent impending failure of engines, systems, or components which makes continued flight inadvisable.
- Aircraft Ground Mishap - A mishap in which there is no intent to fly; however, the power plants and/or rotors are in operation and damage incurred requiring replacement or repair of rotors, propellers, wheels, tires, wing tips, flaps, etc. or an injury is incurred requiring first aid or medical attention.
- Near Mid-Air Collision - An incident associated with the operation of an aircraft in which a possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft, or a report is received from a pilot or flightcrew member stating that a collision hazard existed between two or more aircraft.

AVIATION HAZARD - An aviation hazard is any condition, act or set of circumstances that compromise the safety of DOI personnel or resources engaged in aviation activities. These hazards may include inadequacies, deficiencies, or unsafe practices pertaining to all aspects of aviation operations activities. These hazards may address such areas as:

Procedures/Instructions	Policies/Regulations	Deviation from:
Departmental Manual Releases	Violations or Rules	Planned Operations
Operational Procedures Memorandum	Life Safety Equipment	Flight Plan
Bureau Directives	Unsafe Conditions	General-Use to
	Flight Following	Special-Use
	Hazardous Materials	Operations
Personal Protective Equipment	Weather	Unsafe Actions:
Inspections	Ground Handling	Pilot/Crew
Inadequate Training	Pilot Procedures	Passengers
Load Calculation	Fuel Contamination	Support Personnel

MAINTENANCE DEFICIENCY - A serious defect or failure causing mechanical difficulties encountered in aircraft operations, not specifically identified as an incident, or aviation hazard above.

IMPORTANT: Utilization of this form to report aviation occurrences for aircraft accident prevention purposes does not replace, but only supplements the requirement for initiating a DI-134, "Report of Accident/Incident," as specified in Departmental Manual 485 DM 5.

11. Aviation Mishap Information System – OAS Form 34 (Cont'd)

INSTRUCTIONS FOR COMPLETING AMIS REPORT

This is a three-part tear-out form. Forward the **white** copy to the OAS Aviation Safety Manager at the address shown on the form. Forward the **yellow** copy to your Bureau Aviation Safety Manager. If you are not sure of who this is, call the OAS Safety Office. Retain the **green** copy for your files.

INSTRUCTIONS FOR ORIGINATOR

- Block 1: Specify if **INCIDENT, AVIATION HAZARD, or MAINTENANCE DEFICIENCY**. If you are unsure, leave it blank.
- Block 2: For use by OAS Aviation Safety Manager ONLY.
- Block 3: For use by Bureau Aviation Safety Manager (BASM) ONLY - leave blank.
- Block 4: Type or print legibly your Bureau Aviation Safety Manager's address.
- Block 5: Specify the date, and local time (state whether a.m. or p.m.) of the occurrence.
- Block 6: Specify the site/town/city of the location of the occurrence. If in doubt, provide the location of your office.
- Block 7: Two-letter identifier of the state. (ID, CA, NV, etc).
- Block 8: Identify the mission/project, such as low reconnaissance, horse herding, cadastral, off-shore, fire suppression, personnel transport, etc.
- Block 9: If in doubt, refer to Departmental Manual 350 DM 3 or 351 DM 6 or call your Bureau or OAS Aviation Safety Manager.
- Block 10: Provide the Registration Number of the aircraft.
- Block 11: Provide make of aircraft (Bell, Hughes, Cessna, Piper, etc).
- Block 12: Provide model of aircraft (206L1, 47G3, P-210, PA-18, etc). If in doubt, ask your pilot or call your Bureau or OAS Aviation Safety Manager
- Block 13: List the vendor providing the service. If a military, other Government agency or private aircraft give such e.g., U.S. Army, Utah National Guard, USFS, or CDF, Jim Brown-Pvt., etc.).
- Block 14: Specify one as the resource for the aircraft. Should coincide with Block 13.
- Block 15: Begin with first name, give middle initial if known, and then the last name as requested. If not an aircraft activity being reported, provide individuals involved in the situation causing the report to be filed e.g., refueler, air traffic controller, tower operator, etc.
- Block 16: Provide as much detail as you can. Use additional plain sheets of paper if necessary. Provide what was done to correct the problem or what you recommend to correct the problem. **DO NOT SKIP DETAILS; THIS IS A CRITICAL PORTION OF THE REPORTING PROCESS. DO NOT USE THE BACK OF THIS FORM. USE SEPARATE SHEET OF PAPER IF ADDITIONAL SPACE IS NEEDED.**
- Block 17: Provide information requested if you desire to be informed of the actions taken on your report. Name and telephone number are optional. Bureau and date of submission are required.

INSTRUCTIONS FOR BUREAU AVIATION SAFETY MANAGER

- Block 18: Review the circumstances described in the AMIS Report and initiate appropriate corrective actions for those situations over which you have authority, responsibility, or control. If the AMIS Report is signed and an address or telephone number is provided, a written response along with a copy of the AMIS Report will be forwarded to the originator. Forward a copy of this report with appropriate attachments to the OAS Aviation Safety Manager within 30 calendar days of receipt.

12. Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation - OWCP Form CA-1

Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation

U.S. Department of Labor
 Employment Standards Administration
 Office of Workers' Compensation Programs



1. Name of Injured Employee (Last, first, middle)		2. Date of Birth	3. <input type="checkbox"/> Male <input type="checkbox"/> Female	4. Social Security Number
5. Employee's Home Mailing Address (no., street, city, state, zip code)				6. Home Telephone Area Code: Number:
7. Name and Address of Employing Agency		8. Place Where Injury Occurred (e.g., 2nd floor, Main Post Office Bldg., 12th & Pine)		
9. Date and Hour of Injury (mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	10. Date of This Notice (mo., day, year)	11. Dependents Wife/Husband <input type="checkbox"/> Children/Under 18 Years Old <input type="checkbox"/>	12. Employee's Occupation	
13. Cause of Injury (Describe how and why the injury occurred)		14. Nature of Injury (Identify the part of the body injured, e.g., fractured left leg, etc.)		

15. If This Notice and Claim Was Not Filed With The Employing Agency Within Two Working Days After The Injury, Explain The Reason For The Delay.

16. I certify, under penalty of law, that the injury described above was sustained in performance of duty as an employee of the United States Government and that it was not caused by my willful misconduct, intent to injure myself or another person, nor by my intoxication. I hereby claim medical treatment, if needed, and the following, as checked below, while disabled for work:

- a. Sick and/or Annual leave.
- b. Continuation of regular pay not to exceed 45 days and compensation for wage loss if disability for work continues beyond 45 days (If my claim is denied, I understand that the continuation of my regular pay shall be charged to sick or annual leave, or be deemed an overpayment within the meaning of 5 USC 5594).

 Signature of Employee or Person Acting on His/Her Behalf

PENALTY PROVISION: Any person who knowingly makes any false statement, misrepresentation, concealment of fact, or any other act of fraud to obtain compensation as provided by the FECA or who knowingly accepts compensation to which that person is not entitled is subject to felony criminal prosecution and may, under appropriate U.S. Criminal Code provisions, be punished by a fine of not more than \$10,000 or imprisonment for not more than five years, or both.

17. Statement of Witness (Describe what you saw, heard or know about this injury)

18. Witness' Signature	19. Witness' Address	20. Date Signed (mo., day, year)
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Form CA-1
 Rev. Oct. 1983

12. Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation - OWCP Form CA-1 (Cont'd)

OFFICIAL SUPERIOR'S REPORT OF TRAUMATIC INJURY			
21. Department or Agency		22. Bureau or Office <div style="text-align: right; font-size: small;">Agency Code:</div>	
23. Name and Address of Reporting Office (No., street, city, state, Zip Code)			
24. Regular Work Day Begins <input type="checkbox"/> AM <input type="checkbox"/> PM Ends <input type="checkbox"/> AM <input type="checkbox"/> PM		25. Number of Hours Worked Per Day	26. Circle Days Paid Per Week S M T W T F S
27. Date and Hour of Injury (mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	28. Date Reporting Office Received Notice of Injury (mo., day, year)	29. Date and Hour Stopped Work (mo., day, year) Pay Rate \$ _____ per ____	30. If Pay Has Been Terminated, Give Date (mo., day, year)
31. 45 Day Period Begins (mo., day, year)	32. Employee's Grade and Step on Date of Injury Grade _____ Step ____	33. Date and Hour Employee Returned to Work (mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	34. Name of Supervisor at Time of Injury
35. Was Employee in Performance of Duty At The Time of Injury? <input type="checkbox"/> Yes <input type="checkbox"/> No. <small>If No, furnish a detailed explanation or attach copy of Employing Agency's Investigation Report.</small>			
36. Was Injury Caused By Willful Misconduct, Intoxication or Intent To Injure Self of Another? <input type="checkbox"/> Yes <input type="checkbox"/> No. <small>If Yes, Furnish Detailed Report.</small>			
37. Was Injury Caused By Third Party? <input type="checkbox"/> Yes <input type="checkbox"/> No. <small>If Yes, Furnish Name and Address of Party Responsible.</small>			
38. Date Employee First Obtained Medical Care for the Injury (mo., day, year)	39. Name and Address of Physician First Providing Medical Care		40. Do Medical Reports Show Employee is Disabled For Work? <input type="checkbox"/> Yes <input type="checkbox"/> No
41. Does Your Knowledge of The Facts About This Injury Agree With The Statements of The Employee And/Or Witness? <input type="checkbox"/> Yes <input type="checkbox"/> No. <small>If No, Furnish A Detailed Explanation.</small>			
42. Does The Employing Agency Controvert Continuation of Pay? <input type="checkbox"/> Yes <input type="checkbox"/> No. <small>If Yes, Give Full Explanation for Basis of Controversion (See Item 6 of Instruction Sheet). Attach Additional Sheets If More Space Is Needed.</small>			
43. Filing Instructions: <input type="checkbox"/> No Lost Time and No Medical Expense. Place This Form In Employee's Official Personnel Folder. <input type="checkbox"/> Medical Expense Incurred or Expected. Forward This Form To OWCP. <input type="checkbox"/> Lost Time Covered By Leave, LWOP, or COP. Forward This Form To OWCP			
44. All Information Requested On This Form Has Been Furnished. If Not, It Will Be Submitted By _____			
45. Signature of Supervisor		(Fill In Date)	
46. Title and Office Phone Number		47. Date (mo., day, year)	

PENALTY PROVISIONS: An immediate superior who hinders the filing of any compensation claim or report may be punished by a fine of not more than \$500 or imprisoned not more than one year, or both - 18 U.S.C. 1922. A supervisor who knowingly certifies to any false statement, misrepresentation, or concealment of fact in respect to this claim may also be subject to appropriate felony criminal prosecution.

12. Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation – OWCP Form CA-1 (Cont'd)

INSTRUCTIONS FOR COMPLETING FEDERAL EMPLOYEE'S NOTICE OF TRAUMATIC INJURY AND CLAIM FOR CONTINUATION OF PAY/COMPENSATION

IMPORTANT: The employee and official superior (supervisor) should read all of the following instructions before completing this form.

1. The employee, or someone acting on his/her behalf, shall complete Items 1 through 16 and give the form to the employee's supervisor for completion of items 21 through 47. The employing agency shall ensure that all evidence bearing on the injury is submitted to OWCP and that such additional evidence is submitted with the notice of injury or within the time indicated in Item 44.
2. Upon receiving the completed form the supervisor shall complete "Receipt of Notice of Injury" at the bottom of this page, detach the page and give it to the employee. The supervisor is also responsible for obtaining the witness information in Items 17 through 20.
3. Upon completion of items 21 through 47, the supervisor should advise the employee whether pay will continue or will be controverted and terminated. If pay is controverted and stopped, the supervisor shall explain to the employee the basis for the action.
4. Where pay is continued, the employing agency may require medical evidence, via Form CA-17, Duty Status Report, as often as circumstances indicate.
5. Form CA-1, fully completed, shall be forwarded to the appropriate OWCP District Office within two working days following receipt by the supervisor if:
 - a. The injury causes disability for work beyond the day or shift it occurred, or
 - b. It appears that the injury will result in prolonged treatment, permanent disability or serious disfigurement of the head, face, or neck, or
 - c. The injury has resulted, or appears it will result, in a charge for medical or other related expenses.

If none of the above occurs or appears likely, the form shall be retained in the employee's official personnel file.

6. **NOTE:** The employing agency may properly controvert and terminate the employee's pay if:
- | | |
|---|--|
| <ol style="list-style-type: none"> a. Disability results from an occupational disease or illness; or b. The employee is excluded by 5 USC 8101 (1) B or E, or c. The employee is neither a citizen nor a resident of the United States or Canada; or d. The injury occurred off the employing agency's premises and the employee was not involved in official "off premise" duties; or e. The injury was caused by the employee's willful misconduct, intent to bring about injury or death of self or another person, | <ol style="list-style-type: none"> or was proximately caused by employee's intoxication; or f. The injury was not reported on Form CA-1, within 30 days following the injury; or g. Work stoppage first occurred six months or more following the injury; or h. The employee initially reported the injury after his/her employment has terminated; or i. The employee is enrolled in the Civil Air Patrol, Peace Corps, Youth Conservation Corps, Work Study Programs or other similar groups. |
|---|--|
7. If additional space is required to explain or clarify any point, attach a supplemental statement to the form.

PRIVACY ACT

In accordance with the Privacy Act of 1974 (Public Law No. 93-579, 5 U.S.C. 552a), you are hereby notified that: (1) The Federal Employees' Compensation Act, as amended (5 U.S.C. 8101, et seq.) is administered by the Office of Workers' Compensation Programs of the U.S. Department of Labor. In accordance with this responsibility, the Office receives and maintains personal information on claimants and their immediate families. (2) The information will be used to determine eligibility for and the amount of benefits payable under the Act. (3) The information may be used by other agencies or persons in handling matters relating, directly or indirectly, to the subject matter of the claim, so long as such agencies or persons have received the consent of the individual claimant, or have complied with the provisions of 20 CFR 10. (4) Failure to furnish all requested information may delay the process, or result in an unfavorable decision or a reduced level of benefits (disclosure of a social security number is voluntary; the failure to disclose such number will not result in the denial of any right, benefit or privilege to which an individual may be entitled).

THIS NOTICE SHOULD BE RETAINED FOR YOUR INFORMATION

RECEIPT OF NOTICE OF INJURY		
THIS ACKNOWLEDGES RECEIPT OF NOTICE OF INJURY SUSTAINED BY _____		
(Name of injured employee)		
WHICH OCCURRED ON _____ AT _____		
(Mo., day, year)		(Location)
SIGNATURE OF OFFICIAL SUPERIOR	TITLE	DATE (Mo., day, year)

Form CA-1
Rev. Oct. 1983

12. Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation – OWCP Form CA-1 (Cont'd)

DISABILITY BENEFITS FOR EMPLOYEES UNDER THE FEDERAL EMPLOYEES' COMPENSATION ACT (FECA)

The FECA, which is administered by the Office of Workers' Compensation Programs (OWCP), provides the following benefits for disabling, job-related, traumatic injuries:

1. Continuation of pay for disability resulting from traumatic, job-related injury, not to exceed 45 calendar days. (To be eligible for continuation of pay, the employee, or someone acting on his/her behalf, must file Form CA-1 within 30 days following the injury; however, to avoid possible interruption of pay, the form should be filed within 2 working days. If the form is not filed within 30 days, compensation may be substituted for continuing pay.)
2. Payment of compensation for wage loss after the 45 days, if disability extends beyond such period.
3. Payment of compensation for permanent impairment of certain organs, members, or functions of the body (such as loss or loss of use of an arm, kidney, loss of vision, etc.) or for serious disfigurement of the head, face, or neck.
4. Vocational Rehabilitation and related services where necessary.
5. Full medical care from either Federal medical officers and hospitals, or private hospitals or physicians, of the employee's choice. Generally, 25 miles from the place of injury, place of employment, or employee's home is a reasonable distance to travel for medical care; however, other pertinent factors must also be considered in making selection of physicians or medical facilities.

At the time an employee stops work following a traumatic, job-related injury, he or she may request continuation of pay or use sick or annual leave credited to his or her record. Where the employing agency continues the employee's pay, the pay must not be interrupted until:

1. The employing agency receives medical information from the attending physician to the effect that disability has terminated;
2. The OWCP advises that pay should be terminated; or
3. At the expiration of 45 calendar days following initial work stoppage.

If the disability exceeds, or it is anticipated that it will exceed, 45 days, and the employee wishes to claim compensation, Form CA-7, with supporting medical evidence, must be filed with the OWCP. To avoid interruption of income, the form should be filed not later than 5 working days following the expiration of the 45 day period. Form CA-3 shall be submitted to the OWCP when the employee returns to work, disability ceases, or upon expiration of the 45 day period.

For additional information, review the regulations governing the administration of the FECA (Code of Federal Regulation, Title 20, Chapter 1) or Chapter 810 of the Office of Personnel Management's Federal Personnel Manual.

GPO 847-113

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation - OWCP Form CA-2

DISABILITY BENEFITS FOR EMPLOYEES UNDER THE FEDERAL EMPLOYEES' COMPENSATION ACT (FECA)

The FECA, administered by the Office of Workers' Compensation Programs (OWCP) provides the following general benefits for employment-related occupational disease or illness:

1. Full medical care from either Federal medical officers and hospitals, or private hospitals or physicians of the employee's choice.
2. Payment of compensation for total or partial wage loss.
3. Payment of compensation for permanent impairment of certain organs, members or functions of the body (such as loss or loss of use of an arm, kidney, loss of vision, etc.) or for serious disfigurement of the head, face or neck.
4. Vocational rehabilitation and related services where necessary.

The first three days in a non-pay status are waiting days, and no compensation is paid for these days unless the period of disability exceeds 14 calendar days, or the employee has suffered a permanent disability. Compensation for total disability is generally paid at the rate of 2/3 of an employee's salary if there are no dependents, or 3/4 of salary if there are one or more dependents.

If an employee is in doubt about compensation benefits, the OWCP District Office servicing the employing agency should be contacted. (Obtain the address from your employing agency.)

For additional information, review the regulations governing the administration of the FECA (Code of Federal Regulations, Title 20, Chapter 1) or Chapter 810 of the Civil Service Commission's Federal Personnel Manual.

RECEIPT OF NOTICE OF DISEASE OR ILLNESS		
This acknowledges receipt of notice of disease or illness sustained by _____ <div style="text-align: right; margin-right: 100px;">(Name of injured employee)</div>		
I was first notified about this condition on _____ <div style="display: flex; justify-content: space-between; margin-top: 5px;"> (Mo., day, year) (Location) </div>		
Signature of Official Superior	Title	Date (Mo., day, year)

CA-2
Rev. April 1980

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation – OWCP Form CA-2 (Cont'd)

PRIVACY ACT

In accordance with the Privacy Act of 1974 (Public Law No. 93-579, 5 U.S.C. 552a), you are hereby notified that: (1) The Federal Employees' Compensation Act, as amended (5 U.S.C. 8101, et seq.) is administered by the Office of Workers' Compensation Programs of the U.S. Department of Labor. In accordance with this responsibility, the Office receives and maintains personal information on claimants and their immediate families. (2) The information will be used to determine eligibility for and the amount of benefits payable under the Act. (3) The information may be used by other agencies or persons in handling matters relating, directly or indirectly, to the subject matter of the claim, so long as such agencies or persons have received the consent of the individual claimant, or have complied with the provisions of 20 CFR 10. (4) Furnishing all requested information will facilitate the claims adjudication process; and the effects of not providing all or any part of the requested information may delay the process, or result in an unfavorable decision or a reduced level of benefits (disclosure of a social security number is voluntary; the failure to disclose such number will not result in the denial of any right, benefit or privilege to which an individual may be entitled).

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation – OWCP Form CA-2 (Cont'd)

INSTRUCTIONS FOR COMPLETING EMPLOYEE'S PORTION OF FORM CA-2

IMPORTANT: The employee should read the following instructions and those on the reverse of this page before completing his or her portion of the form. Under the Federal Employees' Compensation Act, compensation may be paid only if the disease or illness was proximately caused by conditions of Federal employment. If you must stop work as a result of the disease or illness, you may use sick or annual leave, or claim compensation from the OWCP.

1. Items 1 through 21 on the form are to be completed by you or another person acting on your behalf within 30 days after you became aware of the disease or illness and its possible relationship to your employment.
2. You must prepare a statement which should include the following data:
 - a. Detailed history of the disease or illness from the date it started.
 - b. Complete details of types of substances or conditions of employment which you believe are responsible for the disease or illness.
 - c. Description of specific exposures to substances or stressful conditions causing the disease or illness, including locations where exposure or stress occurred, as well as the number of hours per day and days per week of such exposure or stress.
 - d. Identification of the part of the body affected. (If disability is due to a heart condition, give complete details of all activities for one week prior to attack with particular attention to the final 24 hours of such period.)
 - e. Statement as to whether you ever suffered a similar condition. If so, provide full details of onset, history, medical care received with names and addresses of physicians rendering treatment.
3. You must arrange for submission of a detailed medical report from each private physician who has treated you for your present disease or illness. Each report should include:
 - a. Dates of examination and treatment.
 - b. History given by you to the physician.
 - c. Detailed description of the physician's findings.
 - d. Results of X-rays, laboratory tests, etc.
 - e. Diagnosis.
 - f. Clinical course of treatment.
 - g. Physician's opinion with medical reasons as to whether the disease or illness was caused or aggravated by the employment.
4. When you have completed the statement requested in item number 2 above, it must be submitted to your supervisor for review and comment concerning those factors of which he or she has knowledge and responsibility.

NOTE: All information requested must be submitted to the OWCP. It should accompany Form CA-2, otherwise adjudication of the claim will be delayed.

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation – OWCP Form CA-2 (Cont'd)

INSTRUCTIONS FOR COMPLETING OFFICIAL SUPERIOR'S PORTION OF FORM CA-2

IMPORTANT: The official superior (supervisor) should read the following instructions and those on the reverse of this page before completing this portion of the form.

1. Items 22 through 50 are to be completed by the supervisor - if required information is not readily available, it should be obtained from appropriate sources within the agency.
2. The form should be completed and forwarded to the appropriate OWCP District Office within 10 working days following receipt from the employee if:
 - a. The disease or illness causes disability for work beyond the day or shift it was reported; or
 - b. It appears the condition will result in prolonged treatment, permanent disability, or serious disfigurement of the head, face, or neck; or
 - c. The condition has resulted (or will likely result) in a charge for medical or other related expenses.
3. If the employee has not stopped work at the time the supervisor completes the form, item 33 should be answered "Has not stopped." Other questions contingent upon this answer may then be completed as "Not Applicable" or "NA."
4. In a separate, narrative statement to be attached to Form CA-2, the supervisor (or appropriate official in the employing agency) should:
 - a. Describe in detail the work performed by the employee, identify fumes, chemicals, or other irritants or situations that the employee was exposed to which allegedly caused the condition. State the nature, extent, and duration of exposure, including hours per day and days per week.
 - b. Attach copies of all physical examination reports (including X-ray reports and laboratory data) on file for the employee.
 - c. Attach a record of the employee's absence from work caused by any similar disease or illness (have employee state reason for each absence).
 - d. Attach statements from each co-worker who has first-hand knowledge about the employee's condition and its cause. (The co-workers should state how such knowledge was obtained.)
 - e. Review and comment on the accuracy of the employee's statement as requested by item 2 on the reverse of this sheet.
5. Submit any other information or evidence pertinent to the determination of the merits of this claim.
6. The employing agency shall ensure that all evidence bearing on the injury is submitted to the OWCP and such evidence shall be submitted with the Form CA-2, or the OWCP shall be advised of the date additional evidence will be submitted.

18 USC 1920 provides: Whoever makes, in an affidavit or report required by section 8106 of title 5 or in a claim for compensation under subchapter I of chapter 81 of title 5, a statement, knowing it to be false, is guilty of perjury and shall be fined not more than \$2,000 or imprisoned not more than one year, or both.

18 USC 1922 provides: Whoever being an officer or employee of the United States charged with the responsibility for making the reports of the immediate superior specified by section 8120 of title 5, willfully fails, neglects, or refuses to make any of the reports, or knowingly files a false report, or induces, compels, or directs an injured employee to forego filing of any claim for compensation or other benefits provided under subchapter I of chapter 81 of title 5 or any extension of application thereof, or willfully retains any notice, report, claim, or paper which is required to be filed under that subchapter or any extension or application thereof, or regulations prescribed thereunder, shall be fined not more than \$500 or imprisoned not more than one year, or both.

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation – OWCP Form CA-2 (Cont'd)

U.S. DEPARTMENT OF LABOR EMPLOYMENT STANDARDS ADMINISTRATION Office of Workers' Compensation Programs		FEDERAL EMPLOYEE'S NOTICE OF OCCUPATIONAL DISEASE AND CLAIM FOR COMPENSATION	
NOTE: All information and evidence requested on the attached instruction sheet should accompany this form or adjudication of the claim will be delayed.			
1. Name (Last, first, middle)		2. Date of Birth (Mo., day, year)	3. <input type="checkbox"/> Male <input type="checkbox"/> Female
4. Social Security Number		5. Home Mailing Address	
6. Home Telephone Number (Including Area Code)		7. Occupation	
8. Name and Address of Employing Agency		9. Location where you Worked When Disease or Illness Occurred	
10. If you lost pay, show period compensation is claimed (Mo., day, year) From: _____ Through: _____		11. Show amount of all wages received from any source during period shown in item 10. Also give employer's name and address if other than Federal Government. \$ _____	
12. Date you first became aware of disease or illness (Mo., day, year)		13. Date you first realized the disease or illness was caused or aggravated by your employment (Mo., day, year). Explain why you came to this realization.	
14. If this notice and claim was not filed with the employing agency within 30 days after date shown in item 13 above, explain reason for the delay.		15. Nature of the disease or illness (e.g. pulmonary tuberculosis, coronary heart condition, etc.)	
16. Have you ever applied for or received benefits from the VA based on service in the Armed Forces of the United States? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, furnish _____		a. Claim No.	b. VA address where claim is filed.
		c. Nature of disability and monthly payment. \$ _____	
17. Have you applied for or received an annuity under the U.S. Civil Service or other federal retirement or disability law? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, furnish _____		a. Claim No.	b. Date annuity began (Mo., day, year)
		c. Amount of monthly payment \$ _____	
18. List your dependents: (Includes husband or wife living with employee)			
Name	Relationship	Date of Birth	Living with You (Yes-No)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
19. Show amount paid each month for support of dependents not living with you \$ _____ State whether payments were ordered by a court, and if so, attach a copy of the court order.			
I certify under penalty of law, that the disease or illness described above was a result of my employment with the United States Government and that it was not caused by my willful misconduct, intent to injure myself or another person, nor by my intoxication. I hereby claim medical treatment, if needed, and other benefits provided by the Federal Employees' Compensation Act.			
20. Your signature or signature of person acting for you			21. Date (Mo., day, year)

Form CA-2
Rev. April 1980

13. Federal Employee's Notice of Occupational Disease and Claim for Compensation – OWCP Form CA-2 (Cont'd)

OFFICIAL SUPERIOR'S REPORT OF OCCUPATIONAL DISEASE				
22. Department or Agency		23. Bureau or Office		
24. Name and Address of Reporting Office (No., street, city, state, ZIP code)		25. Name of Supervisor when Employee Contracted Disease or Illness		
26. Employee's Regular Day Begins <input type="checkbox"/> AM <input type="checkbox"/> PM Ends <input type="checkbox"/> AM <input type="checkbox"/> PM		27. Number of Hours Worked Per Day	28. Number of Days Worked Per Week	
29. Date Employee First Obtained Medical Care for Disease or Illness (Mo., day, year)	30. Name and Address of Physician First Providing Medical Care		31. Do Medical Reports Show Employee is Disabled for Work? <input type="checkbox"/> Yes <input type="checkbox"/> No	
32. Date Employee First Reported Condition to Supervisor (Mo., day, year)	33. Date and Hour Employee Stopped Work (Mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	34. Date and Hour Employee's Pay Stopped (Mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	35. Date Employee was Last Exposed to Conditions Alleged to Have Caused Disease or Illness (Mo., day, year)	
36. Did Employee Work in the Position a Full Eleven Months Prior to Stopping Work Due to the Disease or Illness? <input type="checkbox"/> Yes <input type="checkbox"/> No		37. If Answer to Item 36 is No, would the Position Have Provided Employment for a Full Eleven Months, Except for the Disease or Illness? <input type="checkbox"/> Yes <input type="checkbox"/> No		38. Total Length of Employee's Federal Civilian Service (Years and months)
39. Pay Rate at the Time Employee Stopped Work	a. Base Pay	b. Subsistence	c. Quarters	d. Other
40. If Employee Received Additional Pay, i.e. Premium, Sunday, Night Differential, Identify and Show Amount Type: \$ _____ Per _____		41. Circle Days Worked Per Week When Pay Stopped, If Other Than Monday Through Friday. S M T W T F S		
41. Deductions A. Was employee enrolled on date pay stopped? B. If Yes, furnish code number. C. If Yes, give month, day, year, through which deductions were made.		Health Benefits <input type="checkbox"/> Yes <input type="checkbox"/> No Optional Life Insurance <input type="checkbox"/> Yes <input type="checkbox"/> No () ()		
43. Date and Hour Employee Returned to Work (Mo., day, year) <input type="checkbox"/> AM <input type="checkbox"/> PM	44. Pay Rate at Time Employee Returned to Work. \$ _____ Per _____		45. Work Week on Return to Work if Other Than Monday Through Friday S M T W T F S	
46. If Employee Has Returned to Work and Work Assignment has Changed, Describe New Duties.				
47. I certify that the information given above and that furnished by the employee on the reverse of this form is true to the best of my knowledge with the following exceptions:				
48. Signature of Supervisor		49. Title and Office Phone Number		50. Date (Mo., day, year)

S. GOVERNMENT PRINTING OFFICE : 1983 O - 403-477

Chapter 6. OFFICE SAFETY

1. General Housekeeping.

- A. Always keep your work station as orderly as possible.
- B. File papers regularly to reduce the possibility of a fire hazard.
- C. If you eat or drink at your work station, always clean up crumbs and/or spills. Trash from eating or drinking should be disposed of daily and preferably put in covered waste containers.
- D. Community coffee areas must be kept clean to prevent attracting insects.
- E. Never hang plants from the ceiling, especially from the grid-work of dropped ceilings.

2. Tripping Hazards.

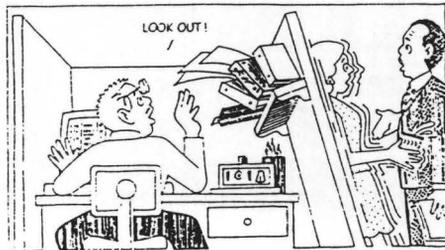
- A. Never string extension or electrical cords across walkways. Rearrange furniture to avoid this situation.



- B. Keep walkways clear of objects such as boxes, wastebaskets, books, files, etc.
- C. Wipe up coffee or other liquid spills immediately.
- D. Pick up small objects such as pens, pencils, paper clips, etc.
- E. Report frayed, torn, or loose carpeting.
- F. Never read or carry objects which obstruct your vision while walking.

3. Furniture.

- A. Never stand on furniture, use a stepstool.
- B. Never lean back in chairs such that the front legs lift off of the floor.
- C. Examine furniture periodically for weakened or broken parts, and repair or remove from service as necessary.
- D. Always request moving crews to move heavy furniture. Do not attempt to move it yourself.
- E. Always close desk drawers immediately after use.
- F. Arrange furniture and equipment to prevent eye strain from reflected light and glare on work surfaces.
- G. Never lean on room dividers or partitions.



4. File Cabinets/Shelves.

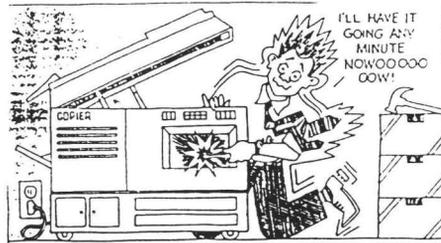
- A. Never place cabinets/shelves close to doorways, corners, or in walkways or corridors.
- B. Cabinets/shelves should be fastened to the wall, especially when the shelves or cabinets are taller than 5 feet.
- C. When filling the cabinet/shelf always start at the bottom to avoid tipping.
- D. Store heaviest items on bottom.
- E. Never stack or store items on top of cabinets/shelves.
- F. Always close cabinet drawers and shelf door immediately after use.

- G. Open only one cabinet drawer at a time.
- H. When emptying cabinets/shelves, start from the top.



5. Office Machinery/Tools.

- A. Keep electric fans, paper cutters, and other hazardous equipment in a safe area.
- B. Guards should always be left in place.
- C. Always disconnect machines being cleaned, adjusted, or repaired.



- D. Keep hands away from cutting edge of telefax machines.
 - E. When using a copying machine and removing jammed paper, never reach into the machine until it has cooled.
 - F. When handling copy machine toner, keep it away from your face and eyes, and wash your hands afterwards.
 - G. Never remove the guard from a paper cutter.
- ## 6. Electrical Hazards.

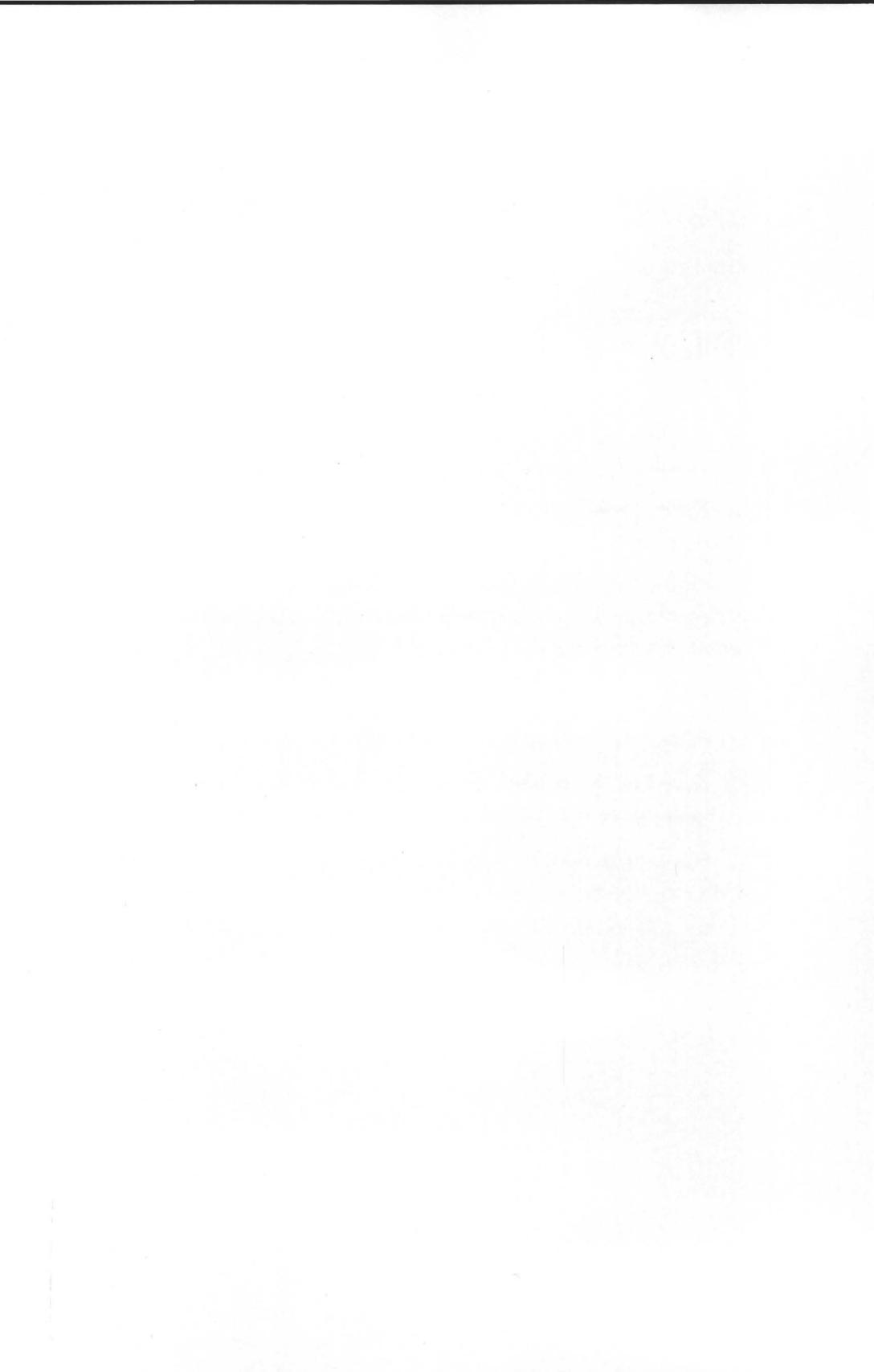
- A. Never overload electrical outlets by using adapters to increase the number of items that can be plugged in.

- B. All electrical equipment and tools should be properly grounded.
 - C. Never use a cord which is frayed or broken.
 - D. Never use receptacles which show signs of sparking or are not covered.
7. **Extension Cords.**
- A. Never use extension cords in lieu of permanent wiring circuits.
 - B. Never connect multiple extension cords together.
 - C. If an extension cord is absolutely necessary, use a properly rated cord.
 - D. Never use extension cords to add electrical equipment to receptacles.
 - E. Never run extension cords across walkways, or under carpeting or areas where it can be squeezed, compressed, or damaged.
8. **Visual Display Terminals (VDTs).**
- A. Position the keyboard so that wrists are fairly straight while you work.
 - B. Arms should be at a comfortable angle to minimize back strain.
 - C. Adjust your chair so that your feet touch the floor comfortably. Use a footrest if necessary.
 - D. Adjust the back of your chair so that the small of your back is firmly supported.
 - E. The top of the screen should be just below eye level.
 - F. The screen should be tilted backwards slightly (10-20 degrees) unless this increases glare.
 - G. The screen should be approximately 18 inches from your eyes.
 - H. If you use bi-focals, choose monofocal or full-width bi-focals so that you do not have to tilt your head back to see the screen.

- I. Stretch occasionally and look away from the screen.
- J. Whenever possible get up from the VDT several times a day and do other types of work.

9. Fire Protection.

- A. Never smoke at a desk cluttered with papers or other combustibles.
- B. Never use a wastebasket as an ashtray.
- C. Stacked paper burns more slowly than loosely laid paper. Concentrated, well organized storage reduces the spread of fire.
- D. Never cover heater registers or other heat sources with papers or combustibles.
- E. Office appliances such as, space heaters, coffee pots, hot plates, refrigerators, microwave ovens, etc., must be authorized by the appropriate building manager.
- F. Never place space heaters under desks.
- G. Always turn off space heaters when leaving the area.
- H. Keep heat sources i.e., heaters, coffee pots, hot plates, smoking material out of combustible material storage areas.
- I. Always place coffee pots, hot plates, etc., on heat resistant surfaces and unplug after use.
- J. Flammable liquids of any kind must be stored in special containers and/or cabinets.



Chapter 7. SHOP SAFETY

1. **General Safety.** When working in a shop whether it be woodworking, machine, mechanical, or other type of shop, there are general safety practices which you should follow.
 - A. Do not wear loose clothing, jewelry, chains, rings, watches, or any articles which may get caught in moving machinery.
 - B. Long hair should be tied back and covered so that it will not become entangled in moving machinery.
 - C. Do not leave machinery operating when unattended.
 - D. No horseplay while in the shop area.
 - E. Use only equipment for which you have been trained.
 - F. Do not perform tasks for which you do not have proper training.
 - G. Do not carry tools in pockets.
 - H. Always carry tools with sharp end pointed down.
 - I. Keep work area clean and clear of debris, with excess oil and oil soap cleaned up and disposed of properly.
 - J. Keep machines and tools clean, especially around the electrical boxes. Before cleaning a piece of equipment disconnect power. Use lockout and tag procedures if the disconnects are out of your view or someone could energize the equipment without your knowledge.
 - K. Machines which use copious amounts of cooling or cutting oil need to have an oil absorbent around the base of the machine. Absorbent socks do an efficient job and are not as messy as loose oil absorbent products.
 - L. Soiled rags should be stored in an approved metal container which allows air to circulate beneath the can. Soiled rags should not be thrown into receptacles used for other trash.

2. Personal Protective Equipment (PPE).

A. Personal protective equipment should be selected for the specific task to be preformed. PPE selected for one task may not be suitable for another task; i.e., leather gloves would be appropriate for use with a cutting torch but would be inappropriate for use in work with solvents.

B. Below is a list of PPE which is used in shops. This list is to serve as an example as it is not a complete list of PPE. You should review the task in advance, and when possible, alert you supervisor to the PPE needed to perform the task.

- (1) Safety glasses: Prescription and nonprescription.
- (2) Goggles: Tinted to specific needs. (See chart below.)

Type	Metal Thickness	Shade
Gas Welding	1/8" to 1/2"	5-6
Gas Welding	over 1/2"	6-8
Shielded Metal Arc Welding	1/16" to 5/32"	10
Gas Shielded Arc Welding (NonFerrous)	1/16" to 5/32"	11
Gas Shielded Arc Welding (Ferrous)	1/16" to 5/32 "	12
Soldering		2
Light Cutting	Up to 1"	3-4

- (3) Face shield: Tinted or nontinted.
- (4) Welding hood
- (5) Leathers: Alone or combination of chaps, gauntlets, jackets, or pants and aprons.
- (6) Gloves: Leather, cotton, rubber, chainmail.
- (7) Aprons: Cotton, rubber, or leather.
- (8) Fire resistant uniforms.
- (9) Hard hats or bump caps.

(10) Hearing protection: Earplugs or earmuffs.

(11) Respirators and dust masks: Match respirator cartridge to the hazardous material from which you need protection.

(12) Coveralls: Cotton, flame and chemical resistant.

3. Handtools.

A. Before using handtools, always inspect them to be sure they are clean. Tools in good, clean condition help avoid slippage from your hand.

B. Below is a check list to help you with your visual inspection of tools.

(1) Worn, broken teeth of pliers, pipe wrenches, adjustable wrenches.

(2) Sprung jaws.

(3) Loose handles and grips.

(4) Cracks or splinters in wooden handles.

(5) Mushroom heads on chisels, driftpins, wedges.

(6) Loose heads, or missing wedges on hammers and nails.

C. Tools which do not pass your visual inspection should be taken out of service and repaired if possible.

4. Powertools – Hand Operated, Electrical, Pneumatic, Hydraulic, and Fuel Powered.

A. Before you operate any powertool you should perform a visual inspection. Below is a list to assist you in your inspection.

(1) Cracks or leaks in electrical cords, air hoses, or hydraulic lines.

(2) Loose handles.

(3) Cracked housing.

(4) Loose or missing screws in housing.

- (5) Burn-mark around vents in electrical powertools which indicate burned motor.
- (6) Electric powertools should be inspected for proper ground. (Usually three-pronged plug.)

B. Before you begin the actual operation:

- (1) Ensure that the drill bit is sharp.
- (2) Ensure that all three jaws of chuck are holding a drill bit.
- (3) Ensure that sanding disc is tight on sanding pad.
- (4) Ensure that the grinding disc is turned down, tight, and properly threaded.
- (5) Ensure that saw blades are secure.
- (6) Ensure that you test the tool each time before you use it.

C. Fuel-Powered Tools.

- (1) All tools should be kept free from excessive dust, dirt, grease, oil, and fuel.
- (2) Fuel should be stored in approved containers.
- (3) Tools should be fueled and oiled in a separate area, away from the area of starting and operation.

D. Hydraulic Powertools.

- (1) Use fire resistant fluids.
- (2) All hoses, pipes, fittings, filters, and valves should be capable of withstanding pressures sustained during maximum load conditions.

E. Do's and Don'ts when operating powered handtools.

- (1) Do not wear gloves while operating tools.
- (2) Do not use dull drills, saw blades, or nippers.
- (3) Do not use the tools' cords or hoses to hoist tools.

- (4) Do not tape or tie triggers to "on" position.
- (5) Do not remove any guards or safety devices.
- (6) Do punch mark holes before drilling.
- (7) Do use adequate light.

5. **Metal Working and Wood Working.**

- A. All metal frames to machines must be grounded.
- B. Stop buttons should be within easy reach of the operator.
- C. Non-portable machinery should be bolted securely to the floor.
- D. All machines must have the capability of having power locked out while maintenance is being performed.
- E. Before working with metals which are easily ignited i.e., magnesium, the machine operator must have the appropriate extinguishing agent on hand and knowledge of how to use it.
- F. When purchasing new or rebuilding old machines, two-handed controls should be considered, as they keep the operator's hand away from the point of operation.
- G. Belts, pulleys, chains, etc., must be covered adequately to prevent accidental contact by operators.
- H. Machines which throw chips from the point of operation should have guards to prevent the operator from being struck.
- I. While working in the shop remember:
 - (1) Do not wear loose fitting clothes.
 - (2) Always wear eye protection.
 - (3) Always wear safety shoes.
 - (4) Always keep long hair tied back and covered.
 - (5) Do not wear jewelry.

- (6) Do not attempt to remove chips with bare hands. Always use a brush or an "L" shaped bar to remove long burrs.
 - (7) Do not place your hands between your work and tool.
 - (8) Do not measure your work while the machine is operating.
 - (9) Do not leave your machine running unattended.
 - (10) Do not leave tools or parts on table while operating the machine.
 - (11) Ensure work is clamped securely in place before machining.
 - (12) Ensure handtool has been removed from chuck or other rotating part of machines, which may be dislodged while the machine is operating.
 - (13) Do not remove safety guards except for maintenance and then ensure that they are replaced before normal operation is resumed.
 - (14) Wear gloves during stocking, punching, shearing, etc., operations, but not when operating rotating machinery such as lathes, mills, and drills.
- J. Sawblades and tools should be kept sharp to avoid kickbacks.
- K. Special tools should be used for handling stock near point of operation to avoid the operator placing his/her hand in this area during operation.
- L. Never place hands on top of stock during a power feed operation.
- M. Work which can be done on special or power feed machines should not be performed on hand feed or general purpose machines.
- N. Always stand out of the line of board travel in case of kickback.

O. Circular saw blades which exhibit any of the following should be removed from service.

- (1) Saw out of round – some teeth are longer than others.
- (2) Saw not straight – blade not flat or out of plane.
- (3) Broken saw – cracked, or missing teeth.
- (4) Out of center – wear around center hole.

P. Dull saw blades should be taken to a qualified technician who will inspect your saw as well as sharpen it.

Q. Radial-Arm Saws should have handle on one side so that when in operation the operator stands out of the line of board travel in case of kickback.

R. Sanding belts should be the same width as the drum.

6. Machine Guarding.

A. Machines which may cause harm or serious injury at point of contact should have guarding.

B. Guarding should not be removed from machinery except for maintenance and changing of tools or dies, etc., and shall be replaced before operation is resumed.

C. Operations which cannot be performed with the guard in place must be performed on a machine better suited for the operation.

D. Floor pedals should be constructed so that they may not be accidentally activated.

E. All power driven machines should have the capability of being locked out so that the machine cannot be accidentally activated when service is being performed.

F. The stop switch should be located where the operator can reach it while operating the machine. Some machines should also have a brake to stop the machine's motion after the power has been turned off.

7. Grinders.

- A. When operating any type of grinder, wear eye protection or a face shield.
- B. Before operating the grinder, make a visual inspection of the grinder for:
 - (1) Cracked or chipped abrasive wheels.
 - (2) Excessive or uneven wear. (Dressing the wheel may correct these problems if not too severe.)
 - (3) Frayed cords.
 - (4) Broken housings.
- C. Bench grinders must have a rest and a shield. The rest should be within 1/8" of the grinding wheel.
- D. Never grind on the side of the grinding wheel.
- E. Do not use excessive pressure on the grinding wheel.
- F. Do not attempt to stop the grinding wheel with your hand.

8. Cutting and Welding.

- A. All personnel performing welding activities should receive training and be certified by the supervisor.
- B. Before you begin welding or cutting, you should do a visual inspection of the equipment you are to use. Below is a list of items for you to check.
 - (1) Inspect compressed gas cylinders for any signs of fatigue or abuse which may cause the cylinders to be unsafe. Look for leaks around the neck and valve, inspect the threads, and look for an inspection date.
 - (2) Open valve slowly to protect the regulator.
 - (3) Open the valve only 1 1/2 turns to allow quick closing.
 - (4) Inspect fuel and oxygen hoses each day. Look for:

- (a) Cracks.
 - (b) Melted surface.
 - (c) Contrast in color. (May indicate weak hose wall.)
- (5) Parallel sections of oxygen and fuel hoses should not be taped together more than 4 inches out of every 12 inches.
- (6) Inspect the torch for:
- (a) Leaking shutoff valve.
 - (b) Hose couplings.
 - (c) Tip connections.
- (7) Remove all flammables from the area.
- (8) Ensure adequate ventilation.
- C. Below is a list of do's and don'ts when welding and cutting.
- (1) Do keep gas cylinders away from heat, sparks, and flame.
 - (2) Do not attempt to mix gases in a cylinder. This should be done by the supplier.
 - (3) Do not attempt to fill cylinders yourself.
 - (4) Do not use worn welding cables.
 - (5) Do not use gas pipes or electrical conduits as a ground for welding.
 - (6) Do not weld while standing in water.
- D. When you have finished welding or cutting for the day:
- (1) Shut off valve at the tank.
 - (2) Bleed the gas from the regulator and hoses.
 - (3) Coil hoses or cables carefully to prevent damage.
 - (4) Cleanup work areas.



Chapter 8. LABORATORY SAFETY AND HEALTH

1. Chemical Hazards.

A. **Storage.** Chemicals should be stored in cabinets below eye level or under hoods and should be separated by compatible chemical class.

B. Examples of incompatible materials are shown below:

Acetic acid with Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates.

Acetone with Concentrated nitric and sulfuric acids.

Acetylene with Chlorine, bromine, copper, fluorine, silver.

Alkaline earth and .. Water, carbon tetrachloride or other alkaline metals with chlorinated hydrocarbons, carbon dioxide, halogens.

Ammonia, Mercury, chlorine, calcium anhydrous with hypochlorite, iodine, bromine, hydrofluoric acid.

Ammonium Acids, powdered metals, flammable nitrate with liquids, chlorates, nitrites, sulfur.

Aniline with Nitric acid, hydrogen peroxide.

Antimony Chlorates, nitrates, acids. pentasulfide

Bromine with Ammonia, acetylene, butadiene, petroleum gases, sodium carbide, turpentine, benzene, and finely divided metals.

Calcium oxide with .. Water

- Carbon, activated with .. Calcium hypochlorite, all oxidizing agents.
- Chlorates with Ammonium salts, acids, powdered metals, sulfur.
- Chlorine with Ammonia, acetylene, butane, butadiene, methane, propane, hydrogen, sodium carbide, turpentine, benzene, finely divided metals.
- Chlorine dioxide with ... Ammonia, methane, phosphine, and hydrogen sulphide.
- Chlorosulfonic acid with Water, metals.
- Chromic acid with .. Acetic acid, naphthalene, camphor, glycerine, turpentine, alcohol and other flammable liquids.
- Copper with Acetylene, hydrogen peroxide, halogens.
- Flammable liquids with .. Ammonium nitrate, chromic acid, hydrogen peroxide, halogens.
- Fluorine with Isolate from all chemicals.
- Hydrazine with Hydrogen peroxide, nitric acid, and any other oxidant
- Hydrocarbons with .. Fluorine, chlorine, bromine, chromic acid, sodium peroxide.
- Hydrochloric acid with Nitric acid, chlorates, other oxidizing agents, common metals.
- Hydrocyanic acid with Nitric acid, alkalies
- Hydrofluoric acid with Ammonia.

- Hydrogen Copper, chromium, iron, most metals
peroxide with or their salts, alcohols, acetone,
organic materials, aniline,
nitro-methane, flammable liquids,
combustible materials.
- Hydrogen Fuming nitric acid, oxidizing gases.
sulfide with
- Iodine with Acetylene, ammonia.
- Mercury with Acetylene, fulminic acid, ammonia,
oxalic acid.
- Nitric acid with Acetic acid, aniline, chromic acid,
hydrocyanic acid, hydrogen sulfide,
flammable liquids, flammable gases.
- Nitroparaffins with .. Inorganic bases, amines.
- Oxalic acid with Silver, mercury.
- Oxygen with Oils, grease, hydrogen, and
flammable liquids, solids, or gases.
- Perchloric acid Organic compounds, sulfuric acid.
with
- Peroxides organic .. Acids.
with
- Phosphorous (white) Air, oxygen.
with
- Picric acid with Metals.
- Potassium Acids.
chlorate with
- Potassium Acids.
perchlorate
- Potassium Glycerine, ethylene glycol,
permanganate benzaldehyde, sulfuric acid.

- Silver with Acetylene, oxalic acid, tartaric acid, ammonium compounds.
- Sodium chlorite Combustible materials, sulfur, acids. with
- Sodium nitrate Ammonium nitrate and other ammonium salts. with
- Sodium nitrite Ammonium nitrite and other ammonium slats. with
- Sulfur with Chlorates, nitrates, and other oxidizing materials.
- Sulfuric acid with . . . Acetone, potassium chlorate, potassium perchlorate, potassium permanganate, perchloric acid.
- Titanium with Carbon tetrachloride, water.
- Zinc powder or Acids, sodium hydroxide, potassium dust with hydroxide, moisture.
- Zirconium with Carbon tetrachloride, water.

- C. Use only approved flammable solvent storage containers for Class I and Class II flammable solvents.
- D. Refrigerators or freezers used for the storage of flammable liquids must have approved explosion-proof electrical wiring.

2. Personal Protective Equipment.

- A. Match the protection to the hazards.
- B. As a minimum, eyeglasses should be worn when working with hazardous chemicals.
- C. Splash goggles and full face shields should be worn when there is a chance of liquid being splashed or an uncontrolled release of energy is possible.
- D. Gloves should be worn when handling corrosive or toxic chemicals.

E. The information below gives compatible glove material for the chemical class shown.

(1) **Acids, carboxylic**

aliphatic and alicyclic

— unsubstituted with neoprene, nitrile, polyvinylchloride (PVC).

— polybasic with natural rubber, neoprene, nitrile, or PVC.

(2) **Aldehydes**

aliphatic with butyl

aromatic and heterocyclic

— no material shown to be effective for more than 1 hour.

(3) **Amines**

aliphatic and alicyclic

— primary with nitrile.

— secondary

— no material shown to be effective for more than 1 hour.

— tertiary with nitrile and PVC.

(4) **Esters, carboxylic**

aliphatic

— acetates with PVA (polyvinyl alcohol)

— higher monobasic

— no material shown to be effective for more than 1 hour.

aromatic with neoprene or nitrile.

(5) **Esters, aliphatic with nitrile or PVA.**

(6) **Halogen compounds**

aliphatic

— unsubstituted with viton.

— substituted - no material shown to be effective for more than 1 hour.

aromatic

— unsubstituted - no material shown to be effective for more than 1 hour.

— substituted with neoprene

— polynuclear with PVA.

(7) **Heterocyclic compounds epoxy compounds and furan derivatives** – no materials shown to be effective for more than 1 hour.

(8) **Hydrocarbons aliphatic and alicyclic** with neoprene, nitrile, viton, or PVA. aromatic with viton or PVA.

(9) **Hydroxyl compounds aliphatic and alicyclic**
– primary with butyl, neoprene, or nitrile.
– secondary with natural rubber, neoprene, nitrile, PVA, or PVC.
– polyols with nitrile or PVA.
aromatics with neoprene.

(10) **Inorganic gas** with neoprene.

(11) **Inorganic acids** with viton.

(12) **Inorganic bases** with natural rubber, neoprene, nitrile, or PVC.

(13) **Ketones, aliphatic** – no material shown to be effective for more than 1 hour.

(14) **Nitriles, aliphatic** with natural rubber.

3. Gases.

A. There are three major groups of gases based on their physical state when contained.

(1) **Non-liquified gases or cryogenic fluids** are elements or compounds that have relatively low boiling points, less than -150o F. Carbon monoxide is an example.

(2) **Liquified gases** are elements or compounds that have boiling points near atmospheric temperature, -130o F to 30o F. Sulfur dioxide is an example.

(3) A **dissolved gas** is packed with an inert porous material. Acetylene is an example.

- B. Acetylene will decompose violently if handled at pressure greater than 15 psig.
- C. When storing compressed gases, they should be segregated according to whether they are an inert, an oxidizer, or a fuel.
- D. Firmly secure all gas cylinders during transport or when used or stored in the work area.
- E. Do not transport a cylinder unless the valve protector cap is in place. Otherwise the valve could be sheared off if the cylinder is dropped, resulting in an uncontrollable rocket.
- F. A cylinder valve should never be opened unless a regulator which is designed for the cylinder and the gas within the cylinder is properly attached.
- G. Do not allow oil or grease to contact valves, regulators, or hoses of cylinders containing oxidizing gases; i.e., oxygen.

4. Physical Hazards.

- A. Glass vessels which are under extreme pressure or vacuum should be shielded to prevent flying glass if an explosion or implosion occurs.
- B. Wear appropriate gloves and goggles when pouring cryogenic gases.
- C. Remember that high heat sources (i.e., ovens) generate non-ionizing radiation which can lead to both skin and eye damage. Wear appropriate protective equipment if long exposure is anticipated.

5. Housekeeping.

- A. Keep areas under or around emergency eyewashes and showers clear of equipment or other materials.
- B. Do not hang laboratory coats or aprons on fire extinguishers or compressed gas cylinders.
- C. Do not block laboratory exits or egress routes.

D. Keep exhaust hoods free of extraneous equipment and chemicals. Remember that the efficiency of the exhaust can be severely affected by items left in hoods. Turbulence can be created which could throw dangerous vapors into your breathing zone.

6. Hazardous Waste Disposal.

A. All hazardous waste must be disposed of in accordance with Federal, State, or local regulations.

B. Generally, a liquid material may be disposed of by way of the sanitary sewer if the following two conditions are met:

(1) The liquid material has a pH greater than 5.5 and less than 10.0.

(2) The liquid does not demonstrate any of the following characteristics: ignitability, corrosivity, toxicity, and reactivity.

C. Generally, a solid material may be disposed of by way of the common trash if the material does not demonstrate any of the following characteristics: ignitability, corrosivity, toxicity, and reactivity.

D. Every effort should be made to limit hazardous waste. The following are examples:

(1) Substitute, where possible, non-hazardous materials for hazardous materials in operations or experiments.

(2) Convert the hazardous waste to a non-hazardous material through either evaporation, neutralization, precipitation and filtering off of toxic metals, or other chemical treatment.

(3) Order only the amount of material needed for the job, thereby eliminating excess. Ordering a 20-pound bottle of a material when only a 1-pound bottle is needed will result in considerable dollars being spent to dispose of the excess material.

(4) To the extent possible share common materials, thereby eliminating doubling or tripling of orders for the same material.

E. All hazardous waste must be properly labeled and stored in a properly designed storage area during the time the material is on a USGS facility.

F. All hazardous waste must be transported by EPA-licensed haulers and disposed of in EPA-licensed treatment, storage, and disposal facilities.



Chapter 9. PERSONAL PROTECTIVE EQUIPMENT

1. Eyes.

A. Protection should be worn if there is a chance that projectiles, hazardous liquids, or other foreign matter can enter the eye.

B. Protection should match the hazard.

C. Hardened, shatter-proof lenses should be worn when there is a chance that projectiles could enter the eye. Side shields should also be worn in these circumstances.

D. Splash goggles should be worn when working with hazardous liquid materials. If an explosion or sudden release of energy is possible, then shatter-proof lenses should be a part of the protection.

E. When working with equipment which produces ultraviolet radiation (UV), eyewear should be worn designed to filter out the UV radiation.

F. Welder's glasses with tinting appropriate for the hazard should be worn during welding operations. (See tint chart in Chapter 7 of this Handbook.)

G. Where there is a possibility that hazardous chemicals can be splashed into one's eyes, contact lenses should not be worn.

2. Face.

A. Full face protection should be provided when hazardous liquid chemicals are used, especially when there is a risk of explosion or high energy chemical reactions.

B. Protection should extend to cover the neck when projectiles or explosion could result.

C. Where explosions are possible, shatter-proof eyewear should be worn in addition to the full face protection.

3. Head.

A. Hard hats should be worn when there is a risk of materials falling from above.

B. Bump hats should not be confused with hard hats. Bump hats should only be worn in limited headroom areas and do not afford any protection from falling objects.

C. Metal hard hats should not be worn where energized electrical objects could come in contact with the hat.

D. Hard hats must be adjusted to the wearer's head size in order to afford maximum protection.

4. **Hands.**

A. Match the protection to the hazard or risk.

B. There are many types of glove materials for use with hazardous chemicals. A general compatibility chart for glove material and the chemical you are using is found in Chapter 8 of this Handbook.

C. Metal mesh gloves should be considered when an activity includes the use of hand-held sharp instruments or knives.

5. **Respiratory Protection.**

A. Dust masks should be worn when the atmosphere contains nuisance dusts or particles.

B. Half-mask or full face mask respirators with appropriate cartridges can be worn when vapors from acids or organics are present at less than 1 percent of the atmosphere and oxygen concentration is at least 19.5 percent. However, be aware that it is difficult to determine when the cartridge is "spent" and therefore no longer useful.

C. A self-contained breathing apparatus should be worn in immediately dangerous to life or health atmospheres such as when the oxygen concentration is less than 19.5 percent or organic and acid vapors exceed 1 percent of the atmosphere.

6. **Feet.**

A. Open-toed shoes or sandals should not be worn when chemicals are being used or there is a possibility of objects falling to the floor.

B. Steel (or equivalent) toe guards should be worn during activities where energies of greater than 20 foot-pounds (i.e., 5 pounds falling from a height of 4 feet) can be generated on a routine basis.

C. In activities where extremely heavy objects are involved, shin guards should be worn in addition to the toe guards.

7. **Body.**

A. Chemically-resistant coveralls or laboratory coats should be worn when working with hazardous liquid materials.

B. Laboratory coats or coveralls exposed to chemicals should not be taken home and washed with your family's clothing.

C. When working at hazardous waste sites, the protection must match the site classification.

8. **Ears.**

A. When sound levels exceed 85 decibels (dB) over an 8-hour time period, ear plugs or muffs should be worn. The chart below presents the maximum time for various sound levels that one can be exposed to before muffs or plugs are required.

Threshold Limit Values for Noise

<u>Duration per Day</u> <u>Hours</u>	<u>Sound Level</u> <u>dBA +</u>
16	80
8	85
4	90
2	95
1	100
1/2	105
1/4	110
1/8	115 *

* Sound level in decibels are measured on a sound level meter, conforming as a minimum to the requirements of the American National Standard Specification for Sound Level Meters. S1.4 (1971) Type S2A. and set to use the A-weighted network with slow meter response. *No exposure to continuous or intermittent in excess of 115 dBA.

B. The maximum allowable continuous or intermittent noise exposure is 115 dB.

C. Impulsive or impact noise over 115 dB should be limited to the number of impulses or impacts shown below. No exposures in excess of 140 dB peak sound pressure level are permitted without appropriate ear protection.

Threshold Limit Values Impulsive or Impact Noise

<u>Sound Level</u> <u>dB*</u>	<u>Permitted Number of Impulses or</u> <u>Impacts per day</u>
140	100
130	1000
120	10,000

* Decibels peak sound pressure level: re 20 uPa.

Chapter 10. ELECTRICAL SAFETY

1. General.

- A. Never work on energized circuits.
- B. Do not attempt to perform work which should be done by a qualified electrician.
- C. Do not leave appliances and handheld powertools plugged in if they do not have overcurrent devices.

2. Definitions.

- A. **Ampere** – The unit for measuring the rate of flow of electricity.
- B. **Conductor** – A material through which an electric current can readily travel. Metals are good conductors. Copper and aluminum are very good conductors.
- C. **Current** – The total flow past a certain point in a given length of time. Electric current is measured in amps.
- D. **Insulator** – A material through which an electric current does not readily pass. Some of the best insulators are polystyrene, mica, glass, and wood.
- E. **Resistance** – The opposition of a conductor to the flow of electrons due to “friction” inside of the conductor, measured in ohms.
- F. **Volt** – The unit for measuring the force that drives current through a circuit. It is conceptually similar to pressure in a water pipe line.

3. Electrical Overload.

- A. Overloaded circuits can generate heat at the point of resistance to ignite nearby combustible items.
- B. Before applying a load to a circuit, calculate the load to be applied.
 - (1) To calculate the load, add up the number of amps each piece of equipment draws and add 20 percent.

(2) Often equipment is rated in watts. To get amps:

$$A = W/VA = \text{Amps} \quad V = \text{Volts} \quad W = \text{Watts}$$

(3) Select wire which is rated for the number of amps to be carried.

(4) Select receptacles, circuit breakers, and fuses which can carry the load to be applied, plus 20 percent.

(5) Electric motors may draw up to 6 times their working load at start-up. This surge can cause the circuit breaker to trip or a fuse to blow. The surge may last from a few milliseconds to 10 or 12 seconds depending on what equipment the motor is starting.

4. **Disconnect and Overload Protection.**

A. Disconnect or overload devices open the circuit (switch off the power automatically) if the device is forced to carry more than its' maximum load or if excessive heat occurs due to accidental ground, short circuit, or an overload.

B. The two common devices for this use are fuses and circuit breakers. Select the type which best suits your application.

C. **Ground Fault Interrupters (GFI).**

When receptacles are placed in wet locations ground fault interrupters (GFI) are advisable. GFI's open the circuit when it detects leakage of a certain number of milliamperes to the groundwire. Choosing GFI's that open at 0.2 milliamperes is advisable. Use GFI's in areas like bathrooms, piers, labs, and washdown areas.

5. **Grounding.**

A. All handheld powertools must have a ground. This may have been provided when the tool was built; if so, the tool will have a three-pronged plug. Note - For a grounded power tool to work properly, it must be plugged into a (grounded) receptacle.

B. All permanently mounted electrical machines such as drills, lathes, mills, and grinders must be grounded.

C. Suitable points for grounding are, cold water pipes, buried tanks which contain nonflammable materials, and building struc-

tures. If none of these are available, a long stake or plate may be driven into the ground.

D. Grounding wire must be a continuous conductor without splices. Any connectors placed on the conductor should be done without the use of solder and should be done with the proper tool and workmanship. Poor connections cause high resistance and could result in arcing or explosion.

6. Temporary Wiring.

A. All temporary wire should be grounded in accordance with the National Electric Code.

B. Ensure that no wiring is exposed.

C. Temporary lights should have guards to prevent breakage.

D. Walkways and work areas should be kept clear of wiring.

E. All splices should have insulation rated equal to that of the wiring.

F. Temporary wiring should have overcurrent protection i.e., circuit breakers or fuses.

G. Choose wiring of suitable gauge and insulation type for the location it is to be used.

7. Extension Cords.

A. Inspect extension cords frequently for:

(1) Kinked or crushed cable.

(2) Strand of wire penetrating insulation.

(3) Broken, weak, or missing prongs, including the ground.

B. If the prongs are corroded, they should be cleaned with emery cloth.

C. Select the proper gauge wire and insulation type for the application. (Found in the National Electric Code).

D. If you are running wire a long distance, the resistance will be greater, requiring a higher-rated wire.

E. Extension cords are not to be used as permanent wiring.



Chapter 11. FIRE PROTECTION AND PREVENTION

1. **Housekeeping.** The practice of good housekeeping, by its' nature, reduces the risk of fire. Below is a list to help you in your house-keeping.
 - A. Remove trash in a timely manner and store in metal trash cans.
 - B. Remove excessive dust from structures, walls, ceilings, and under work benches. This is best done with a vacuum cleaner.
 - C. Hoods, chimneys, and exhaust vents should be inspected and cleaned on a regular basis in accordance with their use.
 - D. Flammable liquids should be stored separately and in proper containers with spring loaded tops and vents.
 - E. Dirty rags should be stored in metal containers with a self-closing lid and an air space beneath.
 - F. Keep area organized with enough space for work and storage.
 - G. Keep walkways and doorways clear and open.
 - H. Do not use stairways for storage.
2. **Electrical Overload.**
 - A. Overloaded circuits heat up because the path of travel of the electrical current has too great a resistance. The heat generated at the point of resistance may ignite nearby combustible items.
 - B. Do not use extension cords as permanent wiring and ensure that the cord is rated for the intended purpose.
3. **Chemical Reaction.**
 - A. Fire and explosion can occur when chemicals are handled or stored improperly.
 - B. Acids and bases should be stored separately.
 - C. Chemicals should be stored and used away from any source of heat or open flame.

D. Metal hydrides react with water to form hydrogen gas which will ignite with any ignition source. Some hydrides will ignite on contact with water i.e., lithium hydride, sodium hydride.

E. **Anhydrides** - These are compounds of acid from which the water has been removed. They react violently with water and organic acid anhydrides and are combustible. They often have low flash-points such that the heat of reaction with water may cause ignition.

F. **Peroxides** - Extremely dangerous solutions containing peroxides will form crystals in cold weather or as decomposition products. These crystals can be ignited by sudden shock or even by turning the cap.

(1) Bottles which show signs of crystal development should be handled by explosive experts only.

(2) Ether forms peroxide crystals rapidly at room temperature. Ether should not be stored for more than 6 months.

(3) Purchase products which contain peroxides in small quantities so they will be used up before crystals have time to form. Request products with the most recent date of manufacture.

4. **Smoke Detectors.** Smoke detectors should be placed in all places of employment. The office, laboratory, workshop, and warehouse need to be protected by smoke detectors.

A. Smoke detectors should be:

(1) Of a type approved by a nationally recognized testing laboratory.

(2) Placed on the ceiling of the work area.

(3) Tested monthly according to the manufacturer's instructions.

(4) Kept clean, including the use of a vacuum to remove dust and dirt.

(5) Replace batteries once a year or more frequently if required.

(6) Replace bulbs as needed.

B. Smoke detectors should not be placed directly above equipment or operations which will activate the alarm unnecessarily or drastically shorten their useful life span. Examples are:

- (1) Welding and cutting operations.
- (2) Bunsen burners or flame atomic absorption units.
- (3) Acid baths or sinks where corrosive fumes or moisture may corrode the detector.
- (4) Saws or bench grinders which may produce dust and grit which may clog the detector.

5. Fire Extinguishers.

A. Extinguishers are the first line of defense against fires, and one should be located in any area where a fire could start. Examples are:

- (1) Office
- (2) Laboratory
- (3) Shop
- (4) Warehouse
- (5) Vehicle
- (6) Boat
- (7) Anywhere that flammable liquids or sources of ignition are being used.

B. Fire extinguishers should be:

- (1) Located in a easily accessible location and clearly labeled.
- (2) Should be of the proper type and size to fight type of fire that is most likely to start in that area.
- (3) Near sources of hazards, but not so close or in such a place that it would not be accessible if the hazard caught fire.

C. If located out of doors or in a boat or vehicle, the extinguisher should be protected from the elements, and if below freezing temperatures are expected, the extinguisher should be of a type which can be subjected to those temperatures.

D. Selecting fire extinguishers.

(1) Fire extinguishers are selected by the type of fire to be fought. There are four basic types of fires and four classes of fire extinguishers.

Class A Fires

Ordinary combustibles such as, wood, cloth.

Class A Extinguishers

Waterbase type paper,

Class B Fires

Flammable liquids

Class B Extinguishers

Foam type

Dry chemical

Class C Fires

Electrical

Class C Extinguishers

Dry chemical

Halon, Carbon Dioxide

Class D Fires Class

Combustible Metals

D Extinguishers

Select the types approved for use on specific combustible-metal hazards.

(2) Select your extinguisher for the type or types of fire you may have to extinguish. For example:

(a) For the office you may need to fight both a Class A fire and a Class C fire. Therefore, you must have both Class A and C extinguishers or a Class A,B,C which will extinguish all three classes of fire.

(b) In the area where flammable liquids are stored, you may select a Class B extinguisher.

The Chart below shows how fire extinguishers are labeled.

1. Extinguishers suitable for "Class A" fires should be identified by a triangle containing the letter "A." If colored, the triangle shall be colored green.



2. Extinguishers suitable for "Class B" fires should be identified by a square containing the letter "B." If colored, the square shall be colored red.



3. Extinguishers suitable for "Class C" fires should be identified by a circle containing the letter "C." If colored, the circle shall be colored blue.



4. Extinguishers suitable for fires involving metals should be identified by a five-pointed star containing the letter "D." If colored, the star shall be colored yellow.

Extinguishers suitable for more than one class of fire should be identified by multiple symbols placed in a horizontal sequence.

E. Using Fire Extinguishers.

- (1) All employees should be trained in the use of fire extinguishers.
- (2) Check to be sure it is of the proper class for the fire to be fought.
- (3) Spray the extinguisher in a sweeping motion at the base of the fire.
- (4) If outdoors, stand to the upwind side of the fire.
- (5) If the fire cannot be put out with one extinguisher, call the Fire Department immediately.
- (6) Be certain that the fire is completely extinguished before leaving the area.

6. Occupant Emergency Plans. Every facility in which you work should have an Occupant Emergency Plan. Each employee should be familiar with the Occupant Emergency Plan for the facility or facilities in which you work.

A. In case of an emergency you should know:

- (1) Where the two nearest exits are located. (Do not use elevators.)
- (2) Where the fire alarm is located.
- (3) Where the fire extinguisher is located.
- (4) What you are to do in case of a bomb threat or natural disaster.
- (5) Your local emergency telephone numbers.

B. If you are a member of a Occupant Emergency Plan you should know:

- (1) What your duties and responsibilities are.
- (2) Where you are to report and what you are to report.
- (3) Alternatives if problems arise.
- (4) Practice your duties and alternatives.
- (5) Participate in meetings and drills.

Chapter 12. SAFETY INSPECTIONS

1. Purpose.

- A. To identify specific hazards created by poor housekeeping or unsafe practices.
- B. To identify structural or building-related hazards, such as inadequate firewall protection or insufficient ventilation.

2. Frequency.

- A. All areas of every building occupied by USGS employees should be inspected annually.
- B. High hazard areas such as machine shops and labs with chemicals should be inspected semi-annually.
- C. Motor vehicles should be inspected prior to their use to ensure that critical items such as tires and mirrors are properly inflated and aligned, respectively.
- D. Impromptu inspections are conducted upon valid request or when circumstances indicate the need.

3. Areas/Items Inspected.

A. General Areas:

- (1) Office and building areas
- (2) Laboratories
- (3) Storerooms and Warehouses
- (4) Shop Areas

B. Critical Items:

- (1) Motor Vehicles
- (2) Watercraft
- (3) Trailers
- (4) Hydrological Gaging Stations

(5) Cableways – See Chapter 15 for detailed discussion on cableway systems.

(6) Aircraft

4. Inspection Personnel.

A. Collateral Duty Safety Officers conduct inspections of all areas and critical items under their jurisdiction during the annual inspections.

B. Safety Managers conduct the semi-annual high hazard areas inspections, and assist when needed on impromptu inspections.

5. Hazard Abatement.

A. General and specific area hazards are to be abated by the cognizant supervisor.

B. Structural and building-related hazards are abated by the appropriate Facilities Management personnel.

C. Recommendations and technical assistance in the abatement processes are provided by the Safety Manager.

6. Checklists.

A. Checklists should be used by inspectors to ensure uniformity and quality of the inspection.

B. Suggested checklists for those items in 3A and 3B above follow.

OFFICE AREA CHECKLIST

Record Required Corrective Action & Location

ELECTRICAL

Frayed cords
Extensions
Grounding

EXITS

Clearly marked
Access clear
Adequate lighting
Adequate number
Headroom
Alarm system

FIRE PROTECTION

Fire extinguishers:
 Maintained
 Unobstructed
 Right type
 Mounted
 Identified
Sprinkler system
Other systems
Alarm system

FLAMMABLE LIQUIDS

Storage
Ventilation

HOUSEKEEPING AND SIGNS

Areas clean
Areas orderly
Waste disposal
Vermin
Drinking water
Toilet facilities
Lunch facilities
Signs

MACHINERY AND MACHINE GUARDING

Exposed blades
Fan guards
Ventilation

MEDICAL AND FIRST AID

Available medical aid
Trained personnel

WALKING AND WORKING SURFACES

Sanitary conditions
Smooth floors
Slippery conditions
No tripping hazards
Stairways

INFORMATION FOR OFFICE AREA INSPECTIONS

The "checklist" side of the form is to assist in checking the major points of each section. The "required action" side is the portion to be completed when an identified hazard is not immediately corrected. In the "action" side enter the estimated completion date and the estimated cost of correction. This part is to facilitate a followup effort to ensure action is complete.

Offices are inspected to meet GSA standards and to eliminate hazards that cause accidents in the office environment.

Tripping, Slipping, and Falling. All floor areas and stairways should be well lighted. Floors should be kept clean and dry. Nonskid wax should be used for all polished floors. Torn or damaged floor coverings should be repaired immediately. Sturdy ladders should be available where supplies are stored high. Electrical and phone outlets in the floor should be protected.

Equipment. Furniture should be in good repair and without sharp edges. Office machines should have parts and blades guarded. Pointed objects should be used and stored carefully. Duplicating machines should be in appropriately ventilated areas.

Collisions and Obstructions. Any protruding object or projection constitutes a hazard that should be eliminated, properly guarded, or clearly marked. Two-way traffic around blind corners should be separated by floor lines or mirrors should be provided. Wastebaskets, briefcases, or other objects should never be left in the aisles.

Falling Objects. File cabinets may overturn when top drawers are open. Heavy equipment should not be placed on file cabinets. Fans should have guards with not more than 1/2-inch grid openings and be securely placed or anchored. Movable objects such as flowerpots, boxes, and vases should not be placed on windowsills.

Fire/Electricity. The accumulation of paper on the floor or on equipment should not be permitted. Good housekeeping is essential. Ashtrays should be used for the disposal of cigarettes, cigar butts, and burned matches. Oily rags should be stored in metal containers. Flammable liquids must be stored in adequate fire-rated cabinets. All electrical equipment, connections, cords, and wires should be inspected for loose connections, wearing, or fraying.

Medical and First-Aid. Telephone numbers for medical services and ambulances should be posted or otherwise readily available for all employees. Personnel trained in first-aid and available first-aid kits are required where professional medical treatment is not readily available for emergencies.

STORAGE AREA CHECKLIST

Record Required Corrective Action & Location

HAZARDOUS MATERIALS

Warning signs
 Hydrogen gas:
 Storage areas
 Chains
 Flammable liquids:
 “No Smoking” Sign
 Container storage
 Quantity limits
 Storage cabinets
 Storage rooms:
 Spill containment
 Quantity limits
 Wiring
 Ventilation
 Aisle
 Fire control
 Explosives
 Liquefied petroleum
 Anhydrous ammonia

COMPRESSED GAS

Cylinder condition
 Air receivers

MATERIALS HANDLING AND STORAGE

Aisle clearance
 Marked aisles
 Housekeeping
 Storage type
 Piling procedures
 Fire Protection
 Fire extinguishers
 Alarm system
 Sprinkler system
 “No Smoking” signs
 Powered industrial truck
 Operator’s certificate
 Crane maintenance
 Dockboards

PERSONAL PROTECTIVE EQUIPMENT

Eye protection
 Foot protection
 Hand protection
 Clothing

INFORMATION FOR STORAGE AREA INSPECTIONS

Safety in the storage area depends on consistent conformance with the basic requirement of housekeeping, signs, walking, and working surfaces, exits, and fire protection. These requirements are the same standards that apply to office areas. The office area Checklist should be used along with this Checklist for the inspection of storage areas.

Some specific OSHA standards apply to storage areas:

(1) **Materials Handling and Storage.** The OSHA standards cover a wide range of activities, from stock rooms to warehouses with all types of materials. The requirements are detailed because experience has shown that many employees suffer injuries in this work situation. The checklist is only an aid to help in identifying the many areas where specific requirements exist. The inspector must review the OSHA standards for the specific operation and determine compliance with these standards.

(2) **Compressed Gas.** The OSHA standards require careful attention to all compressed gas cylinders. Generally, this requirement is satisfied by USGS requirements imposed on vendors. The inspector should be looking for unchained or improperly stored cylinders.

(3) **Hazardous Materials.** The OSHA standards provide a large amount of detailed design requirements for specific hazardous materials. The inspector must review the standards to determine the requirements applicable for the specific facility being inspected. The checklist will help in determining the areas of concern at a particular location.

(4) **Personal Protective Equipment.** The inspector must examine the facility to be sure that employees are provided with and required to use personal protective equipment where needed. A common hazard found in storage areas is the danger of injuring feet or toes when material is being moved. Signs designating required protection and specific areas requiring protection are a part of any administrative effort to protect employees from hazards.

SHOP AREA CHECKLIST
Record Required Corrective Action & Location

HAND TOOLS

Saws
Belt sanders
Grounding
Electrical
Power lawnmowers
Compressed air

HEALTH AND ENVIRONMENTAL CONTROL

Dust control
Spray finishing
Chemical fumes
Noise

MACHINERY AND MACHINE GUARDING

Woodworking equipment
Power trains
Belt drives
Presses
Abrasive wheels
Sawdust control

PERSONAL PROTECTIVE EQUIPMENT

Eye protection
Respiratory protection
Foot protection
Hand protection
Clothing

WELDING, CUTTING, AND BRAZING

Training and certification
Written Instructions
Storage area

INFORMATION FOR SHOP INSPECTIONS

Safety in a shop area depends on consistent conformance with the basic requirements of housekeeping, signs, walking and working surfaces, exits, and fire protection. These items are the same OSHA standards that apply to office areas. The form for office areas should be used in addition to this shop inspection form.

(1) **Health and Environmental Control.** Control of the dust generated by shop operations, such as grinding, is required. Noise is another frequent problem in shop areas and may require the isolation of a particular operation and the use of hearing protection.

(2) **Personal Protective Equipment.** Any location where there is a hazard from flying chips, splinters, or other flying material requires the use of eye protection. All personnel in the area must wear safety glasses, and signs must be posted to make the requirement obvious. Safety glasses should be provided for visitors. Foot protection should be provided where a hazard exists. Other personal protective equipment, such as aprons, gloves, handling tools, and face shields, should be provided and are required for jobs exposing employees to hazards. Respirators are required when dust generated by shop operation cannot be controlled.

(3) **Machinery and Machine Guarding.** All places where employees can come in contact with cutting edges, nip points, power trains, rotating parts, or other dangers must be guarded by covers, screens, or other appropriate guards. Some machines require special two-handed controls to protect the employee from inadvertent injury. Review of the OSHA standards is necessary to determine compliance with the design requirements for some particular machines.

(4) **Hand tools.** All power hand tools should be carefully inspected to ensure proper grounding, electrical wiring conditions, guard operation, and compliance with the requirements of OSHA standards.

(5) **Welding, Cutting, and Brazing.** Welding operations can be hazardous because of the materials used, the fumes produced, and the harmful light generated. Protection must be positively provided to eliminate employee exposure to these hazards. The OSHA standards provide explicit requirements for these operations.

LABORATORY AREA CHECKLIST
Record Required Corrective Action & Location

HAZARDOUS MATERIALS

- Cylinder gases
 - Secured
 - Segregated
 - Capped
- Hydrogen:
 - Ventilation
 - Electrical fixtures
 - Signs
- Flammable liquids:
 - Storage area
 - Safety containers
 - Quantity limits
 - Fire protection
 - Warning signs
- Chemical Storage:
 - Compatibility
 - Dated Containers
 - Labeled Containers
- Material Safety
- Data Sheets
- Hazardous Waste Procedure

HEALTH AND ENVIRONMENTAL CONTROL

- Air Contaminants
- Ventilation
- Noise
- Radiation
 - Signs
 - Monitoring Program
 - X-ray equipment

PERSONAL PROTECTIVE EQUIPMENT

- Eye protection
- Clothing
- Hand protection

MEDICAL AND FIRST AID

- Eyewash
- Shower
- First-Aid

INFORMATION FOR LABORATORY AREA INSPECTIONS

This Checklist is intended to aid someone familiar with laboratory safety problems to become acquainted with the sections of OSHA standards that are applicable to USGS laboratories.

Safety in all areas depends on consistent conformance with the basic requirements of housekeeping, signs, walking and working surfaces, exits, and fire protection. These are the same OSHA standards as those that apply to office areas. The form for office areas should be used along with this form for the inspection of laboratories.

(1) **Health and Environmental Control.** The proper use, operation, and design of hoods are vital to the health of laboratory employees. 29 CFR 1910.1000 specifies the exposure limits permissible for many of the chemicals used in laboratory operations. Noise exposures, radiation requirements, and X-ray exposures are also specified. The inspector must review this section of the OSHA standards to adequately complete an inspection.

(2) **Personal Protective Equipment.** The inspector will identify areas where face shields, explosion shields, gloves, and other clothing are required. He/she will ascertain that the equipment is provided and all employees use the equipment. Safety glasses should be provided for visitors in all areas where operations could result in flying fragments.

(3) **Medical and First-Aid.** Showers and eye washes are required wherever caustics are employed. There must be a regular maintenance program to ensure their proper operation, with the inspection dates clearly visible on the shower.

(4) **Hazardous Materials.** Gas cylinders must be secured. Ventilation must be adequate. Safety containers will be used for flammable liquids except where their use has proved to affect experiments adversely. The quantities stored in the laboratory will not exceed those specified in the standards. Chemical inventories and Material Safety Data Sheets must be maintained of all hazardous materials.

Inspectors may identify other hazards and, if in doubt about the safety requirements, request assistance from the regional safety manager.

HYDROLOGIC GAGING STATION CHECKLIST

This Checklist will be Completed Annually for Each Station

Location: _____ **Inspector:** _____

Date: _____ **Satisfactory** _____ **Required Action** _____

PARKING AREA

Entrance and exit from roadway _____
 Personnel exit from vehicle _____
 Roadside parking _____

ACCESS TO GAGE STRUCTURES

Walkway guarded _____
 Manmade hazards _____
 Natural hazards _____

GAGE STRUCTURE

Walkway:
 Walking surface Handrails _____
 Structural soundness _____
 Ladders:
 Width and depth _____
 Cages _____
 Proper rung spacing _____
 Structural soundness _____
 Gage house:
 Flooring _____
 Top safety catches _____
 Door _____
 Natural hazards _____
 Ventilation _____
 Mercury contamination _____
 Structural soundness _____
 Stilling well:
 Ventilation _____
 Entrance and exit _____
 Structural soundness _____
 Natural hazards _____
 Falling objects _____

MEASURING SECTION

Access-List Hazards _____
 Velocities - Average _____ Maximum Safe _____
 Depth - Record maximum _____
 Regulations _____
Wading Measurement:
 Bottom:
 Holes _____
 Sand _____
 Slippery _____
 Manmade Hazards:
 Power lines _____
 Fences _____

HYDROLOGIC GAGING STATION CHECKLIST (Continued)

Location: _____ **Inspector:** _____

Date: _____ **Satisfactory** _____ **Required Action** _____

MEASURING SECTION (Continued)

Bridge Measurement:

- Road Traffic:
 - Traffic control _____
 - Road width _____
 - Road surface _____
 - Walkway _____
 - Guard rails _____
- Drift _____
- Natural hazards _____
- Manmade hazards:
 - Power lines _____
 - Pipe lines _____
- Boat traffic _____

Cableway Measurement: See additional checklist - Chapter 15

- Cable condition:
 - Rust _____
 - Broken strands _____
 - Cable clips _____
 - Sheave guard _____
 - Grounding _____
 - Stay cables _____
 - Structural soundness _____
- Boat traffic _____
- Access _____
- Natural hazards _____
- Manmade hazards _____

- Boat Measurement:**
- Waterway access _____
 - Navigational aids _____
 - Boat traffic _____
 - Tides or currents _____
 - Tag line _____

USGS Safety Inspection MOTOR VEHICLE CHECKLIST

Vehicle Identification: _____ Inspector: _____

Date: _____ Satisfactory _____ Required Action _____

EXTERIOR CHECK

- Lights:
 - Clean _____
 - Unbroken _____
- Windows:
 - Clean _____
 - Uncracked _____
- Tires, wheels _____
- Exhaust system _____
- Trailer hitch _____

MOTOR CHECK

- Fan Belts _____
- Radiator Hose _____
- Oil Level _____
- Hydraulic levels _____

EMERGENCY EQUIPMENT

- Spare tire _____
- Jack _____
- Lug wrench _____
- Chains _____
- Emergency light _____
- Warning flares or flags _____
- Emergency tools _____
- Fire Extinguisher _____

OPERATIONAL CHECK

- Steering _____
- Brakes _____
- Windshields, windows _____
- Windshield wipers _____
- Mirrors _____
- Lights:
 - Headlights _____
 - Tail _____
 - Turn _____
 - Brake _____
 - Emergency flasher _____
- Horn _____
- Safety Belts _____

USGS Safety Inspection BOAT CHECKLIST

Boat Identification: _____ **Inspector:** _____
Date: _____ **Satisfactory** _____ **Required Action** _____

HULL

Clean _____
 Running Lights _____
 Bilge pump or bailing bucket _____
 Anchors and lines _____
 Navigation lights _____
 Steering, controls _____

MOTOR

Gas Tanks _____
 Flame arrester _____
 Blower _____
 Outboard motor safety chain _____
 Emergency tools _____

OPERATIONAL

Horn, bell _____
 Compass Marine radio _____
 Paddles, oars _____
 Search light _____

PERSONAL PROTECTIVE EQUIPMENT

Life jackets _____
 Life preservers _____
 Safety work vests _____

EMERGENCY EQUIPMENT

Ring lifebuoy _____
 Fire extinguisher _____
 Emergency light _____
 Whistle _____
 Flares _____
 Marine first-aid kit _____

Note: Items will vary and checklist should be customized for individual boats.

USGS Safety Inspection TRAILER CHECKLIST

Vehicle Identification: _____ **Inspector:** _____

Date: _____ **Satisfactory** _____ **Required Action** _____

EXTERIOR CHECK

- Trailer tires, wheels _____
- Trailer lights: _____
- Running _____
- Turn _____
- Brake _____
- Lights: _____
- Clean _____
- Unbroken _____
- Trailer hitch: _____
- Secure _____
- Clean _____
- Safety chains _____
- Trailer winch, cable _____
- Boat straps _____
- Spare tire _____
- Tools _____
- Trailer brakes _____

Note: Items will vary and checklist should be customized for individual boats.

7. **Hazard Elimination Logs** should be used to identify deficient areas and to track the abatements process. An example of a Log is shown below.

HAZARD ELIMINATION LOG

Organization: _____ **Facility Location:** _____

Safety Officer: _____ **FTS Number:** _____

Hazard	Date Found	Followup Dates	Corrected

Chapter 13. FIELD WORK

1. General Planning.

- A. Communicate to your supervisor or other coworkers your intended plans for the trip and your expected time of return.
- B. Study the routes of traverse in order to avoid hazardous or impossible terrain.
- C. Plan your activities so that the more difficult ones are performed when help is available.
- D. Plan your field work so that you start out with easy physical activities and work gradually toward the more physically-demanding activities. This is especially important during the beginning of field season when your fitness may not be at its peak.
- E. Be sure you are familiar with weather conditions and be prepared for the worst case scenario.
- F. Know where the nearest emergency medical facilities are located and determine how you will notify these facilities if you are severely injured. If medical facilities are not located within your work area, then you and your coworkers should receive first-aid training.
- G. Determine what methods of reliable communications are available and choose one suited for your purpose. If none is available, then a detailed itinerary should be left with someone who can arrange for your rescue, should you not return at the predetermined time.
- H. Any employee with serious medical conditions (diabetes, epilepsy, etc.) should discuss fully with their supervisor the impact of these conditions on their assigned tasks. Coworkers in the field should also be made aware of these medical conditions and the location of any medication.

2. Informational Resources.

A. This chapter cannot adequately address all possible terrains, weather, animals, clothing, flora, and other factors associated with field work.

B. All employees who perform field activities should be totally familiar with all possible conditions. Additional reading is suggested. Two Geological Survey publications present more specific safety guidelines for field work. The publications are:

(1) Field-Safety Guidelines for the U.S. Geological Survey, Central Region; Tidball, Ronald R., 1984, 56p.

(2) Guidelines for Safe Geologic Field Work in Alaska; Brew, D.A., Bartsch-Winkle, S., Grantz A., and Plafker, G., 1978, 10p.

Contact your regional safety manager if you need a copy.

C. Additional mountaineering, wilderness, or other sources should be consulted as necessary for your specific activity.

Chapter 14. TRAVEL

1. Defensive Driving.

A. The mental and physical state of a driver is especially critical. At no time should alcohol or any kind of drugs that can impair your driving ability be used prior or during motor vehicle operation.

B. Constantly scan the road ahead and behind to be aware of traffic situations developing near your vehicle.

C. Always be on the alert for reckless, illegal, or erratic behavior on the part of other drivers and be prepared to adjust your driving to prevent accidents.

D. Always be especially courteous to pedestrians.

E. Always know and observe State and local traffic rules and regulations.

F. Warning signals which indicate that you should take a short rest include:

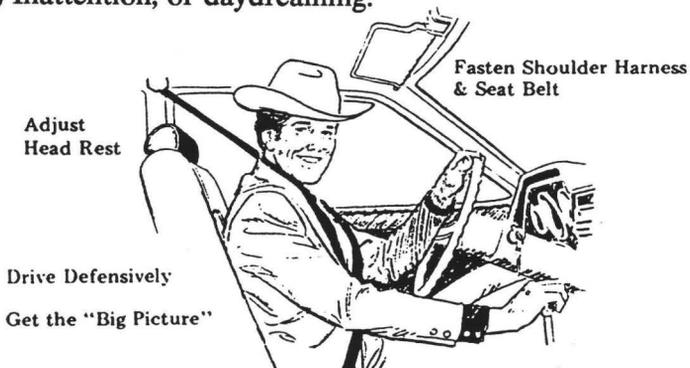
(1) Vehicle feels too warm.

(2) Muscular tension.

(3) Eye strain.

(4) Restlessness; rubbing face, neck or arms; inability to get comfortable.

(5) Inattention, or daydreaming.



- (6) Hallucinations, that is, misinterpreting shadows, reflections, objects on or near the road; resulting in an impulse to strongly control car incorrectly.
- (7) Drowsiness, especially after meals.
- (8) Feeling that it is "OK" to close your eyes for just a second.

2. General Motor Vehicle Travel.

A. Before driving any assigned vehicle, make a check of the following:

- (1) Brakes.
- (2) Steering.
- (3) Windshield and windshield wipers.
- (4) Tires.
- (5) All operational lights.
- (6) Horn.
- (7) Exhaust system.
- (8) All sideview and rearview mirrors.
- (9) Seat belts.
- (10) Oil and all fluid levels.

B. Driving Tips.

- (1) Keep warning flags, flares, flashlight, first-aid kit, and fire extinguisher in your vehicle at all times.
- (2) Never consume food or drink while driving.
- (3) Before backing, either walk around your vehicle to make a last minute check that nothing or no one is in your way, or have someone who can see all of the area involved guide you.

(4) Drive at a speed that permits full control of the vehicle. Consider factors, such as posted speed limits, stop signs, weather, visibility, traffic and road conditions, and safe stopping distance.

(5) Keep well to the right side on narrow roads and blind curves, and be able to stop your vehicle within half of the visible distance.

(6) Never run the engine of a parked vehicle to provide heat, unless a window is partially open to prevent carbon monoxide poisoning.

(7) Keep objects securely tied down and separated from the passenger area by a well-anchored partition. Never keep loose items in the front seat, on the dashboard, over the sunvisor or on floorboard.

(8) Seat belts should be worn by all occupants when the motor vehicle is in motion.

C. Backing-Up Maneuvers.

(1) Always try to park in an area where you do not have to back-up to return to the highway.

(2) If you are in a parking lot, back-in to the space so you can pull out into traffic.

(3) If you must back-up, always do the following:

(a) Walk completely around your vehicle and observe clearances of any obstacles.

(b) Use both of your sideview mirrors to observe conditions behind you, scanning left and right several times during the maneuver.

(c) If someone else is in the vehicle, have this individual stand outside the vehicle to assist you.

(d) Back-up slowly.

(e) When possible, turn your body so that you can look out the back of the vehicle.

3. Expressway Driving.

A. Always know the State laws for freeway or expressway driving.

B. Always have ample fuel before starting a trip.

C. Study your maps in advance; know where you expect to exit and how to identify exits in advance.

D. When possible, enter from acceleration lane at approximate speed of through traffic. While merging, check carefully and often to the left or right rear to be sure the traffic gap is sufficient to allow entry, and that approaching traffic is not forced to slow down or swerve from its lane. Be sure you don't overtake the car ahead of you. Yield right-of-way to through traffic.

E. Never back up, turn around, or cross a dividing strip.

F. Remember that faster than usual traffic adds to your driving responsibilities. You have to think ahead.

G. Always be alert and anticipate moves of other drivers.

H. Keep eyes moving to prevent highway hypnosis, scan the road ahead and behind.

I. Follow the "2-second rule" in calculating following distance. It works like this: Watch the vehicle ahead when it passes some point on the highway, such as a sign post or mileage marker. Then count to yourself "1 thousand 1, 1 thousand 2." This is 2 seconds. If you reach the point before you finish those words, you're following too closely.

J. If you must stop because of an emergency, give directional and stop signal as soon as possible and drive as far off the roadway as the shoulder permits. As a distress signal, raise the hood or tie a handkerchief to radio antenna, door handle, or from top of window on highway side.

K. Leave your vehicle if it stalls in traffic lanes and there is danger if you remain. Activate emergency flashers. Go to closest edge of road until help arrives.

L. When changing lanes, always indicate your intention by using your directional signal.

4. **Trailer**ing.

A. A vehicle with its trailer must be able to stop within the distances specified by State laws.

B. Make sure trailer and towing vehicle are equipped with brakes, lights, coupling, safety chain, and other devices prescribed by State laws.

C. Equip towing vehicles with mirrors that provide adequate rear vision.

D. If towing a horse trailer or similar trailer, make sure it's equipped with trailer jacks.

E. Always use a safety chain when using a trailer coupling or tow bar.

F. Keep hands and feet off the coupling device when steering the trailer into position for locking.

G. Always pull trailers with the proper towing vehicle and proper equipment. Gross towing trailer weight should not exceed 75 percent of gross towing vehicle weight.

H. Only operators who have been instructed in the proper use of trailing and towing should be allowed to operate towing vehicles.

I. Never permit personnel to ride in or on trailers.

5. **All-Terrain Vehicles.**

A. A common accident-causing error is to apply too much front-wheel brake, especially in turns or on loose gravel. Operators should avoid rough terrain if they are not proficient in that area.

B. Speeds exceeding 10 mph on trails are dangerous. Practice "defensive" riding and prohibit reckless driving and horseplay.

- C. Never permit a second person to ride tandem when traveling on a trail.
 - D. If riding in an area of steep bluffs or similar hazards, always walk your vehicle. Always be on the lookout for logs, rocks, and other obstacles that may cause hazards while riding.
 - E. Always center your load on the rack and make tie-downs secure.
 - F. Perform required preventive maintenance before starting on trips. Check brakes and tire treads.
 - G. Always leave an itinerary, listing estimated time of arrival and return, with supervisor and/or family member. Carry first-aid and survival kits appropriate for the area you're working.
 - H. Wear approved helmets at all times when riding. Helmets should provide full or 3/4 coverage with eye protection. Wear lace-up field boots; gloves; and long tight-fitting trousers.
 - I. Carry at all times a first-aid kit, toolkit, parts to make simple adjustments and repairs, flashlight, and other equipment required by local policy.
 - J. Three-wheeled vehicles are less stable than four-wheeled vehicles. Use of those vehicles should be discouraged.
6. **Four-Wheel Drive Vehicles.**
- A. Tire pressures should be maintained at the maximum or as close to maximum as possible so that tires won't overheat at highway speeds.
 - B. Four-wheel drive may be used only if the pavement is slippery from rain, sleet, ice, or snow and is recommended under those conditions for reasons of increased safety. With all four wheels pulling, stability is substantially improved and the chance of a dangerous skid is substantially reduced.
 - C. Don't drive on dry pavement with the front axle engaged! The one exception to this rule is when you are trying to get a heavy load, such as a large trailer rolling or going up an unusually steep hill.

- D. Know how to self-winch before going off road.
- E. Know the clearance of your vehicle before attempting to drive over brush, logs, rocks, etc.
- F. Remember that your vision is obstructed during backing up operations. Always walk around your vehicle to make note of objects which might get in the way.

7. **Battery Charging.**

A. **Jump Starting Motorized Vehicles.**

- (1) Ensure vehicles are not touching.
- (2) Turn off all electrical loads to both vehicles.
- (3) Turn off ignition to both vehicles.
- (4) Place damp rag over vent caps of each vehicle.
- (5) Ensure both batteries are of the same voltage.
- (6) Ensure both batteries are negative ground.
- (7) Wear safety glasses.
- (8) Do not attempt to start a vehicle or vessel with a frozen battery.
- (9) To start the vehicle, follow instructions below exactly in order.
 - (a) Attach the positive clamp to the positive terminal of the dead battery.
 - (b) Attach the positive clamp to the charged vehicle.
 - (c) Attach the negative clamp to the charged battery.
 - (d) Attach the negative clamp to the engine block of the dead vehicle and start vehicle.
 - (e) To disconnect, reverse above instructions.

B. Battery chargers must be grounded.

C. Charge batteries only where there is adequate ventilation. The rapid charging of batteries produces hydrogen gas which is extremely flammable. Do not vent battery or expose the gas to open flame.

D. Lead acid batteries should be recycled and not disposed of in land fills, dumpsters, etc.

8. Snow Vehicles.

A. Be very careful of frozen streams and lakes.

B. Do not exceed speed to the point you can't stop for hazards such as stretched cables, fences, hidden logs, rocks, and low hanging limbs.

C. Do not adjust tracks or other power train components while engine is running.

D. Do not lift vehicle while tracks are turning.

E. Always secure vehicle to truck or trailer when transporting.

9. Foot Travel.

A. Foot Care.

(1) Comfortable footwear and proper care for your feet are important.

(2) Protect tender spots with adhesive tape or mole skin when first redness appears.

(3) If doing a lot of walking, wear two pairs of socks; a pair of lightweight cotton socks under a pair of heavyweight socks without holes or darns. This will provide cushioning, sweat absorption, insulation against heat, and general comfort.

(4) While in the field, wear laced leather boots 8 to 10 inches high, with slip-resistant Vibram-type soles and heels for best all-around use.

(5) Always treat blisters promptly and have them checked upon return to your office.

B. Walking.

(1) When contouring a steep slope, do not lean into the hill. This tends to loosen footing. Erect posture or slightly leaning out gives more secure footing.

(2) Plan ahead, select safe routes, and watch out for changes in ground surface, slick spots, or unusual hazards.

(3) On slippery, loose ground or going downhill, keep most of your weight on your heels. Shorten your stride, keep knees bent, and lean slightly backward.

(4) When moving uphill or in sandy soils, lean slightly forward, turn feet outward, shorten stride, and use as much of the inside of the foot as possible.

(5) Avoid walking on logs unless they have been tested for secure footing.

(6) In heavy undergrowth, lift your knees high to clear obstacles. Always watch where you're walking.

10. Wilderness Travel.

A. Never travel or work in isolated areas without a detailed emergency plan.

B. Leave an itinerary of your planned trip with family and immediate supervisor or other employee when it is necessary to travel or work alone. The itinerary should indicate destination, planned route of travel, and approximate date and hour of return.

C. Always have a regular schedule to call in.

D. If employee fails to call in or return on schedule, the supervisor should start a search within a reasonable period of time.

E. Get reliable data on expected weather and road conditions for the area in which you are traveling.

F. Recommended equipment, for back country travel:

(1) First-aid kit.

- (2) Snakebite kit, if you're in snake country.
- (3) Compass and map.
- (4) Matches (in waterproof container) and fire starter. A strip of inner tube makes a good fire starter or can be burned as a smoke signal.
- (5) Pocketknife.
- (6) Belt ax.
- (7) Flashlight, with extra batteries.
- (8) Day's supply of food, water in canteen, poncho, space blanket, signal mirror, and some type of lightweight shelter.

11. Winter Travel.

A. Travel in snow areas.

- (1) Employees who have to work mountainous snow should be in good physical condition, and should have training in mountaineering, survival, and avalanche recognition.
- (2) Using skis on official business should only be performed by personnel who have been deemed proficient by a certified ski instructor.
- (3) Stay out of snow country for approximately 48 hours after heavy snowstorms or until the new snow bonds with the old.
- (4) Be aware that wet snow is more susceptible to avalanche.
- (5) Always know the amount of daylight available and the time of sunrise and sunset.
- (6) It is a good idea to make camp by 3 p.m.
- (7) Employees engaged in winter travel should carry a survival kit.
- (8) If possible, avoid traveling on ice, especially shore ice. Use of snowshoes or skis will help distribute weight.

B. Winter Environmental Hazards.

- (1) Keep clothing as dry as possible.
- (2) Keep your body temperature high and satisfy thirst by drinking warmwater, not by drinking cold water, snow, or ice.
- (3) Have high energy foods available.
- (4) Travel in pairs, if possible.

C. Hypothermia.

- (1) Hypothermia is a condition of subnormal body temperature caused by exposure to cold.
- (2) Hypothermia usually occurs on a cold, wet, windy day with temperatures at or below freezing.
- (3) Still air is a very poor conductor of heat. A person in dry clothes standing still in a windless area can tolerate very low temperatures, because the still air around the individual will not carry body heat away quickly. A combination of cold and wind (windchill) is much more dangerous. The chilling effect of a temperature of 32 degrees Fahrenheit combined with a wind of 25 miles per hour is equal to the chilling effect of 3 degrees Fahrenheit with no wind. (See Table on next page.)

WIND CHILL FACTOR CHART

Estimated Wind Speed (in mph)	Actual Temperature Reading (F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (F)											
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(wind speeds greater than 40 mph have little addi- tional effect.)	LITTLE DANGER in < hr with dry skin. Maximum danger of false sense of security.			INCREASING DANGER Danger from freezing of exposed flesh within one minute.					GREAT DANGER Flesh may freeze within 30 seconds.			

Trench foot and immersion foot may occur at any point on this chart.

- (4) When working outdoors in cold weather, get adequate rest, eat nutritional supplements between meals, and use proper clothing. If out overnight, have a sleeping bag that is wind resistant, maintains body heat, and limits skin exposure.
- (5) Always anticipate bad weather and dress accordingly, or carry warmer clothes with you.
- (6) Cover your head and neck to prevent heat loss.
- (7) Keep active to maintain the body's metabolism.
- (8) Stay dry.
- (9) Carry hot drinks in a thermos.

D. Ice Safety.

- (1) Travel on ice should be executed with extreme caution.
- (2) Keep heavy vehicles and equipment off ice.
- (3) If you fall through ice, put arms in front of you on solid ice, kick to keep body level, crawl forward on stomach until hips

reach ice, then make quick full-length roll onto ice. Keep rolling until safe. If ice is too thin to support you, make your way to shore by breaking the ice with one hand, while supporting yourself with the other.

(4) Rescuers should try to reach the victim with a pole, board, or rope. Walking to ice edge should only be done as the last resort. If it becomes necessary, carry a long pole with you or push yourself to the edge in a prone position, if you have a life line, secure it to a stationary object on shore.

(5) When someone has fallen through the ice, get them dry and warm as soon as possible.

12. Animal Travel.

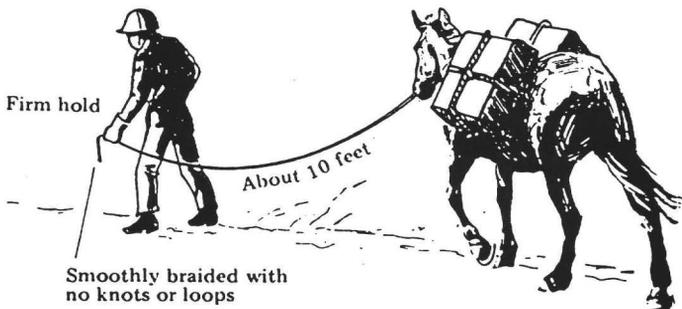
A. Use of horses.

(1) Make an effort to discover dangerous habits of unfamiliar horses without endangering yourself. If dangerous habits are discovered and cannot be corrected easily, remove the animal from service.

(2) Speak to horses when approaching them; avoid approaching them from the rear.

(3) Handle horses carefully after prolonged layoffs.

(4) Always lead your horse around after being saddled, and before being mounted or packed. Keep a firm hold on reins or lead rope. Never wrap rein or rope around your hand or slip your fingers through the bridle ring. The lead rope should be smoothly braided at the free end with no knots or loops and should be about 10 feet in length.



(5) Never carry equipment on a saddle horse.

(6) Never carry tools or equipment in your hands while riding.

B. When tying a horse.

(1) Avoid slack that might entangle horse or person, tie with not more than 4 feet of slack and make the tie at least 4 feet above ground.

(2) Avoid tying to a wire fence.

(3) Never position yourself directly in front of a tied horse.

(4) Always try to tie horse to an object he cannot walk completely around.

(5) When tying a horse for long periods, tie a rolling slipknot around the object to which the horse is being tied. Never use the bridle reins to tie a horse.

C. Horse Riding.

(1) When saddling, always make sure rigging, latinos, and cinches are in good condition.

(2) Always wear footwear that will not hang up in stirrups.

(3) Before mounting, lead the horse a short distance after cinching and check cinch again.

(4) Be alert to the horse's movement and guide it firmly but gently and test its reining habits. Do not hold a tight rein unless necessary to restrain forward movements.

(5) Be alert to insects and other animals that may spook your horse.

(6) Never wrap or tie reins around the saddle horn.

(7) Never ride a horse when a lightning storm is nearby.

(8) Always keep lead ropes free when pulling a pack animal while riding a saddle horse. Never tie lead rope around the lead horse's saddle horn or wrap rope around hand.

(9) Watch the slack in the lead rope to avoid animal's straddling or stepping over it, and to keep it from getting under lead horse's tail.

(10) Get off and lead a horse across excessively rocky or steep terrain or pole bridges.

(11) Never run a horse on hard pavement, frozen ground, uphill, downhill, or deep snow.

(12) Never shoot firearms while on horseback.

(13) When riding, it is good practice to have a sharp knife available to cut rope, cinches, or pack straps in case of an emergency.

D. Pack Animals.

(1) Always treat a pack animal as dangerous.

(2) Know how to load or unload pack animals.

(3) Keep animal's back clean, saddle pad straight, saddle blanket smooth, saddle properly fitted and tight, and side packs of nearly equal weight.

(4) Tie pack string together with rope so that animals can free themselves in case of accident. A 1/4-inch loop tied to the rigging reins or pack saddles makes a good place to tie the lead ropes of an animal being led. Make the pegging rope on a pack saddle about 1/4-inch in size. If an animal in the string falls off a precipitous trail, the rope can break, reducing the chances of injury to other animals in the pack string.

E. Animal Hauling.

(1) Clean or cover the floors and wheel wells of transporting vehicles to prevent slipping. Inspect frequently for loose or rotten boards and protruding nails.

(2) Have substantial sideboards or racks to discourage animals from breaking out or climbing over sides.

- (3) Put halters on animals being hauled and fasten head securely.
- (4) When tying animals, use a rolling slipknot or hitching rack tie. Secure excess rope so that it is away from the animal and will not drag on the ground.
- (5) When loading or unloading, always rest tailgate evenly on ground.
- (6) Stand to one side when raising or lowering tail gate.
- (7) Never carry loose gear in vehicle used for transporting animals.
- (8) Never ride animals into vehicle for loading.
- (9) Never exceed load carrying capacity of vehicle.
- (10) Avoid quick starts and stops.
- (11) Test brakes and lights before hauling animals.
- (12) Unload animals before jacking up vehicle to change a tire.
- (13) Avoid tight turns when hauling animals in a pickup bed.
- (14) When loading, avoid getting into trailer ahead of animals unless the trailer is equipped with escape door.
- (15) Hook divider chains on animal trailers.

Chapter 15. CABLEWAY AND GAGING SAFETY

1. Preplanning.

A. Leave a trip plan with a designated person. This plan should include:

(1) A map with locations of places you will visit on your trip. Such as:

- (a) Gage stations
- (b) Cableways
- (c) Bridges
- (d) Overnight stops

(2) An itinerary of the stops you will make, along with estimated times you will be in these locations.

(3) An estimated time by which you will call the designated person.

B. If the designated person has not heard from you by the established time, that person should call the authorities and report the location you are believed to be at according to your itinerary.

C. Equipment Check.

(1) Inventory and inspect all specialized safety equipment you require for your trip. Below are some examples:

- (a) Personal flotation device (PFD)
- (b) Hard hat
- (c) Fluorescent vest
- (d) Flares
- (e) Traffic cones
- (f) Flashing lights
- (g) Road signs

(h) Flags

(i) Wire cutters

(2) Replace all defective equipment before you leave for the field.

2. **General.**

A. When approaching gage houses, cableways, or bridges, watch for the following along footpaths:

(1) Poisonous plants

(2) Reptiles

(3) Animals

(4) Tripping hazards

(5) Unstable ground due to flooding

(6) Insects

B. Before entering a gagehouse or ascending a cableway platform or bridge walkway be alert for:

(1) Loose ladders

(2) Ladders with corroded rungs

(3) Unstable platforms and walkways

(4) Loose or weak handrails

C. Much of the equipment used in measuring stream flow is heavy; always use proper lifting techniques.

3. **Wire Rope.**

A. Below are some definitions to assist you with wire rope terminology.

(1) **Abrasion** - Surface wear on the wires of a wire rope

(2) **Backstay** - Guy line used to support an A-frame or tower.

- (3) **Breaking Strength** – The measured load required to break wire rope in tension.
- (4) **Cable** – A term applied to wire ropes, wire strands, and electrical conductors.
- (5) **Cableway** – Aerial conveying system for transporting single loads along asuspended track.
- (6) **Clip** – Fitting for clamping two parts of wire rope.
- (7) **Construction** – Design of wire rope including number of strands, number of wires per strand and arrangements of wires in each strand.
- (8) **Core** – Member of a wire rope about which the strands are laid. It may be fiber, a wire strand, or an independent wire rope.
- (9) **Corrosion** – Chemical decomposition of the wires of a rope by exposure to moisture, acids, alkalines, or other destructive agents.
- (10) **Cover Wires** – Outer layer of wires.
- (11) **Diameter** – Distance measured across the center of a circle circumscribing the wires of a strand or the strands of a wire rope.
- (12) **Eye or Eye Splice** – A loop with a thimble formed in the end of a wire rope.
- (13) **Fatigue** – Term commonly applied to progressive fracture of wires of a rope.
- (14) **Galvanize** – To coat with zinc to protect against corrosion.
- (15) **Grades, Wire Rope** – Classification of strand by its breaking strength. In order of increasing breaking strengths they are Iron, Traction, Mild Plow Steel, Plow Steel, Improved Plow Steel, Extra Improved Plow Steel.
- (16) **Guy Line** – Strand or wire rope, usually galvanized, for holding a structure in position.

- (17) **Regular Lay Rope** – Wire rope in which the wires in the strands and the strands in the rope are laid in opposite directions.
- (18) **Shackle** – A “U” shaped fitting with pin.
- (19) **Sheave** – A grooved pulley for use with wire rope.
- (20) **Strand** – An arrangement of wires helically laid about an axis, or another wire of fiber center to produce a symmetrical section.
- (21) **Thimble** – Grooved metal fitting to protect the eye of a wire rope.
- (22) **Turnbuckle** – Device attached to wire rope for making limited adjustments in length. It consists of a barrel and right and left hand threaded bolts.
- (23) **Wire (round)** – Single continuous length of metal cold drawn from a rod.
- (24) **Wire Rope** – A plurality of strands laid helically around an axis or a core.
- B. When working with wire rope:
- (1) Always wear gloves.
 - (2) Always wear safety glasses.
 - (3) Use the proper size wrench for tightening clips. (Do not use pliers or vise-grips.)

4. Gage Stations.

- A. If there is a dam or power plant up stream, check with the operator to ensure that there will not be a discharge while you are in the stream.
- B. Look for down power lines before entering the stream.
- C. Always wear your personal flotation device.
- D. While in the stream, watch upstream for debris and ice drifting towards you.

- E. Always use your wading rod and feel for dropoffs and holes.
- F. Never wade directly upstream. Always angle across the stream. If your feet become lodged and you fall backwards while facing upstream, you may not be able to get up due to the water pressure.
- G. In areas of warm water discharge, there will be heavy algae growing on the stream bottoms. Algae is especially slippery.

5. Cableways.

A. Before using a cableway:

- (1) Inspect anchorages at both banks, when possible.
- (2) Look for signs of excessive wear, vandalism, or accidental damage to:
 - (a) Cable
 - (b) Backstays
 - (c) Anchors
 - (d) Cablecar
 - (e) Turnbuckles and all other associated hardware.
 - (f) Footings
 - (g) A-frames and towers
- (3) Look for downed power wire in the stream or on the cable.
- (4) Carry wire cutters of sufficient strength to cut the sounding line, should it become entangled.
 - (a) If possible, reel off sounding line until slack, before cutting wire.
 - (b) Cut cable as close to reel as possible.
 - (c) Hold on to cable car to steady yourself during rebound.

B. Personal Flotation Device.

- (1) Your PFD should be worn anytime you are working above, beside, or in any body of water.
- (2) Always use a PFD that is in good condition.

6. Cableway Inspections.

A. A checklist which can be used to determine the cableway's safety is shown below.

CABLEWAY SAFETY CHECKLIST

Sta. Number _____

Inspected by _____

Date Inspected _____

Station Name _____

Cable span _____ ft; cable type & diameter _____;
prescribed sag, unloaded _____ ft (see sag diagram); A-frame height,
left _____ ft, right _____ ft. A-frames are timber _____ steel.

MAIN CABLE

1. Are there any broken strands?__ Any signs of rust?__ Flaking?__
2. Are there signs of fatigue (a square break in a wire)?__ (This can be caused by oscillation, vibration, and stress.)
3. Are U-bars and cable clean and not in contact with soil?__If no, clean both and explain any problem.
4. Are thimbles aligned and in place?_____
5. Cable sag is _____ft. Correct as necessary.
6. Is cableway adequately stationed?____Repaint as necessary.
7. Are clips installed correctly?____(U-bolt on dead" end of cable)
8. Left A-frame: clip farthest from loop is minimum of 6 inches from end of cable?____; there are _____*(no.) clips with a minimum spacing of _____ inches.**

Right A-frame; clip farthest from loop is minimum of 6 inches from end of cable?____; there are____*(no.) clips with a minimum spacing of _____inches.**

Minimum prescribed:

*5 clips for 3/4 and 7/8 inch cable, 6 for 1 inch or greater.

**6 inches for 7/8 and 1 inch cable.

Explanation for any of the above items considered "unsafe."

BACKLINES AND MESSENGER CABLE

1. Are there any broken strands? left___right___.
2. Are there any signs of rust? left___right___.
3. Flaking? left ___right___.
4. Are backlines taut? left___right___. If not, tighten as necessary.
5. Are aircraft markers needed?_____
6. If aircraft markers are used, are they in good repair?__Secure?__.
7. Are clips installed correctly? left___right___.

Explanation for any of the above items considered "unsafe."

ANCHORS AND FOOTINGS

1. Do the anchors show excessive deterioration? left___right___.
Footings? left___right___.
Do the anchors show signs of movement? left___right___.
Footings? left___right___.
 2. If anchored in rock, are there signs of movement?__fractures?__
 3. Are there any signs of rust, deterioration, or fatigue in the U-bars?
left___right___; thimbles? left___right___; cable connections?
left___right___.

Are the bolts fastening the A-frame to the footing rusted?
left___right___; are there nuts on the bolts? left___right___.

Explanation for any of the above items considered "unsafe."

CABLE SUPPORTS

1. Are the A-frames free from rust and corrosion? left___right___;
free from signs of fatigue? left___right___.
2. Are timber A-frames free from decay? left___right___.
Do the A-frames need to be treated with a preservative?
left___right___.
3. Are ladders, stairs, and platforms securely fastened? left__right__.
Is a security fence needed? left___right___.
If the site has a security fence, is it safe and adequately main-
tained? left___right___.
4. Is the cableway grounded?_____

Explanation for any of the above items considered "unsafe."

CABLE CAR

1. Are the sheaves in good shape?_____
2. Are the supports free from cracks?_____
3. Is the floor in good shape?_____
4. Is the plate for the reel in good shape?_____
5. Are the side railings secure?_____
6. Is the plate connecting the sheaves to the supports in good shape?

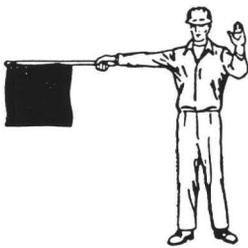
Explanation for any of the above items considered "unsafe."

7. Bridge Measurements.

A. Bridges without walkways.

(1) Follow all State laws for blocking traffic. If a flagman is being used, then use hand signals as shown below:

FLAG



TO STOP
TRAFFIC



TRAFFIC
PROCEED



TO ALERT
AND SLOW
TRAFFIC

PADDLE



- (2) Wear high visibility vests with reflective stripes.
- (3) Park vehicles in the closed lane near the bridge ends to help protect workers on the bridge.
- (4) Workers making the measurements should wear PFD's.

B. Bridges with walkways.

- (1) Wear a PFD with reflective stripes.
- (2) Post signs at each end of the bridge which say "Men working."
- (3) Be alert for wide loads and large trucks which may extend over the walkway.

8. Measurements Through Ice.

A. Ice is a continually changing medium and therefore must be monitored and tested often.

B. Before going on the ice determine whether:

- (1) The temperature has been or will be above freezing. Snow melt increases the stage and the pressure on the ice sheet which may cause it to breakup rapidly. (Sometimes in a matter of minutes.)
- (2) The temperature has been cold enough for the ice sheet to form.
 - (a) Early season ice may have spots of open water.
 - (b) Thickness of ice may vary.
 - (c) Ice sheet may not be frozen to either bank.
- (3) The river stage is rising or falling. A dropping river stage may cause an ice bridge and may not support additional weight without the support of the water underneath.
- (4) The ice is covered with snow.
 - (a) Snow insulates the ice and slows development.

(b) Blowing snow may blanket spots of open water.

(c) Snow covers cracks and deformations.

C. Working on ice.

(1) Ice at the bank may be thin and weak in areas. Also, it may be deformed and tilted making traction difficult.

(2) Ice may feel “rubbery.” This means ice is flexing and is weak.

(3) Piers, rocks and trees.

(a) Ice may not build up around piers, rocks, and trees.

(b) Open water may be around ice, rocks, and trees.

(4) Ice color.

(a) Black or blue ice is usually strong.

(b) White ice is weaker due to trapped air.

D. Testing ice.

(1) Test ice with a sharp blow from your ice chisel.

(a) Hard ice – resounding ring.

(b) Soft ice – a dull thud. (Drill a test hole to determine if ice is safe to work on.)

(c) Dangerous ice – chisel penetrates ice. (Do not work on ice.)

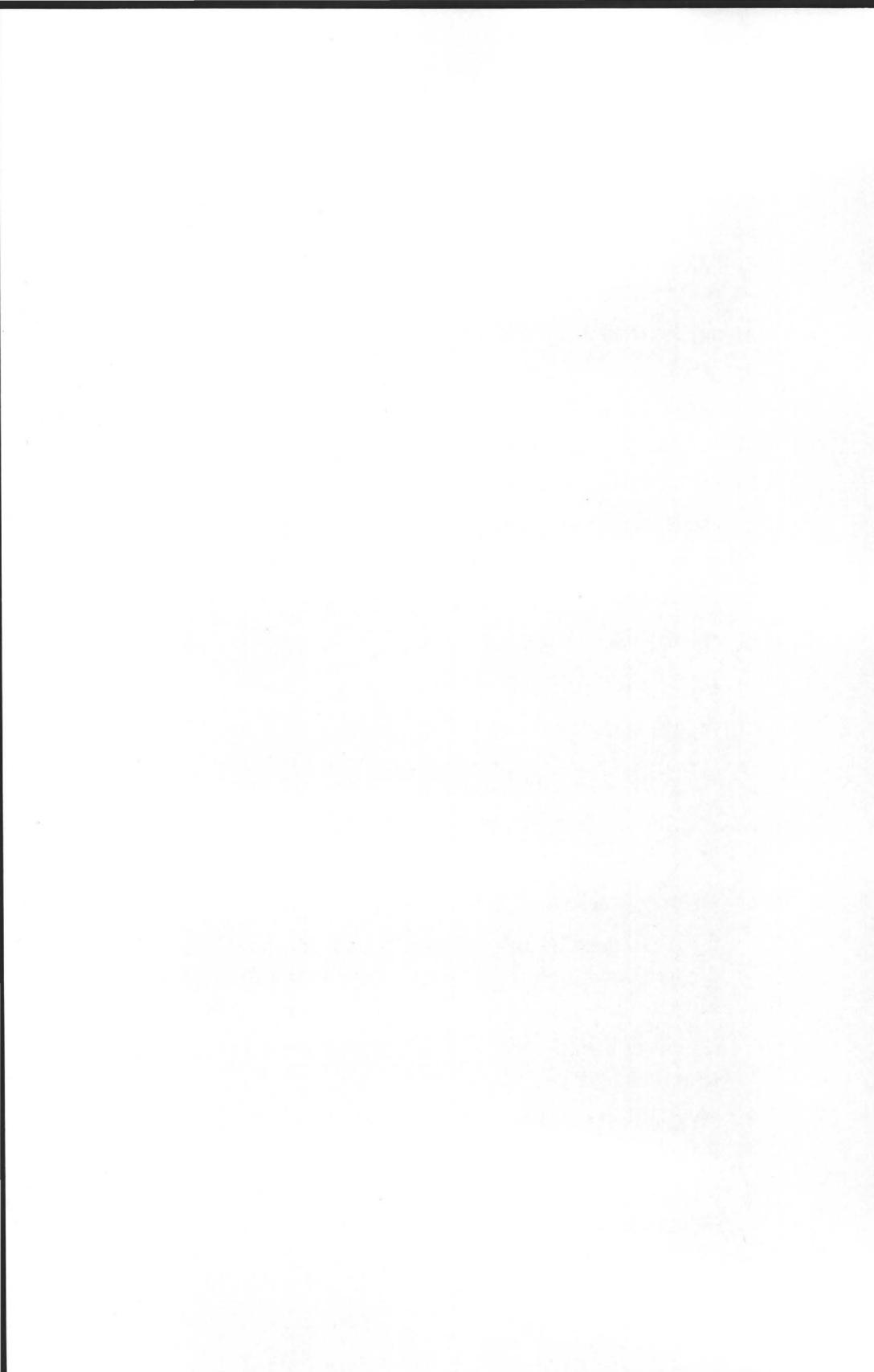
E. Drilling holes.

(1) Holes overflow or gush water – river stage has risen and is applying pressure to the ice and may cause it to breakup rapidly.

(2) Power augers should have a dead man switch installed to stop the auger when the operator lets go.

(3) Keep auger blade covered when not in use. This helps keep them sharp and helps prevent cuts.

F. There is no substitute for experience. When possible, work with someone who has experience working on ice.



Chapter 16. AIRCRAFT SAFETY

1. **Pilot Qualifications.** Always check the Pilot's Qualification Card before boarding aircraft to make sure he/she is qualified for aircraft type and mission. Never fly if Pilot's Qualification Card is outdated, or one is not available.
2. **Flying Practices.**
 - A. Always file a Flight Plan with the FAA, Survey, or others as needed.
 - B. Make sure pilot is briefed on mission objective and parameters of the flight.
 - C. Always check the Data Aircraft Card to make sure aircraft is capable of performing mission.
 - D. Make sure you have been briefed by the pilot on the following:
 - (1) Approach and boarding
 - (2) Seat belt (use and adjustment)
 - (3) Smoking rules
 - (4) Fire extinguisher (location and use)
 - (5) Emergency exits (location and use)
 - (6) Survival equipment (location and use)
 - (7) Oxygen (if available)
 - (8) Emergency locator transmitter (location and use)
 - (9) Other emergency procedures
 - (10) Deplaning and departing
3. **Special-Use Flights.**
 - A. **Airplanes** involved in the following activities are considered to be special-use:
 - (1) Changes to the airplane that invalidate the airplane's standard airworthiness certificate (i.e., door removal).

- (2) Flight conducted below 500 feet above ground level.
- (3) Wheel or ski operations conducted on unprepared landing sites.

B. Helicopters involved in the following activities are considered to be special-use:

- (1) Flights conducted below 500 feet above ground level.
- (2) Night vision goggles.
- (3) Offshore navigation.

C. Personal Protective Equipment (PPE) Requirements for Special-Use Flights.

- (1) An aviator's protective helmet (pilots' and crew members' must have communications, passengers may have helmets without communication).
- (2) Fire retardant clothing.
- (3) All-leather boots which extend above the ankle.
- (4) All-leather or leather and "Nomex" gloves.

4. Fixed-Wing Aircraft - Predeparture Preparations.

- A.** Provide a close estimate of your cargo weight. Cargo that is questionable with regard to aircraft and passenger safety shall be cleared in advance of your flight. Extremely large items should be itemized separately to insure that space will be available.
- B.** Report the number of passengers to determine the gross weight of the aircraft.
- C.** Always give the destination, latitude, longitude, and elevation (if possible) of your field camp and the airstrip, if you know the location. Prominent place names in the area are also helpful.
- D.** Have a radio available in camp for monitoring of aircraft arrival, departure, and emergencies.

5. Passenger Procedures and Safety Precautions.

A. Do not disembark from aircraft until pilot has given the okay. If deplaning from front door of aircraft, make sure propellers have stopped. Even with propellers stopped, use caution when walking near them; they're about head high and a serious head injury could occur. Normally, deplane from cargo door and proceed straight out from aircraft, not forward.

B. When approaching a fixed-wing aircraft always approach the cargo door from the side or the rear of the aircraft.

C. After unloading any aircraft, inspect the area around the aircraft for any loose materials that might be picked up by air blast upon take off and cause damage to the aircraft or injury to personnel.

D. Always observe the seat belt sign and make sure seatbelts are fastened during take-offs and landings and or whenever the aircraft encounters turbulence.

E. Always observe the "NO SMOKING" signs or the instructions by the pilot. Also there will be "NO SMOKING" while refueling or on the ramp.

6. Helicopters.

A. Cargo Loading.

(1) Consideration of center of gravity (CG) limitations is important in loading of all aircraft, but is particularly important and critical in helicopters. In a helicopter the load is carried under a single point like a pendulum; therefore, very little out-of-CG loading can greatly affect the controllability of the helicopter.

(2) It is important to properly secure all materials loaded on or in a helicopter.

(3) Do not overload the aircraft. Normally the pilot will stow equipment and distribute the weight. However, during the work day, you might be loading and unloading equipment as

well as adding other materials. Therefore, it is your responsibility to insure that gear is always stowed properly and that weight is properly distributed.

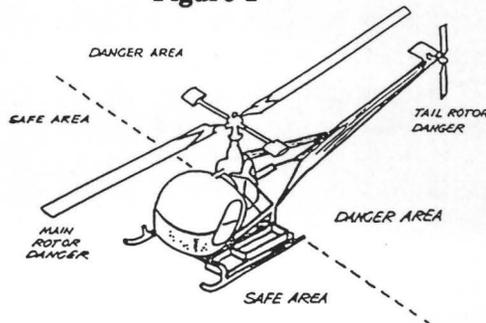
(4) Normally loading and unloading equipment at camp is no problem because the engine is usually shut down, but if the engine is still running, the following precautions must be taken:

- (a) Make sure there are no loose or light materials that might be pulled into the main rotor blade or tail rotor.
- (b) If light materials are placed near the helicopter, make sure that heavier materials are placed over them
- (c) Long items should always be carried horizontally while they are being loaded.

B. Tail Rotor.

- (1) The tail rotor constitutes the most serious hazard on a helicopter and is unprotected and nearly invisible when in motion.
- (2) Never proceed rearward of the tail boom and the main cabin.
- (3) Never duck under tail boom.
- (4) Never deplane to the rear. Walk straight out to the side or to the front in a low position and always stay in view of the pilot.
(See Figures 1 & 2.)

Figure 1

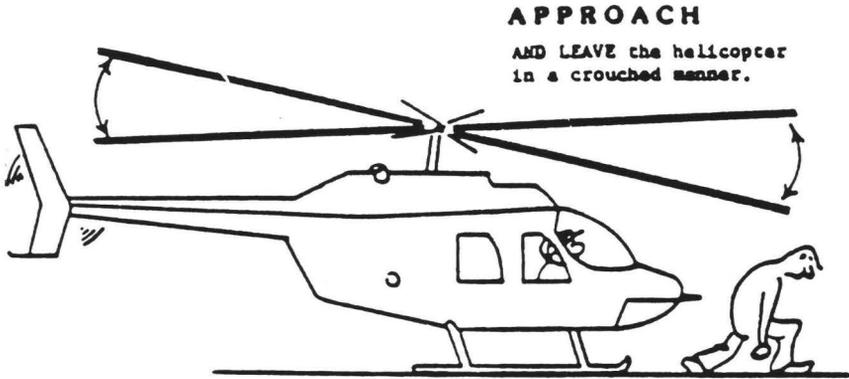


Helicopter safe and danger areas.

C. Main Rotor.

- (1) When the helicopter is setting on level ground, the main rotor is sufficiently above the ground not to be of danger, but still leave in a crouched position.

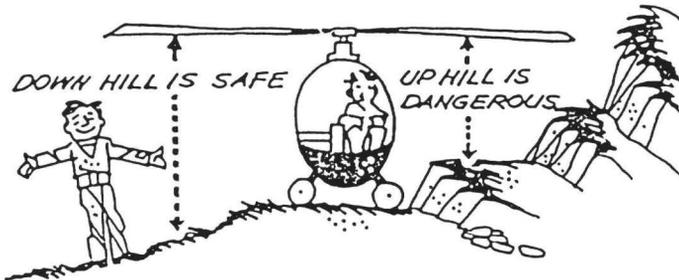
Figure 2



- (2) While on uneven ground, the rotor presents a major hazard. Always approach or exit the helicopter on the downhill side. (See Figure 3.)

Figure 3

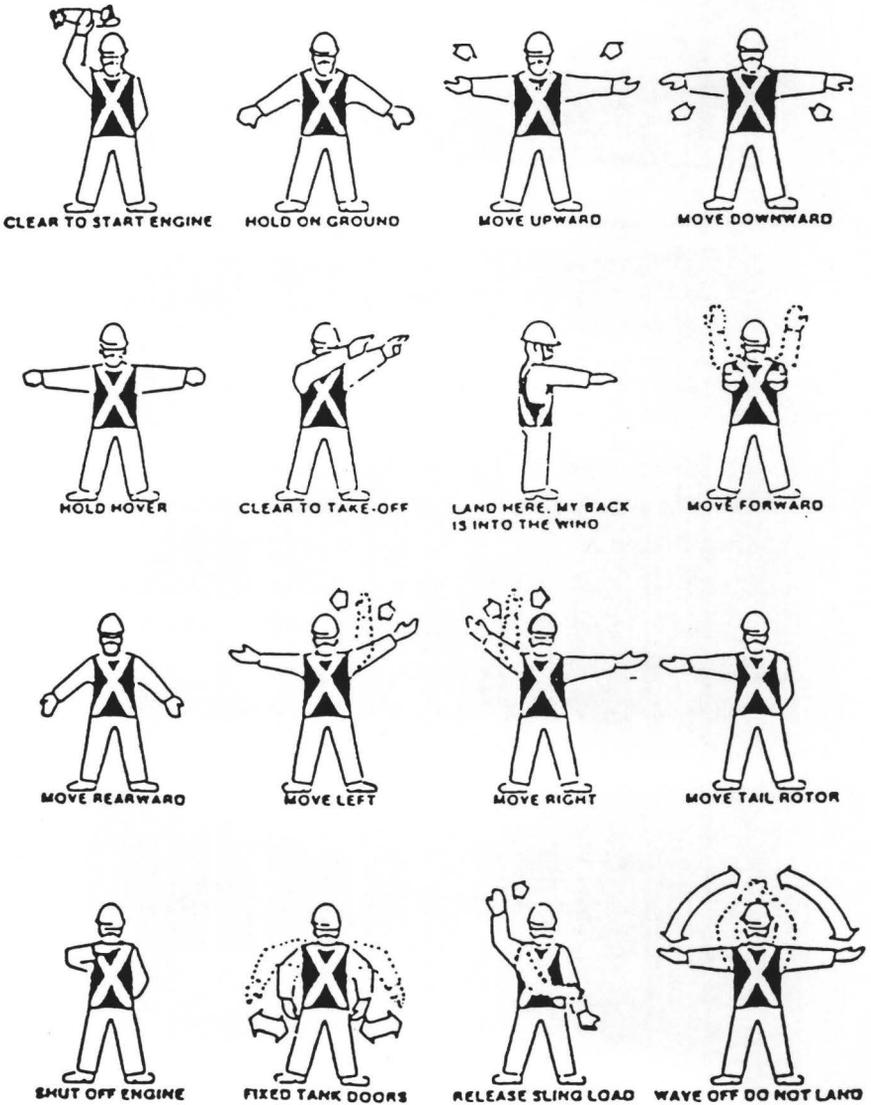
DOWN HILL IS SAFE



Safe direction for departing helicopter on uneven terrain.

D. Helicopter Hand Signals.

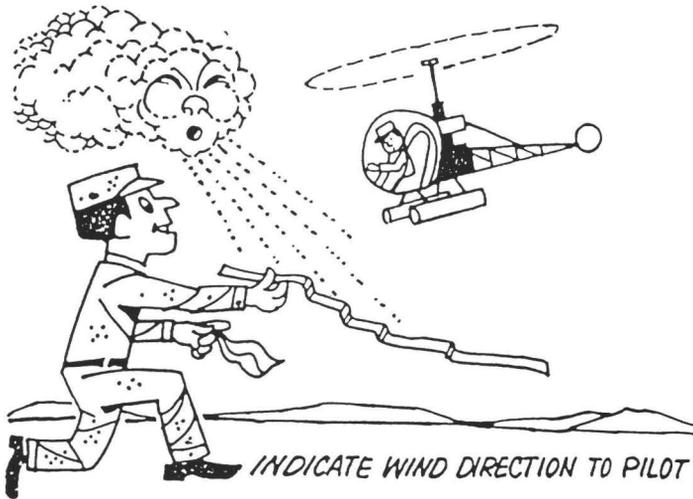
Figure 4
HELICOPTER HAND SIGNALS



E. Landing Procedures.

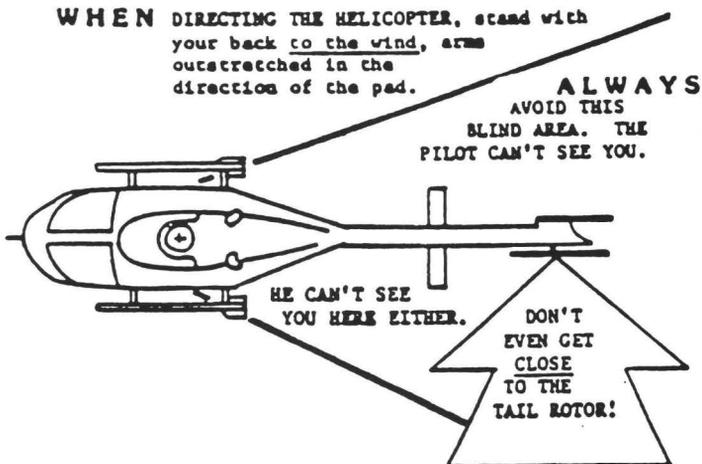
(1) If on the ground waiting to be picked up, provide the pilot with wind direction, either by holding out a piece of cloth or by standing with your back to the wind. (See Figure 5.)

Figure 5



(2) Always stay within the pilot's view. (See Figure 6.)

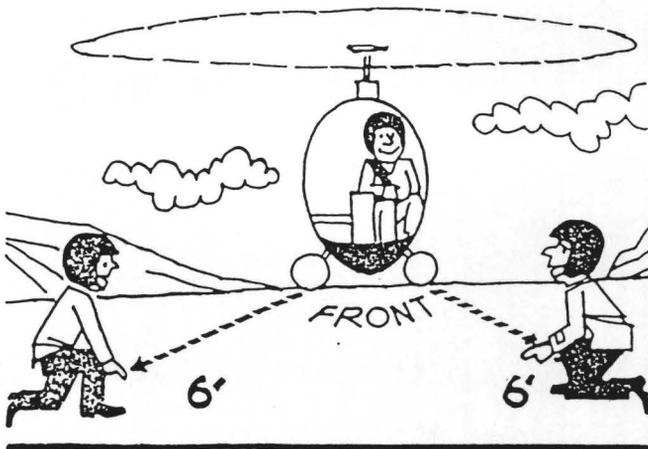
Figure 6



F. Take-Off Procedures.

- (1) If on the ground waiting for the helicopter to take off, move to a position about 6 feet and on a 45 degree angle from the front skid. (See Figure 7.)
- (2) Squat down and give the pilot the "thumbs-up" sign, which indicates "okay for take-off."
- (3) Always stay within the pilot's view.

Figure 7



Proper position for passenger after departing a helicopter and prior to and during helicopter departure.

Chapter 17. WATERCRAFT SAFETY

1. Inspections/Preventive Maintenance.

A. Thorough pre-season inspections should be completed on all craft hulls, engines, equipment, and trailers.

(1) All hulls, be they steel, aluminum, fiberglass, wooden, or inflatable material, should be inspected for cracks, splits, separation, stress points, and worn material.

(2) All types of engines and drives should be inspected and tested for proper operation.

(3) All equipment required to be on board, both operational and safety, should be tested for proper working condition.

(4) All trailers should be inspected with special emphasis on ball connection, tongue, tire condition, pressure, wheel bearings, and axle.

B. Preventive maintenance should be scheduled and conducted periodically to recognize a problem which could cause an accident or injury.

(1) Check hulls whenever feasible. For inflatable canoes and small crafts this should be done prior to each trip. Craft moored at a marina or slip should be taken out of the water periodically for maintenance.

(2) Engine fluids, belts, lines, etc., should be checked prior to each trip. Drive should be checked periodically.

(3) Equipment should be maintained periodically, particularly safety equipment which is normally forgotten until an emergency arises.

(4) Check fuel line and fuel tank integrity.

C. Repairs should be completed and defective parts or equipment replaced immediately. If thorough repair is not possible, the craft, engine, equipment or trailer should be taken out of service.

2. Trailering.

A. Preparation.

- (1) Always know how much weight the trailer can safely carry. Do not attempt to haul a craft too large for the trailer.
- (2) Be aware of the tongue weight, it should be approximately 10 percent of the total trailer weight. Insufficient tongue weight could allow the coupling to lift off the ball and the trailer to sway.
- (3) Always check coupling and trailer hitch ball size thoroughly to ensure it is secure and compatible.
- (4) Always connect the safety chains. They should be hooked in the form of an "X" to the frame of the vehicle, and secured to the trailer.
- (5) Always check the tie down straps to ensure that the craft is properly secured to the trailer.
- (6) Before starting vehicle, adjust rear and side view mirrors to provide maximum visibility.
- (7) Check lights, signals, and license plate.

B. Towing.

- (1) The towing vehicle must be powerful enough to tow the trailer safely.
- (2) Always allow extra distance to slow down, stop, or change lanes.
- (3) Steer wider on corners for the trailer to clear the curb and other vehicles.
- (4) Air turbulence from passing vehicles may cause the trailer to sway. Do not brake. Remove foot from gas and maintain control.

3. **Launching.**

A. **Preparation.**

- (1) If possible, watch one or two other launchings to notice any problems on the ramp and the effects of wind and current.
- (2) Load gear from vehicle into craft.
- (3) Disconnect the wiring plug between vehicle and trailer.
- (4) Remove tie-downs from craft.
- (5) Ensure that drain plug is in place.
- (6) Attach lines to bow and stern for tie-off after launching.
- (7) On outboard engines check safety chains and make sure the engine is secured to the transom.

B. **Launch.**

- (1) Have someone guide you into water and assist you with tie-off of lines.
- (2) Back into water until rear rollers are just underwater.
- (3) Position outboard in upright (extreme trim) position, particularly if it has a long shaft.
- (4) Disconnect winch line from bow edge and put craft in the water.
- (5) Motor vehicles should be turned off with the parking brake on, wheels chocked, and no passengers in the vehicle.
- (6) Move craft out of launch area and tie-off.
- (7) Move vehicle and trailer to parking area.

4. **Trip Preparation.**

- A. Prior to each trip, call for weather report for the area you will be in.
- B. Water conditions should be evaluated for existing or possible hazardous conditions.

- C. Always file a float plan.
 - D. Conduct a pre-check of craft and equipment prior to each trip.
 - E. Follow all safety precautions when fueling the craft.
 - F. Never overload the craft with equipment and/or personnel.
 - G. Distribute weight of equipment and/or personnel evenly for proper balance.
5. **Equipment.**
- A. Ensure that all required operational and safety equipment is on board.
 - B. Specialized equipment for job duties should be checked and stored properly.
 - C. Safety equipment should be checked prior to each trip to ensure it is working properly and in good condition.
6. **Personal Flotation Devices (PFD's).**
- A. PFD's appropriate for the type of craft, water condition, and work activity must be on board.
 - B. Each person on board must wear a PFD of proper size and fit.
 - C. The following are descriptions of the Coast Guard Approved PFD's:
- Type I:** Life Preserver – 20 pounds buoyancy. Turns unconscious person from a downward position to a vertical or slightly backward position. Acceptable for all boats.
 - Type II:** Buoyant Vest – 15.5 pounds buoyancy. Turns unconscious person from a downward position to a vertical or slightly backward position. Acceptable for all boats.
 - Type III:** Special Purpose – 15.5 pounds buoyancy. **Not** designed to turn an unconscious person face up.
 - Type IV:** Throwable Device – 16.5 pounds buoyancy. Cushions or rings adequate for supporting a conscious person in

an emergency. Does not give the protection of a wearable device.

Type V: Hybrid – 7.5 pounds buoyancy deflated, 22 pounds inflated. Can be inflated orally by blowing into a mouth tube, and/or automatically by devices such as a CO2 cartridge. **Must be worn whenever boat is underway and person is on deck, or is not considered Coast Guard Approved.**

7. Navigation.

- A. Operator of the craft must always be familiar with the type of craft and the waterway being traveled.
- B. Always adhere to all safe boating rules and regulations.
- C. All persons on board should be instructed on the types of navigation aids and their meaning.
- D. Always have navigational charts of the area on board.
- E. Ensure that on board navigational equipment is in proper working condition.
- F. Radio communication must be on board all watercraft over 26 feet long.

8. Rules of the Road.

- A. Never operate in a reckless or careless manner.
- B. Always maintain a safe speed.
- C. Do not enter areas marked “Restricted Access.”
- D. Never overload the craft.
- E. Never obstruct passage or interfere with other craft.
- F. Never moor to navigational buoys.
- G. Never litter or discharge pollutants into the water.
- H. Adhere to rules for overtaking, meeting, and crossing other powered craft, as well as rights of way for craft under sail.

I. Never allow the use of alcohol or drugs on board.

9. Mooring.

A. When anchoring ensure that the proper type of anchor is used, adequate amount of line is available, sufficient sailing room is maintained, and that you are out of channel or traffic area.

B. When docking the craft ensure that an adequate number of fenders and tie-off lines are readied. Consider the wind and current directions, and keep clear of other craft.

10. Weather.

A. Be familiar with weather signal flags used in your area.

B. Always consider winds and currents when underway.

C. Always check tide charts when planning trips, and be familiar with the amount of variance in the waterway you'll be traveling.

D. All persons on board should be instructed in foul weather procedures.

11. Fire Protection.

A. Always ensure proper ventilation around the engine.

B. Flame arresters should be installed on all marine engines.

C. Always use proper safety containers for carrying fuel.

D. Always ensure that the proper type and number of fire extinguishers are on board, and that they are charged and in good condition.

12. Emergency Procedures.

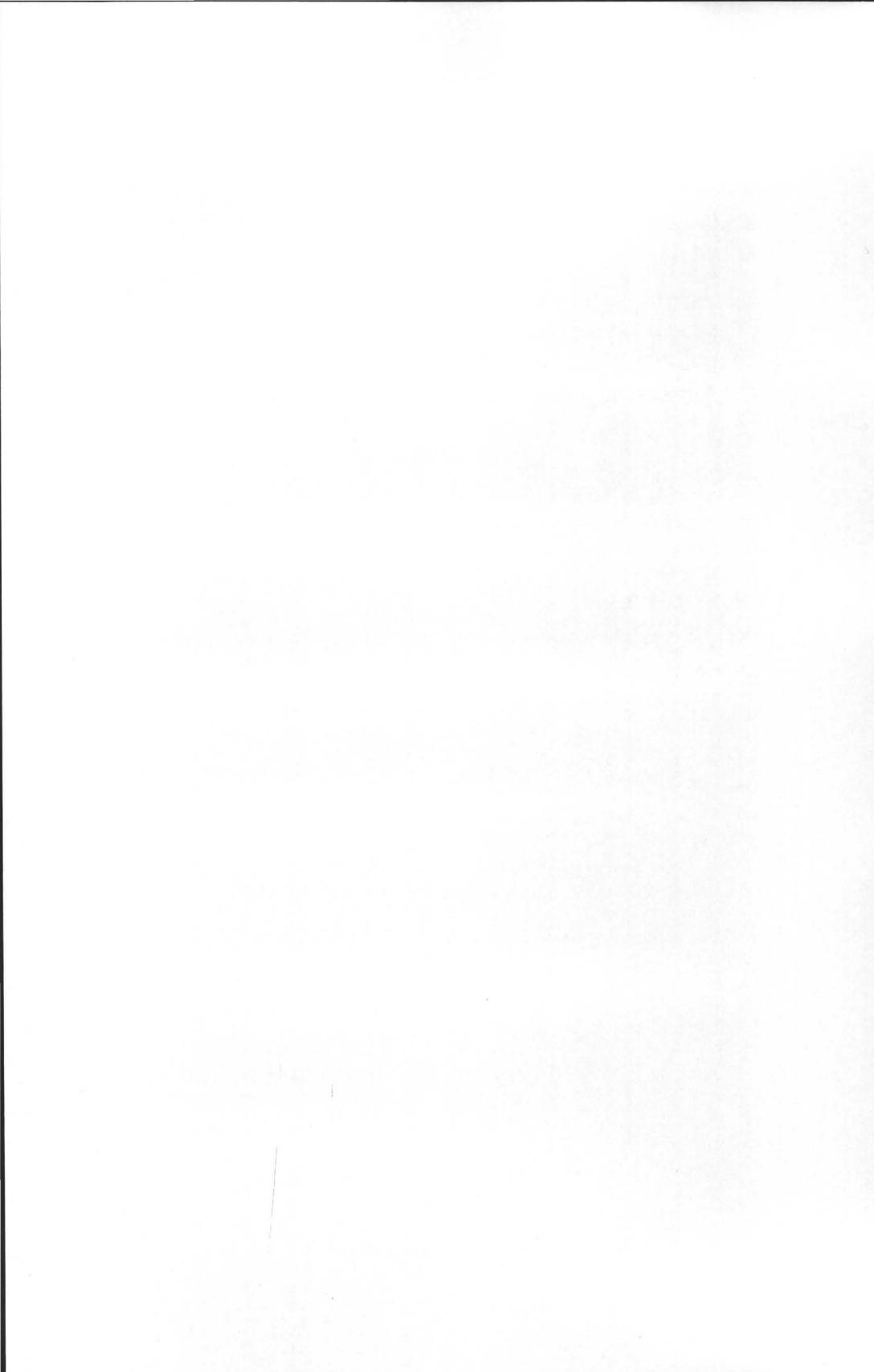
A. Prior to leaving shore, all persons on board should be instructed on emergency procedures for situations such as man overboard, fire, or taking on water.

B. All persons on board should be instructed in the use of emergency signaling equipments and radio communications.

13. First-Aid.

A. Always ensure that a first-aid kit is on board. The kit should contain items appropriate to boating. The case should be maintained in good condition and waterproof.

B. At least one person on board should be trained and proficient in first-aid techniques, including but not limited to artificial resuscitation, control of bleeding, shock, hypothermia, near drowning, and CPR.



Chapter 18. DIVING

1. Training.

- A. Any employee who will be involved in underwater diving activities must be trained by a certified instructor.
- B. Training should include classroom and water experience.
- C. Any special activities required for the job assignment should be included in the training.

2. Health.

- A. Employees should be healthy and must be certified by a qualified physician as fit for diving.
- B. Dive only when feeling both physically and mentally well.
- C. Abstain from using alcohol, drugs, or tobacco in advance of diving.

3. Equipment.

- A. Use only well maintained, complete, and proper equipment.
- B. SCUBA tanks should be filled with only clean, dry, filtered, compressed air.
- C. Conduct an equipment check prior to each dive.
- D. Be sure your weights can be discarded using only one hand.
- E. Keep a first-aid kit on the boat or at the dive site.

4. Dive Plan.

- A. Always file a dive plan with your supervisor prior to the dive.
- B. Be familiar with the dive site and any area hazards.
- C. Evaluate diving conditions and avoid diving in unfavorable conditions.
- D. Be knowledgeable about local aquatic life.

- E. Follow a pre-planned general course underwater.
- F. Always plan your dive, then dive your plan.
- G. Always maintain a dive logbook which contains the names and signatures of everyone participating in the dive, the purpose of the dive, the time-depth profile, as well as any other pertinent information.

5. **Safety Rules.**

- A. Always dive with another person, use the buddy system. Stay together continuously.
- B. Avoid decompression, diving well within your limits.
- C. Make the deepest dive first.
- D. Control buoyancy; don't overweight yourself.
- E. Always display the dive flag while diving.
- F. Avoid strong currents and begin dive against current.
- G. Equalize pressure early and often.
- H. Develop and use methods to communicate underwater.
- I. Limit depth to 100 feet or less.
- J. Breathe regularly and be aware of the hazards of breath-holding.
- K. Stay aware of air supply while diving.
- L. Ascend carefully and slowly.
- M. Leave water when shivering, tired, or injured.

Chapter 19. FIREARMS

1. Use.

A. Firearms should be carried into the field only when one can reasonably expect to encounter hostile, life-threatening wildlife.

B. In instances of hunting for survival and signaling in conditions of limited visibility, firearms may be considered if other means are not available.

2. Issuance of Firearms.

A. A "certificate of need" must be completed and signed by the supervisor prior to the employee being issued a firearm. The certificate should state what type of firearm is being requested and for what period of time the firearm is to be used.

B. A certification that the employee has received training and is proficient in basic firearms safety should accompany the "certificate of need."

C. The firearms' custodian will issue the employee the requested firearm upon receiving the required certifications.

3. Training.

A. All employees who will be placed in field work situations where a firearm may be required will receive a minimum of 20 hours of basic firearms safety training.

B. The training must be approved by the Regional or Bureau Safety Manager.

C. Approved firearms safety refresher training should be received every 3 years by all employees who use firearms.

4. Safety Rules.

A. Always point the muzzle in a safe direction.

B. Keep your finger off the trigger until you are ready to shoot.

C. Know how the gun operates.

- D. Keep the action open and gun unloaded until ready to use.
 - E. Be sure your gun and ammunition are compatible.
 - F. Carry only one gauge/caliber ammunition.
 - G. Be sure you know what is in front of and beyond your target before firing.
 - H. Unload your gun before crossing fences.
5. **Transportation.**
- A. All firearms should be unloaded before transport by motor vehicle, watercraft, aircraft, or animal.
 - B. When traveling by commercial vehicle, applicable Department of Transportation regulations must be followed.

Chapter 20. EXPLOSIVES

1. General Requirements.

A. Written procedures should be developed for the operation or activity where explosives are to be used. Every person involved with explosives use must be thoroughly familiar with those written procedures.

B. Good housekeeping is extremely important for all areas where explosives are stored, used, or handled.

C. Explosives work should not be conducted during extreme inclement weather, such as thunderstorms.

D. Explosives should be kept in closed containers when not in use. All containers must be labeled to identify the contents present.

E. "No Smoking" requirements must be established where explosives are stored, used, or handled.

F. At least one person who is thoroughly familiar with accepted firing procedures, knowledgeable of static electricity, hazards of electromagnetic radiation to ordnance, grounding procedures, and overall safety procedures should be present at any firing site.

G. Do not use 2-way radios when working with explosives.

2. Personal Protective Equipment.

A. Safety glasses should be worn when working with or in proximity to explosives.

B. Flame-retardant coveralls should be worn, especially when working with primary explosives.

C. Silk, wool, or synthetic outer or under garments should not be worn in activity where the generation of static electricity would create a hazard. Cotton undergarments are preferred.

3. Storage.

A. Explosives must be stored in unoccupied buildings, unless a room has been specially constructed and the local fire department has given its approval.

4. Training.

- A. All persons who handle or use explosives must receive training in the basics of explosives safety.
- B. The training should be approved by the regional or Bureau Safety Manager.
- C. The training program should include discussions on the proper methods for transportation, as well as waste disposal.
- D. Refresher training should be given annually.

5. Transportation.

- A. Explosives have been classified by the Department of Transportation. Placarding and labeling of the vehicle must be consistent with the load.

- (1) Class A – explosives that are detonating or otherwise of maximum hazard.

- (2) Class B – explosives that, in general, function by rapid combustion rather than detonation. These may include some explosive devices such as special fireworks and flash powders.

- (3) Class C – certain manufactured articles containing Class A or Class B explosives, or both as components, but in restricted quantities, and certain types of fireworks.

- B. Certain explosives are forbidden from transportation by common carriers. These explosives are:

- ammonium fulminate

- dinitromethane

- fulminate of mercury (dry)

- lead mononitroresorcinate (dry)

6. List of Explosive Materials.

A. Class A Explosives.

ammunition, chemical, explosive, with Poison A material
ammunition, chemical, explosive, with Poison B material
ammunition, chemical, explosive, with irritant
ammunition for cannon with explosive projectile
ammunition for cannon with gas projectile
ammunition for cannon with illuminating projectile
ammunition for cannon with incendiary projectile
ammunition for cannon with smoke projectile
ammunition for cannon with tear gas projectile
ammunition for small arms with explosive projectile
ammunition for small arms with incendiary projectile
booster explosive
burst, explosive
charged oil well jet perforating gun (total 20 percent or more explosive)

commercial shaped charge
detonating fuze, Class A explosive
detonating primers, Class A explosives
detonators, Class A explosive
explosive bomb
explosive mine
explosive projectile
explosive torpedo
fuze, detonating
fuze, detonating, radioactive
grenade, hand or rifle, explosive
high explosive
high explosive, liquid
igniter, jet thrust (jato)
igniter, rocket motor
initiating explosives
jet thrust unit (jato)
low explosive
propellant explosive
rocket ammunition with explosive projectile
rocket ammunition with gas projectile
rocket ammunition with illuminating projectile
rocket ammunition with incendiary projectile
rocket ammunition with smoke projectile
rocket motor
shaped charge
supplementary charge, explosive

B. Class B Explosives.

ammunition for cannon with empty projectile
ammunition for cannon with inert loaded projectile
ammunition for cannon without projectile
ammunition for cannon with solid projectile
ammunition for cannon with tear gas projectile
explosive power device
fireworks, special
grenade, without bursting charge (with incendiary material)
igniter, jet thrust (jato)
igniter, rocket motor

jet thrust unit (jato)
propellant explosive in water (smokeless powder)
propellant explosive in water, unstable, condemned, or deteriorated
(smokeless powder)
propellant explosive, liquid
propellant explosive, solid
rocket ammunition with empty projectile
rocket ammunition with inert loaded projectile
rocket ammunition with solid projectile
rocket engine, liquid
rocket motor
starter cartridge
torpedo, railway

C. Class C Explosives.

actuating cartridge, explosive
black powder igniter with empty cartridge bag
cannon primer
cartridge bags, empty, with black powder igniter
cartridge cases, empty, primed
cartridge, practice ammunition
charged oil well jet perforating gun (less than 20 percent explosive)
cigarette load
combination fuze
combination primer
cordeau detonant fuse
delay electric igniter
detonating fuze, Class C explosive
detonating primers, Class C explosives
detonators, Class C explosives
electric squib
empty cartridge bag with black powder igniter
explosive auto alarm
explosive cable cutter
explosive power device
explosive relief device
explosive rivet
fireworks, common
flexible linear shaped charge, metal-clad
fuse igniter

Class C Explosives. (Continued)

fuse, instantaneous
fuse lighter
fuse, mild detonating, metal-clad
fuse, safety
fuze, combination
fuze, detonating, Class C explosive
fuze, percussion
fuze, time
fuze, tracer
grenade without bursting charge (with smoke charge)
grenade, empty, primed
hand signal device
igniter
igniter cord
igniter fuse, metal-clad
oil-well cartridge
percussion cap
percussion fuze
safety squib
signal flare
small arms ammunition
small arms ammunition, irritating (tear gas) cartridge
small arms primer
smoke candle
smoke grenade
smoke pot
smoke signal
starter carter cartridge
toy caps
toy propellant device
toy smoke device
tracer
tracer fuze
trick matches
trick noise maker, explosive
Very signal cartridge

In the event of loss or theft of any of the explosives listed above, notify the Bureau of Alcohol, Tobacco, and Firearms.

