ENVIRONMENT, SAFETY AND HEALTH REPORTING MANUAL

1. PURPOSE. This Manual provides detailed requirements to supplement DOE O 231.1, ENVIRONMENT, SAFETY AND HEALTH REPORTING, which establishes management objectives and requirements for reporting environment, safety and health information.

2. SUMMARY. This Manual is composed of four chapters that provide detailed requirements for implementing the Department of Energy reporting requirements in four separate subject categories and seven appendices that contain copies of standard forms to be used for reporting and instructions for their use.

3. CONTACT. Questions concerning this Manual should be referred to the Office of Nuclear Facility Safety, 301-903-8371.

BY ORDER OF THE SECRETARY OF ENERGY:

ARCHER L. DURHAM
Assistant Secretary for
Human Resources and Administration

TABLE OF CONTENTS

APPENDICES

CHAPTER I

REPORTING OF ENVIRONMENTAL PROTECTION INFORMATION

1. ANNUAL SITE ENVIRONMENTAL REPORT.

   a. Each DOE Field Element manager and director shall prepare an integrated Annual Environmental Report for each calendar year. It shall present summary environmental data so as to:

      (1) Characterize site environmental management performance including data on effluent releases, environmental monitoring, and estimates of radiological doses to the public associated with releases of radioactive material for DOE sites;

      (2) Summarize any environmental occurrences and responses made thereto that were reported during the calendar year;

      (3) Confirm compliance with environmental standards and requirements; and

      (4) Highlight significant programs and efforts, including environmental performance indicators and/or performance measures programs. The breadth and detail of this reporting should reflect the size and extent of any such programs at a particular site.

   b. An information copy of the Annual Site Environmental Report shall be submitted to the Assistant Secretary for Environment, Safety and Health by 10-1 of the following year. The first Annual Site Environmental Report developed under DOE O 231.1 shall be for calendar year 1996 and shall be due 10-1-97.

   c. The Office of Environmental Policy and Assistance (EH-41) will continue to issue annual guidance to all DOE Headquarters and Field Elements regarding the preparation of the Annual Site Environmental Reports.

2. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REPORTING. Cognizant Secretarial Officers and Field Element managers and directors, for matters under their Offices' purview, shall accomplish the following:

   a. Report annually on the progress in implementing, and the effectiveness of, any mitigation essential to render the impacts of a proposed action not significant or that is made in a record of decision. The mitigation report may be submitted on the anniversary of a mitigation action plan or in a combined report (for example, as part of the annual NEPA planning summary) for multiple plans until mitigation is completed; this report shall be submitted to the Office of NEPA Policy and Assistance.

   b. Submit an annual National Environmental Policy Act planning summary to the Assistant Secretary for Environment, Safety and Health by 1-31 of each year and make it available to the public. DOE O 451.1, NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE PROGRAM, of 9-11-95, describes the contents of the annual planning summary.

Vertical line denotes change.

CHAPTER II

REPORTING OF OCCUPATIONAL SAFETY AND HEALTH INFORMATION

1. ANNUAL REPORT TO THE SECRETARY OF ENERGY. The Assistant Secretary for Environment, Safety and Health shall submit an annual report to the Secretary describing the status and adequacy of DOE and contractor performance of their occupational safety and health responsibilities.

2. DOE ELEMENTS AND DOE CONTRACTOR ACCIDENT RECORDKEEPING AND REPORTING.

   a. Work-Related Fatalities, Injuries, and Illnesses--Federal Employee OSH Program. The Assistant Secretary for Human Resources and Administration (HR-1) (for Headquarters) and other DOE elements shall record and report occupational fatalities, injuries, and illnesses occurring among their employees arising out of work primarily performed at DOE-owned or -leased facilities. HR-1 (for Headquarters) and other DOE elements shall comply with the recordkeeping and reporting requirements contained in Title 29, Code of Federal Regulations (CFR), Part 1960, Subpart I, and guidance provided in the latest edition of Department of Labor publication "Recordkeeping and Reporting Guidelines for Federal Agencies," OSHA 2014, revised 1986.

      (1) The "Log and Summary of Occupational Injuries and Illnesses," Occupational Safety and Health Administration (OSHA) No. 200, (Appendix A) shall be used in lieu of the "Record or Log of Occupational Injuries and Illnesses," to log and summarize all occupational injuries and illnesses occurring to Federal employees.

      (2) DOE F 5484.3, "Individual Accident/Incident Report," (Appendix B) shall be used in lieu of the "Supplementary Record of Occupational Injuries and Illnesses" (OSHA No. 101) to record and report work-related injuries and illnesses. Forms shall be submitted in accordance with paragraph 2e, below.

   b. Work-Related Fatalities, Injuries, and Illnesses--Contractor Employee OSH Program.

      (1) Contractors shall record, in accordance with 29 CFR 1904.2 through 1904.5, 1904.11, 1904.12, 1904.14, and 1904.21, occupational fatalities, injuries, and illnesses occurring among their employees arising out of work primarily performed at DOE-owned or -leased facilities. Contractors shall comply with guidance provided in the latest edition of the Department of Labor (DOL) publication, Office of Management and Budget (OMB) No. 1220-0029, "Recordkeeping Guidelines for Occupational Injuries and Illnesses."

Vertical line denotes change.

(2) DOE Form 5484.3, "Individual Accident/Incident Report" (Appendix B) shall be used in lieu of the "Supplementary Record of Occupational Injuries and Illnesses" (OSHA No. 101). Forms shall be submitted in accordance with paragraph 2e, below.

c. Recording and Reporting Work-Related Damage or Loss of Property and Vehicles Due to Accidents.

(1) DOE elements and DOE contractors shall record and report estimated loss or damage to DOE property or other property amounting to $5,000 or more, or estimated costs of $5,000 or more for cleaning (including decontamination), renovating, replacing, rehabilitating structures, equipment, or property.

(2) Estimated damage of $1,000 or more that involves Federal Government-owned, -rented, or -leased vehicles or privately owned vehicles operated while on official business shall be considered a "recordable case" and shall be reported.

(3) Excluded are commercial rental motor vehicles and private motor vehicles used for short periods of time (1 to 14 days) by employees on official travel status, and on which mileage records are not kept.

(4) Work-related property and vehicle damage or loss shall be recorded on DOE F 5485.3 and reported by each DOE office and DOE contractor; completed forms shall be submitted in accordance with paragraph 2e, below.

(5) The effective date of the revised reporting threshold for property and vehicle damages in this paragraph is 1-1-96. Prior to that date, the thresholds for reporting property and vehicle damages are to remain at $1,000 and $500, respectively, to ensure a uniform reporting basis within each year.

(6) Guidelines governing loss estimation and criteria for determining property valuation are in Appendix C.

d. Reporting Subcontractor Accident Information Contractors shall report accident information (DOE forms 5484.3 and 5484.4) for subcontractors who perform work on DOE-owned or -leased facilities. DOE F 5484.4, "Tabulation of Work-Hours, Vehicle Usage, and Property Valuation," should be submitted only for subcontracts with more than $10,000 in estimated cost. All recordable injuries or illnesses must be reported on DOE F 5484.3, regardless of the cost of the subcontract.

e. Submittal of DOE F 5484.3, "Individual Accident/Incident Report."

(1) A legible copy of each new or revised report shall be submitted quarterly (on or before the 25th of each April, July, October, and January) for receipt by the Computerized Accident/Incident Reporting System (CAIRS) Input Coordinator. Reports should be submitted on or before the 25th of the month following the end of the quarter in which the accident occurred or in which information is received that changes the extent or outcome of a previously reported case.

(2) The reports shall be addressed to: CAIRS Input Coordinator, SCIENTECH, Inc., 1690 International Way, Idaho Falls, Idaho 83402.

(3) Each transmittal of reports to the CAIRS Input Coordinator shall include a cover sheet. Appendix D provides a listing of the information that shall be included in the cover sheet and the suggested format.

f. Submittal of Work Hours and Vehicle Usage.

(1) Part A of DOE F 5484.4, "Tabulation of Work-Hours, Vehicle Usage, and Property Valuation," (Appendix E) shall be used to report quarterly work hours and vehicle usage.

(2) HR-1 (for Headquarters), other DOE elements, and DOE contractors shall complete and mail the form to the CAIRS Input Coordinator, SCIENTECH, Inc., 1690 International Way, Idaho Falls, Idaho 83402.

(3) The form shall be mailed to the CAIRS Input Coordinator for receipt on or before the 25th of each January, April, July, and October.

g. DOE Annual Estimated Property Valuation. Part B of DOE F 5484.4, "Tabulation of Work-Hours, Vehicle Usage, and Property Valuation," shall be used to report annual estimates of property valuation. Upon request from the Office of Environment, Safety and Health, HR-1 (for Headquarters), other DOE elements and DOE contractors shall complete and submit estimates of property valuation to the CAIRS Input Coordinator, SCIENTECH, Inc., 1690 International Way, Idaho Falls, Idaho 83402, for receipt on or before 3-31, annually.

h. Periodic Summary of Accident Data. The Assistant Secretary for Environment, Safety and Health (EH-1) shall maintain a data base that compiles reports, submitted in accordance with paragraphs 2e, f, and g, above, on DOE and DOE contractor accident data. EH-1 shall provide a quarterly DOE-wide summary report of this information to DOE elements and DOE contractors.

i. Supplemental Requirements Regarding Accident/Incident Reports. DOE elements and DOE contractors shall ensure that accident reports and related records are retained, maintained, and accessible in accordance with the requirements indicated in this Manual.

(1) Retention of Accident Records and Reports. DOE elements and DOE contractors shall retain personal injury, illness, property, and vehicle damage files pursuant to DOE O 1324.5B, RECORDS MANAGEMENT PROGRAM, of 1-12-95. DOE contractors, upon termination of contracts with DOE at DOE-owned or -leased facilities, shall render accident records to the contract organization assuming OSH responsibilities for the facility. DOE contractors assuming OSH responsibilities at a DOE-owned or -leased facility shall retain accident records of the previous operating contractor.

(2) Maintenance of Accident Records and Reports. DOE contractors assuming OSH responsibilities at a DOE-owned or -leased facility shall maintain accident records of the previous operating contractor.

(3) Access to Accident Records and Reports.

(a) Employees, former employees, and their representatives have the right to access "The Log and Summary of Occupational Injuries and Illnesses," OSHA No. 200. Employees, former employees, and/or their representatives shall be allowed access to any DOE F 5484.3 that contains their name or the name of the employee they represent. Additional information on employee rights of access to these forms is provided in 29 CFR 1904.7 and 29 CFR subpart 1960.71.

(b) Records provided for in 29 CFR 1904.2, 1904.4, and 1904.5 (or the DOE equivalent of these records) shall be made available for inspection and copying by any representative of the Department of Energy for the purpose of conducting oversight assessments or for statistical compilation.

(c) Requests to access accident records and reports should be in writing.

(d) Records required to be maintained under the provisions of 29 CFR subparts 1960.67, 1960.68, and 1960.69 shall be made available to the Secretary of Labor, Secretary of Health and Human Services, and/or their authorized representatives.

(4) Interpretation of Reporting Requirements. For additional information or interpretation of reporting requirements for occupational safety and health information contained in this manual, contact the Office of Worker Health and Safety (EH-5).

3. ANNUAL SUMMARY OF FIRE DAMAGE. DOE elements and contractors shall submit an annual report of fire damage to the DOE fire protection authority having jurisdiction by 3-31 of the following calendar year. The annual summary of fire damage shall contain the detail described in Appendix F. The individual functional reports should be summarized into a combined report that addresses all of the fire protection reporting requirements delineated in this attachment. Appendix C provides guidelines governing loss estimation and should be used to determine fire loss.

4. REPORTING INFORMATION FOR EPIDEMIOLOGIC ANALYSES--EXCESS INJURIES AND ILLNESSES.

a. DOE elements and DOE contractors, through their Field Offices, shall notify the Assistant Secretary of Environment, Safety and Health of suspected excesses of illnesses or injuries that require epidemiologic analyses. Suspected excess in this context means the perception that an unusually high number of cases may be occurring among a group of workers. Epidemiologic analyses help determine if suspected excesses of illnesses or injuries are greater than expected and associated with working conditions.

b. Any worker, individual, or group (for example, safety and health staff, supervisors, or employee representatives) can identify suspected excesses of illnesses and injuries.

c. The Assistant Secretary of Environment, Safety and Health, who is responsible for all Departmental health studies of human populations, directs the investigations of suspected excesses.

d. The reporting organization participates in epidemiologic investigation, which will determine the number of affected individuals, their medical diagnoses, and their hazardous exposures. The investigation may require medical tests, work place surveys, and reviews of personnel, medical, and exposure records.

5. REPORTING INFORMATION FOR EPIDEMIOLOGIC ANALYSES - OSH STUDIES.

a. Under the 12-90 (to be superseded by the 9-95) memorandum of understanding between DOE and the Department of Health and Human Services, the National Institute for Occupational Safety and Health and the National Center for Environmental Health of the Centers for Disease Control and Prevention (CDC) were assigned management responsibilities for some DOE epidemiologic research

projects. Epidemiologic health research and related studies focus on illness, injury, and death to determine whether exposure to ionizing radiation and chemicals have impacted the health of workers.

b. In addition, the Department enters into agreements with host States to permit health agencies to conduct epidemiologic research, dose reconstructions, and related studies on communities potentially impacted by off-site releases. DOE, its contractors, and its subcontractors shall provide CDC officials, Sate health officials, their contractors, and grantees access to the DOE-sponsored facilities, workers, information, and data needed to conduct these OSH studies. The investigators shall comply with Privacy Act and security requirements.

6. REPORTING PERFORMANCE INDICATOR DATA.

a. DOE contractors shall report performance indicator data on a quarterly (calendar year) basis to the Office of Operating Experience Analysis and Feedback (EH-33).

b. The Assistant Secretary for Environment, Safety and Health shall prepare a quarterly (calendar year) EH DOE Performance Indicator report for submission to the Secretary of Energy.

CHAPTER III

REPORTING IONIZING RADIATION EXPOSURE INFORMATION

1. INTERIM EXPOSURE DATA REPORTING BY DOE ELEMENTS AND CONTRACTORS.

   a. Radiological exposure data pertaining to a DOE employee, a contractor supporting DOE Headquarters or Field Office activities, a Defense Nuclear Facilities Safety Board employee or contractor, or an International Atomic Energy Agency inspector who visits a DOE or DOE contractor site or facility to conduct Department-related business shall be reported to the Radiation Records Repository within 30 days after determination of the dosimetry results.

   b. Radiological exposure data pertaining to a visit by a DOE contractor employee shall be reported to the individual's employer within 30 days after determination of the dosimetry results.

   c. Each DOE or DOE contractor employee who visits, in an official capacity, a radiological site outside of the DOE shall arrange to have all pertinent occupational radiological exposure data reported to his or her employer within 30 days after determination of the dosimetry results.

   d. DOE elements and DOE contractors shall ensure that procedures exist and are effective in support of paragraph 1c, above.

2. ANNUAL EXPOSURE DATA REPORTING. DOE elements and DOE contractors shall report radiological exposure data summaries to the Radiation Records Repository by 3-31 for each individual monitored at his/her respective site for radiological exposure during the preceding calendar year.

3. REPORTING PROCEDURES BY DOE ELEMENTS AND DOE CONTRACTORS. Radiological exposure data shall be:

   a. Prepared as directed by Appendix G of this Manual; and

   b. Reported to the Radiation Records Repository, or an individual's employer, as appropriate.

4. RADIOLOGICAL EXPOSURE REPORTS TO INDIVIDUALS BY DOE ELEMENTS AND DOE CONTRACTORS.

   a. A radiological exposure report pertaining to a visit in accordance with paragraph 1a, above, shall be provided to the individual at the same time such information is reported to the Radiation Records Repository.

b. A radiological exposure report pertaining to a visit by a member of the public to a DOE or DOE contractor site or facility shall be provided to that individual within 90 days of the visit end date.

c. Reports to individuals shall use the dose terms specified in 10 CFR 835.2.

d. Additional dose terms, if used, shall be included in parentheses adjacent to the standard terms or as a footnote to the report.

e. Use of the exposure report form in Appendix G of this Manual for reporting radiological exposures to individuals is optional.

CHAPTER IV

SAFEGUARDS AND SECURITY CORRECTIVE ACTION REPORTS

1. UNSATISFACTORY INSPECTION RATING RESPONSE REPORTS.

   a. The lead Cognizant Secretarial Officer (CSO), in coordination with any other involved CSO and with the manager of the field organization, shall notify the Under Secretary of interim corrective actions taken within 15 working days of the receipt of a draft inspection report containing an "unsatisfactory" rating.

   b. If the rating indicates a significant vulnerability, such as unacceptable risk in the areas of special nuclear material theft or diversion, radiological or industrial sabotage or espionage, the lead CSO shall identify and implement interim corrective actions within 24 hours of receipt of the draft inspection report; within 72 hours of such receipt, the lead CSO shall provide to the Under Secretary for approval a plan for permanent protective measures necessary to reduce the level of risk to an acceptable level, including cost estimate and implementation schedule.

   c. A copy of each report provided to the Under Secretary shall also be sent to the Office of the Deputy Assistant Secretary for Oversight (EH-2) and to the Office of Safeguards and Security (NN-51).

2. MARGINAL INSPECTION RATING RESPONSE REPORTS. Within 15 working days of receipt of a draft inspection report containing a "marginal" rating, the lead CSO, in coordination with any other involved CSO and the manager of the field organization, shall report to the Under Secretary the corrective actions taken or to be taken. He/she shall also report any permanent changes necessary to mitigate the identified risk or vulnerability, including implementation schedule and cost estimate. A copy of the report shall be provided to the Office of the Deputy Assistant Secretary for Oversight (EH-2) and to the Office of Safeguards and Security (NN-51).

3. NONCOMPLIANCE INSPECTION FINDING RESPONSE REPORTS. Within 15 working days of receipt of a draft inspection report containing a finding of noncompliance, the lead CSO, in coordination with any other involved CSO and the manager of the field organization, shall notify the Under Secretary of steps taken to correct and prevent recurrence of items of noncompliance and performance weaknesses identified in the report. A copy of the notification to the Under Secretary shall be provided to the Office of the Deputy Assistant Secretary for Oversight (EH-2) and to the Office of Safeguards and Security (NN-51).

APPENDIX A
"LOG AND SUMMARY OF OCCUPATIONAL INJURIES AND ILLNESSES,"
OSHA NO. 200

APPENDIX A
"LOG AND SUMMARY OF OCCUPATIONAL INJURIES AND ILLNESSES,"
OSHA NO. 200 (CONTINUED)

APPENDIX A
"LOG AND SUMMARY OF OCCUPATIONAL INJURIES AND ILLNESSES,"
OSHA NO. 200 (CONTINUED)

APPENDIX B
"INDIVIDUAL ACCIDENT/INCIDENT REPORT," DOE F 5484.3

APPENDIX B
"INDIVIDUAL ACCIDENT/INCIDENT REPORT," DOE F 5484.3
(CONTINUED)

APPENDIX B
"INDIVIDUAL ACCIDENT/INCIDENT REPORT," DOE F 5484.3
(CONTINUED)

APPENDIX B
"INDIVIDUAL ACCIDENT/INCIDENT REPORT," DOE F 5484.3
(CONTINUED)

APPENDIX B
INDIVIDUAL ACCIDENT/INCIDENT REPORT, DOE F 5484.3
(CONTINUED)

APPENDIX C
GUIDELINES GOVERNING LOSS ESTIMATION AND CRITERIA FOR DETERMINING PROPERTY VALUATION FOR FIRE AND NONFIRE PROPERTY DAMAGE ACCIDENTS

1. COST ESTIMATING.

   a. Estimating accident costs for DOE facilities and programs is essential to categorize Type A, Type B, and other investigations. Cost estimation will be used for financial losses to the Government, such as those due to fires, explosions, contamination accidents, and other property damage events. For serious accidents that result in property damage approaching $1 million or more, preliminary cost estimates must be made to ascertain if a Type B (>$1 million to <$2.5 million) or a Type A (>$2.5 million) investigation is required.

   b. There are qualified people in DOE and/or contractor organizations who are trained and experienced in cost estimating. These individuals are required to follow the procedures in DOE 5700.2D, COST ESTIMATING, ANALYSIS, AND STANDARDIZATION, of 6-12-92, which may include applying an appropriate cost index ratio (e.g., the producer price index) or data published in the periodical, ENR. This approach results in standardized cost estimates across DOE.

   c. When estimating costs from accidents, personnel in cost estimating organizations should be involved. Initial cost estimates shall be developed as quickly as possible, but no later than 48 hours after the accident. These cost estimates shall be forwarded through the local DOE field organization to the Assistant Secretary for Environment, Safety and Health. Based upon the cost estimate, decisions will be made as to the type of investigation.

   d. The following text provides guidance in two areas:

      (1) Criteria for determining the valuation of property; and

      (2) Criteria for determining losses based upon the value of property that is lost, destroyed, or otherwise impaired by an accident.

2. PROPERTY VALUATION.

   a. Property valuation includes the following:

      (1) The approximate replacement value of all DOE-owned buildings and DOE-owned or operated equipment.

      (2) Estimated damage losses to Government or private wetlands, grasslands, and forest as a result of DOE operations caused by fire or contamination.

(3) Replacement cost for all DOE-owned supplies.

(4) Average inventory of all source and special nuclear materials.

b. Property valuation excludes the following:

(1) Land and land improvements, such as sidewalks and roads.

(2) Below ground facilities not susceptible to damage by fire or explosion, such as major water mains or irrigation ponds, that are carried as separate capital accounts.

3. LOSS ESTIMATION.

a. Loss estimation includes the following:

(1) Damage or loss of facilities, inventories, and associated equipment as a result of an accident.

(2) All estimated or actual costs to restore DOE property to a reasonable approximation of pre-accident conditions, irrespective of whether or not this is done in fact. If an accident involves property that has been lost, completely destroyed, or contaminated to a degree precluding economically justifiable recovery, estimates shall be based on cost for actual replacement and installation of comparable equipment, devices, or materials (including nuclear materials).

(3) In the case of unused, obsolete, or excess building space, equipment, or materials that are not going to be replaced, the cost estimate of the market value at time of accident shall be used.

(4) Estimated costs for restoring to a reasonable degree to pre-accident condition, without improvement, all partially lost or damaged DOE property. Where applicable, cost for decontamination operations should be included.

(5) Estimated costs for reprocessing and reclaiming partially destroyed and damaged materials. Where applicable, costs for damage resulting from firefighting (e.g., water and smoke damage) should be included.

(6) All post-incident cleanup expenses (e.g., cleanup of hazardous materials or radioactive contamination resulting from accidents, explosions, fires, or other incidents).

(7) All costs for recharging fire suppression systems (Halon, carbon dioxide, and foam agent).

(8) Costs for damage caused by DOE operations to privately owned property.

(9) Costs for restoration of land and land improvements (sidewalks, roads, etc.) that were damaged as a result of an accident.

(10) Costs for outside specialists or organizations hired to mitigate losses and costs for non-standard labor hours (i.e., above the amount normally worked by the employee) for onsite personnel to restore the property to pre-accident condition.

(11) Any lost revenue experienced as a result of the accident. Examples include income producing processes, such as power generating and transmission facilities, whose loss would cause a reduction in payments to the Federal Government.

b. Loss estimation excludes the following:

(1) Expenses resulting solely from loss of the use or occupancy of facilities affected by an accident, including lost production and research time, unless it becomes necessary to obtain special facilities (e.g., temporary structures) to maintain the facilities' use or occupancy.

(2) All post-accident expenses paid by non-DOE sources (e.g., expenses covered by private insurance).

(3) Expenses to bring property to modern standards.

(4) Normal wear.

(5) Damage to privately owned property caused by other than DOE operations.

(6) Damage to land and land improvements (e.g., sidewalks, roads, etc.) from natural causes (e.g., freezing/thawing, earthquakes, floods, etc.).

(7) Labor hours for onsite firefighters during their normal workshifts.

(8) Labor hours expended by investigative and/or administrative personnel as a result of the incident.

(9) Theft (known or suspected) of DOE property.

4. MISCELLANEOUS LOSS ESTIMATION GUIDELINES.

a. In general, loss estimates should be based upon the net cost for replacing or restoring damaged facilities, without improvement, to the condition existing prior to the accident regardless of whether or not the replacement or restoration of the damaged facility(s) actually occurs.

b. Where the accident involves property that has been lost, completely destroyed, or contaminated to a degree precluding economically justifiable recovery, estimates should be based on cost for actual replacement and installation of identical building equipment, devices, or materials (including nuclear materials).

c. Credit should be allowed for the estimated salvaged value of items recovered.

d. Expenses due to normal wear are not reportable losses when such wear is reasonably foreseeable. However, unanticipated loss is reportable. For example, the cost for repairing or replacing a tank with a leak caused by corrosion may not be an accidental loss; however, the cost for recovery and/or replacement of released material (including accompanying costs for product recovery, or replacement and costs for cleanup and decontamination) should be considered as accidental loss.

e. Burnout of electric motors and other electrical equipment through overheating from electrical causes shall be considered a "fire loss" only if self-sustained combustion exists after power is shut off.

APPENDIX D
TRANSMITTAL OF INDIVIDUAL ACCIDENT/INCIDENT REPORTS
(EXAMPLE)

Reporting Organization:_____

Organization Code
Number:_____

Date of Transmittal:
_____

Number of New Accident/Incident Reports Included in
Transmittal:_____
(List by case number each report included in transmittal)

_____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____
_____

Number of Revised Accident/Incident Reports Included in
Transmittal:_____
(List by case number each report included in transmittal)

_____ _____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____

Contact Person:

Name: _____

Phone Number: _____

Address:_____

APPENDIX E
"TABULATION OF WORK-HOURS, VEHICLE USAGE, AND PROPERTY VALUATION," DOE F 5484.4

APPENDIX E
"TABULATION OF WORK-HOURS, VEHICLE USAGE, AND PROPERTY VALUATION,"
DOE F 5484.4 (CONTINUED)

APPENDIX E
"TABULATION OF WORK-HOURS, VEHICLE USAGE, AND PROPERTY VALUATION,"
DOE F 5484.4 (CONTINUED)

APPENDIX F
ANNUAL SUMMARY OF FIRE DAMAGE EXPERIENCE REPORT FOR CALENDAR YEAR XXXX

1. FIRE-RELATED DEATHS AND INJURIES. Describe each incident relating to death or injury by fire.

2. DOE PROPERTY LOSS EXPERIENCE FOR THE CALENDAR YEAR.

Fire Loss $_____

Other Loss $_____

a. Fire loss includes damage or loss sustained as a consequence of and following the outbreak of fire. The test for whether or not a fire loss is reportable is based upon the fire department incident report. If the occurrence results in a dispatch and fire department response, then the loss is considered in the "Fire Loss" category. If a fire department incident report was not generated, or the report relates to a non-fire event, then the loss is considered a part of the "Other Loss" category. Exceptions are as follows:

(1) Burnout of electric motors and other electrical equipment through overheating is considered a fire loss only if self-sustained combustion exists after power is shut off.

(2) Vehicle losses (including aircraft, marine, and railroad equipment) are considered a fire incident if the loss was sustained as a direct consequence of fire. All losses, including fire, that involve cargo during transport are treated as transportation losses. Fire department incident reports will specifically identify these incidents.

b. Other Loss includes damage or loss sustained as a consequence of the following events.

(1) Explosions.

(2) Natural cause events (such as earthquakes and hurricanes).

(3) Electrical malfunctions.

(4) Transportation (cargo) losses.

(5) Mechanical malfunctions.

(6) Radiation releases or other nuclear accidents.

(7) Miscellaneous accidents (such as thermal-, chemical- or corrosion-related accidents).

These other events may not be associated with a corresponding fire department incident report.

3. SUMMARY OF FIRE DAMAGE INCIDENTS.

a. Describe each fire incident that results in a loss estimate over $5,000. Description should be taken from the Fire Department Incident Report.

b. Incidents for which the estimated loss is below this threshold ($5,000) should be summarized and reported at the end of the calendar year in conjunction with the development of the annual summary.

c. For each incident, identify the property loss as defined in paragraph 2, above, and provide the fire incident report number. (Refer to NFPA 902M, "Fire Reporting Field Incident Manual.")

4. INCIDENTS ACTUATING AUTOMATIC FIRE SUPPRESSION SYSTEMS.

a. Describe each incident involving the actuation of an automatic fire suppression system. Include the loss amount, type of system, number of sprinkler heads activated, quantity of agent discharged, and remedial actions taken to prevent future accidental discharges if applicable.

b. Include a causative factor description in the summary according to fire or "other" category headings, with the latter sub-categorized as follows:

(1) Electrical.

(2) Mechanical.

(3) Human Error.

(4) Acts of Nature.

(5) Miscellaneous.

5. HALON REDUCTION ACTIVITIES.

a. Halon 1301.

(1) Number of fixed systems. _____

(2) Total quantity (lbs.) of Halon 1301 at site.

(a) Active (include reserve). _____

(b) Inventoried. _____

(3) Number of fixed systems and system quantity deactivated within the past year. _____ _____

(4) Number of fixed systems and system quantity converted to manual operation within the past year. _____ _____

b. Halon 1211.

(1) Total quantity (lbs.) of Halon 1211 at site.

(a) Active. _____

(b) Inventoried. _____

(2) Quantity replaced by other agents within the past year. _____

6. FIRE PROTECTION INSPECTION TESTING AND MAINTENANCE ACTIVITIES.

a. System Type.

(1) Number Inspected, Tested, or Maintained.

(2) Number failing to meet operability requirements.

Unmet Operability Requirement Description	Number Failed

b. All failures of fire protection systems (sprinkler systems, fire alarm systems, etc.) should be reported annually. "Failure" in this context is the inability to meet at least one of the "Operability Requirements" established for the system as part of the inspection, testing, and maintenance program. (Refer to DOE 420.1, FACILITY SAFETY, of 9-30-95.) Summaries should be provided for each system type at the site. System types are described as follows:

Wet Pipe Sprinkler System
Dry Pipe Sprinkler System
Deluge Sprinkler System
Pre-Action Sprinkler System (with supervisory air)
Pre-Action Sprinkler System
Foam-Water Extinguishing System
Wet Standpipe System
Dry-Standpipe System
Manual Water Spray System
Halon 1301 (total flooding)
Halon 1211 (total flooding)
Dry Chemical System
Wet Chemical System
High Expansion Foam System

Carbon Dioxide Extinguishing System (high pressure)
Carbon Dioxide Extinguishing System (low pressure)
Water Spray System (local application)
Special Extinguishing System
Pond or Lake Water Supply
Tank Water Supply System
Fire Pumps
Fire Service Mains
Fire Alarm Systems
Central Monitoring (fire system)
Fire Doors and Windows
Fire Dampers
Fire Wall Integrity
Emergency and Exit Illumination

7. FIRE DEPARTMENT ACTIVITIES.

a. Number of Responses.

(1) Fire ____

(2) HAZMAT Response ____

(3) Other Emergency ____

(4) Non-Emergency ____

(5) Medical ____

Identify and classify all fire department response events. For this reason, each response should be recorded in a single fire department incident report from the first due or incident commander's perspective. Supplemental reports or responses should not be included in this report.

The "fire" response category relates to working fires on the site that were either extinguished or verified as a fire event by the responding incident commander. HAZMAT response relates nonfire hazardous material incidents. The "other emergency" category is intended for all other emergencies in which firefighting apparatus was dispatched, including offsite mutual aid response, or support for a medical response. The "non-emergency" category relates to situations where the initial response was considered an emergency, but was later verified as a non-emergency by the incident commander. This includes inadvertent system actuation, malicious alarms, or offsite mutual aid that was canceled enroute. Medical response includes any response in which an ambulance was dispatched for the sole purpose of a medical emergency.

b. Major Equipment Purchases. Describe type of equipment and purchase price.

(1) Emergency Vehicles _____

(2) Other _____

c. Notable response descriptions not already included in this report.

8. RECURRING FIRE PROTECTION PROGRAM COSTS. Include figures on the present and past 2 years:

a. Fire Department Costs:

(1) Staffing	_____	_____	_____
(2) Equipment	_____	_____	_____
(3) Inspection & Testing Program Costs	_____	_____	_____
(4) Emergency Medical Response Program Costs	_____	_____	_____
(5) Training Program Costs	_____	_____	_____
b. Inspection and testing program costs by others.	_____	_____	_____
c. Fire protection engineering.	_____	_____	_____

d. The cost of paragraph b, above, is intended to identify work provided by other departments, such as a maintenance section or outside contractor. Do not include costs of mobile apparatus or other major equipment purchases. Provide additional explanation for significant deviations in recurring costs between calendar years.

APPENDIX G
"INDIVIDUAL OCCUPATIONAL EXPOSURE REPORT," DOE F 5480.7

APPENDIX G
"INDIVIDUAL OCCUPATIONAL EXPOSURE REPORT," DOE F 5480.7
(CONTINUED)

APPENDIX G
INSTRUCTIONS FOR PREPARING OCCUPATIONAL EXPOSURE DATA SUMMARIES
(CONTINUED)

1. Radiation exposure data summaries submitted to the Radiation Records Repository shall be as follows:

   a. Individual exposure data records are to compose an unlabeled ASCII file with one record per block.

   b. Each exposure data record is to be of a fixed length containing exactly 180 characters, blank padded when necessary. Do not use nulls (ASCII character 0) in any record. Terminate each record with a carriage return (ASCII character 13).

   c. The exposure data file is to be error checked using the REMEDIT program (available from the Repository) and all reported errors resolved prior to transmitting the file to the Radiation Records Repository.

   d. Submit the exposure data file to the Repository on an IBM compatible 3.5" diskette, 1.44 MB formatted capacity.

2. Radiation exposure data to be sent to the employer of a visiting DOE contractor employee may be provided as a radiation exposure report.

3. The "Occupational Exposure Data Summary" and "Occupational Exposure Data Summary Explanation" describe each exposure record's format and content.

OCCUPATIONAL EXPOSURE DATA SUMMARY

4. The field size and column range specified are values required for use in formatting each record. Responses are required to items 1 through 11. Responses to items 12 through 14 are required where applicable.

5. All dose equivalents shall be in units of millirem, rounded to the nearest whole number and right justified within the appropriate field. A blank dose field indicates specific monitoring was not conducted. Zero dose represents a "less than measurable" exposure.

6. Individual exposure data records required to be reported to the Radiation Records Repository shall be formatted as follows:

Item	Example Code or Data	Field Size (Characters)	Column Range
1. Calendar Year	1995	4	1-4
2. Social Security Number	123456789	9	5-13
3. Name			
a. First Name or Initial	JOHN	15	14-28
b. Middle Name or Initial	Q	12	29-40
c. Last Name	DOE	15	41-55
4. Birth Year	1942	4	56-59
5. Sex	M	1	60-60
6. Begin Monitoring Date	010195	6	61-66
7. End Monitoring Date	123195	6	67-72
8. Monitoring Status	G	1	73-73
9. Organization Code	0567002	7	74-80
10. Facility Type Code	21	2	81-82
11. Occupation Code	184	3	83-85
12. Whole Body Dose			
a. Total Effective Dose Equivalent	112	7	86-92
b. Deep Dose Equivalent			
- Including Neutron	100	7	93-99
- Neutron Only	20	7	100-106
c. Internal Dose			
- Year of Intake	1995	4	107-110
- Radionuclide(s)	AM241	15	111-125
- Committed Effective Dose Equivalent	12	7	126-132
- Year of Intake	1995	4	133-136
- Radionuclide(s)	CS137	15	137-151
- Committed Effective Dose Equivalent	35	7	152-158
- Intakes Continued Elsewhere (Y/N)	N	1	159-159
13. Shallow Dose Equivalent to the Skin	110	7	160-166
14. Shallow Dose Equivalent to the Extremities			
a. Forearms and Hands	223	7	167-173
b. Lower Legs and Feet	146	7	174-180

OCCUPATIONAL EXPOSURE DATA SUMMARY EXPLANATION

1. CALENDAR YEAR - Enter the calendar year for which data are being submitted. A site dosimetry record year may differ slightly from the actual calendar year due to dosimeter processing schedules. Minor variances (up to 2 weeks before or after January 1) are permissible as long as the reporting period is consistent from year to year.

2. SOCIAL SECURITY NUMBER - Enter the individual's social security number. If none, enter the individual's employee, passport, or visa number preceded by an "X" and left justified; truncated as necessary.

3. NAME - Enter the name of the monitored individual as it appears on company payroll records for a site employee; or as on a driver's license, passport, visa, or other valid form of identification for a visiting individual.

   a. FIRST NAME OR INITIAL - Enter the first name or initial in upper case and left justified.

   b. MIDDLE NAME OR INITIAL - Enter the middle name or initial in upper case and left justified.

   c. LAST NAME - Enter the last name in upper case and left justified.

4. BIRTH YEAR - Enter the year of birth in the format YYYY.

5. SEX - Enter "F" for female or "M" for male.

6. BEGIN MONITORING DATE - Enter the earliest date monitoring began in the format MMDDYY (month-day-year).

7. END MONITORING DATE - Enter the latest date monitoring ended in the format MMDDYY. If the monitoring period of a visiting individual bridges 2 calendar years (see Item 1, above) and the individual is provided a single dosimeter for the duration of the visit, the exposure results are to be reported for the year the dosimeter is processed. However, if a visiting individual is provided a separate dosimeter in each calendar year, a separate report is required for each year.

8. MONITORING STATUS - Enter the 1-digit code for the monitoring status.

   - GENERAL EMPLOYEE: Enter "E" for an individual employed by the reporting organization as of the close of the calendar year (see Item 1, above), a visiting research scientist, or a student.

   - MEMBER OF THE PUBLIC: Enter "P" for a member of the public (which would include a visiting dignitary) who visited during the calendar year.

- GOVERNMENT: Enter "G" for an individual who is a DOE employee, DNFSB employee or contractor, a DOE Headquarters or Field office support contractor, IAEA inspector, etc.

- TERMINATED EMPLOYEE: Enter "T" for an individual no longer employed by DOE or a DOE contractor, an individual who transfers his or her employment to another DOE or DOE contractor facility or office that results in termination of radiological monitoring, an individual who begins a leave of absence of greater than 12 months duration, or an employee of a contractor whose contract with DOE has been terminated and the employee has not been hired by another DOE contractor.

9. ORGANIZATION CODE - Enter the employer's organization code. For a member of the public or a visiting research scientist, enter the organization code of the reporting host. Organization codes shall be obtained from the Radiation Records Repository.

10. FACILITY TYPE CODE - Enter the code from Table 1 of this appendix for the facility contributing the predominant portion of the individual's total effective dose equivalent. Otherwise, indicate the facility wherein the greater portion of work service was performed.

11. OCCUPATION CODE - Enter the code from Table 2 of this appendix for the generic occupation that best fits the individual's occupational title. Do not enter a code for a member of the public or a visiting research scientist.

12. WHOLE BODY DOSE - Enter the appropriate dose equivalent in units of millirem, right justified. Do not include any occupational dose received by the individual during an off-site visit.

    a. TOTAL EFFECTIVE DOSE EQUIVALENT - Enter the sum of the deep dose equivalent and the total committed effective dose equivalent.

    b. DEEP DOSE EQUIVALENT - Enter the deep dose equivalent (i.e., the effective dose equivalent to the whole body, nominally at 1.0 cm depth, from external radiation sources).

       - Including Neutron.

       - Neutron only.

    c. INTERNAL DOSE - Enter the committed effective dose equivalent due to internal uptakes received during the calendar year monitoring was conducted.

- Year of intake.
- Radionuclide(s) - Enter the radionuclides that contributed the predominant internal dose (3 radionuclides maximum - no daughter products).
- Committed effective dose equivalent.
- Year of intake.
- Radionuclide(s) - Enter the radionuclides that contributed to the internal dose (3 radionuclides maximum - no daughter products).
- Committed effective dose equivalent.
- Uptakes continued elsewhere - Enter "Y" for Yes or "N" for No. Submit a separate exposure report if an individual's total committed effective dose equivalent is due to 7 or more parent radionuclides.

13. SHALLOW DOSE EQUIVALENT TO THE SKIN - Enter the shallow dose equivalent at 0.007 cm depth in units of millirem, right justified (add any neutron dose component reported for deep dose equivalent).

14. SHALLOW DOSE EQUIVALENT TO THE EXTREMITIES - Enter the shallow dose equivalent in units of millirem, right justified. When both left and right extremities were monitored, record the higher of the right or left dose equivalent. When both extremity and whole body dosimeters were used during a monitoring period, do not add the whole body shallow dose to the extremity dose. During periods when extremity monitoring was occasionally conducted, enter the sum of all extremity dose components and the shallow dose equivalent measured during the period(s) when extremity dosimetry was not worn. In all cases, add any neutron dose component reported for deep dose equivalent.

    a. FOREARMS AND HANDS - Enter the dose equivalent for the arm below the elbow.

    b. LOWER LEGS AND FEET - Enter the dose equivalent for the leg below the knee.

Table 1
FACILITY TYPE CODES

CODE	FACILITY TYPE OR OPERATION(1)
10	Accelerator
21	Fuel/Uranium Enrichment
22	Fuel Fabrication
23	Fuel Processing
40	Maintenance and Support (site-wide)
50	Reactor
61	Research, General
62	Research, Fusion
70	Waste Processing/Management
80	Weapons Fabrication and Testing
99	Other

(1) Workers should be assigned to one facility type where the predominant amount of the individual's work takes place.

Table 2
OCCUPATIONAL CODES

DOE CODE	DOE OCCUPATIONAL CATEGORIES	CROSS-REFERENCE SOC CODE (ranges)(1)
001	UNKNOWN	
110	MANAGERS AND ADMINISTRATORS	11 - 14
-	PROFESSIONAL	15 - 39
160	Engineers	16
170	Scientists	17 - 19
184	Health Physicists	1843
200	Miscellaneous Professionals	20 - 25, 32 - 34
260	Doctors and Nurses	26 - 30
350	Technicians	35 - 39
360	Health Technicians	36
370	Engineering Technicians	37
380	Science Technicians	38
383	Radiation Monitors/Technicians	383
390	Miscellaneous Technicians	39
400	SALES	40 - 44
450	ADMINISTRATIVE SUPPORT AND CLERICAL	45 - 47
-	SERVICE WORKERS	50 - 52
512	Fire fighters	512
513	Security Guards	513/4
521	Food Service Employees	521
524	Janitors	524
525	Miscellaneous Service Employees	523, 525/6

Table 2
OCCUPATIONAL CODES

DOE CODE	DOE OCCUPATIONAL CATEGORIES	CROSS-REFERENCE SOC CODE (ranges)[1]
-	AGRICULTURAL WORKERS	55 - 58
562	Grounds keepers	562
570	Forest Workers	57
580	Miscellaneous Agricultural Workers	55, 561, 58
-	REPAIR/CONSTRUCTION WORKERS	60 - 65
610	Mechanics/Repairers	60 - 61
641	Masons	641
642	Carpenters	642
643	Electricians	643
644	Painters	644
645	Pipe Fitters	645
650	Miners/Drillers	65
660	Miscellaneous Repairers/Construction Workers	63, 646
-	PRECISION/PRODUCTION WORKERS	67 - 78
681	Machinists	681
682	Sheet Metal Workers	682
690	Operators, Plant/System/Utility	69
710	Machine Setup/Operators	71 - 76
771	Welders and Solderers	771
780	Miscellaneous Precision/Production Workers	67, 683 - 88, 722 - 78
-	TRANSPORT WORKERS	81 - 83
820	Truck Drivers	8212 - 8214
821	Bus Drivers	8215
825	Pilots	825
830	Equipment Operators	83
840	Miscellaneous Transporters	81, 8216 - 824, 828
850	HANDLERS/LABORERS/HELPERS	85 - 87
910	MILITARY PERSONNEL	91
990	MISCELLANEOUS WORKERS	99

(1) Refers to the Department of Commerce's Standard Occupational Classification (SOC) Manual (1980).