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Christopher J. Schwarz
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1CAN041102

April 29, 2011

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: License Amendment Request
Adoption of Technical Specification Task Force (TSTF)–513, Revision 3
"Revise PWR Operability Requirements and Actions for RCS Leakage Instrumentation"
Arkansas Nuclear One, Unit 1
Docket No. 50-313
License No. DPR-51

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) hereby requests the following amendment to the Arkansas Nuclear One, Unit 1 (ANO-1) Technical Specifications (TS). The proposed amendment would revise TS 3.4.15, "RCS Leakage Detection Instrumentation", to define a new time limit for restoring inoperable Reactor Coolant System (RCS) leakage detection instrumentation to operable status; establish alternate methods of monitoring RCS leakage when one or more required monitors are inoperable; and make TS Bases changes which reflect the proposed changes and more accurately reflect the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. The proposed changes are consistent with NRC-approved Revision 3 to TSTF Improved Standard Technical Specification Traveler 513. The availability of this TS improvement was announced in the Federal Register on January 3, 2011 (76 FRN 189), as part of the consolidated line item improvement process (CLIIP).

An evaluation of the proposed change is provided in Attachment 1. A mark-up of the affected TS page is contained in Attachment 2 of this submittal. Attachment 3 includes a markup of the associated TS Bases. Attachment 4 provides revised (clean) TS pages.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that the change involves no significant hazards consideration. The bases for these determinations are included in the attached submittal.

The proposed change does include a new commitment. The commitment is summarized in Attachment 5.

Entergy requests approval of the proposed amendment by May 1, 2012. Once approved, the amendment shall be implemented within 90 days. Although this request is neither exigent nor emergency, your prompt review is requested.

If you have any questions or require additional information, please contact Stephenie Pyle at 479-858-4704.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 29, 2011.

Sincerely,

Original Signed by Christopher J. Schwarz

CJS/rwc

Attachments:

1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)
3. Mark-up of Technical Specification Bases
4. Revised (clean) Technical Specification Pages
5. List of Regulatory Commitments

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Attachment 1

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Analysis of Proposed Technical Specification Change

1.0 DESCRIPTION

This letter is a request to amend Operating License DPR-51 for Arkansas Nuclear One, Unit 1 (ANO-1).

The proposed amendment would revise the Technical Specifications (TS) to define a new time limit for restoring inoperable Reactor Coolant System (RCS) leakage detection instrumentation to operable status; establish alternate methods of monitoring RCS leakage when one or more required monitors are inoperable; and make conforming TS Bases changes. These changes are consistent with NRC-approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-513-A, "Revise PWR Operability Requirements and Actions for RCS Leakage Instrumentation." The availability of this TS improvement was announced in the *Federal Register* on January 3, 2011 (76 FRN 189), as part of the consolidated line item improvement process (CLIIP).

2.0 PROPOSED CHANGES

The proposed changes revise and add a new Condition C to TS 3.4.15, "RCS Leakage Detection Instrumentation," and revise the associated bases. New Condition C is applicable when the reactor building (containment) atmosphere gaseous radioactivity monitor is the only operable TS-required monitor (i.e., all other monitors are inoperable). New Condition C Required Actions require analyzing grab samples of the reactor building atmosphere every 12 hours and restoring another monitor within 7 days. Additionally, the TS Bases, which summarize the reasons for the specifications, are revised to clarify the specified safety function for each required instrument in the limiting condition for operation (LCO) Bases, delete discussion from the Bases that could be construed to alter the meaning of TS operability requirements, and reflect the changes made to TS 3.4.15.

The proposed changes also correct inappropriate references to "required" equipment in TS 3.4.15. The specifications incorrectly refer to a "required" monitor. The term "required" is reserved for situations in which there are multiple ways to meet the LCO, such as the requirement for either a gaseous or particulate radiation monitor. The incorrect use of the term "required" is removed from TS 3.4.15 Condition A.

Entergy Operations, Inc. (Entergy) is not proposing variations or deviations from the TS changes described in TSTF-513, Revision 3, or the NRC staff's model safety evaluation (SE) published in the *Federal Register* on January 3, 2011 (76 FRN 189), as part of the CLIIP Notice of Availability.

3.0 BACKGROUND

NRC Information Notice (IN) 2005-24, "Nonconservatism in Leakage Detection Sensitivity," dated August 3, 2005, informed addressees that the reactor coolant activity assumptions for primary containment atmosphere gaseous radioactivity monitors may be non-conservative. This means the monitors may not be able to detect a one gallon per minute (gpm) leak within one hour. Some licensees have taken action in response to IN 2005-24 to remove the gaseous radioactivity monitor from the TS list of required monitors. However, industry

experience has shown that the primary containment atmosphere gaseous radiation monitor is often the first monitor to indicate an increase in RCS leak rate. As a result, the TSTF and the NRC staff met on April 29, 2008, and April 14, 2009, to develop an alternative approach to address the issue identified in IN 2005-24. The agreed solution is to retain the primary containment atmosphere gaseous radiation monitor in the LCO list of required equipment, revise the specified safety function of the gas monitor to specify the required instrument sensitivity level, revise the Actions to require additional monitoring, and provide less time before a plant shutdown is required when the primary containment atmosphere gaseous radiation monitor is the only operable monitor.

4.0 TECHNICAL ANALYSIS

Entergy has reviewed TSTF-513, Revision 3, and the model SE published on January 3, 2011 (76 FRN 189), as part of the CLIIP Notice of Availability. Entergy has concluded that the technical bases presented in TSTF Traveler-513, Revision 3, and the model SE prepared by the NRC staff are applicable to ANO-1.

The proposed amendment revises the language in the TS Bases that describes when the gaseous and particulate containment atmosphere radioactivity monitor is operable. The proposed amendment requires additional batch or manual RCS leakage monitoring to be performed when the primary reactor building atmosphere gaseous radiation monitor is the only operable continuous or automatic monitor. These alternative batch methods provide an RCS leakage detection capability similar to the TS-required methods. The grab sample has an RCS leakage detection capability that is comparable to that of the containment particulate radiation monitor. The proposed Actions and Completion Times for grab samples are adequate because use of frequent grab samples provides additional assurance (in addition to the mass balances required by Condition A) that any significant RCS leakage will be detected prior to significant reactor coolant pressure boundary (RCPB) degradation.

One of the items required by General Design Criteria (GDC) 30 is a means to detect and to the extent possible, identify the location of the source of reactor coolant leakage. ANO-1 uses three methods for detecting reactor coolant leakage. These methods are as follows:

- Reactor Building Sump Level
- RCS Inventory Balance
- Reactor Building Radiation Monitoring

Changes in reactor building sump water level may be an indication of RCS leakage. The Reactor Building Sump Level Detection System consists of two separate instrumentation loops. Each loop has a control room indicator and can be displayed on computer. The instrument design is such that a 1 gpm leak would be detected in less than one hour.

While not a TS-required RG 1.45 method, an RCS Inventory Balance is also used to determine RCS leak rates. This method is required by ANO-1 TS 3.4.13, “RCS Operational Leakage,” Surveillance Requirement (SR) 3.4.13.1. This SR is also required to be performed by Required Actions A.1 and B.1.2 of TS 3.4.15 when an RCS leak detection instrument is inoperable. Makeup up to the RCS as a result of leakage is initially supplied from the makeup tank inventory. Monitoring of the makeup tank level also provides a direct indication of reactor coolant leakage. With the reactor coolant average temperature and pressurizer water level held constant, a 1 gpm leak can be detected within 1.1 hours using this instrumentation.

Changes in the reactor coolant leakage rate in the reactor building may cause changes in the control room indication of the reactor building atmosphere gas radioactivities. The minimum detectable concentration of the reactor building radioactive gas detector is 5.5 E-7 microcuries per cubic centimeter of Xenon 133 in a 2.5 millirem per hour background. Response times for various levels of failed fuel are given in Section 4.2.3.8 of the ANO-1 Safety Analysis Report (SAR). An increase above the alarm setpoint would annunciate immediately.

Based on this information, ANO-1 is in compliance with GDC 30. Section 4.2.3.8 of the ANO-1 SAR and the bases of TS 3.4.15 may be referenced for additional details associated with General Design Criteria 30 compliance.

5.0 REGULATORY SAFETY ANALYSIS

5.1 NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Entergy Operations, Inc. (Entergy) has evaluated the proposed change to the TS using the criteria in 10 CFR 50.92 and has determined that the proposed change does not involve a significant hazards consideration. An analysis of the issue of no significant hazards consideration is presented below:

Description of Amendment Request: The proposed amendment would revise TS 3.4.15, “Reactor Coolant System (RCS) Leakage Detection Instrumentation” Conditions and Required Actions and the licensing basis for the gaseous radiation monitor, as well as make associated TS Bases changes for TS 3.4.15, consistent with TSTF-513-A, Revision 3, “Revise PWR Operability Requirements and Actions for RCS Leakage Instrumentation.”

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), Entergy’s analysis of the issue of no significant hazards consideration using the standards in 10 CFR 50.92 is presented below. This analysis is consistent with the NRC model application associated with TSTF-513-A, Revision 3.”

1 Does the Proposed Change Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated?

Response: No

The proposed change clarifies the operability requirements for the RCS leakage detection instrumentation and reduces the time allowed for the plant to operate when the only TS-required operable RCS leakage detection instrumentation monitor is the reactor building atmosphere gaseous radiation monitor. The monitoring of RCS leakage is not a precursor to any accident previously evaluated. The monitoring of RCS leakage is not used to mitigate the consequences of any accident previously evaluated. Therefore, it is concluded that the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2 Does the Proposed Change Create the Possibility of a New or Different Kind of Accident from any Accident Previously Evaluated?

Response: No

The proposed change clarifies the operability requirements for the RCS leakage detection instrumentation and reduces the time allowed for the plant to operate when the only TS-required operable RCS leakage detection instrumentation monitor is the reactor building atmosphere gaseous radiation monitor. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change maintains sufficient continuity and diversity of leak detection capability that the probability of piping evaluated and approved for Leak-Before-Break progressing to pipe rupture remains extremely low. Therefore, it is concluded that the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3 Does the Proposed Change Involve a Significant Reduction in a Margin of Safety?

Response: No

The proposed change clarifies the operability requirements for the RCS leakage detection instrumentation and reduces the time allowed for the plant to operate when the only TS-required operable RCS leakage detection instrumentation monitor is the reactor building atmosphere gaseous radiation monitor. Reducing the amount of time the plant is allowed to operate with only the reactor building atmosphere gaseous radiation monitor operable increases the margin of safety by increasing the likelihood that an increase in RCS leakage will be detected before it potentially results in gross failure. Therefore, it is concluded that the proposed change does not involve a significant reduction in a margin of safety.

Based upon the above analysis, Entergy concludes that the requested change does not involve a significant hazards consideration, as set forth in 10 CFR 50.92(c), “Issuance of Amendment.”

5.2 APPLICABLE REGULATORY REQUIREMENTS/CRITERIA

A description of the proposed TS change and its relationship to applicable regulatory requirements were published in the Federal Register Notice of Availability on January 3, 2011 (76 FR 189). Entergy has reviewed the NRC staff’s model SE referenced in the CLIIP Notice of Availability and concluded that the regulatory evaluation section is applicable to Arkansas Nuclear One, Unit 1.

6.0 ENVIRONMENTAL CONSIDERATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

Attachment 2

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Proposed Technical Specification Changes (mark-up)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

a. One reactor building sump monitor; and

b. One reactor building atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ~~Required r~~Reactor ~~b~~Building sump monitor inoperable.	A.1 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ----------	
	Perform SR 3.4.13.1.	Once per 24 hours
	AND	
	A.2 Restore ~~required~~ reactor building sump monitor to OPERABLE status.	30 days

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required reactor building atmosphere radioactivity monitor inoperable.	B.1.1 Analyze grab samples of the reactor building atmosphere. OR B.1.2 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ---------- Perform SR 3.4.13.1. AND B.2 Restore required reactor building atmosphere radioactivity monitor to OPERABLE status.	Once per 24 hours Once per 24 hours 30 days
----------NOTE---------- Only applicable when the reactor building atmosphere gaseous radiation monitor is the only OPERABLE monitor. ---------- C. Reactor Building sump monitor inoperable	C.1 Analyze grab samples of the reactor building atmosphere. AND C.2 Restore reactor building sump monitor to OPERABLE status.	Once per 12 hours 7 days
~~C~~D. Required Action and associated Completion Time not met.	~~C~~D.1 Be in MODE 3. AND ~~C~~D.2 Be in MODE 5.	6 hours 36 hours
~~D~~E. Both required monitors inoperable.	~~D~~E.1 Enter LCO 3.0.3.	Immediately

Attachment 3

1CAN041102

Mark-up of Technical Specification Bases
(For Information Only)

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.15 RCS Leakage Detection Instrumentation

BASES

BACKGROUND

SAR, Section 1.4, GDC 30 (Ref. 1) requires means for detecting and, to the extent practical, identifying the location of the source of RCS LEAKAGE. Regulatory Guide 1.45, Revision 0 (Ref. 2) describes acceptable criteria for selecting leakage detection systems.

Leakage detection systems must have the capability to detect significant reactor coolant pressure boundary (RCPB) degradation as soon after occurrence as practical to minimize the potential for propagation to a gross failure. Thus, an early indication is necessary to permit proper evaluation of all unidentified LEAKAGE. In addition to meeting the OPERABILITY requirements, the monitors are typically set to provide the most sensitive response without causing an excessive number of spurious alarms.

~~Industry practice has shown that water flow changes of 0.5 to 1.0 gpm can readily be detected in contained volumes by monitoring changes in water level, in flow rate, or in the operating frequency of a pump.~~ The reactor building sump used to collect unidentified LEAKAGE is instrumented to detect increases above~~of 1.0 gpm in~~ the normal fill rates. ~~This sensitivity is acceptable for detecting increases in unidentified LEAKAGE.~~

The reactor coolant contains radioactivity that, when released to the reactor building, may~~can~~ be detected by radiation monitoring instrumentation. Radioactivity detection systems are included for monitoring both particulate and gaseous activities because of their sensitivities and rapid responses to RCS LEAKAGE.

Other indications may be used to detect an increase in unidentified LEAKAGE; however, they are not required to be OPERABLE by this LCO. An increase in humidity of the reactor building atmosphere would indicate release of water vapor to the reactor building. Dew point temperature measurements can thus be used to monitor humidity levels of the reactor building atmosphere as an indicator of potential RCS LEAKAGE.

Since the humidity level is influenced by several factors, a quantitative evaluation of an indicated leakage rate by this means may be questionable and should be compared to observed increases in liquid flow into or from the reactor building sump. Humidity level monitoring is considered most useful as an indirect alarm or indication to alert the operator to a potential problem. Humidity monitors are not required by this LCO.

Air temperature and pressure monitoring methods may also be used to infer unidentified LEAKAGE to the reactor building. Reactor building temperature and pressure fluctuate slightly during unit operation, but a rise above the normally indicated range of values may indicate RCS LEAKAGE into the reactor building. The relevance of temperature and pressure measurements is~~are~~ affected by reactor building free volume and, for temperature, detector location. Indications from these instruments can be valuable in

recognizing rapid and sizable leakage to the reactor building. Temperature and pressure monitors are not required by this LCO.

The above-mentioned LEAKAGE detection methods or systems differ in sensitivity and response time. Some of these systems could serve as early alarm systems signaling the operators that closer examination of other detection systems is necessary to determine the extent of any corrective action that may be required.

APPLICABLE SAFETY ANALYSES

~~Except for primary to secondary LEAKAGE, the safety analyses do not address operational LEAKAGE. However, other operational LEAKAGE is related to the safety analyses for LOCA; the amount of leakage can affect the probability of such an event. Therefore, the~~The need to evaluate the severity of an alarm or an indication is important to the operators, and the ability to compare and verify with indications from other systems is necessary. The system response times and sensitivities are described in the SAR (Ref. 3).

The safety significance of RCS LEAKAGE varies widely depending on its source, rate, and duration. Therefore, detecting and monitoring reactor coolant LEAKAGE into the reactor building are necessary. Quickly separating the identified LEAKAGE from the unidentified LEAKAGE provides quantitative information to the operators, allowing them to take corrective action should a leak occur detrimental to the safety of the unit and the public.

In MODES 1 and 2, RCS leakage detection instrumentation satisfies Criterion 1 of 10 CFR 50.36 (Ref. 4). In MODES 3 and 4, RCS leakage detection instrumentation satisfies Criterion 4 of 10 CFR 50.36.

LCO

~~One method of protecting against large RCS LEAKAGE derives from the ability of instruments to rapidly detect small leaks.~~ This LCO requires instruments of diverse monitoring principles to be OPERABLE to provide ~~a high degree of~~ confidence that small ~~leaks~~amounts of unidentified LEAKAGE are detected in time to allow actions to place the unit in a safe condition when RCS LEAKAGE indicates possible RCPB degradation.

The LCO requires two instruments to be OPERABLE.

The reactor building sump is used to collect unidentified LEAKAGE The monitor on the reactor building sump detects level and is instrumented to detect when there is a leakage of 1 gpm. The identification of an increase in unidentified LEAKAGE will be delayed by the time required for the unidentified LEAKAGE to travel to the reactor building sump and it may take longer than one hour to detect a 1 gpm increase in unidentified LEAKAGE, depending on the origin and magnitude of the LEAKAGE. This sensitivity is acceptable for reactor building sump monitor OPERABILITY.

The reactor coolant contains radioactivity that, when released to the reactor building, can be detected by the gaseous or particulate reactor building atmosphere radioactivity monitor. Only one of the two detectors is required to be OPERABLE. Radioactivity

detections systems are included for monitoring both particulate and gaseous activities because of their sensitivities and rapid responses to RCS LEAKAGE, but have recognized limitations. Reactor coolant radioactivity levels will be low during initial reactor startup and for a few weeks thereafter, until activated corrosion products have been formed and fission products appear from fuel element cladding contamination or cladding defects. If there are few fuel element cladding defects and low levels of activation products, it may not be possible for the gaseous or particulate reactor building atmosphere radioactivity monitors to detect a 1 gpm increase within 1 hour during normal operation. However, the gaseous or particulate reactor building atmosphere radioactivity monitor is OPERABLE when it is capable of detecting a 1 gpm increase in unidentified LEAKAGE within 1 hour given an RCS activity equivalent to that assumed in the design calculations for the monitors (Ref. 3).

The LCO requirements are satisfied when monitors of diverse measurement means are available. Thus, the reactor building sump monitor, in combination with a particulate or gaseous radioactivity monitor, provides an acceptable minimum.

Only the normal or emergency power source is required for OPERABILITY of the CAMS. Because the CAMS is not required to mitigate an accident, single failure criteria is not applicable. In addition, the allowed outage time of an inoperable normal or emergency power source is much less (no more than 14 days) than that allowed by this specification when no CAMS is OPERABLE (30 days). Therefore, the CAMS may be considered OPERABLE provided at least its associated normal or emergency power source is OPERABLE.

APPLICABILITY

Because of elevated RCS temperature and pressure in MODES 1, 2, 3, and 4, RCS leakage detection instrumentation is required to be OPERABLE.

In MODE 5 or 6, the temperature and pressure are maintained low. Since the temperatures and pressures are lower than those for MODES 1, 2, 3, and 4, the likelihood of leakage and crack propagation is sufficiently smaller. Therefore, the requirements of this LCO are not applicable in MODES 5 and 6.

ACTIONS

A.1 and A.2

With the ~~required~~ reactor building sump monitor inoperable, no other form of sampling can provide the equivalent information. However, the reactor building atmosphere activity monitor will provide indications of changes in leakage. Together with the reactor building atmosphere radioactivity monitor, performing the periodic surveillance for RCS inventory balance, SR 3.4.13.1, at an increased frequency of 24 hours provides information that is adequate to detect leakage. A Note is added allowing that SR 3.4.13.1 is not required to be performed until 12 hours after establishing steady state operation (stable temperature, power level, pressurizer and makeup tank levels, makeup and letdown, and RCP seal injection and return flows) at or near operating pressure.

The 12 hour allowance provides sufficient time to collect and process all necessary data after stable unit conditions are established.

Restoration of the ~~required~~ sump monitor to OPERABLE status is required to regain the function in a Completion Time of 30 days after the monitor's failure. This time is acceptable considering the Frequency and adequacy of the RCS water inventory balance required by Required Action A.1.

B.1.1, B.1.2, and B.2

With the required gaseous or particulate reactor building atmosphere radioactivity monitoring instrumentation channel inoperable, alternative action is required. Either grab samples of the reactor building atmosphere must be taken and analyzed or water inventory balances, in accordance with SR 3.4.13.1, must be performed to provide alternate periodic information. With a sample obtained and analyzed or a water inventory balance performed every 24 hours, the reactor may be operated for up to 30 days to allow restoration of at least one of the radioactivity monitors.

The 24 hour interval provides periodic information that is adequate to detect leakage. A Note is added allowing that SR 3.4.13.1 is not required to be performed until 12 hours after establishing steady state operation (stable temperature, power level, pressurizer and makeup tank levels, makeup and letdown, and RCP seal injection and return flows) at or near operating pressure. The 12 hour allowance provides sufficient time to collect and process all necessary data after stable unit conditions are established. The 30 day Completion Time recognizes at least one other form of leak detection is available.

C.1 and C.2

With the reactor building sump monitor inoperable, the only means of detecting LEAKAGE is the required reactor building atmosphere radiation monitor. A Note clarifies that this Condition is applicable when the only OPERABLE monitor is the reactor building atmosphere gaseous radiation monitor. In addition, this configuration does not provide the required diverse means of leakage detection. Indirect methods of monitoring RCS leakage must be implemented. Grab samples of the reactor building atmosphere must be taken and analyzed to provide alternate periodic information. The 12 hour interval is sufficient to detect increasing RCS leakage. The Required Action provides 7 days to restore another RCS leakage monitor to OPERABLE status to regain the intended leakage detection diversity. The 7 day Completion Time ensures that the plant will not be operated in a degraded configuration for a lengthy time period.

D.1 and D.2

If the Required Action and associated Completion Time are not met, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

~~D~~E.1

With both required monitors inoperable, no indicated means of monitoring leakage are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

SURVEILLANCE REQUIREMENTS

SR 3.4.15.1

SR 3.4.15.1 requires the performance of a CHANNEL CHECK of the required reactor building atmosphere radioactivity monitor. The check gives reasonable confidence that each channel is operating properly. The Frequency of 12 hours is based on instrument reliability and is reasonable for detecting off normal conditions.

SR 3.4.15.2

SR 3.4.15.2 requires the performance of a CHANNEL FUNCTIONAL TEST of the required reactor building atmosphere radioactivity monitor. The test ensures that the monitor can perform its function in the desired manner. The test verifies the alarm function and relative accuracy of the instrument string. The Frequency of 92 days considers instrument reliability, and operating experience has shown it proper for detecting degradation.

SR 3.4.15.3 and SR 3.4.15.4

These SRs require the performance of a CHANNEL CALIBRATION for each of the required RCS leakage detection instrumentation channels. The calibration verifies the accuracy of the instrument string, including the instruments located inside the reactor building. The Frequency of 18 months is a typical refueling cycle and considers channel reliability. Additionally, operating experience has shown this Frequency is acceptable.

REFERENCES

1. SAR, Section 1.4, GDC 30.

2. Regulatory Guide 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973.

3. SAR, Section 4.2.3.8.

4. 10 CFR 50.36.

Attachment 4

1CAN041102

Revised (clean) Technical Specification Pages

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

a. One reactor building sump monitor; and

b. One reactor building atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor Building sump monitor inoperable.	A.1 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ----------	
	Perform SR 3.4.13.1.	Once per 24 hours
	AND	
	A.2 Restore reactor building sump monitor to OPERABLE status.	30 days

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required reactor building atmosphere radioactivity monitor inoperable.	B.1.1 Analyze grab samples of the reactor building atmosphere. OR B.1.2 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ---------- Perform SR 3.4.13.1. AND B.2 Restore required reactor building atmosphere radioactivity monitor to OPERABLE status.	Once per 24 hours Once per 24 hours 30 days
----------NOTE---------- Only applicable when the reactor building atmosphere gaseous radiation monitor is the only OPERABLE monitor. ---------- C. Reactor Building sump monitor inoperable	C.1 Analyze grab samples of the reactor building atmosphere. AND C.2 Restore reactor building sump monitor to OPERABLE status.	Once per 12 hours. 7 days
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 36 hours
E. Both required monitors inoperable.	E.1 Enter LCO 3.0.3.	Immediately

Attachment 5

1CAN041102

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
Entergy commits to revising the associated Technical Specification Bases consistent with TSTF-513, Revision 3, during implementation of the amendment	X		Within 90 days of NRC approval of the proposed TS amendment