

**INSPECTION TECHNICAL PROCEDURE**

**I-161**

**INDUSTRIAL HEALTH AND SAFETY PROGRAM  
REACTIVE-INCIDENT FOLLOW-UP INSPECTION**

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# INSPECTION TECHNICAL PROCEDURE I-161, REV. 0 INDUSTRIAL HEALTH AND SAFETY PROGRAM REACTIVE-INCIDENT FOLLOW-UP INSPECTION

## 1.0 PURPOSE

The Contract<sup>1</sup> identifies, in Section J, Attachment E, paragraph (b), certain applicable documents involving IH&S requirements. These are: DOE M 231.1-1, *Environment, Safety and Health Reporting Manual*, DOE M 232.1-1A, *Occurrence Reporting and Processing of Operations Information*, and DOE O 231.1, *Environment, Safety and Health Reporting*.

Type A and Type B accidents (defined in Attachment 1 of this procedure) are investigated according to the requirements of DOE O 225.1A, *Accident Investigations*, and are outside the scope of this procedure.

This procedure<sup>2</sup> evaluates the Contractor's adherence to reporting and follow-up corrective action requirements<sup>3</sup> following a Group 3 Personnel Safety (IH&S) incident, as defined by DOE M 232.1-1A. For the purposes of this procedure, a Group 3, Personnel Safety, incident is defined as a reportable occurrence categorized as a Group 3 off-normal reportable incident. Incidents of a more serious nature (emergency occurrences or unusual occurrences) are addressed by DOE Order 225.1A, a requirement of RL/REG-2000-04, *Industrial Hygiene and Safety Regulation Plan*.

A Group 3 "Personnel Safety" off-normal incident encompasses the following areas:

- Any occupational illness/injury that result in inpatient hospitalization
- A series of occupational illnesses from one event involving three or more people where at least one is a lost work day case
- Personnel exposure in a single event to hazardous substances or hazards in excess of limits established by OSHA or the American Conference of Governmental Industrial Hygienists, whichever is lower
- Any vehicular incident with injury(s) involving DOE property, resulting in a lost workday case
- Any vehicular incident involving DOE property, with injury(s) to a person(s) other than DOE or DOE contractor personnel

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<sup>1</sup> Contract No. DE-AC27-01RV14136 between DOE and Bechtel National, Inc., dated December 11, 2000.

<sup>2</sup> This procedure implements the commitments of RL/REG-2000-04, *Industrial Hygiene and Safety Regulatory Plan*, Section 4.4.3, "Reactive IH&S Incident Followup Inspections."

<sup>3</sup> DOE Order 232.1A, *Occurrence Reporting and Processing of Operations Information*, Section 4, "Requirements," item a.

- Any safety concern involving use of hazardous materials or methods not in accordance with standard operating procedures or work plans
- Any shutdown of a work activity taken as a result of a violation of IH&S requirements.

The results of the inspection will be used to evaluate and report the level of compliance with the Contractor's program commitments contained in the Contractor's IH&S Plan.<sup>4</sup>

## **2.0 OBJECTIVES**

To assess the Contractor's response to an off-normal IH&S incident, as defined above, with respect to the following:

- Prompt reporting and categorization of incidents. (DOE Order 232.1A, Section 4, "Requirements," item a)
- Accurate classification and record-keeping. (DOE M 232.1-1A, Section 5.2 (Event or Condition Categorization), Section 9 (Categorization of Reportable Occurrences), and Section 5.6.g, regarding record keeping requirements; and DOE Order DOE M 231.1-1, Chapter II, Section 2.b, which invokes the requirements of 29 CFR 1904, "*Recording and Reporting Occupational Injuries and Illnesses*")
- Investigation of incidents and implementation of corrective actions. (DOE Order 232.1A Section 4, item a; and DOE Manual 232.1-1A, Section 5.5, "Occurrence Investigation and Analysis")

## **3.0 INSPECTION REQUIREMENTS**

### **3.1 Assessment of the Prompt Reporting of Incidents**

Verify the oral notification, written documentation, and categorization of the incident were performed in accordance with requirements. (DOE Order 232.1A and DOE Manual 232.1-1A, Sections 5.3 and 5.4)

### **3.2 Assessment of Accurate DOE Categorization, IH&S Classification, and Record Keeping**

#### **3.2.1 Occurrence Reporting Categorization**

Verify that the incident was properly categorized. (DOE Manual 232.1-1A, Section 9.0, "Categorization of Reportable Occurrence")

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<sup>4</sup> "Non-Radiological Worker Safety and Health Plan," PL-W375-IS00001, Rev. 1, 12 March 2001

### **3.2.2 IH&S Classification**

Verify the Contractor has properly classified and recorded injuries or illnesses associated with an incident. (DOE M 231.1-1, Chapter II, Section 2.a(1))

### **3.2.3 Record Keeping**

Verify that OSHA Form No. 200, the DOE Form 5484.3, "*Individual Accident/Incident Report*," and the initial/updated occurrence report are properly maintained as project records. (DOE M 231.1-1, Chapter II, Section 2.a.(2) and DOE M 232.1-1A, Section 5.4)

### **3.3 Assessment of the Incident and Contractor Response**

Verify that the Contractor's documentation, immediate corrective actions, follow-up analysis, and long-term corrective actions conform to specified requirements. (DOE Manual 232.1-1A, Section 5.0)

## **4.0 INSPECTION GUIDANCE**

### **4.1 Assessment of Prompt Reporting of Incidents**

Upon notification of the incident, the inspector should obtain and review a copy of the Contractor's initial notification occurrence report for the occupational incident being inspected. If the initial written notification has not yet been approved and issued, the inspector should verify that the oral notification and subsequent categorizations of the incident were performed in a timely manner. (DOE Manual 232.1-1A, Section 5.0, "Occurrence Reporting") The inspector should obtain a copy of the Contractor's initial and any subsequent updates of the occurrence report. (DOE Order 232.1A) Upon approval and issuance of the initial notification report, the inspector should review the information provided for accuracy and timeliness. (DOE Manual 232.1-1A, Section 5.4, "Written Notification Report")

The inspector should verify the following:

1. The facility has provided oral notification to the Office of Safety Regulation (OSR) of the incident within two hours of categorization. (DOE M 232.1-1A, Section 5.3.2)
2. The initial categorization was performed and reported to the DOE Occurrence Notification Center (ONC) within two hours from the time of categorization of an incident. (DOE M 232.1-1A, Section 5.3.2)
3. The initial written notification report was completed and distributed to the DOE ONC before close of the next business day from the time of categorization (not to exceed 80 hours). (DOE M 232.1-1A, Section 5.4)

4. The incident is not categorized as a Class A or B investigation (see Attachment 1). (If it is, the inspector should stop the inspection, and inform the Contractor Construction Manager and the OSR Verification and Confirmation Official that the inspection has been stopped).

#### **4.2 Assessment of Accurate DOE Categorization, IH&S Classification, and Record Keeping**

##### **4.2.1 Occurrence Reporting Categorization**

The inspector should review the initial notification report and verify the appropriate DOE categorization of the incident. The inspector should verify the group and category of the report (i.e., Group 3, "Personnel Safety"/Category A, "Occupational Illness/Injuries"). (DOE Manual 232.1-1A, Section 9.0)

##### **4.2.2 IH&S Classification**

The inspector should review the OSHA No. 200 Form and the corresponding DOE Form 5484.3 for the incident being inspected. The inspector should verify the following:

1. The incident was recorded in accordance with the criteria in Attachment 2, "Guide to Recordability of Cases."
2. The Contractor's OSHA No. 200 Form (for the reporting work-related injuries and illnesses for contractor and subcontractor employees involved in an incident) has been updated within six working days and is filled out appropriately. (29 CFR 1904.2(b)(1))
3. The log entry should have a corresponding DOE Form 5484.3 on file. (DOE M 231.1-1, Chapter II, Section 2a(2))
4. The supplemental record, DOE Form 5483.3 (used in lieu of the OSHA Form No. 101, as required by DOE M 231.1-1, Chapter II, Section 2a(2)), is available within six working days. (29 CFR 1904.4)
5. The affected employee's medical and attendance records should be accessed to verify they were properly trained and certified to perform the work activities that resulted in the incident. (29 CFR 1926.21)

##### **4.2.3 Record Keeping**

The inspector should verify that the Contractor is properly maintaining copies of the OSHA No. 200 Form, the corresponding DOE Form 5484.3 (which is maintained in lieu of the OSHA 101 Form, as required by DOE M 231.1-1 Chapter II, Section 2a(2)) and any updates and records of corrective action taken. The inspector should verify that the documentation includes lost workdays, lost time, and restricted activity, if any occurred. (29 CFR 1904.5)

### 4.3 Assessment of the Incident and Contractor Response

The inspector should perform an independent inspection of the incident using the following guidance:

1. The inspector should review the information provided via the initial and updated occurrence reports, the DOE Form 5484.3, and the OSHA No. 200 Form, if they have been completed. If not, the inspector should request a copy when they are available.
2. The attributes below are not specific requirements of any regulatory document, but are intended to be used by the inspector as guidance to assess the quality of Contractor's incident investigations.
  - a. Was a work order or procedure being followed at the time of the incident?
  - b. Was a safety meeting conducted prior to the event, and was the appropriate safety concerns discussed?
  - c. Was the affected individual properly trained and qualified for the work activity?
  - d. Was this an isolated incident or have similar incidents occurred in the past?
  - e. Was information obtained during interviews with the individual, the supervisor, and any witnesses consistent?
  - f. Were any pictures of the scene taken immediately after the incident? Did a walk-down of the job site confirm the information in the reports?
  - g. Did management policies and procedures appropriately address safety issues applicable to the work in progress or were they a contributing factor?
  - h. Were the immediate corrective actions sufficient to protect the injured worker(s)?
3. The inspector should review the completed investigation file to verify the following:
  - a. IH&S professionals are performing a review of the incident.
  - b. The intensity of the investigation matched the severity of the incident.
  - c. Initiation of the investigation was prompt (within 48 hours).
  - d. The investigation was thorough enough to identify preventive actions.
  - e. Recommendations were appropriate (practical and likely to be effective).
  - f. The qualifications or position(s) of the person or team completing the report were sufficient to perform a quality investigation of the incident.
  - g. The scope and depth of the Contractor's review of lessons learned were adequate.

- h. The investigation was completed within 45 days of categorization as prescribed by DOE Manual 232.1-1A, Section 5.6, "Occurrence Report Closure."
- i. The Contractor investigated and identified causal factors.
- j. The corrective actions specified were adequate to address the causal factors and preclude recurrence.
- k. The corrective actions were completed in a timely manner.

## 5.0 REFERENCES

29 CFR 1904, "Recording and Reporting Occupational Injuries and Illnesses," *Code of Federal Regulations*, as amended.

DOE M 232.1-1A, *Occurrence Reporting and Processing of Operations Information*, U.S. Department of Energy, 1997.

DOE O 225.1A, *Accident Investigation*, U.S. Department of Energy, 1997.

DOE O 231.1, *Environment, Safety and Health Reporting*, U.S. Department of Energy, 1997.

DOE O 231.1-1A, *Occurrence Reporting and Processing of Operations Information*, U.S. Department of Energy, 1997.

RL/REG-2000-04, *Industrial Hygiene and Safety Regulatory Plan*, Rev. 2, U.S. Department of Energy, Richland Operations Office, 2000.

PL-W375-IS00001, *Nonradiological Worker Safety and Health Plan*, Rev. 1, Bechtel National Inc., 2001.

## 6.0 LIST OF TERMS

DOE	U.S. Department of Energy
IH&S	industrial health and safety
ONC	Occurrence Notification Center
OSHA	Occupational Safety and Health Administration
OSR	Office of Safety Regulation
TEDE	total effective dose equivalent

### Attachments:

1. Accidents Requiring Type A and Type B Investigations
2. Guide to Recordability of Cases



**Attachment 1. Accidents Requiring Type A and Type B Investigations.**

(DOE O 225.1A)

**ACCIDENTS REQUIRING TYPE A INVESTIGATIONS**

1. Any injury or chemical or biological exposure that results in, or is likely to result in the fatality of an employee or member of the public within 30 days of the accident.
2. Any accident where three or more DOE, Contractor, or subcontractor employees, or members of the public incur a serious injury that requires hospitalization for more than 48 hours, commencing within 7 calendar days from the date the injury was received; results in severe hemorrhages; results in severe damage to nerves, muscles, tendons, or internal organs; results in second or third degree burns affecting more than 9 percent of the body surface; or has a high probability of realizing a permanent total disability due to injuries, chemical exposure, or biological exposures received.
3. Any single individual radiation exposure resulting in a total effective dose equivalent (TEDE) of 25 rem or more; a dose equivalent to the lens of the eye of 75 rem or more; a shallow dose equivalent to an extremity or skin of 250 rem or more; the sum of deep dose equivalent for external exposure and the committed dose equivalent to any organ or tissue, other than the lens of the eye, of 250 rem or more; or a dose equivalent to the embryo or fetus of a declared pregnant worker of 2.5 rem or more.
4. Release of a hazardous substance, material, waste, or radionuclide in an amount greater than five times the reportable quantities specified in 40 CFR Part 302, that results in serious environmental damage.
5. Estimated loss of, or damage to, DOE property equal to or greater than \$2.5 million or requiring estimated costs equal to or greater than \$2.5 million for cleaning, decontaminating, renovating, replacing, or rehabilitating structures, equipment or property.

**ACCIDENTS REQUIRING TYPE B INVESTIGATIONS**

1. Any accident that results in the hospitalization of one or more DOE, Contractor, subcontractor employee or members of the public for five continuous calendar days or longer due to serious injury, occupational illness (except members of the public), chemical exposure, or biological exposure.
2. Any one accident resulting in five or more lost-workday cases.
3. A series of accidents involving five or more lost-workday cases occurring within a one-year time period that involve identical or similar facilities, systems, equipment, materials, or procedures (i.e.: accidents that reveal a pattern and cause for concern).
4. A single radiation exposure to an individual that results in: a TEDE of at least 10 rem but less than 25 rem; a dose equivalent to the lens of the eye of at least 30 rem but less than 75 rem; a shallow dose equivalent to an extremity or skin of at least 100 rem but less than

250 rem; the sum of the deep dose equivalent for external exposure and the committed dose equivalent to any organ or tissue, other than the lens of the eye, of at least 100 rem but less than 250 rem; or a dose equivalent to the embryo or fetus of a declared pregnant worker of at least 1 rem but less than 2.5 rem.

5. Release of a hazardous substance, material, waste, or radionuclide in an amount equal to or greater than two times but less than five times the reportable quantities specified in 40 CFR Part 302, that results in serious environmental damage.
6. Estimated loss of or damage to DOE property of less than \$2.5 million but more than \$1 million, including costs of cleaning, decontaminating, renovating, replacing, or rehabilitating structures, equipment or property.
7. The operation of a nuclear facility beyond its authorized limits resulting in the consequences identified in the above accident descriptions.

**Attachment 2. Guide to Recordability of Cases.<sup>5</sup>**

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<sup>5</sup> "Recordkeeping Guidelines for Occupational Injuries and Illnesses," (OMB) No. 1220-0029 (DOE M 231.1-1 Chapter II, Section 2 b. (1))

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