

APPENDIX A

CHECKLIST FOR PROCEDURES

Written procedures should cover all activities listed below. The 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

a. 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

b. Abnormal Operation/Alarm Response

- Loss of cooling water
- Loss of instrument air
- Loss of electrical power
- Loss of criticality alarm system

***** Note: This is a proposed revision to Appendix 11 of NUREG1520 *****

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 (HEPA) 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 INVESTIGATIONS PROGRAMS AND PROCEDURES

The following are good practices to incorporate in incident investigations programs and/or procedures:

- (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 contains 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 the cooperation of management.
- (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 is given assurance of the team's authority to obtain all the 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, Parts 19, 20, 21, 25, and 70, of the *Code of Federal Regulations* 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. Further, the applicant may 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

***** Note: This is a proposed revision to Appendix 11 of NUREG1520 *****

- 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)
- 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, 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