

APPENDIX A

CHECKLIST FOR PROCEDURES

Written procedures should cover all activities listed below. This list is not intended to be all-inclusive or to imply that procedures must be developed with the same titles as those on the list.

1. Management Control Procedures

- training
- audits and assessments
- incident investigation
- records management
- configuration management
- quality assurance
- equipment control (lockout/tagout)
- shift turnover
- work control
- procedure management
- nuclear criticality safety
- fire protection
- radiation protection
- radioactive waste management
- maintenance
- environmental protection
- chemical process safety
- operations
- calibration control
- preventive maintenance

2. Operating Procedures

- system procedures that address startup, operation, shutdown, control of process operations, and recovery after a process upset
 - ventilation
 - criticality alarms
 - shift routines, shift turnover, and operating practices
 - decontamination operations
 - uranium recovery
 - facility utilities (air, other gases, cooling water, fire water, steam)
 - temporary changes in operating procedures
- abnormal operation/alarm response
 - loss of cooling water
 - loss of instrument air
 - loss of electrical power
 - loss of criticality alarm system

- fires
- chemical process releases

3. Maintenance Activities That Address System Repair, Calibration, Surveillance, and Functional Testing

- repairs and preventive repairs of items relied on for safety (IROFS)
- testing of criticality alarm units
- calibration of IROFS
- high-efficiency particulate air filter maintenance
- functional testing of IROFS
- relief valve replacement/testing
- surveillance/monitoring
- pressure vessel testing
- nonfired pressure vessel testing
- piping integrity testing
- containment device testing

4. Emergency Procedures

- response to a criticality
- hazardous process chemical releases (including uranium hexafluoride)

APPENDIX B

INCIDENT INVESTIGATION PROGRAMS AND PROCEDURES

The following eight items are good practices to incorporate in incident investigation programs or procedures or both:

- (1) The investigation of an abnormal event should begin as soon as possible after the event has been brought under control.
- (2) The incident investigation program contains a documented procedure for investigating an abnormal event. This procedure is separate from any required emergency plan.
- (3) The program includes a description of the functions, qualifications, and responsibilities of the manager who would lead the investigative team and those of the other team members; the scope of the team's authority and responsibilities; and an assurance of management cooperation.
- (4) Qualified internal or external investigators are appointed to serve on investigating teams when required. The teams should include at least one process expert and at least one team member trained in root cause analysis.
- (5) The program contains guidance for personnel conducting the investigation on how to apply a reasonable, systematic, structured approach to determine the specific or generic root cause(s) and generic implications of the problem. The level of investigation should be based on a graded approach relative to the severity of the incident.
- (6) The incident investigation team has assurance of the team's authority to obtain all information considered necessary and is independent from the functional area involved in the incident under investigation.
- (7) The investigation process and investigating teams are independent of the line management.
- (8) Auditable records and documentation related to abnormal events, investigations, and root cause analysis are maintained. For each abnormal event, the incident report should include a description, contributing factors, a root cause analysis, and findings and recommendations. Relevant findings are reviewed with all affected personnel.

APPENDIX C

RECORDS

The requirements for records management vary according to the nature of the facility and the hazards and risks it poses. Examples of the records required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations"; 10 CFR Part 20, "Standards for Protection against Radiation"; 10 CFR Part 21, "Reporting of Defects and Noncompliance"; 10 CFR Part 25, "Access Authorization"; and 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," are listed below. The records are listed under the chapter headings of the Standard Review Plan (SRP). The list is not intended to be exhaustive or prescriptive. Different or additional records may be required in certain circumstances. The applicant may also choose to organize the records in other ways.

Examples of Records

SRP Chapter

1. General Information

- construction records
- facility and equipment descriptions and drawings
- design criteria, requirements, and bases for items relied on for safety (IROFS), as specified by the facility configuration management (CM) function
- records of facility changes and associated integrated safety analyses, as specified by the facility CM function
- safety analyses, reports, and assessments
- records of site characterization measurements and data
- records pertaining to onsite disposal of radioactive or mixed wastes in surface landfills
- procurement records, including specifications for IROFS

2. Organization and Administration

- administrative procedures with safety implications
- change control records for material control and accounting program
- organization charts, position descriptions, and qualification records
- safety and health compliance records, medical records, personnel exposure records

- quality assurance records
 - safety inspections, audits, assessments, and investigations
 - safety statistics and trends
3. Integrated Safety Analysis
4. Radiation Safety
- bioassay data
 - exposure records
 - radiation protection (and contamination control) records
 - radiation training records
 - radiation work permits
5. Nuclear Criticality Safety
- nuclear criticality control written procedures and statistics
 - nuclear criticality safety analyses
 - records pertaining to nuclear criticality inspections, audits, investigations, and assessments
 - records pertaining to nuclear criticality incidents, unusual occurrences, or accidents
 - records pertaining to nuclear criticality safety analyses
6. Chemical Safety
- chemical process safety procedures and plans
 - records pertaining to chemical process inspections, audits, investigations, and assessments
 - diagrams, charts, and drawings
 - records pertaining to chemical process incidents, unusual occurrences, or accidents
 - chemical process safety reports and analyses
 - chemical process safety training
7. Fire Safety
- fire hazard analysis

- fire prevention measures, including hot-work permits and fire watch records
 - records pertaining to inspection, maintenance, and testing of fire protection equipment
 - records pertaining to fire protection training and retraining of response teams
 - prefire emergency plans
8. Emergency Management
- emergency plan(s) and procedures
 - comments on emergency plan from outside emergency response organizations
 - emergency drill records
 - memoranda of understanding with outside emergency response organizations
 - records of actual events
 - records pertaining to the training and retraining of personnel involved in emergency preparedness functions
 - records pertaining to the inspection and maintenance of emergency response equipment and supplies
9. Environmental Protection
- environmental release and monitoring records
 - environmental report and supplements to the environmental report, as applicable
10. Decommissioning
- decommissioning records
 - financial assurance documents
 - decommissioning cost estimates
 - site characterization data
 - final survey data
 - decommissioning procedures
11. Management Measures
- 11.1 Configuration Management
- safety analyses, reports, and assessments that support the physical configuration of process designs and changes to those designs

- validation records for computer software used for safety analysis or material control and accounting
- integrated safety analysis documents, including process descriptions, plant drawings and specifications, and purchase specifications for IROFS
- approved current operating procedures and emergency operating procedures

11.2 Maintenance

- record of IROFS failures (required by 10 CFR 70.62, "Safety Program and Integrated Safety Analysis")
- preventive maintenance records, including trending and root cause analysis
- calibration and testing data for IROFS
- corrective maintenance records

11.3 Training and Qualification

- personnel training and qualification records
- procedures

11.4 Procedures

- standard operating procedures
- functional test procedures

11.5 Audits and Assessments

- audits and assessments of safety and environmental activities

11.6 Incident Investigations

- investigation reports
- changes recommended by investigation reports and how and when implemented
- summary of reportable events for the term of the license
- incident investigation policy

11.7 Records Management

- policy
- material storage records
- records of receipt, transfer, and disposal of radioactive material