

## 2005 Browns Ferry OL Exam Reference Material



REVISION LOG  
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Revision Number	Effective Date	Pages Affected	Description of Revision
0	06-30-97	All	Initial issue. Replaces STD-4.5, SSP-4.5 (SQN and BFN) and SSP-4.05 (WBN).
1	10-24-97	2, 17, 18	This revision adds: 1) a new condition to the regulatory reporting matrix contained in Appendix A and 2) the actual locations of the cooling tower, off-gas stack, and meteorological tower obstruction lights to Appendix B.
2	06-12-98	2, 4, 8, 9, 13-17, 20	Revised to modify definition of "Safe Shutdown" and make other minor editorial changes.
3	10-14-98	2, 11, 13, 17, 18, 28	Revised Appendix A, "Site Event Notification Matrix" to include additional notification requirements. Revised Appendix A, Section 3.1, "Immediate Notification - NRC" and Section 3.2, "Twenty-Four Hour Notification - NRC" to incorporate minor clarifying NRC change (replaced "eye" with "lens") per RIN 3150-AF46 [Ref: FR: 7/23/98 (Volume 63, Number 141)]. Revised Appendix B, "Other Regulatory Reporting" to add telephone number for the FAA. Also corrected typos on the "NRC Event Notification Worksheet."
4	12/21/98	2, 3, 28, 29, and 30	Added Appendix E, "Reporting of Decommissioning Funding" and corrected typos.
5	9/17/99	2, 12, 18, 28-30	Revised Appendix A, "Reporting of Event Related or Conditional Reports", to clarify reporting requirements for follow-up notifications. Revised Appendix B, "Other Regulatory Reporting", to revise telephone numbers for the FAA. Revised Appendix E, "Reporting of Decommissioning Funding", to address requirements for notifying NRC when shutting down the operation of a reactor, as required by 10 CFR 50.54(bb).
6	12/10/99	2, 10	Added note to clarify requirements for making an ENS notification for events or conditions that are discovered which met the emergency plan criteria but no emergency was declared and the basis for the emergency no longer exists.
7	1/23/01	2-7, 10-36	Procedure updated to reflect changes to 10 CFR 50.72 and 50.73 and a general update to the organization of the reporting guidance. Added Appendix B to provide guidance regarding reporting criteria for Events or Conditions Affecting Activities Involving By-Product, Source or Special Nuclear Material Licenses. Added Appendix C which includes information previously included in Appendix A and further guidance regarding expectations for notification of Senior Management regarding plant events.

**REVISION LOG**

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<b>Revision Number</b>	<b>Effective Date</b>	<b>Pages Affected</b>	<b>Description of Revision</b>
8	5/2/01	2, 37	Update Form "NRC Event Notification Worksheet" to reflect changes to NRC Form 361. (Minor/editorial changes.)
9	6/29/01	2-4, 6, 8-10, 38, 39	Added guidance on key information to be communicated to the NRC Resident Inspectors following a significant operating event.
10	2/6/02	3-9, 11-27, 32, 34	Revised procedure to clearly identify organizational responsibilities for making reportability determinations, immediate notifications, and follow-up written reports. Also added section to Appendix A, pertaining to the optional verbal notification that is allowed under 10 CFR 50.73(a)(2)(iv)(A).
11	11/19/02	3, 4, 6-8, 14, 18-20, 23-51	Revised procedure to add reporting requirements (App. C) for Independent Spent Fuel Storage Facilities prescribed in 10 CFR 72. Also added flexibility to Appendix A, Section 3.5 pertaining to written reporting requirements. Also added Appendix J to provide guidance pertaining to serious Accident Internal Notifications. Added 30-day verbal NRC notification that is required by 10 CFR 20.2201(a)(ii) to address PER 02-000344-000.
12	05/30/03	3, 24-29, 37	Revised procedure to add "Note" to address NRC's changes to filing requirements for written event reports submitted to the NRC concerning individuals occupationally overexposed to radiation and radioactive materials. This change by NRC to 10 CFR Part 20.2203(b)(2) was contained in Federal Register, Volume 28, No. 57 dated March 25, 2003 (14307). Also clarified Appendix E, Section 2.2.E "Incident which could attract attention from the immediate local residents", by deleting ".....with sirens sounding while.....".
13	10/08/03	3, 30-34	Revised procedure to agree with Nuclear Regulatory Commission amendment to event notification regulations contained in Federal Register, Volume 68, No. 108 dated June 5, 2003. Reporting requirements under 10 CFR 72.75 were revised therein.
14	12/31/03	3-35, 38-47, 49, 50, 53, 54	Procedure revision to include reporting requirements for registering loaded spent fuel storage containers and notification of fuel loading violation as part of the CFR and CoC respectively. Minor corrections of reporting requirements changed in revision 13.
15	8/20/04	3, 4, 10, 12, 36	Added SPP-3.5-1 to Section 4.2, Non-QA Records. Updated/clarified Appendix D (e.g., eliminate requirements to notify ODS when state notification is not expected).
16	11/30/04	3, 36	Revised Appendix D to prescribe notification requirements in the event of a Security Contingency Event at the stations or any security related telephone call to the NRC Operations Center.

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## 1.0 PURPOSE

This Standard Program and Process (SPP) specify the requirements for various reports to the Nuclear Regulatory Commission (NRC) and other regulatory agencies to ensure compliance with the reporting requirements.

## 2.0 SCOPE

This SPP identifies the reporting requirements specified in the following:

- A. Title 10, Code of Federal Regulations (§)
- B. Technical Specifications
- C. Final Safety Analysis Reports
- D. Correspondence to various regulatory agencies.
- E. §Part 72, Certificate of Compliance (CoC)

The appendixes provide guidelines for reporting of conditions and/or events.

## 3.0 INSTRUCTIONS

### 3.1 Periodic Reports

Each site licensing organization shall ensure that a matrix of their site's periodic reporting requirements is maintained.

Each report matrix should contain the report topic or title, regulatory basis for the report, time requirements for submitting the report, and the group(s) responsible for preparing, coordinating review, obtaining approval and issuing the report.

#### A. Report Preparation

1. The organization or individual responsible for preparing the report shall ensure that the report is initiated in a timely manner (for proper review and approval), addresses all necessary items, is technically accurate, is reviewed and coordinated, and meets the requirements for submittal. If submitted to NRC, the report must be processed in accordance with Business Practice (BP) 213, "Managing TVA's Interface with NRC."
2. For reports to other regulatory agencies, the responsible organization shall ensure applicable reporting guidelines are satisfied.
3. Reports with commitments shall meet the requirements of SPP-3.3, "NRC Commitment Management."

#### B. Review and Approval of Reports

The organization or individual responsible for review shall ensure that the report is consistent with TVA policy and shall resolve comments. The organization or individual responsible for approval of the report shall perform a final review.

C. Distribution of Reports

The organization responsible for preparing the report shall ensure that adequate copies are made in a timely manner to support the transmittal of the report to the regulatory agency. Internal copies of the report shall be distributed in accordance with organizational procedures or instructions on preparation of the report.

D. Complete and accurate information must be provided to NRC at all times. Information can be in violation of this requirement even if it is not in writing, supplied under oath, or supplied without knowledge of its falsity. Information can be considered incomplete or inaccurate due to any one of the following reasons:

1. An affirmative statement which is false.
2. An omission.
3. Inadequate review.
4. Failure to review.
5. Careless disregard or deliberateness.
6. Negligence not amounting to careless disregard.
7. Inadvertent clerical or similar error involving information which, had it been available to NRC and accurate at the time the information should have been submitted, would probably have resulted in regulatory action or NRC seeking additional information.
8. Failure to correct material information that has significant implication for public health and safety which was correct when submitted but becomes incorrect due to subsequent changes or events.

E. Identification of incorrect statements or misrepresentations having significant implication for public health and safety or common defense and security made in previously submitted information, including reports, must be reported to NRC's Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to NRC by other reporting or updating requirements. Licensing is responsible for making the determination of reportability and notifying NRC in accordance with §50.9.

3.2 **Event or Condition Reporting**

- A. The specific event or condition reporting requirements applicable to different licenses or permits TVA possesses are identified in the following Appendices:

1. Appendix A, "Reporting of Events or Conditions Affecting Licensed Nuclear Power Plants" contains the criteria for reporting of events or conditions affecting licensed nuclear power plants. Operations is responsible for making the reportability determinations for §50.72 and §50.73 reports. Operations is responsible for making the immediate notification to NRC in accordance with §50.72. Licensing is responsible for developing (with input from affected organizations) and submitting the written reports (or optional telephone reports) required by §50.73.

**NOTE** Reporting requirements for personnel exposure required by §Part 20 are contained in RCDP-4, "Personnel Inprocessing and Dosimetry Administrative Processes."

Appendix A also contains criteria for reporting "radiation injuries" in accordance with §140.6. Site RADCON is responsible for reporting "radiation injuries" to Licensing. Licensing is responsible for developing and submitting the written report to NRC (with input from Site RADCON).

2. Appendix B, "Reporting of Events or Conditions Affecting Activities Involving Byproducts, Source, or Special Nuclear Material Licenses" contains the criteria for reporting of events or conditions affecting activities involving byproduct, source or special nuclear material licenses. Site Licensing and Site RadCon are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with their site. Corporate Licensing and Corporate RadChem are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with all other TVA licensed activities. Licensing is responsible for making the immediate notification and developing (with input from affected organizations) and submitting written reports to NRC in accordance with §Part 20, 30, 40, or 70 requirements.
3. Appendix C, "Reporting of Events or Conditions Affecting Independent Spent Fuel Storage Installations (ISFSI)" contains the criteria for reporting events or conditions affecting ISFSI. TVA, as the general licensee of the ISFSI, is required to make initial and written reports in accordance with §72.74, §72.75 and the ISFSI Certificate of Compliance (CoC). Operations is responsible for making the reportability determinations for §72.74, §72.75, and ISFSI CoC reports. Operations is responsible for making the immediate notification to NRC in accordance with §72.74. Operations is responsible for making the immediate, 4-hour, 8-hour, and 24-hour notifications in accordance with §72.75 and ISFSI CoC. Licensing is responsible for developing (with input from affected organizations) and submitting the written reports required by §72.75 and ISFSI CoC.

4. Appendix D, "Site Event Notification Matrix" contains the internal management notification requirements for plant events. If designated TVA Manager is unavailable for notification due to temporary assignment, (e.g., INPO loanee) notification should be made to designee or next higher manager. Operations and the Plant Manager (or Duty Plant Manager) are responsible for making these internal management notifications.
5. Appendix E, "Other Regulatory Reporting" contains the criteria for reporting of events or conditions to Federal and State regulatory agencies other than the NRC. Operations is responsible for making the reportability determinations and notifications for these non-NRC Federal and State regulatory agency reporting requirements.

**NOTE** Additional reporting guidance for defects is contained in SPP-3.1, "Corrective Action Program."

6. Appendix F, "Evaluation and Reporting of Defects and Failures to Comply Associated with Substantial Safety Hazards Per §50.55(e) Reporting Requirements" contains the criteria for reporting of deficiencies for nuclear plants with a construction permit in accordance with §55.55(e). Licensing is responsible for making the final reportability determination and written report to NRC in accordance with §50.55(e).

**NOTE** Additional reporting guidance for deficiencies is contained in SPP-3.1.

7. Appendix G, "Determination of Reportability under §Part 21" contains the criteria for reporting defects in basic components in accordance with §Part 21. Licensing is responsible for making the final reportability determination and written report to NRC in accordance with §Part 21.
8. Appendix H, "Reporting of Decommissioning Funding" contains the criteria for notifying NRC when permanently shutting down the operation of a reactor, as required by §50.54(bb). Licensing is responsible for making the written notification to NRC in accordance with §50.54(bb).
9. Appendix I, "Communication with the NRC Following a Significant Operational Event" contains guidance on communications that needs to be established with the NRC within 24 to 36 hours following a significant operational event that could result in an incident investigation by the NRC. Site Licensing coordinates this communication with NRC.
10. Appendix J, "Internal Notification of Events Requiring Serious Accident Investigations" provides internal management notification requirements for serious accidents, as prescribed in TVA-SPP-18.010, "Conduct Serious Accident Investigation."

11. Appendix K, "Registration Requirements for Spent Fuel Storage Cask Placed into Service," provides the minimum reporting necessary to register the use of a loaded spent fuel storage cask. Licensing is responsible for developing (with input from appropriate organizations) and submitting the letter to NRC in accordance with the CoC.
  12. Reporting requirements for fitness for duty events required by §Part 26 are contained in SPP-1.2 "Fitness for Duty." Responsibilities for reportability determinations and immediate notification requirements are assigned to Site Nuclear Security and Corporate Nuclear Security. Licensing is responsible for making the written reports required by §Part 26.
  13. Reporting requirements for events or conditions affecting the physical protection of the licensed nuclear plant specified in §73.71 are contained in SPP-1.3 "Plant Access and Security." Responsibilities for reportability determinations and immediate notification requirements are assigned to Site Nuclear Security and Corporate Nuclear Security. In accordance with SPP-1.3, if NRC notification is required (e.g., one or twenty-four hour phone call), the Site Security Manager will request the Plant Shift Manager to call the NRC Operations Center. Licensing is responsible for making the written reports required by §73.71.
- B. Report Preparation
1. The organization or individual responsible for preparing the report shall ensure that the report is initiated in a timely manner (for proper review and approval), addresses all necessary items, is technically accurate, is reviewed and coordinated, and meets the requirements for submittal. If submitted to NRC, the report must be processed in accordance with Business Practice (BP) 213, "Managing TVA's Interface with NRC."
  2. For reports to other regulatory agencies, the responsible organization shall ensure applicable reporting guidelines are satisfied.
  3. Reports with commitments shall meet the requirements of SPP-3.3, "NRC Commitment Management."
- C. Review and Approval of Reports
- The organization or individual responsible for review shall ensure that the report is consistent with TVA policy and shall resolve comments. The organization or individual responsible for approval of the report shall perform a final review.
- D. Distribution of Reports
- The organization responsible for preparing the report shall ensure that adequate copies are made in a timely manner to support the transmittal of the report to the regulatory agency. Internal copies of the report shall be distributed in accordance with organizational procedures or instructions on preparation of the report.

- E. Complete and accurate information must be provided to NRC at all times. Information can be in violation of this requirement even if it is not in writing, supplied under oath, or supplied without knowledge of its falsity. Information can be considered incomplete or inaccurate due to any one of the following reasons:
1. An affirmative statement which is false.
  2. An omission.
  3. Inadequate review.
  4. Failure to review.
  5. Careless disregard or deliberateness.
  6. Negligence not amounting to careless disregard.
  7. Inadvertent clerical or similar error involving information which, had it been available to NRC and accurate at the time the information should have been submitted, would probably have resulted in regulatory action or NRC seeking additional information.
  8. Failure to correct material information that has significant implication for public health and safety which was correct when submitted but becomes incorrect due to subsequent changes or events.

#### 4.0 RECORDS

Records of the reports and their transmittals shall be maintained in RIMS and EDMS as non-QA records unless separate procedures require the reports to be maintained as QA records.

##### 4.1 QA Records

None

##### 4.2 Non-QA Records

The NRC Event Notification Worksheet, SPP-3.5-1 as generated by this procedure is a non-QA record and is not required to be retained.

#### 5.0 DEFINITIONS

**Actuation** - The minimum number of tripped channels required to complete the logic of a function. (Example: 2/4 logic - at least two (2) channels must trip to be considered an actuation.)

**Administrative Control Program (ACP)** - An approved, proceduralized method of documenting adverse conditions and implementing corrective action.

**Basic Component** - When applied to nuclear power reactors, means a plant structure, system, component, or part thereof necessary to ensure:

1. The integrity of the reactor coolant pressure boundary.

2. The capability to shut down the reactor and maintain it in a safe shutdown condition, or
3. The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in §100.11.

In all cases, "Basic Component" includes safety-related design, analysis, inspection, testing, fabrication, replacement parts, or consulting services that are associated with the component hardware whether these services are performed by the component supplier or other (§21.3 and §50.2).

**Certificate of Compliance (CoC)** - A Certificate of Compliance (CoC) is the document issued by the NRC under the provisions of §Part 72, Subpart L to indicate approval of a spent fuel Storage System for use under a General License. The CoC contains a description of the approved Storage System and Conditions for System Use. The Conditions for System Use are comprised of General Requirements and Conditions; ISFSI Technical Specifications (TSs) (Appendix A to the CoC), and Approved Contents and Design Features (Appendix B to the CoC).

**Completion Of Any Nuclear Plant Shutdown** - This is when reactor is taken subcritical.

**Construction** - The analysis, design, manufacture, fabrication, quality assurance, placement, erection, installation, modification, inspection, or testing of a facility or activity and consulting services related to the facility or activity that are important to safety.

**Control Of The Items** - TVA is subject to §Part 21 requirements regarding procured material, components, or parts after TVA has taken control of the items. This occurs after conducting the required receipt inspection. Evaluation of defects found during receipt inspection is the responsibility of the supplier if the items are returned to the supplier. If TVA accepts ownership of the item, any defect must be evaluated and, if applicable, reported under §Part 21.

**Defect** - (a) A deviation in a basic component delivered for use in a facility, installed, used, or operated if, on the basis of an evaluation, the deviation could create a substantial safety hazard; or (b) the installation, use, or operation of a basic component containing a defect as defined above; (c) A deviation in a portion of a facility subject to the construction permit provided the deviation could, on the basis of an evaluation, create a substantial safety hazard and the portion of the facility containing the deviation has been offered to the purchaser for acceptance; or (d) A condition or circumstance involving a basic component that could contribute to the exceeding of a safety limit as defined by the plant operating technical specifications.

**Department Level Manager** - Any manager who functionally or administratively reports directly to the site vice president or plant manager.

**Deviation** - A departure from the technical or quality assurance requirements included in a procurement document, safety analysis report, construction permit or other documents provided for basic components.

**Evaluation** - The process of determining whether a particular deviation could create a substantial safety hazard or determining whether a failure to comply is associated with a substantial safety hazard.

**Event** - Any occurrence surrounding unit operation.

**External Conditions** - Events created by things outside the design features of the plant.

**Government Agencies** - An agency of the Federal government as defined in §50.2.

**Incident Investigation** - Process conducted by the NRC for the purpose of accident prevention. The process includes gathering and analyzing information, determining findings and conclusions, including the cause(s) of a significant operational event; and the disseminating of the investigation results for NRC, industry, and public review.

**Independent Spent Fuel Storage Installation (ISFSI)** - A complex designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage. An ISFSI which is located on the site of another facility licensed under §Part 72 or a facility licensed under §Part 50 (e.g., an operating nuclear power plant) and which shares common utilities and services with that facility or is physically connected with that other facility may still be considered independent.

**Initiation of Shutdown** - Physical act of reducing power or temperature to change modes.

**Invalid Actuation (Signal)** - Signals that do not meet the criteria for being valid. Invalid actuations include instances where instrument drift, spurious signals, human error or other invalid signals that result in manual or automatic actuation of the systems listed in §50.73(a)(2)(iv)(B).

**Major Loss of Communication** - Constitutes the loss of communication capabilities.

**Major Deficiency** - A condition or circumstance which under normal operating conditions, an anticipated transient, or postulated design basis accident could contribute to exceeding a safety limit or cause an accident. "Major deficiency" also means a condition or circumstance which in the event of an accident due to other causes could, considering an independent single failure, result in a loss of safety function necessary to mitigate the consequences of the accident.

**Natural Phenomenon** - Act of nature (e.g., fire, flood, tornado).

**News Release** - Known items which may be distributed to the media (UPI, television, radio, newspaper, etc.) and those items identified to be going on TVA news tape distributed by the TVA Public Affairs Staff.

**Noncompliance (Failure To Comply)** - A noncompliance for the purposes of this procedure means any failure to comply with the Atomic Energy Act of 1954, as amended, or with any applicable rule or regulation of the NRC relating to substantial safety hazards. A noncompliance may be in operations, engineering, or construction of the facility or basic component thereof.

**Organization Manager** - This is the most senior manager available who is in the same organization as the individual who discovered the abnormal event. The senior manager is not normally interpreted to be the plant manager or site vice president.

**Preplanned Sequence** - Part of an approved procedure, including workplans, work request, work orders, surveillance instructions, general operating instructions and system operating instructions.

**Prevented The Fulfillment** - Failure or possible failure of a safety system to properly complete a safety function.

**Principal Safety Barrier** - Fuel cladding, RCS pressure boundary, or the containment.

**Redundant Equipment** - Equipment, systems, structures capable of performing the same intended function within the same Technical Specification allowable values. (In most cases, this means opposite train equipment.)

**Safe Shutdown** - Mode 3, as defined by the Technical Specifications.

**Safety Function** - A component or structure designed to actuate upon receiving the proper signal (ESF or RPS).

**Significant Operational Event** - Any radiological, safeguards, or other safety-related operational event at an NRC licensed facility that poses an actual or potential hazard to the public health and safety, property, or the environment. These events or those that typically result in a §50.72 immediate notification. (See Appendix A of this procedure) A significant operational event also may be referred to as "an incident". Examples of these events include:

- operations that exceeded, or were not included in the design basis of the facility,
- a major deficiency in design, construction, or operation having potential generic safety implications,
- a significant loss of integrity of the fuel, the primary coolant boundary, or the primary containment boundary.
- a loss of safety function or multiple failures in systems used to mitigate an actual event
- significant unexpected system interactions,
- repetitive failures or events involving safety related equipment or deficiencies in operation,
- questions or concerns pertaining to licensee operational performance.

**Substantial Safety Hazard** - Loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety for any facility or activity licensed.

**Threat** - Physical hazard (e.g., fire, severe radioactive release).

**Unanalyzed Condition** - Plant Condition outside the bounds of the initial conditions as described in the FSAR accident analysis.

**Valid Actuation (Signal)** - Valid actuations are those that result from "valid signals" or from intentional manual initiation. Valid signals are those that are initiated in response to actual plant conditions or parameters satisfying the requirements for initiation of the safety function of the system.

APPENDIX A  
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REPORTING OF EVENTS OR CONDITIONS  
AFFECTING LICENSED NUCLEAR POWER PLANTS

1.0 **PURPOSE**

This Appendix identifies reporting requirements; and instructions for determining reportability, preparation, and transmittal of LERs; and notification to NRC for events occurring at TVA's licensed nuclear plants.

2.0 **SCOPE**

TVA is required by §50.72 and §50.73 to promptly report various types of conditions or events and provide written follow-up reports, as appropriate. This appendix provides reporting guidance applicable to licensed power reactors.

**NOTE** Appendix B provides additional reporting criteria found in §Part 20, 30, 40, and 70 that may be applicable to events involving byproduct, source or special nuclear material possessed by the licensed nuclear plant. Site Licensing and Site RadCon are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with their site. Corporate Licensing and Corporate RadChem are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with all other TVA licensed activities. Licensing is responsible for developing (with input from affected organizations) and submitting the immediate notification and written reports to NRC in accordance with §Part 20, 30, 40, or 70 requirements. Reporting requirements for personnel exposure required by §Part 20 are contained in RCDP-4, "Personnel Inprocessing and Dosimetry Administrative Processes."

**NOTE** Appendix C contains the criteria for reporting if events or conditions affecting ISFSI. TVA, as the general licensee of the ISFSI, is required by §72.216 to make initial and written reports in accordance with §72.74 and §72.75. Operations is responsible for making the reportability determinations for §72.74 and §72.75 reports. Operations is responsible for making the immediate notification to NRC in accordance with §72.74. Operations is responsible for making the immediate, 4-hour, and 24-hour notifications to NRC in accordance with §72.75. Licensing is responsible for developing (with input from affected organizations) and submitting the written reports required by §72.75.

**NOTE** Reporting requirements for events or conditions affecting the physical protection of the licensed nuclear plant specified in §73.71 are contained in SPP-1.3 "Plant Access and Security." Responsibilities for reportability determinations and immediate notification requirements are assigned to Site Nuclear Security and Corporate Nuclear Security. Licensing is responsible for developing (with input from affected organizations) and submitting the written reports required by §73.71.

3.0 **REQUIREMENTS**

**NOTE** Internal management notification requirements for plant events are found in Appendix D. Operations and the Plant Manager (or Duty Plant Manager) are responsible for making these internal management notifications.

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**NOTE** NRC NUREG-1022, Supplements and subsequent revisions should be used as guidance for determining reportability of plant events pursuant to §50.72 and §50.73.

**3.1 Immediate Notification - NRC**

TVA is required by §50.72 to notify NRC immediately if certain types of events occur. This appendix contains the types of events and the allotted time in which NRC must be notified. (Refer to Form SPP-3.5-1). Operations is responsible for making the reportability determinations for §50.72 and §50.73 reports. Operations is responsible for making the immediate notification to NRC in accordance with §50.72.

Notification is via the Emergency Notification System. If the Emergency Notification System is not operative, use a telephone, telegraph, mailgram, or facsimile.

**NOTE** The NRC Event Notification Worksheet may be used in preparing for notifying the NRC.

A. The Immediate Notification Criteria of §50.72 is divided into 1-hour, 4-hour, and 8-hour phone calls. Notify the NRC Operations Center within the applicable time limit for any item which is identified in the Immediate Notification Criteria.

B. The following criteria require 1-hour notification:

1. (Technical Specifications) - Safety Limits as defined by the Technical Specifications which have been violated.
2. §50.72 (a)(1)(i) - The declaration of any of the Emergency classes specified in the licensee's approved Emergency Plan.

**NOTE** If it is discovered that a condition existed which met the Emergency Plan criteria but no emergency was declared and the basis for the emergency class no longer exists at the time of discovery, an ENS notification (and notification of the Operations Duty Specialist), within one hour of discovery of the undeclared (or misclassified) event, shall be made. However, actual declaration of the emergency class is not necessary in these circumstances.

3. §50.72(b).(1) - Any deviation from the plant's Technical Specifications authorized pursuant to §50.54(x).

C. The following criteria require 4-hour notification:

1. §50.72(b)(2)(i) - The initiation of any nuclear plant shutdown required by the plant's Technical Specifications.

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2. §50.72(b)(2)(iv)(A) - Any event that results or should have resulted in Emergency Core Cooling System (ECCS) discharge into the reactor coolant system as a result of a valid signal except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.
3. §50.72(b)(2)(iv)(B) - Any event or condition that results in actuation of the reactor protection system (RPS) when the reactor is critical except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.
4. §50.72(b)(2)(xi) - Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactive contaminated materials.

D. The following criteria require 8-hour notification:

**NOTE** The non-emergency events specified below are only reportable if they occurred within three years of the date of discovery.

1. §50.72(b)(3)(ii)(A) - Any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.
2. §50.72(b)(3)(ii)(B) - Any event or condition that results in the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety.
3. §50.72(b)(3)(iv)(A) - Any event or condition that results in valid actuation of any of the systems listed in paragraph (b)(3)(iv)(B) [see list below], except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.

- (1) Reactor protection system (RPS) including: Reactor scram and reactor trip.

**NOTE** Actuation of the RPS when the reactor is critical is also reportable under §50.72(b)(2)(iv)(B) above.

- (2) General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).
- (3) Emergency core cooling systems (ECCS) for pressurized water reactors (PWRs) including: High-head, intermediate-head, and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.

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- (4) ECCS for boiling water reactors (BWRs) including: core spray systems; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.
  - (5) BWR reactor core isolation cooling system.
  - (6) PWR auxiliary or emergency feedwater system.
  - (7) Containment heat removal and depressurization systems, including containment spray and fan cooler systems.
  - (8) Emergency ac electrical power systems, including: Emergency diesel generators (EDGs).
4. §50.72(b)(3)(v) - Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to:
- (A) Shut down the reactor and maintain it in a safe shutdown condition;
  - (B) Remove residual heat;
  - (C) Control the release of radioactive material; or
  - (D) Mitigate the consequences of an accident.

**NOTE** According to §50.72 (b)(3)(vi) events covered by §50.72(b)(3)(v) may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant this paragraph if redundant equipment in the same system was operable and available to perform the required safety function.

- 5. §50.72(b)(3)(xii) - Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.
- 6. §50.72(b)(3)(xiii) - Any event that results in a major loss of emergency assessment capability, offsite response capability, or offsite communications capability (e.g., significant portion of control room indication, emergency notification system, or offsite notification system).

E. Follow-up Notification (§50.72(c))

With respect to the telephone notifications made under paragraphs (a) and (b) [§50.72 (a) and §50.72 (b), respectively] of this section [§50.72], in addition to making the required initial notification, during the course of the event:

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- (1) Immediately report (i) any further degradation in the level of safety of the plant or other worsening plant conditions including those that require the declaration of the Emergency Classes, if such a declaration has not been previously made; or  
(ii) Any change from one Emergency Class to another, or  
(iii) A termination of the Emergency Class.
- (2) Immediately report (i) the results of ensuing evaluations or assessments of plant conditions,  
(ii) The effectiveness of response or protective measures taken, and  
(iii) Information related to plant behavior that is not understood.
- (3) Maintain an open, continuous communication channel with the NRC Operations Center upon request by the NRC.

**3.2 Twenty-Four Hour Notification - NRC**

Any violation of the requirement contained in specific operating license conditions, shall be reported to NRC in accordance with the license condition.

**3.3 Two-Day Notification - NRC**

§50.9(b) - The NRC shall be notified of incomplete or inaccurate information which contains significant implications for the public health and safety or common defense and security. Notification shall be provided to the administrator of the appropriate regional office within two working days of identifying the information. Licensing is responsible for determining reportability (with input from affected organizations) and notifying NRC in accordance with §50.9.

**3.4 Sixty-Day Verbal Report**

§50.73(a)(2)(iv)(A) requires that any event or condition that resulted in manual or automatic actuation of the specified systems be reported as a Licensee Event Report (LER [Refer to Appendix A, Section 3.5]). This CFR section also allows that in the case of an invalid actuation, other than actuation of the reactor protection system when the reactor is critical, an optional telephone notification may be placed to the NRC Operations Center within 60 days after discovery of the event instead of submitting a written LER.

A. Verbal Report Required Content:

If the verbal notification option is selected (NUREG 1022, Revision 2, Section 3.2.6., "System Actuation"), instead of a LER, the verbal report:

1. Is not considered an LER.
2. Should identify that the report is being made under §50.73(a)(2)(iv)(A).

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3. Should provide the following information:
  - (a) The specific train(s) and system(s) that were actuated.
  - (b) Whether each train actuation was complete or partial.
  - (c) Whether or not the system started and functioned successfully.

**NOTE** Licensing will ensure that the information that is provided to NRC during the Sixty-Day Verbal Report is verified in accordance with BP-213.

B. Verbal Report Development and Review

Licensing will:

1. Develop (with input from responsible organization) the response (i.e., report summary) to address the required input:
2. Ensure that the reporting details are reviewed by MRC.

C. Telephone Report Timeliness

Licensing will make the 60-day telephone report promptly after the PER for the invalid actuation event is reviewed by MRC.

3.5 **Written Report - NRC**

- A. A report on a Safety Limit Violation shall be submitted to the NRC, the NSRB, and the Site Vice President if required by Technical Specifications.
- B. Any violation of the requirements contained in the Operating license conditions in lieu of other reporting requirements requires a written follow-up report if specified in the license.
- C. Reporting Radiation Injuries

§140.6(a) requires, as promptly as possible, submittal of a written notice [e.g., report] in the event of:

- a. Bodily injury or property damage arising out of or in connection with the possession or use of the radioactive material at the licensee's facility [location]; or
- b. In the course of transportation; or
- c. In the event any radiation exposure claim is made. (Refer to RCDP-9, "Radiological and Chemistry Control Radiological Exposure Inquires")

The written notice shall contain particulars sufficient to identify the licensee and reasonably obtainable information with respect to time, place, and circumstances thereof, or the nature of the claim.

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D. Licensee Event Reports

A written report shall be prepared in accordance with §50.73(a)(i) for items in the 60-day report criteria or Technical Specifications. The report shall be complete and accurate in accordance with the methods outlined in this procedure. The completed forms shall be submitted to the USNRC, Document Control Desk, Washington, DC 20555. NUREG 1022, Revision 2, contains the instructions for completion of the LER form. Licensing is responsible for developing (with input from affected organizations) and submitting the written reports (or optional telephone reports [refer to Appendix A, Section 3.4]) required by §50.73.

**NOTE** Unless otherwise specified in the reporting criteria below, an event shall be reported if it occurred within three years of the date of discovery regardless of the plant mode or power level, and regardless of the significance of the structure, system, or component that initiated the event.

Report Criteria

1. §50.73(a)(2)(i)(A) - The completion of any nuclear plant shutdown required by the plant's Technical Specifications.
2. §50.73(a)(2)(i)(B) - Any operation or condition which was prohibited by the plant's Technical Specifications, except when:
  - a. The Technical Specification is administrative in nature;
  - b. The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or
  - c. The Technical Specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event.
3. §50.73(a)(2)(i)(C) - Any deviation from the plant's Technical Specifications authorized pursuant to §50.54(x).
4. §50.73(a)(2)(ii)(A) - Any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.
5. §50.73(a)(2)(ii)(B) - Any event or condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety.

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6. §50.73(a)(2)(iii) - Any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant.
7. §50.73(a)(2)(iv)(A) - Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) [see list in item no. 8 below], except when
  - (1) The actuation resulted from and was part of a pre-planned sequence during testing or reactor operation; or
  - (2) The actuation was invalid and (i) occurred while the system was properly removed from service or (ii) occurred after the safety function had been already completed.

**NOTE** In the case of an invalid actuation, other than actuation of the reactor protection system (RPS) when the reactor is critical, a telephone notification to the NRC Operations Center within 60 days after discovery of the event may be provided instead of submitting a written LER (§50.73(a)). [Refer to Appendix A, Section 3.4]
8. §50.73(a)(2)(iv)(B) - The systems to which the requirements to paragraph (a)(2)(iv)(A) of this section apply are:
  - (1) Reactor protection system (RPS) including: reactor scram or reactor trip.
  - (2) General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).
  - (3) Emergency core cooling systems (ECCS) for pressurized water reactors (PWRs) including: high-head, intermediate-head, and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.
  - (4) ECCS for boiling water reactors (BWRs) including: core spray systems; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.
  - (5) BWR reactor core isolation cooling system.

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- (6) PWR auxiliary or emergency feedwater system.
  - (7) Containment heat removal and depressurization systems, including containment spray and fan cooler systems.
  - (8) Emergency ac electrical power systems, including: emergency diesel generators (EDGs).
  - (9) Emergency service water systems that do not normally run and that serve as ultimate heat sinks.
9. §50.73(a)(2)(v) - Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:
- (A) Shut down the reactor and maintain it in a safe shutdown condition;
  - (B) Remove residual heat;
  - (C) Control the release of radioactive material; or
  - (D) Mitigate the consequences of an accident.
- NOTE** Events reported above may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to this criterion if redundant equipment in the same system was operable and available to perform the required safety function [§50.73(a)(2)(vi)].
10. §50.73(a)(2)(vii) - Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to:
- (A) Shut down the reactor and maintain it in a safe shutdown condition;
  - (B) Remove residual heat;
  - (C) Control the release of radioactive material; or
  - (D) Mitigate the consequences of an accident.

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11. §50.73(a)(2)(viii)(A) - Any airborne radioactivity release that, when averaged over a time period of 1 hour, resulted in airborne radionuclide concentrations in an unrestricted area that exceeded 20 times the applicable concentration limits specified in Appendix B to Part 20, table 2, column 1.
12. §50.73(a)(2)(viii)(B) - Any liquid effluent release that, when averaged over a time period of 1 hour, exceeds 20 times the applicable concentrations specified in Appendix B to Part 20, table 2, column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases.
13. §50.73(a)(2)(ix)(A) - Any event or condition that as a result of a single cause could have prevented the fulfillment of a safety function for two or more trains or channels in different systems that are needed to:
  - (1) Shut down the reactor and maintain it in a safe shutdown condition;
  - (2) Remove residual heat;
  - (3) Control the release of radioactive material; or
  - (4) Mitigate the consequences of an accident.

**NOTE** Events covered above may include cases of procedural error, equipment failure, and/or discovery of a design, analysis, fabrication, construction, and/or procedural inadequacy. However, licensees are not required to report an event pursuant to this criterion if the event results from a shared dependency among trains or channels that is a natural or expected consequence of the approved plant design or normal and expected wear or degradation [§50.73(a)(2)(ix)(B)].

14. §50.73(a)(2)(x) - Any event that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases.

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REPORTING OF EVENTS OR CONDITIONS AFFECTING ACTIVITIES INVOLVING  
BYPRODUCT, SOURCE OR SPECIAL NUCLEAR MATERIAL LICENSES

1.0 **PURPOSE**

This Appendix identifies reporting requirements; and instructions for determining reportability, preparation, and transmittal of written reports; and notification to NRC for events affecting TVA activities governed by NRC byproduct, source or special nuclear material licenses.

2.0 **SCOPE**

TVA is required by its various NRC licenses to report certain events or conditions. §Part 20 contains reporting requirements for events involving licensed byproduct, source, or special nuclear material. §30.50 contains reporting requirements for events involving licensed byproduct material. §40.60 contains reporting requirements for events involving licensed source material. §Part 70 contains reporting requirements for events and conditions involving licensed special nuclear material. This procedure contains the reporting requirements for these activities.

3.0 **REQUIREMENTS**

**NOTE** Internal management notification requirements for events reported to NRC are found in Appendix D. Operations and the Plant Manager (or Duty Plant Manager) are responsible for making these internal management notifications.

3.1 **Immediate Notification - NRC**

TVA is required by the various byproduct, source or special nuclear material licenses to notify NRC immediately if certain types of events or conditions occur. This appendix contains the types of events and the allotted time in which NRC must be notified.

Site Licensing and Site RadCon are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with their site. Corporate Licensing and Corporate RadChem are responsible for making the reportability determinations for §Part 20, 30, 40, or 70 events associated with all other TVA licensed activities. Licensing is responsible for making the immediate notification and developing (with input from affected organizations) and submitting written reports to NRC in accordance with §Part 20, 30, 40, or 70 requirements.

**NOTE** Reporting requirements for personnel exposure required by §Part 20 are contained in RCDP-4, "Personnel Inprocessing and Dosimetry Administrative Processes."

Notification should be made to the NRC office identified in the specific reporting regulation.

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- A. The following criteria require immediate notification:
1. §20.1906(d)(1) - Upon discovery, any removable radioactive surface contamination that exceeds the limits of §71.87(1).
  2. §20.1906(d)(2) - Upon discovery, any external radiation levels that exceed the limits of §71.47.
  3. §20.2201(a)(1)(i) - Upon discovery, any lost stolen, or missing licensed material has occurred in an aggregate quantity equal to or greater than 1,000 times the quantity specified in §Part 20, Appendix C under circumstances that appears that exposure could result to persons in unrestricted areas.
  4. §20.2202(a)(1) - Any event involving byproduct, source, or special nuclear material possessed by the licensee that may have caused or threatens to cause an individual to receive a total effective dose equivalent of 25 rems or more; a lens dose equivalent of 75 rems or more; or a shallow dose equivalent to the skin or extremities of 250 rads or more.
  5. §20.2202(a)(2) - Any event involving byproduct, source, or special nuclear material possessed by the licensee that may have caused or threatens to cause the release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake five times the occupational annual limit on intake.
- B. The following criteria require 1-hour notification:
1. §70.52(a) - Any case of accidental criticality and any loss, other than normal operating loss, of special nuclear material.
  2. §70.52(b) - Any loss or theft or unlawful diversion of special nuclear material which the licensee is licensed to possess or any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of such material.
- C. The following criteria require 4-hour notification:
1. §30.50(a) and §40.60(a) and §70.50(a) - Upon discovery, any event involving licensed byproduct, source or special nuclear material that prevents immediate protective actions necessary to avoid exposures to radiation or radioactive material that could exceed regulatory limits or releases of material that could exceed regulatory limits.

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- D. The following criteria require 24-hour notification:
1. §20.2202(b)(1) - Upon discovery of the event, report any event involving loss of control of licensed material possessed by the licensee that may have caused, or threatens to cause, an individual to receive, in a period of 24 hours a total effective dose equivalent exceeding 5 rems, a lens dose equivalent exceeding 15 rems, or a shallow-dose equivalent to the skin or extremities exceeding 50 rems (0.5 Sv).
  2. §20.2202(b)(2) - Upon discovery of the event, report any event involving loss of control of licensed material possessed by the licensee that may have caused, or threatens to cause the release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational annual limit on intake (the provisions of this paragraph do not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures).
  3. §30.50(b) and §40.60(b) and §70.50(b) - Upon discovery of any of the following events involving licensed material:
    - a. An unplanned contamination event that requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area and involves a quantity of material greater than five times the lowest annual limit on intake specified in Appendix B of §§20.1001 - 20.2401 of Part 20 for the material and has access to the area restricted for a reason other than to allow isotopes with a half-life of less than 24 hours to decay prior to decontamination.
    - b. An event in which equipment is disabled or fails to function as designed when the equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident and the equipment is required to be available and operable when it is disabled or fails to function and no redundant equipment is available and operable to perform the required safety function.
    - c. An event that requires unplanned medical treatment at a medical facility of an individual with spreadable radioactive contamination on the individual's clothing or body.

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- d. An unplanned fire or explosion damaging any licensed material or any device, container, or equipment containing licensed material when the quantity of material involved is greater than five times the lowest annual limit on intake specified in Appendix B of §§20.1001 - 20.2401 of §Part 20 for the material and the damage affects the integrity of the licensed material or its container.

**3.2 Verbal Report - NRC**

A. The following criteria required 30-day notification:

1. §20.2201(a)(ii) - Within 30 days after the occurrence of any lost, stolen, or missing licensed material becomes known, verbally report all licensed material in a quantity greater than 10 times the quantity specified in Appendix C to §Part 20 that is still missing at this time.

**3.3 Written Report - NRC**

A. 2-Week Report

§Part 20, Appendix G(III)(E) - A written report is required within 2 weeks of completion of the investigation of any shipment or part of a shipment for which acknowledgment is not received within the times set forth in §Part 20 Appendix G. This investigation must:

1. Be performed by the shipper, if the shipper has not received notification of receipt within 20 days after transfer;
2. Be traced and reported. The investigation shall include this shipment and filing a report with the nearest Commission Regional Office listed in §Part 20 Appendix D.

B. 30-Day Report

A written report is required within 30 days for the following items:

1. §20.2201(b) - Events reported in accordance with §20.2201(a).

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**NOTE** §20.2203(b)(2) states: "Each report filed pursuant to paragraph (a) of this section must include for each occupationally overexposed<sup>1</sup> individual: the name, social security account number, and date of birth. The report must be prepared so that this information is stated in a separate and detachable part of the report and must be clearly labeled "Privacy Act Information: Not for Public Disclosure."

<sup>1</sup>With respect to the limit for the embryo/fetus (§20.1208), the identifiers should be those of the declared pregnant woman.

2. §20.2203(a)(1) - Events reported in accordance with §20.2202.
3. §20.2203(a)(2) - Doses in excess of any of the following the occupational dose limits for adults in §20.1201, or the occupational dose limits for a minor in §20.1207, or the limits for an embryo/fetus of a declared pregnant woman in §20.1208 or the limits for an individual member of the public in §20.1301, or any applicable limit in the license or the ALARA constraints for air emissions established under §20.1101(d)
4. §20.2203(a)(3) - Levels of radiation or concentrations of radioactive material in a restricted area in excess of any applicable limit in the license or an unrestricted area in excess of 10 times any applicable limit set forth in this part or in the license (whether or not involving exposure of any individual in excess of the limits in §20.1301)
5. §20.2203(a)(4) - For licensees subject to the provisions of EPA's generally applicable environmental radiation standards in §Part 190, levels of radiation or releases of radioactive material in excess of those standards, or of license conditions related to those standards.
6. §20.2204 - Any planned special exposure conducted in accordance with §20.1206, informing the Commission that a planned special exposure was conducted and indicating the date the planned special exposure occurred and the information required by §20.2105.
7. §30.50(c)(2) - Events reported in accordance with §30.50(a) and §30.50(b).
8. §40.60(c)(2) - Events reported in accordance with §40.60.a and §40.60(b).

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9. §70.50(c)(2) - Events reported in accordance with §70.50.a and §70.50)b).

The written report will contain the information specified by the appropriate regulation. The report shall be complete and accurate in accordance with the methods outlined in this procedure. The completed forms shall be submitted to the address identified in the specific regulation.

C. 90-Day Report

A written report is required within 90 days for the following items:

1. §30.34(b) and §40.46 and §70.36 - Notification of intent to transfer ownership or control of licensed activities shall be made 90 days prior to the proposed action. (Reference: NRC Information Notice 89-25, Revision 1).

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**REPORTING OF EVENTS OR CONDITIONS**  
**AFFECTING INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)**

**1.0**    **PURPOSE**

This Appendix identifies NRC reporting requirements; and provides instructions for determining reportability, preparation, and transmittal of written reports; and notification to NRC for events occurring at spent fuel storage installations at TVA's licensed nuclear plants.

**2.0**    **SCOPE**

TVA, as the general licensee of the ISFSI is required to make initial and written reports in accordance with §72.74, §72.75, and ISFSI CoC. §72.74, §72.75, and ISFSI CoC requires the general licensee to promptly report various types of conditions or events and provide written follow-up reports, as appropriate. This appendix provides reporting guidance applicable to spent fuel storage installations at licensed power reactors.

**3.0**    **REQUIREMENTS**

This section contains the types of events and the allotted time in which NRC must be notified. Operations is responsible for making the reportability determinations for §72.74 and §72.75, and CoC Appendix B Section 2.1 reports. Operations is responsible for making the immediate notification to NRC in accordance with §72.74 and §72.75; and is responsible for making the four-hour, eight-hour, and twenty-four hour §72.75; and is responsible for making the twenty-four hour CoC Appendix B Section 2.1 reports.

Notification is via the Emergency Notification System. If the Emergency Notification System is inoperative, make the required notification via commercial telephonic service or any other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within the required timeframe.

**3.1**    **Immediate Notification - NRC**

TVA is required by §72.74 and §72.75 to notify NRC immediately if certain types of events occur.

A.    The Immediate Notification Criteria of §72.74(a) require the licensee to notify the NRC Operations Center within 1-hour. The following criteria require 1-hour notification:

1.    Discovery of accidental criticality, or
2.    Any loss of special nuclear material

B.    The Immediate Notification Criteria of §72.75(a) require the licensee to notify the NRC Operations Center within 1-hour. The following criteria require 1-hour notification:

1.    Emergency Notifications - The declaration of an emergency as specified in TVA's approved emergency plan addressed in §72.32.

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**3.2 Four Hour Non-Emergency Notification - NRC**

TVA is required by §72.75(b) to notify NRC as soon as possible, but no later than four hours after the discovery of any of the following events or conditions involving spent fuel, high level radioactive waste (HLW), or reactor-related Greater than Class C (GTCC) waste:

- A. §72.75(b)(1) - An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent.
- B. §72.75(b)(2) - Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other Government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

**3.3 Eight Hour Non-Emergency Notifications**

TVA is required by §72.75(c) to notify NRC as soon as possible, but no later than eight hours after the discovery of any of the following events or conditions involving spent fuel, HLW or reactor-related GTCC waste:

- A. §72.75(c)(1) - A defect in any spent fuel, HLW, or reactor-related GTCC waste storage structure, system, or component important to safety.
- B. §72.75(c)(2) - A significant reduction in the effectiveness of any spent fuel, HLW, or reactor-related GTCC waste storage confinement system during use.
- C. §72.75(c)(3) - Any event requiring the transport of a radioactive contaminated person to offsite medical facility for treatment.

**3.4 Twenty Four Hour Non-Emergency Notification - NRC**

**NOTE** For notifications made under this section, TVA may delay the notification to the NRC if the end of the 24 hour period occurs outside of the NRC's normal working day (i.e., 7:30 a.m. to 5:00 p.m. Eastern time), on a weekend, or a Federal Holiday. In these cases, TVA shall notify the NRC before 8:00 a.m. Eastern time on the next working day.

TVA is required by §72.75(d) to notify NRC within twenty four hours after the discovery of any of the following events involving spent fuel, HLW, or reactor-related GTCC waste:

- A. §72.75(d)(1) - An event in which important to safety equipment is disabled or fails to function as designed when:

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1. The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident; and
2. No redundant equipment was available and operable to perform the required safety function.

**3.5 Twenty-Four Hour CoC Notification - NRC**

TVA is required by CoC Appendix B Section 2.2 to notify NRC within twenty-four hours after determining that any Fuel Specification or Loading Conditions of 2.1 are violated.

**3.6 Information Required During Initial Notification - NRC**

- A. §72.75(e)(1) requires that the initial notifications made under §72.75 paragraphs (a), (b), (c), or (d) or (Sections 3.1.B, 3.2, 3.3, or 3.4 of this Appendix), be made by telephone to the NRC Headquarters Operations Center (HOC).
- B. CoC Appendix B Section 2.2.2 requires that the twenty-four hour notification be made by telephone to the NRC HOC.
- C. Provide NRC HOC with the following information:
  1. §72.75(e)(2) - The Emergency Class declared; or the respective paragraph of §72.75 under which either a 4-hour, 8-hour, or 24-hour notification is being made.
  2. §72.75(e)(3) or CoC Appendix B Section 2.2.2 - To the extent that the information is available at the time of notification, provide the following information:
    - The caller's name and call back telephone number;
    - A description of the event, including date and time;
    - The exact location of the event;
    - The quantities, and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved in the event; and
    - Any personnel radiation exposure data.

**3.7 Follow-Up Notification**

- A. §72.75(f) - With respect to the telephone notifications made under paragraphs (a), (b), (c), or (d) of §72.75, in addition to making the required initial notification, each licensee shall during the course of the event:

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1. Immediately report any further degradation in the level of safety of the ISFSI or MRS or other worsening conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made; or any change from one Emergency Class to another; or a termination of the Emergency Class.
2. Immediately report the results of ensuing evaluations or assessments of ISFSI or MRS conditions; the effectiveness of response or protective measures taken; and information related to ISFSI or Monitored Retrievable Storage Installation (MRS) behavior that is not understood.
3. Maintain an open, continuous communication channel with the NRC Headquarters Operations Center upon request by the NRC.

**3.8 Preparation and Submission of the Written Reports**

§72.75(g) - Each initial notification required by §72.75 paragraphs (b)(1), (c)(1), (c)(2), or (d)(1) requires a written follow-up report to the Commission within 60 days of the initial notification. Written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the reports contain all the necessary information and the appropriate distribution is made. These written reports must be of sufficient quality to permit legible reproduction and optical scanning and must be submitted to the NRC in accordance with §72.4 "Communications."

The written report must include:

- A. A brief abstract describing the major occurrences during the event, including all component or system failures that contributed to the event and significant corrective action taken or planned to prevent recurrence;
- B. A clear, specific, narrative description of the event that occurred so that knowledgeable readers conversant with the design of ISFSI or MRS, but not familiar with the details of a particular facility, can understand the complete event. The narrative description must include the following specific information as appropriate for the particular event:
  1. ISFSI and MRS operating conditions before the event;
  2. Status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event;
  3. Dates and approximate time of occurrences;
  4. The cause of each component or system failure or personnel error, if known;
  5. The failure mode, mechanism, and effect of each failed component, if known;

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6. A list of systems or secondary functions that were also affected for failures of components with multiple functions;
  7. For wet spent fuel storage systems only, after failure that rendered a train of a safety system inoperable, an estimate of the elapsed time from the discovery of the failure until the train was returned to service;
  8. The method of discovery of each component or system failure or procedural error;
  9. For each human performance related root cause, the licensee shall discuss the cause(s) and circumstances;
  10. For wet spent fuel storage systems only, any automatically and manually initiated safety system responses;
  11. The manufacturer and model number (or other identification) of each component that failed during the event; and
  12. The quantities and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved in the event;
- C. An assessment of the safety consequences and implications of the event. This assessment must include the availability of other systems or components that could have performed the same function as the components and systems that failed during the event;
- D. A description of any corrective actions planned as a result of the event, including those to reduce the probability of similar events occurring in the future;
- E. Reference to any previous similar events at the same facility that are known to the licensee;
- F. The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information concerning the event and the facility's characteristics; and
- G. The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

CoC Appendix B, Section 2.2.3 requires submittal of a special report within 30 days which describes the cause of the violation, and actions taken to restore compliance and prevent recurrence. These written reports must be of sufficient quality to permit legible reproduction and optical scanning and must be submitted to the NRC in accordance with §72.4.

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4.0 Records

4.1 Retention

§72.80(c) - Records that are required by §Part 72 or by the license conditions must be maintained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified, the above records must be maintained until NRC terminates the license.

4.2 License Termination and Transfer

- A. §72.80(e) - Prior to license termination, records required by §20.2103(b)(4) and §72.30(d) shall be forwarded to the NRC Region II office.
- B. §72.80(f) - If licensed activities are transferred or assigned in accordance with §72.44(b)(1), records required by §20.2103(b)(4) and §72.30(d) shall be forwarded to the new licensee and the new licensee will be responsible for maintaining these records until the license is terminated.

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SITE EVENT NOTIFICATION MATRIX

Event/Condition	Notification Requirements				
	Duty Plant Manager	Plant Manager	Ops. Duty Spec. (ODS)	Site VP	SVP, Nuclear Operations*
Reactor/Turbogenerator trip, unscheduled unit power reduction, or nonscheduled unit shutdown; and when unit is restored to full service.	Yes #	Yes #	Reactor trip and unscheduled shutdown only	Yes	Yes
Unplanned entry into a Limiting Condition for Operation with time duration of 72 hours or less.	Yes	Yes	No	Yes	Only for duration of 24 hours or less
Classification of the Radiological Emergency Plan (REP) at any entry level.	Yes	Yes	Yes	Yes	Yes
Personnel injuries that are potential lost-time injuries, serious recordable injuries, and injuries requiring hospital admittance or transport to an off-site medical facility. (Refer to Appendix J)	Yes	Yes	Yes	Yes	Yes
Death of any person as a result of injuries received on site or due to medical problems occurring while onsite.	Yes	Yes	Yes	Yes	Yes
Release of oil or hazardous materials to the discharge canal, ponds or river and violations of the NPDES permit.	Yes	Yes	No	Yes	Yes
Any event which may be newsworthy to the public. (1)	Yes	Yes	Yes	Yes	Yes
Any Security Contingency Events or any phone call to NRC Operations Center regarding security issues	Yes	Yes	Yes	Yes	Yes
NRC 1 hour, 4 hour, or 8 hour phone calls.	Yes	Yes	Yes for reactor trips, shutdowns, transport of potentially contaminated victim to hospital and for loss of Prompt Notification System.	Yes	Yes for 1 hour and 4 hour calls.
Any unusual radiation exposure to personnel.	Yes	Yes	No	Yes	No
Accidental, unplanned or uncontrolled off-site radioactive release.	Yes	Yes	No	Yes	Yes
Any reasonable threat to generation.	Yes	Yes	No	Yes	Yes
Outage critical path extensions exceeding 6 hours.	Yes	Yes	No	Yes	Yes
Any reactivity event or unplanned reactivity change.	Yes	Yes	No	Yes	Yes

NOTE:

- (1) Consider items specified in Appendix E, step 2.2 of this procedure.
- \* If the SVP, Nuclear Operations can not be contacted within 15 minutes, the Chief Nuclear Officer should be notified.
- # Plant Manager should ensure the Plant Managers at the other TVAN sites are notified so the Shift Managers and Work Week Managers at the unaffected sites can review their schedules for potential generation-risk activities that may need to be deferred.

APPENDIX E  
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OTHER REGULATORY REPORTING

1.0 **PURPOSE**

This Appendix identifies other reports required by various regulatory agencies other than the NRC.

2.0 **NOTIFICATION CRITERIA/REPORT INSTRUCTION**

2.1 **Immediate Notification - Federal Aviation Administration (FAA)**

The Plant Operations Department is responsible for verifying the proper operation of the cooling tower, off-gas stack and meteorological tower obstruction lights. This should be accomplished through visual observation at least once each 24 hours. Any observed or otherwise known extinguishment or improper functioning of any top obstruction light which will last more than 30 minutes should be immediately reported to the FAA at (800) 352-6751 (for SQN and WBN) and (800) 772-0517 (for BFN and BLN) by the shift manager (or designee). Information the FAA will require is latitude and longitude for the tower, height of the tower (to mean sea level), facility, name of person making the notification, the condition of the light or lights, the circumstance which caused the failure (if known), and the probable date normal operation will resume. This information is detailed in Notice to Airmen 7AA 79-30.2f. Further notification should be given upon resumption of normal operation of the obstruction lights.

<u>Plant</u>	<u>Tower</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Height (mean sea level)</u>
BLN	Cooling Tower 1	34° 42' 27.46"N	85° 55' 51.39"W	459 ft. (1109)
	Cooling Tower 2	34° 42' 22.80"N	85° 55' 44.40"W	459 ft. (1109)
	MET Tower	34° 43' 08.33"N	85° 54' 56.99"W	300 ft. (1056)
BFN	Off-gas Stack	34° 42' 16.0"N	87° 07' 15.0"W	600 ft. (1165)
	MET Tower	34° 42' 03.19"N	87° 06' 29.28"W	300 ft. (865)
SQN	Cooling Tower 1	35° 13' 21.72"N	85° 05' 22.22"W	459 ft. (1159)
	Cooling Tower 2	35° 13' 15.07"N	85° 05' 19.85"W	459 ft. (1159)
	MET Tower	35° 13' 10.50"N	85° 06' 04.30"W	300 ft. (1056)
WBN	Cooling Tower 1	35° 36' 05.95"N	84° 47' 09.18"W	509 ft. (1240)
	Cooling Tower 2	35° 36' 11.88"N	84° 47' 10.37"W	509 ft. (1240)
	MET Tower	35° 36' 10"N	84° 47' 24.24"W	300 ft. (1011)

**NOTE** NRC notification is not required when the FAA is notified of cooling tower, meteorological tower, or Browns Ferry off-gas stack lighting deficiencies.

2.2 **Immediate Notification - Tennessee Emergency Management Agency (TEMA)/Alabama Emergency Management Agency (AEMA)**

The following is a clarification of what constitutes non-emergency events that require the Operations Duty Specialist to immediately notify TEMA or AEMA.

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- A. A confirmed fatality, whether or not it is related to nuclear operations.
- Confirmation is provided by TVA Medical Services when the death is the immediate result of an accident or illness occurring on site.
- B. Strikes or honoring of picket lines affecting plant operations.
- C. Accidental activation of the Prompt Notification System (PNS) sirens.
- This will include confirmed inadvertent activation of the offsite PNS siren system or portions of the system. The shift manager may not be cognizant of all inadvertent activations; however, if the shift manager becomes aware of such an incident, the Operations Duty Specialist (ODS) shall be called. If the ODS becomes aware of such an incident, from sources other than the shift manager, then the ODS shall notify the shift manager.
- D. Undeclared emergency events reported to NRC
- If an event or condition is discovered which meets the emergency class criteria but no emergency was previously declared and the basis for the emergency class no longer exists; a report to NRC shall be made. The State personnel should be notified that the condition was reported to NRC and could result in potential media coverage.
- E. Incidents which could attract attention from the immediate local residents.
- Examples include: explosions, fires, release of steam or liquid onsite accountability siren soundings, and TVA or local emergency vehicles (fire, rescue, medical, law enforcement) entering or leaving the owner-controlled area (OCA) in response to a TVA situation. The above examples do not require notification if the State has been notified in advance. The testing or use of TVA vehicle sirens (fire, ambulance, security) within the OCA only does not require notification.
- NOTE** Notify the NRC Resident when notifications are to be made to TEMA or AEMA. Notification of the NRC Operations Center is not required due to notification of TEMA or AEMA, unless required by other applicable reporting requirements.

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EVALUATION AND REPORTING OF DEFECTS AND FAILURES  
TO COMPLY ASSOCIATED WITH SUBSTANTIAL SAFETY HAZARDS  
PER §50.55(e) REPORTING REQUIREMENTS

1.0 **PURPOSE**

The purpose of this Appendix is to identify the requirements for the evaluation and reporting of defects and failures to comply associated with substantial safety hazards to the NRC in accordance with §50.55(e) and defines the interface with §Part 21 reporting procedures where appropriate.

2.0 **SCOPE**

Reportability for defects and failures to comply associated with substantial safety hazards under §50.55(e) is applicable to TVA nuclear plants with construction permits and requires TVA to notify the NRC of these deficiencies. These deficiencies are initially identified by the Administrative Control Programs defined in "Corrective Action Program", SPP-3.1.

Reportability of deficiencies which contain Safeguards Information Pursuant to §73.71 will be processed in accordance with SPP-1.4, "Safeguards Information."

3.0 **REQUIREMENTS**

3.1 **General**

- A. §50.55(e) requires that holders of construction permits evaluate deviations and failures to comply associated with substantial safety hazards as soon as practicable and in all cases within 60 days of discovery, except as provided in Subsection 3.1.D., in order to identify the reportable defect or failure to comply that could create a substantial safety hazard were it to remain uncorrected.
- B. If the deficiency is related to any deficiency which has already been reported to NRC and the description of the deficiency and corrective actions for the new deficiency are within the scope of the previously reported deficiency, a memorandum should be prepared documenting that no further reporting is required.
- C. If the deficiency is related to any deficiency which has already been reported to NRC and the description of the deficiency and corrective actions for the deficiency are not within the scope of the previously reported deficiency.
  1. Initiate actions to develop a submittal to NRC expanding the scope of the previously reported deficiency, OR
  2. Initiate actions to develop an initial report to NRC.

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- D. If an evaluation of an identified deviation or failure to comply potentially associated with a substantial safety hazard cannot be completed within 60 days of discovery, then an interim report must be submitted to NRC within 60 days of discovery of the deviation or failure to comply.

**3.2 Determining Reportability of Deficiencies**

- A. Line management determines whether the deficiency is potentially reportable or not reportable under §50.55(e) in accordance with the timeframe as specified in Section 3.1 above, in accordance with the corrective action program requirements specified in SPP-3.1.
- B. If the deficiency is determined to be potentially reportable.
1. Notify the Site Licensing Manager and the Site Vice President, within five working days of the completion of the evaluation, that a report is required. Site Licensing will make the final determination.
  2. Initial NRC notification preferably by facsimile, to the NRC Operations Center, [telephone numbers specified in §50.55(e)(6)(i)] must then be made within two calendar days following receipt of information by the Site Vice President or Site Licensing Manager. Verification that the facsimile has been received should be made by calling the NRC Operations Center.
    - a. Within 30 days following notification of the Site Vice President or Site Licensing Manager of a substantial safety hazard, a written report is required to be submitted to the NRC.
    - b. If deviations are evaluated under §50.55(e) and result in either a negative reportability determination or reportable defect, then this satisfies the requirements of §Part 21.

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DETERMINATION OF REPORTABILITY UNDER §PART 21

1.0 **PURPOSE**

The purpose of this Appendix is to specify instructions for reporting requirements and for the evaluation of potential defects and noncompliances pursuant to §Part 21.

2.0 **SCOPE**

§Part 21 requires managers and responsible officers of certain firms and organizations which are building, operating, or owning NRC-licensed facilities or conducting NRC-licensed activities to (1) report any defects in basic components; (2) report any failures to comply with NRC requirements that could result in a substantial safety hazard; (3) post §Part 21 regulations, Section 206 of the Energy Reorganization Act of 1974, and procedures adopted pursuant to §Part 21 regulations; (4) specify in procurement documents §Part 21 applicability; and (5) maintain evaluations of all deviations and failures to comply for a minimum of five years after the date of the evaluation. Posting will be in accordance with NADP-9.

Reportability of deficiencies which contain Safeguards Information pursuant to §73.71 will be processed in accordance with SPP-1.4.

This Appendix establishes the methods for evaluating defects and failures to comply to determine if they are reportable in accordance with §Part 21. This Appendix also implements the requirements in the regulation for timing and content of reports.

A flowchart illustrating the process for evaluating potential defects and failures to comply is shown in Figure 1 of this Appendix.

3.0 **REQUIREMENTS**

3.1 **§Part 21 Evaluation and Reporting**

If a deviation or failure to comply as evaluated could create a Substantial Safety Hazard, it must be reported to the NRC unless the Site Vice President has actual knowledge that it has been previously reported to the NRC in writing.

A. **Reporting Criteria**

Operating plants with potential defects in installed equipment must be evaluated under §50.72, §50.73, or §73.71 as appropriate rather than §Part 21. Only those potential defects in basic components which have never been installed or used in the plant are required to be evaluated under §Part 21. Plants with construction permits are required to report under §50.55(e) rather than under §Part 21.

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B. §Part 21 Evaluation Criteria

Line management will perform an evaluation of any defect or failure associated with substantial safety hazards in accordance with the corrective action program requirements specified in SPP-3.1. If the deficiency is determined to be potentially reportable under §Part 21, notify the Site Licensing Manager within five working days of the completion of the evaluation.

**3.2 Written Report Content**

Each written report submitted to the NRC shall contain the following:

- The name and address of the individual or individuals informing the NRC.
- Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.
- Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.
- Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.
- The date on which the information of such defect or failure to comply was obtained.
- In the case of a basic component which contains a defect or fails to comply, the number and location of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part.
- The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.
- Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

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**3.3 Identification of Deviations and Noncompliances**

The principal means for identifying deviations and noncompliances in TVAN are: (a) the Problem Evaluation Report (PER) and the Administrative Control Programs (ACP), (b) the Receiving Inspection Report, (c) notices received from vendors, (d) Preoperational, Post-Modification, Surveillance and Post-Maintenance testing, (e) Licensee Event Reports of other sites (LERs), and (f) §50.55(e) reports at plants still under construction.

**3.4 Time Requirements for Reportability - Completed Evaluations**

- A. Site Licensing will review the completed §Part 21 evaluation within 60 days of the discovery of the deviation or failure to comply.
- B. Site Licensing will, within five working days, submit the completed evaluation to senior site management.
- C. The NRC shall be notified by facsimile, which is the preferred method, by contacting the NRC Operations Center at the telephone numbers located in §21.21 (c)(3)(i) within two days of the information being provided to senior site management. Verification that the facsimile has been received should be made by calling the NRC Operations Center.
- D. A written report will be submitted to the NRC Document Control desk and a copy will be sent to the appropriate Regional Administrator within 30 days following receipt of information by senior site management.

**3.5 Interim Reporting**

An interim report shall be made in writing within 60 days of discovery and shall contain, as a minimum, available information about the deviation or failure to comply that is being evaluated, and shall also state when the evaluation will be completed, if the evaluation can not be completed within 60 days of discovery.

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§PART 21 EVALUATION SHEET

Type of Document \_\_\_\_\_ References \_\_\_\_\_

- A. Does the deficiency involve a component, that is installed in the plant? Yes  No

If "yes", then reportability should be evaluated under §50.72, §50.73 (LER), or §73.71 (Safeguards Events). A separate §Part 21 report is not required. If the event is determined to be not reportable under §50.72, §50.73, or §73.71, then the obligations of §Part 21 are still met by the evaluation. If "no", continue with B.

- B. Does the component or service meet the §Part 21 definition of a "Basic Component"? Yes  No

If "yes", go to C. If "no", go to E; the item is not reportable.

- C. Does the deficiency involve:

1. A failure of the facility, activity, or basic component supplied to TVA, to comply with the Energy Reorganization Act of 1974, or any applicable NRC license requirements and regulations, or any rule or order issued by NRC to TVA? Yes  No   
If "yes", go to D

2. A loss of safety function to the extent that if the component was installed in the plant there would be a major reduction in the degree of protection provided to the public health and safety? Examples would include moderate exposure to or release of licensed material or major degradation of essential safety-related equipment or major deficiencies involving design, construction, inspection, test, or use. Yes  No   
If "yes", go to D

3. A departure from the technical requirements for a delivered component or service as set forth in a procurement document? Delivery occurs upon acceptance by TVA (e.g., at receipt inspection). Yes  No   
If "yes", go to D

Answer all three questions under C above. If all "No's", this deficiency is not reportable. Go to "E". If any Yes's", continue as indicated by the applicable "GO TO" statement.

- D. Could the deviation or noncompliance have caused a substantial safety hazard (By definition, item C2 constitutes a substantial safety hazard.)? Yes  No

(If "No," this item is not reportable - If "Yes," this item is reportable; under §Part 21.

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§PART 21 EVALUATION SHEET

E. Is this item potentially reportable by TVAN under §Part 21? Yes  No

Prepared by: \_\_\_\_\_ Date \_\_\_\_\_

Responsible Manager: \_\_\_\_\_ Date \_\_\_\_\_

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SITE LICENSING MANAGER REVIEW (OR DESIGNEE)

F. Has this item been reported by TVA, another licensee, or by a vendor? Yes  No

If "yes," a separate §Part 21 Report is not required.

If "no," complete a §Part 21 Report (App. F) and notify Site Licensing or Senior Site Management.

---

Tracking Data:

Date forwarded to Site Licensing \_\_\_\_\_

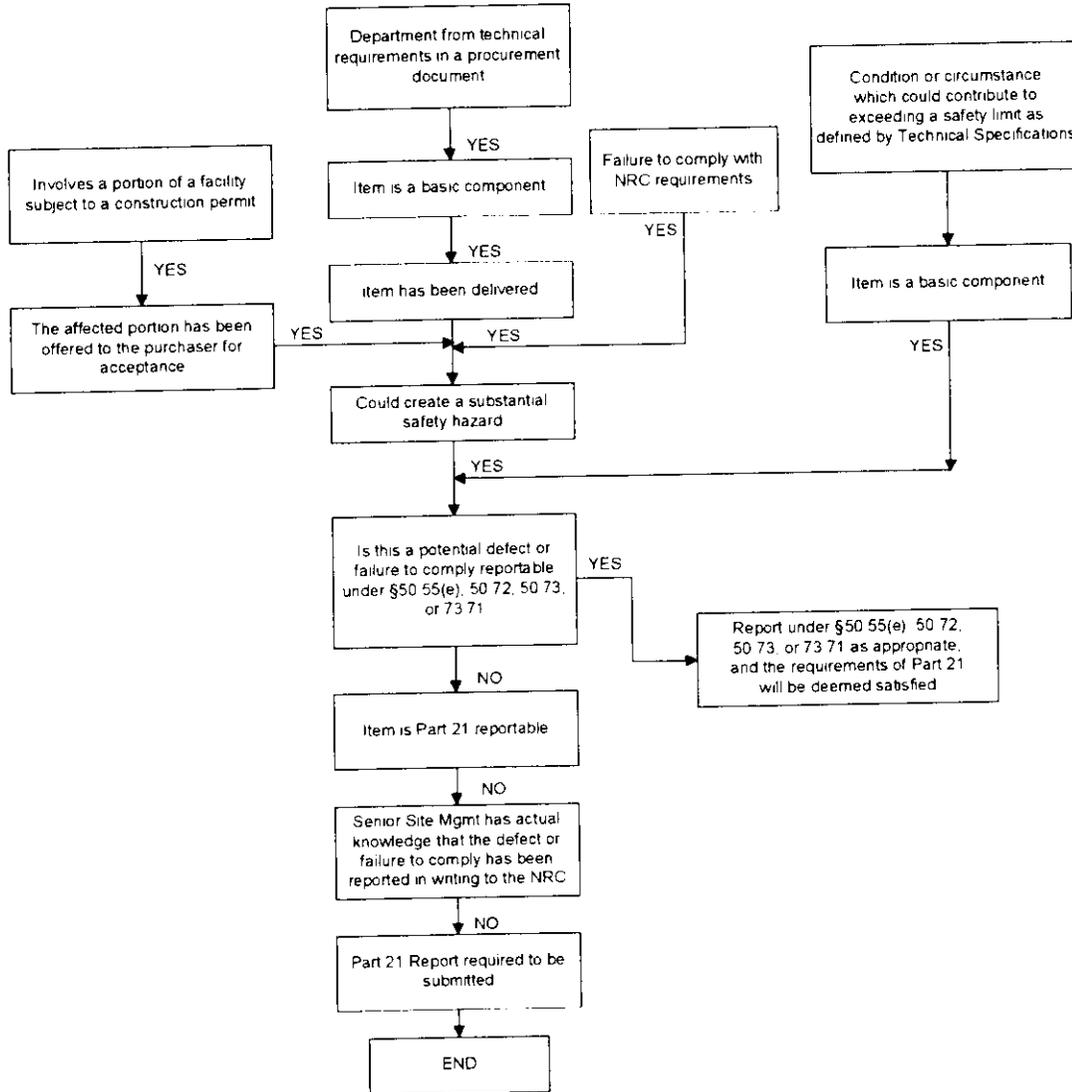
Date received by Site Licensing \_\_\_\_\_

Date Senior Site Management informed \_\_\_\_\_

Date NRC notified (initial notification) \_\_\_\_\_

Date NRC notified (written report) \_\_\_\_\_

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EVALUATION LOGIC FOR §PART 21  
Figure 1



APPENDIX H  
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REPORTING OF DECOMMISSIONING FUNDING

1.0 **PURPOSE**

The purpose of this Appendix is to identify the minimum requirements for submitting a decommissioning funding report to the NRC as required by §50.75, "Reporting and Recordkeeping for Decommissioning Planning." This Appendix also identifies requirements for notifying NRC when permanently shutting down the operation of a reactor, as required by §50.54(bb).

2.0 **SCOPE**

TVA shall report decommissioning funding plans for its nuclear plants as required by §50.33(k), "Contents of Applications; General Information." §50.75 establishes requirements for: 1) indicating to NRC how a licensee will provide reasonable assurance that funds are available for the decommissioning process, and 2) reporting timeframes. This Appendix provides both the minimum information that is required to be submitted in the decommissioning funding report and the required reporting timeframes. Additionally, this Appendix provides the minimum reporting requirements (e.g., reporting timeframes, description of the program that TVA intends to implement for managing all irradiated fuel until it is transferred to the Department of Energy) for notifying NRC when permanently shutting down the operation of a reactor, as required by §50.54(bb).

3.0 **REQUIREMENTS**

3.1 **General §50.75 Reporting Requirements**

§50.33(k) and §50.75(b) require nuclear plant license applicants and licensees to submit decommissioning funding reports. License applicants are required to submit information regarding how reasonable assurance will be provided that funds will be available for decommissioning pursuant to §50.33(k) and §50.75. License holders are required to report periodically on the status of their decommissioning funding pursuant to §50.75(f)(1) as described below.

A. **Written Report Content**

The information in this report must include, at a minimum:

1. The amount of decommissioning funds estimated to be required pursuant to §50.75(b) and (c);
2. The amount accumulated to the end of the calendar year preceding the date of the report;
3. A schedule of the annual amounts remaining to be collected;

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4. The assumptions used regarding:
    - a) Rates of escalation in decommissioning costs;
    - b) Rates of earnings on decommissioning funds; and
    - c) Rates of other factors used in funding projections;
  5. Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report; and
  6. Any material changes to trust agreements.
- B. Responsibilities
1. The Treasurer's Office is responsible for providing input to Corporate Licensing for the decommissioning report for items 2, 3, 4.b, 5, and 6 prescribed in Section 3.3.
  2. Corporate Nuclear Engineering is responsible for providing input to Corporate Licensing for the decommissioning report for items 1, 4a, and 4c. prescribed in Section 3.2.
  3. Corporate Licensing is responsible for preparing and submitting the final decommissioning report.
- C. Required Reporting Timeframes
1. TVA shall report, on a calendar-year basis, to NRC by **March 31, 1999**, and at least once every 2 years thereafter on the status of its decommissioning funding for each licensed reactor that it owns.
  2. TVA shall submit a decommissioning report annually, when:
    - a) A reactor power plant is within 5 years of the projected end of its operation;
    - b) Conditions have changed such that a reactor power plant will close within 5 years (before the end of its licensed life);
    - c) A reactor power plant has already closed (before the end of its licensed life); or
    - d) A plant is involved in a merger or acquisition.

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3.2 Permanent Reactor Shutdown Reporting Requirements

TVA shall, within 2 years following permanent cessation of operation of reactor or 5 years before expiration of the reactor operating license, whichever ever occurs first, submit written notification to the Commission in accordance with §50.54(bb).

- A. This written notification shall:
1. Include a description of TVA's program for managing and funding the irradiated fuel at the reactor until title to and possession of the irradiated fuel is transferred to the Secretary of Energy.
  2. Demonstrate to NRC that the elected actions are consistent with NRC requirements for licensed possession of irradiated nuclear fuel and that the actions will be implemented in a timely basis.
  3. Verify, for actions requiring NRC prior approval, that submittals have been or will be made to NRC.
  4. Be retained as a record until expiration of the reactor operating license.
- B. TVA shall notify the NRC of any significant changes in the proposed waste management program as described in the initial notification.

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COMMUNICATION WITH THE NRC FOLLOWING A  
SIGNIFICANT OPERATIONAL EVENT

1.0 **PURPOSE**

The purpose of this Appendix is to define the communications that needs to be established with the site resident inspectors and the regional administrator staff within 24 to 36 hours following a significant operational event that could result in an incident investigation by the NRC.

2.0 **SCOPE**

This appendix briefly discusses the NRC decision making process for determining their inspection response following notification of a significant operational event and provides guidance on the need for and types of information required by the NRC during this decision making process.

During the site investigation phase following a §50.72 notification for a plant trip or another significant equipment malfunction or failure, a clear communication path needs to be maintained with the resident inspector.

**Background**

Upon notification of a significant operational event, the regional administrator and his staff will perform the initial review to assess the safety significance of the event. The guidance provided in NRC's Management Directive MD-8.3 "NRC Incident Investigation Program" is used to assess the level of response required. The criteria for determining between an Incident Investigation TEam (IIT), an Augmented Inspection Team (AIT) or a special inspection is based on a combination of deterministic criteria and an estimation of the Conditional Core Damage Frequency (CCDF) of the actual plant configuration at the time of the significant operational event.

In determining the risk significance of the event the NRC is instructed to assess 1) the potential influence on risk of the dominant core damage sequences, 2) level of confidence in failure or unavailability values assumed for these sequences, and 3) level of confidence of equipment failure/recovery and their influence on the CCDF.

An accurate estimated CCDF is crucial to the determination of the inspection response. With the high reliance of an estimated CCDF on the level of confidence of equipment recovery and satisfactory completion of operator actions, an accurate CCDF requires a thorough understanding of the status of equipment at the time of the event and the causes of failures for any equipment that did not perform as designed.

3.0 **REQUIREMENTS**

A communication path could be accomplished through normal resident to licensee manager communication or through the trip response team licensing representative. This decision should be based on the complexity of the event and the event investigative team structure. The communication process must assess that sufficient and timely information is being provided to the NRC decision makers.

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As the site investigation evolves and the failure modes and causes of equipment and performance issues are identified, it is critical that the NRC be kept informed of the evolving analysis findings as they pertain to the following crucial estimated CCDF inputs:

- Clear understanding of the event sequences, equipment failures, equipment not available for mitigation, and operator performance problems;
- Perspectives on equipment failures that address suspected causes, potential extent of condition, and ability of operators to recover failed equipment;
- Perspectives on unavailable equipment and ability to restore functions to support risk significant scenarios;
- Perspectives on operator performance problems and their ability to recover or restore critical functions.

**NOTE** It is important to recognize that the MD-8.3 decision process not only assesses what happened, it also assesses what might have happened with respect to risk significant scenarios.

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INTERNAL NOTIFICATION OF EVENTS REQUIRING SERIOUS ACCIDENT INVESTIGATIONS

1.0 **PURPOSE**

The purpose of this appendix is to provide the internal management notification requirements for serious accidents, as prescribed in TVA-SPP-18.010, "Conduct Serious Accident Investigation." This appendix applies to all serious accidents that result in any of the following occurrences. EXCEPTION--Radiological control and nuclear operational safety incidents subject to other specific reporting and investigation requirements are investigated by TVA Nuclear (TVAN) as required by applicable procedures.

2.0 **REQUIREMENTS**

2.1 Serious Accidents include any of the following occurrences:

- A. A fatality or in-patient hospitalization of three or more TVA employees within 30 days of an accident.
- B. Other events (including property damage only) which under slightly different circumstances would have met or may meet the following provisions:
  - 1. Falls (usually from elevation) causing head injury, broken bones, and/or other serious injury.
  - 2. Electric contact resulting in current flow through the body and/or loss of consciousness.
  - 3. Electric arc causing second- and/or third-degree burns to the body.
  - 4. Being caught in or by equipment/machinery causing head injury, broken bones, and/or other serious injury.
  - 5. Thermal burns causing second and/or third degree burns to the body.
  - 6. Being struck by equipment/machinery or falling objects causing head injury, broken bones, and/or other serious injury.
  - 7. Overpressure resulting in component failure (gas, hydraulic, or air) causing head injury, broken bones, and/or other significant traumatic injury.
  - 8. Release of latent or kinetic energy (tension [objects under compression] or projectiles [objects being thrown]) causing head injury, broken bones, and/or other serious injury.

2.2 Manager in Charge of Workplace, or designee, performs the following initial actions:

**NOTE** Checklist items are listed in the general order of preference; however, many of these can occur simultaneously.

APPENDIX J

Page 2 of 2

- A. Notifies the TVA Police for assistance.
- B. Gathers the following notification information:
  - 1. Accident location:
  - 2. Time of the accident:
  - 3. Name(s) of the individual(s) involved:
  - 4. Extent of injuries:
  - 5. Contact person (name and telephone number):
  - 6. Brief description of the occurrence:
- C. Immediately notifies the following persons and provides the information listed in Section 2.2.B.

**NOTE** If either of the individuals listed in Sections 2.2.C.1. or 2.2.C.2. is unavailable, do not delay in contacting the TVA Operator or the Program Manager, Corporate Safety [Refer to Section 2.2.C.3].

- 1. Responsible executive vice president of the organization where the accident occurred.
- 2. Safety manager of the organization.
- 3. TVA Operator at (865)-632-2101. Inform the operator that this call is to report a serious accident to the Program Manager, Corporate Safety. Alternate numbers for Corporate Safety are:
  - a) Office: (865)-632-7753 or 7756 (during business hours).
  - b) Cell phone: (865)-414-8819.
  - c) Pager: (800)-201-8139.

- 2.3 Licensing will evaluate those serious accidents that Operations determined were not reportable per §50.72(b)(2)(xi) [refer to Appendix A, Section 3.1.C.4.] to determine if a "courtesy" phone call to NRC is appropriate.

APPENDIX K  
Page 1 of 1

REGISTRATION REQUIREMENTS FOR SPENT FUEL STORAGE CASK PLACED INTO SERVICE

1.0 PURPOSE

The purpose of this Appendix is to identify the minimum requirements for registering a loaded Spent Fuel Storage Cask with the NRC pursuant §72.212. This appendix provides registration guidance applicable to ISFSIs at licensed power reactors.

2.0 REQUIREMENTS

2.1 Register Cask

TVA is required by §72.212(b)(1)(ii) to register use of each cask with the NRC no later than 30 days after using that cask to store spent fuel. This registration may be accomplished by submitting a letter using instructions in §72.4. A copy of each submittal must be sent to the administrator of the appropriate NRC regional office listed in Appendix D to §Part 20 of this chapter.

The written letter submitted to NRC shall contain the following:

- The licensee's name and address,
- The licensee's reactor license and docket numbers,
- The name and title of a person responsible for providing additional information concerning spent fuel storage under this general license,
- The cask certificate and model numbers,
- The cask identification number.

3.0 Records

3.1 Retention

§72.80(c) - Records that are required by §Part 72 or by the license conditions must be maintained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified, the above records must be maintained until NRC terminates the license.

NRC EVENT NOTIFICATION WORKSHEET  
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U.S. NUCLEAR REGULATORY COMMISSION  
OPERATIONS CENTER  
EN # \_\_\_\_\_

NRC EVENT NOTIFICATION WORKSHEET

NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	CALLER'S NAME	CALL BACK #: or ( ) - _____
-------------------	--------------------------	------	---------------	--------------------------------

EVENT TIME & ZONE	EVENT DATE / /			<b>8-Hr Non-Emergency 10 CFR 50.72(b)(3)</b>
POWER/MODE BEFORE	POWER/MODE AFTER	<b>1-Hr Non-Emergency 10 CFR 50.72(b)(1)</b>		(i)(A) Degraded Condition ADEG
		TS Deviation	ADEV	(ii)(B) Unanalyzed Condition AUNA
				(iv)(A) Specified System Actuation AESF
				(v)(A) Safe S/D Capability AINA
				(v)(B) RHR Capability AINB
				(v)(C) Control of Rad Release AINC
<b>Event Classifications</b>		<b>4-Hr Non-Emergency 10 CFR 50.72(b)(2)</b>		(v)(D) Accident Mitigation AIND
General Emergency	Gen/AAEC	(i) TS Required S/D	ASHU	(xii) Offsite Medical AMED
Site Area Emergency	SIT/AAEC	(iv)(A) ECCS Discharge to RCS	ACCS	(xii) Lost Comm/Asmt/Resp ACOM
Alert	ALE/AAEC	(iv)(B) RPS Actuation (scram)	ARPS	60-Day Optional 10 CFR 50.73(a)(1)
Unusual Event	UNU/AAEC	(xi) Offsite Notification	APRE	Invalid Specified System Actuation AINV
50.72 Non-Emergency (see next columns)				Other Unspecified Requirement (Identify)
Physical Security (73.71)	DDDD			NONR
				NONR
Material/Exposure	B???			
Fitness For Duty	HFIT			
Other Unspecified Reqmt	(see last column)			
Information Only	NINF			

DESCRIPTION

Include Systems affected, actuations & their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)

NOTIFICATIONS	YES	NO	WILL BE	Anything Unusual or Not Understood?	Yes (Explain above)	No
NRC RESIDENT						
STATE(s)				Did All Systems Function As Required?	Yes	No (Explain above)
LOCAL						
Other Gov Agencies				Mode of Operation	Estimated	Additional INFO on Back?
Media/Press Release				Until Corrected	Restart Date	<input type="checkbox"/> Yes <input type="checkbox"/> No

NRC EVENT NOTIFICATION WORKSHEET  
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USNRC Operations Center

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
Liquid Release	Gaseous Release	Unplanned Release	Planned Release	Ongoing	Terminated	
Monitored	Unmonitored	Offsite Release	T.S. Exceeded	RM Alarms	AREAS Evacuated	
Personnel Exposed or Contaminated		Offsite Protective Actions Recommended		*State release path in description.		
	Release Rate (Ci/sec)	% T. S. Limit	HOO Guide	Total Activity (Ci)	% T.S. Limit	HOO Guide
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium & dissolve noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	Plant Stack	Condensate/Air Ejector	Main Steam Line	SG Blowdown	Other	
RAD Monitor Readings:						
Alarm Setpoints:						
% T.S. Limit (if applicable)						
RCS or SG Tube Leaks: Check or Fill in Applicable Items: (specific details/explanations should be covered in event description)						
Location of the Leak (e.g., SG #, valve, pipe, etc.):						
Leak Rate:	Units: gpm/gpd		T. S. Limits:	Sudden or Long Term Development:		
Leak Start Date:	Time:		Coolant Activity & Units:	Primary -	Secondary -	
List of Safety Related Equipment not Operational:						
EVENT DESCRIPTION (Continued from front)						

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.2 Jet Pumps

LCO 3.4.2 All jet pumps shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more jet pumps inoperable.	A.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

FREQUENCY	SURVEILLANCE
24 hours	<p style="text-align: right;">SR 3.4.2.1</p> <p>-----NOTES-----</p> <p>1. Not required to be performed until 4 hours after associated recirculation loop is in operation.</p> <p>2. Not required to be performed until 24 hours after &gt; 25% RTP.</p> <hr style="border-top: 1px dashed black;"/> <p>Verify at least one of the following criteria (a, b, or c) is satisfied for each operating recirculation loop:</p> <p>a. Recirculation pump flow to speed ratio differs by ≤ 5% from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by ≤ 5% from established patterns.</p> <p>b. Each jet pump diffuser to lower plenum differential pressure differs by ≤ 20% from established patterns.</p> <p>c. Each jet pump flow differs by ≤ 10% from established patterns.</p>

RCS Leakage Detection Instrumentation  
3.4.5

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Leakage Detection Instrumentation

LCO 3.4.5 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. Drywell floor drain sump monitoring system; and
- b. One channel of either primary containment atmospheric particulate or atmospheric gaseous monitoring system.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

COMPLETION TIME	REQUIRED ACTION	CONDITION
24 hours	A.1 Restore drywell floor drain sump monitoring system to OPERABLE status.	A. Drywell floor drain sump monitoring system inoperable.

(continued)

RCS Leakage Detection Instrumentation  
3.4.5

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required primary containment atmospheric monitoring system inoperable.	B.1 Analyze grab samples of primary containment atmosphere.  B.2 Restore required primary containment atmospheric monitoring system to OPERABLE status.	Once per 12 hours  30 days
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.  C.2 Be in MODE 4.	12 hours  36 hours
D. All required leakage detection systems inoperable.	D.1 Enter LCO 3.0.3.	Immediately

RCS Leakage Detection Instrumentation  
3.4.5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.5.1 Perform a CHANNEL CHECK of required primary containment atmospheric monitoring system instrumentation.	12 hours
SR 3.4.5.2 Perform a CHANNEL FUNCTIONAL TEST of required primary containment atmospheric monitoring system instrumentation.	31 days
SR 3.4.5.3 Perform a CHANNEL CALIBRATION of required drywell sump flow integrator instrumentation.	184 days
SR 3.4.5.4 Perform a CHANNEL CALIBRATION of required leakage detection system instrumentation.	24 months

TR 3.4 REACTOR COOLANT SYSTEM

TR 3.4.1 Coolant Chemistry

LCO 3.4.1 Reactor coolant chemistry shall be maintained within the limits of Table 3.4.1-1.

APPLICABILITY: According to Table 3.4.1-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Conductivity greater than the limit of Table 3.4.1-1 Column B but $\leq 10$ $\mu\text{mho/cm}$ at 25°C.	A.1 Verify by administrative means that conductivity has not been $> 1.0$ $\mu\text{mho/cm}$ at 25°C for $> 2$ weeks in the past year.	Immediately
B. Chloride concentration greater than the limit of Table 3.4.1-1 Column B or E but $\leq 0.5$ ppm.	B.1 Verify by administrative means that chloride concentration has not been $> 0.2$ ppm for $> 2$ weeks in the past year.	Immediately
C. pH not within limits of Table 3.4.1-1 Column A, B, and E.	C.1 Restore pH to within limits.	24 hours

(continued)

COMPLETION TIME	REQUIRED ACTION	CONDITION
Immediately	D.1 Initiate an orderly shutdown.	D. Required Action and associated Completion Time of Conditions A, B, or C not met. $\overline{OR}$ Conductivity > 10 $\mu$ mho/cm at 25°C. $\overline{OR}$ Chloride concentration > 0.5 ppm. $\overline{OR}$ Conductivity or chloride concentration limits of Table 3.4.1-1 Column A exceeded.
As rapidly as cooldown rate permits	D.2 Be in MODE 4.	E. Coolant chemistry limits of Table 3.4.1-1 Column C, D, or E exceeded.
Immediately	E.1 Initiate action to restore coolant chemistry within limits.	

NOTE-----  
When there is no fuel in the reactor vessel, sampling of reactor coolant chemistry at  
Technical Requirement frequency is not required.

TECHNICAL SURVEILLANCE REQUIREMENTS

FREQUENCY	SURVEILLANCE	
Continuously	<p>NOTE----- Not required when there is no fuel in the reactor vessel.</p>	<p>TSR 3.4.1.1</p>
<p>4 hours when the continuous monitor is inoperable and the reactor is not in MODE 4 or 5</p> <p>OR</p> <p>8 hours when the continuous monitor is inoperable and the reactor is in MODE 4 or 5</p>	<p>NOTE----- Not required when there is no fuel in the reactor vessel.</p>	<p>TSR 3.4.1.2</p>
<p>7 days</p> <p>AND</p> <p>24 hours whenever the reactor coolant conductivity is &gt;1.0 µmho/cm at 25°C</p>	<p>NOTE----- Not required when there is no fuel in the reactor vessel.</p>	<p>TSR 3.4.1.2</p>

(continued)

TECHNICAL SURVEILLANCE REQUIREMENTS

FREQUENCY	SURVEILLANCE
<p>Once during startup prior to pressurizing the reactor above atmospheric pressure</p>	<p>TSR 3.4.1.3 Verify reactor coolant conductivity and chloride concentration within limits of Table 3.4.1-1 Column A.</p>
<p>96 hours <u>AND</u> 8 hours whenever the reactor conductivity is &gt; 1.0 µmho/cm at 25°C (not required for Column E.)</p>	<p>TSR 3.4.1.4 NOTE----- Only required when the reactor is operating in MODES 1 or 2. ----- Verify chloride ion content and pH within the limits of Table 3.4.1-1.</p>
<p>96 hours</p>	<p>TSR 3.4.1.5 NOTE----- Only required when the reactor is not pressurized with fuel in the reactor vessel. ----- Verify conductivity, chloride ion content, and pH within the limits of Table 3.4.1-1.</p>

Table 3.4.1-1  
Coolant Chemistry Limits<sup>(1)</sup>

CHEMISTRY PARAMETERS	COLUMN A APPLICABLE CONDITION Prior To Startup And At Steaming Rates < 100,000 lb/hr	COLUMN B APPLICABLE CONDITION Steaming Rates > 100,000 lb/hr	COLUMN C APPLICABLE CONDITION Reactor Not Pressurized With Fuel In Reactor Vessel, Except During Startup Condition	COLUMN D <sup>(2)</sup> APPLICABLE CONDITION Noble Metal Chemical Application Subsequent Reactor Coolant Cleanup	COLUMN E <sup>(3)</sup> APPLICABLE CONDITION Operation of HWC Following Noble Metal Chemical Application
CHLORIDE (ppm)	≤ 0.1	≤ 0.2	≤ 0.5	≤ 0.1	≤ 0.2
CONDUCTIVITY (μmho/cm at 25°C)	≤ 2.0	≤ 1.0	≤ 10.0	≤ 20.0	≤ 2.0
pH	5-6-8-6	5-6-8-6	5-3-8-6	4-3-9-9	5-6-8-8

- (1) When there is no fuel in the reactor vessel, Technical Requirement reactor coolant chemistry limits do not apply.
- (2) During the Noble Metal Chemical Application and subsequent reactor coolant cleanup, CONDITIONS A, B, C, and D (including Required Actions and Completion Times) do not apply.
- (3) During operation of HWC following the Noble Metal Chemical Application, CONDITION A (including Required Action and Completion Time) does not apply.

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.2.1 Suppression Pool Average Temperature

LCO 3.6.2.1      Suppression pool average temperature shall be:

- a.  $\leq 95^{\circ}\text{F}$  when any OPERABLE intermediate range monitor (IRM) channel is  $> 70/125$  divisions of full scale on Range 7 and no testing that adds heat to the suppression pool is being performed;
- b.  $\leq 105^{\circ}\text{F}$  when any OPERABLE IRM channel is  $> 70/125$  divisions of full scale on Range 7 and testing that adds heat to the suppression pool is being performed; and
- c.  $\leq 110^{\circ}\text{F}$  when all OPERABLE IRM channels are  $\leq 70/125$  divisions of full scale on Range 7.

APPLICABILITY:    MODES 1, 2, and 3.



Suppression Pool Average Temperature  
3.6.2.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Suppression pool average temperature &gt; 105°F.</p> <p style="text-align: center;"><u>AND</u></p> <p>Any OPERABLE IRM channel &gt; 70/125 divisions of full scale on Range 7.</p> <p style="text-align: center;"><u>AND</u></p> <p>Performing testing that adds heat to the suppression pool.</p>	<p>C.1 Suspend all testing that adds heat to the suppression pool.</p>	<p>Immediately</p>
<p>D. Suppression pool average temperature &gt; 110°F but ≤ 120°F.</p>	<p>D.1 Place the reactor mode switch in the shutdown position.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.2 Verify suppression pool average temperature ≤ 120°F.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.3 Be in MODE 4.</p>	<p>Immediately</p> <p>Once per 30 minutes</p> <p>36 hours</p>

(continued)

Suppression Pool Average Temperature  
3.6.2.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.1.1      Verify suppression pool average temperature is within the applicable limits.	24 hours  <u>AND</u>  5 minutes when performing testing that adds heat to the suppression pool

TR 3.4 REACTOR COOLANT SYSTEM

TR 3.4.1 Coolant Chemistry

LCO 3.4.1 Reactor coolant chemistry shall be maintained within the limits of Table 3.4.1-1.

APPLICABILITY: According to Table 3.4.1-1

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	Conductivity greater than the limit of Table 3.4.1-1 Column B but $\leq 10$ $\mu\text{mho/cm}$ at $25^\circ\text{C}$ .	A.1 Verify by administrative means that conductivity has not been $> 1.0$ $\mu\text{mho/cm}$ at $25^\circ\text{C}$ for $> 2$ weeks in the past year.	Immediately
B.	Chloride concentration greater than the limit of Table 3.4.1-1 Column B or E but $\leq 0.5$ ppm.	B.1 Verify by administrative means that chloride concentration has not been $> 0.2$ ppm for $> 2$ weeks in the past year.	Immediately
C.	pH not within limits of Table 3.4.1-1 Column A, B, and E.	C.1 Restore pH to within limits.	24 hours

(continued)



-----NOTE-----

When there is no fuel in the reactor vessel, sampling of reactor coolant chemistry at Technical Requirement frequency is not required.

-----

TECHNICAL SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>TSR 3.4.1.1</p> <p>-----NOTE----- Not required when there is no fuel in the reactor vessel.</p> <p>-----</p> <p>Monitor reactor coolant conductivity.</p>	<p>Continuously</p> <p><u>OR</u></p> <p>4 hours when the continuous conductivity monitor is inoperable and the reactor is not in MODE 4 or 5</p> <p><u>OR</u></p> <p>8 hours when the continuous conductivity monitor is inoperable and the reactor is in MODE 4 or 5</p>
<p>TSR 3.4.1.2</p> <p>-----NOTE----- Not required when there is no fuel in the reactor vessel.</p> <p>-----</p> <p>Check the continuous conductivity monitor with an in-line flow cell.</p>	<p>7 days</p> <p><u>AND</u></p> <p>24 hours whenever the reactor coolant conductivity is &gt;1.0 <math>\mu\text{mho/cm}</math> at 25°C</p>

(continued)

TECHNICAL SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
TSR 3.4.1.3	Verify reactor coolant conductivity and chloride concentration within limits of Table 3.4.1-1 Column A.	Once during startup prior to pressurizing the reactor above atmospheric pressure
TSR 3.4.1.4	<p>-----NOTE----- Only required when the reactor is operating in MODES 1 or 2. -----</p> <p>Verify chloride ion content and pH within the limits of Table 3.4.1-1.</p>	<p>96 hours <u>AND</u> 8 hours whenever the reactor conductivity is &gt;1.0 <math>\mu\text{mho/cm}</math> at 25°C (not required for Column E.)</p>
TSR 3.4.1.5	<p>-----NOTE----- Only required when the reactor is not pressurized with fuel in the reactor vessel. -----</p> <p>Verify conductivity, chloride ion content, and pH within the limits of Table 3.4.1-1.</p>	96 hours

Table 3.4.1-1  
Coolant Chemistry Limits<sup>(1)</sup>

CHEMISTRY PARAMETERS	COLUMN A	COLUMN B	COLUMN C	COLUMN D <sup>(2)</sup>	COLUMN E <sup>(3)</sup>
	APPLICABLE CONDITION Prior To Startup And At Steaming Rates < 100,000 lb/hr	APPLICABLE CONDITION Steaming Rates > 100,000 lb/hr	APPLICABLE CONDITION Reactor Not Pressurized With Fuel In Reactor Vessel, Except During Startup Condition	APPLICABLE CONDITION Noble Metal Chemical Application and Subsequent Reactor Coolant Cleanup	APPLICABLE CONDITION Operation of HWC Following Noble Metal Chemical Application
CHLORIDE (ppm)	≤ 0.1	≤ 0.2	≤ 0.5	≤ 0.1	≤ 0.2
CONDUCTIVITY (μmho/cm at 25°C)	≤ 2.0	≤ 1.0	≤ 10.0	≤ 20.0	≤ 2.0
pH	5.6-8.6	5.6-8.6	5.3-8.6	4.3-9.9	5.6-8.8

(1)

(2) When there is no fuel in the reactor vessel, Technical Requirement reactor coolant chemistry limits do not apply.

(3)

During the Noble Metal Chemical Application and subsequent reactor coolant cleanup, CONDITIONS A, B, C, and D (including Required Actions and Completion Times) do not apply.

(3) During operation of HWC following the Noble Metal Chemical Application, CONDITION A (including Required Action and Completion Time) does not apply.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.2 Jet Pumps

LCO 3.4.2 All jet pumps shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more jet pumps inoperable.	A.1 Be in MODE 3.	12 hours

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.4.2.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Not required to be performed until 4 hours after associated recirculation loop is in operation.</li> <li>2. Not required to be performed until 24 hours after &gt; 25% RTP.</li> </ol> <p>-----</p> <p>Verify at least one of the following criteria (a, b, or c) is satisfied for each operating recirculation loop:</p> <ol style="list-style-type: none"> <li>a. Recirculation pump flow to speed ratio differs by <math>\leq 5\%</math> from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by <math>\leq 5\%</math> from established patterns.</li> <li>b. Each jet pump diffuser to lower plenum differential pressure differs by <math>\leq 20\%</math> from established patterns.</li> <li>c. Each jet pump flow differs by <math>\leq 10\%</math> from established patterns.</li> </ol>	<p>24 hours</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Leakage Detection Instrumentation

LCO 3.4.5 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. Drywell floor drain sump monitoring system; and
- b. One channel of either primary containment atmospheric particulate or atmospheric gaseous monitoring system.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell floor drain sump monitoring system inoperable.	A.1 Restore drywell floor drain sump monitoring system to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required primary containment atmospheric monitoring system inoperable.	B.1 Analyze grab samples of primary containment atmosphere.	Once per 12 hours  30 days
	<u>AND</u> B.2 Restore required primary containment atmospheric monitoring system to OPERABLE status.	
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours  36 hours
	<u>AND</u> C.2 Be in MODE 4.	
D. All required leakage detection systems inoperable.	D.1 Enter LCO 3.0.3.	Immediately

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.4.5.1	Perform a CHANNEL CHECK of required primary containment atmospheric monitoring system instrumentation.	12 hours
SR 3.4.5.2	Perform a CHANNEL FUNCTIONAL TEST of required primary containment atmospheric monitoring system instrumentation.	31 days
SR 3.4.5.3	Perform a CHANNEL CALIBRATION of required drywell sump flow integrator instrumentation.	184 days
SR 3.4.5.4	Perform a CHANNEL CALIBRATION of required leakage detection system instrumentation.	24 months

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.2.1 Suppression Pool Average Temperature

- LCO 3.6.2.1      Suppression pool average temperature shall be:
- a.  $\leq 95^{\circ}\text{F}$  when any OPERABLE intermediate range monitor (IRM) channel is  $> 70/125$  divisions of full scale on Range 7 and no testing that adds heat to the suppression pool is being performed;
  - b.  $\leq 105^{\circ}\text{F}$  when any OPERABLE IRM channel is  $> 70/125$  divisions of full scale on Range 7 and testing that adds heat to the suppression pool is being performed; and
  - c.  $\leq 110^{\circ}\text{F}$  when all OPERABLE IRM channels are  $\leq 70/125$  divisions of full scale on Range 7.

APPLICABILITY:    MODES 1, 2, and 3.



Suppression Pool Average Temperature  
3.6.2.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Suppression pool average temperature &gt; 105°F.</p> <p style="text-align: center;"><u>AND</u></p> <p>Any OPERABLE IRM channel &gt; 70/125 divisions of full scale on Range 7.</p> <p style="text-align: center;"><u>AND</u></p> <p>Performing testing that adds heat to the suppression pool.</p>	<p>C.1 Suspend all testing that adds heat to the suppression pool.</p>	<p>Immediately</p>
<p>D. Suppression pool average temperature &gt; 110°F but ≤ 120°F.</p>	<p>D.1 Place the reactor mode switch in the shutdown position.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.2 Verify suppression pool average temperature ≤ 120°F.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.3 Be in MODE 4.</p>	<p>Immediately</p> <p>Once per 30 minutes</p> <p>36 hours</p>

(continued)

Suppression Pool Average Temperature  
3.6.2.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1.1	Verify suppression pool average temperature is within the applicable limits.	24 hours  <u>AND</u>  5 minutes when performing testing that adds heat to the suppression pool