August 7, 2014

L-2014-160
10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: ST LUCIE NUCLEAR PLANT
DOCKET NOs. 50-335 (Unit 1) and 50-389 (Unit 2)
APPLICATION TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-426, "REVISE OR ADD ACTIONS TO PRECLUDE ENTRY INTO LCO 3.0.3 - RITSTF INITIATIVES 6B & 6C," USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Florida Power & Light (FPL) is submitting a request for an amendment to the Technical Specifications (TS) for St. Lucie Unit 1 and Unit 2.

The proposed amendments would modify TS requirements to adopt the changes described in TSTF-426, Revision 5, "Revise or Add Actions to Preclude Entry into LCO 3.0.3 - RITSTF Initiatives 6b & 6c."

Attachment 1 provides a description and assessment of the proposed changes, the requested confirmation of applicability, and plant-specific verifications. Attachments 2 and 3 provide the existing TS pages marked up to show the proposed changes for Unit 1 and Unit 2, respectively. Attachments 4 and 5 provide marked up TS Bases pages for information only. Attachments 6 and 7 provide revised (clean) TS pages, correspondingly for Units 1 and 2.

Approval of the proposed amendments is requested within one year of the submittal date. Once approved, the amendments will be implemented within 60 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Florida Official.

This application has been reviewed by the St. Lucie Onsite Review Group.

This application makes no new commitments or changes to any other existing commitments.

A001
NRR

If you should have any questions regarding this submittal, please contact Eric Katzman, Licensing Manager, at (772) 467-7734.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 7, 2014

Sincerely,

Joseph Jensen
Site Vice President
St. Lucie Nuclear Plant

Attachments:
1. Description and Assessment
2. Proposed Unit 1 Technical Specifications Changes (Mark-Ups)
3. Proposed Unit 2 Technical Specifications Changes (Mark-Ups)
4. Proposed Unit 1 Technical Specifications Bases Changes (Mark-Ups)
5. Proposed Unit 2 Technical Specifications Bases Changes (Mark-Ups)
6. Revised Unit 1 Technical Specifications Pages (Clean)
7. Revised Unit 2 Technical Specifications Pages (Clean)

cc: Cynthia Becker, Chief – Florida Bureau of Radiation Control
USNRC Regional Administrator, Region II
USNRC Senior Resident Inspector, St. Lucie Units 1 and 2

ATTACHMENT 1 - DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed change provides a short Allowed Outage Time to restore an inoperable system for conditions under which the existing Technical Specifications require a plant shutdown. The proposed amendment is consistent with TSTF-426, Revision 5, "Revise or Add Actions to Preclude Entry into LCO 3.0.3 - RITSTF Initiatives 6b & 6c."

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Florida Power & Light (FPL) has reviewed TSTF-426, Revision 5, and the model safety evaluation dated May 30, 2013 as part of the Federal Register Notice of Availability. This review included a review of the Nuclear Regulatory Commission (NRC) staff evaluation, as well as the information provided in TSTF-426, Revision 5, and the referenced Topical Report WCAP-16125-NP-A, Revision 2, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown." As described in the subsequent paragraphs, FPL has concluded that the justifications presented in the TSTF-426 proposal and the model safety evaluation prepared by the NRC staff are applicable to St. Lucie Units 1 and 2 and justify these amendments for the incorporation of the changes to the St. Lucie Technical Specifications (TS).

2.2 Optional Changes and Variations

FPL is not proposing any deviations from the Technical Specifications changes described in TSTF-426, Revision 5, or the applicable parts of the NRC staff's model safety evaluation dated May 30, 2013; however, FPL is proposing the following differences that are administrative in nature and do not affect the applicability of TSTF-426, Revision 5 to St. Lucie Unit 1 and Unit 2.

1. St. Lucie uses different numbering and titles than in the Improved Standard Technical Specifications (ISTS) in several instances. The table below provides a cross-reference of those TS that are applicable for this application.

St. Lucie Unit 1	St. Lucie Unit 2	ISTS
N/A	TS 3.4.3, "Pressurizer"	TS 3.4.9, "Pressurizer"
TS 3.6.2, "Containment Spray and Cooling Systems"	TS 3.6.2, "Containment Spray and Cooling Systems"	TS 3.6.6A, "Containment Spray and Cooling Systems"
TS 3.6.6.1, "Shield Building Ventilation System (SBVS)"	TS 3.6.6.1, "Shield Building Ventilation System (SBVS)"	TS 3.6.8, "Shield Building Exhaust Air Cleanup System (SBEACS)"
TS 3.7.7, "Control Room Emergency Ventilation System"	TS 3.7.7, "Control Room Emergency Air Cleanup System (CREACS)"	TS 3.7.11, "Control Room Emergency Air Cleanup System (CREACS)"

St. Lucie Unit 1	St. Lucie Unit 2	ISTS
TS 3.7.7, "Control Room Emergency Ventilation System"	TS 3.7.7, Control Room Emergency Air Cleanup System (CREACS)"	TS 3.7.12, "Control Room Emergency Air Temperature Control System (CREATCS)"

2. The Unit 1 and Unit 2 designs do not include an independent Iodine Cleanup System (ICS). Each unit's Containment Spray System in conjunction with the Spray Additive System (Unit 1) and Iodine Removal System (Unit 2) is credited for iodine removal. Additionally, neither unit has a separate Penetration Room Exhaust Air Cleanup System. Therefore, the TSTF-426, Revision 5 changes for ICS are not included. This variation is administrative and does not affect the applicability of TSTF-426, Revision 5 to St. Lucie Unit 1 and Unit 2.

3. The Unit 1 Control Room Emergency Ventilation System (CREVS) and Unit 2 Control Room Emergency Air Cleanup System (CREACS) maintain habitability and provide cooling in the control room; therefore, each is equivalent in function to the Control Room Emergency Air Cleanup System (CREACS) and, for cooling only, the Control Room Air Temperature Control System (CREATCS). The CREVS differs in design being that the CREVS is not physically a two independent train system. A common filter train is shared by what are otherwise two physically and electrically independent CREVS "trains." Furthermore, the CREVS has three air conditioning units as opposed to two. At present, the Unit 1 TS do not address a loss of CREVS function -- for habitability or cooling -- caused by inoperability of both booster fans (effectively one per "train") or inoperability of all air conditioning units, respectively. As a result, an Action for inoperability of both booster fans with a 24-hour restoration period and other elements required by TSTF-426, Revision 5 is included for the CREVS habitability function in Modes 1, 2, 3, and 4. In addition, the current Action for inoperability of the common filter train in Modes 1, 2, 3, and 4, which also constitutes a loss of the CREVS habitability function, has been modified accordingly. Lastly, an Action has been included to address inoperability of all air conditioning units for loss of the CREVS cooling function, again, with a 24-hour restoration period. These variations meet the intent of the TSTF-426, Revision 5 changes for the CREACS and CREATCS. Consequently, these variations are administrative and do not affect the applicability of TSTF-426, Revision 5 to St. Lucie Unit 1. There are no similar variations from TSTF-426, Revision 5 required for St. Lucie Unit 2.

4. Changes to Pressurizer Heaters (for Unit 1 only), Pressurizer Power Operated Relief Valves (PORVs), and the Control Room Emergency Air Temperature Control System were not included in the WCAP-16125-NP-A, Revision 2 evaluation. Therefore, the TSTF-426, Revision 5 changes for the equivalent systems are not included in this request. These variations are administrative and do not affect the applicability of TSTF-426, Revision 5 to St. Lucie Unit 1 and Unit 2.

5. The change to the Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (ISTS) is not included. This change is prohibited in that the equivalent

system for Unit 1 and Unit 2, ECCS Area Ventilation System, performs a temperature control function which may impact the operability of the ECCS pumps and equipment.

6. Unit 1 and Unit 2 TS address PORV Block Valves only. TS 3.4.12, "PORV Block Valves," and TS 3.4.4, "PORV Block Valves," respectively, currently contain an Action for one or more PORV block valves inoperable. Within 1 hour it is required to either restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s). Although a change to the equivalent TS was approved in TSTF-426, Revision 5, FPL is not pursuing the change. Since each TS change was evaluated separately in WCAP-16125-NP-A, Revision 2, failure to adopt this change will not have an impact on the acceptability of adopting the remaining changes which apply. This variation is administrative and does not affect the applicability of TSTF-426, Revision 5, to the St. Lucie TS.

7. St. Lucie Unit 1 and Unit 2 TS contain requirements for the Boration System which do not appear in the Improved Standard Technical Specifications and, therefore, do not appear in TSTF-426. The referenced Topical Report, WCAP-16125-NP-A, included changes to the Boration System TS that were found to be acceptable by the NRC. As a result, proposed changes are included to the St. Lucie Unit 1 and Unit 2 Boration System TS, consistent with those evaluated and found acceptable in WCAP-16125-NP-A.

2.3 Licensee Verifications

St. Lucie confirms no licensee verifications are required.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

FPL requests adoption of TSTF-426, Revision 5, "Revise or Add Actions to Preclude Entry into LCO 3.0.3 - RITSTF Initiatives 6b & 6c," which is an approved change to the standard technical specifications (STS), into the St. Lucie Unit 1 and Unit 2 Technical Specifications. The proposed change provides a short Allowed Outage Time to restore an inoperable system for conditions under which the existing Technical Specifications require a plant shutdown to begin within one hour in accordance with Limiting Condition for Operation (LCO) 3.0.3.

FPL has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change provides a short Allowed Outage Time to restore an inoperable system for conditions under which the existing Technical Specifications require a plant

shutdown to begin within one hour in accordance with Limiting Condition for Operation (LCO) 3.0.3. Entering into Technical Specification Actions is not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not significantly increased. The consequences of any accident previously evaluated that may occur during the proposed Allowed Outage Times are no different from the consequences of the same accident during the existing one-hour allowance. As a result, the consequences of any accident previously evaluated are not significantly increased.

Therefore, 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.

   No new or different accidents result from utilizing the proposed change. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, the changes do not impose any new or different requirements. The changes do not alter assumptions made in the safety analysis.

   Therefore, 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 increases the time the plant may operate without the ability to perform an assumed safety function. The analyses in WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010, demonstrated that there is an acceptably small increase in risk due to a limited period of continued operation in these conditions and that this risk is balanced by avoiding the risks associated with a plant shutdown. As a result, the change to the margin of safety provided by requiring a plant shutdown within one hour is not significant.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FPL concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.0 ENVIRONMENTAL EVALUATION

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 20, or 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

PROPOSED UNIT 1 TECHNICAL SPECIFICATIONS PAGES

(MARK-UPS)

REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a boric acid makeup pump through a charging pump to the Reactor Coolant System.

b. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a gravity feed valve through a charging pump to the Reactor Coolant System.

c. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System.

OR

At least two of the following three boron injection flow paths shall be OPERABLE:

d. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both boric acid makeup pumps through a charging pump to the Reactor Coolant System.

e. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both gravity feed valves through a charging pump to the Reactor Coolant System.

f. The flow path from the refueling water storage tank, via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or make the reactor subcritical within the next 2 hours and borate to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.2 at 200°F; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

← INSERT 1

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY AND COOLING SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: Containment Spray System: MODES 1, 2, and MODE 3 with Pressurizer Pressure ≥ 1750 psia.

Containment Cooling System: MODES 1, 2, and 3.

ACTION:

1. Modes 1, 2, and 3 with Pressurizer Pressure ≥ 1750 psia:

   a. With one containment spray train inoperable, restore the inoperable spray train to OPERABLE status within 72 hours and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 54 hours.

   b. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 7 days and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   c. With one containment spray train and one containment cooling train inoperable, concurrently implement ACTIONS a. and b. The completion intervals for ACTION a. and ACTION b. shall be tracked separately for each train starting from the time each train was discovered inoperable.

INSERT 2

   ~~e~~d. With two containment cooling trains inoperable, restore one cooling train to OPERABLE status within 72 hours; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   ~~f~~e. With ~~two containment spray trains inoperable or~~ any combination of three or more trains inoperable, enter LCO 3.0.3 immediately.

2. Mode 3 with Pressurizer Pressure < 1750 psia:

   a. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 72 hours; otherwise be in MODE 4 within the next 6 hours.

   b. With two containment cooling trains inoperable, enter LCO 3.0.3 immediately.

CONTAINMENT SYSTEMS

3/4.6.6 SECONDARY CONTAINMENT

SHIELD BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent shield building ventilation systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one shield building ventilation system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 3

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each shield building ventilation system shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 10 hours with the heaters on.

b. By performing required shield building ventilation system filter testing in accordance with the Ventilation Filter Testing Program.

c. At least once per 18 months by:

1. Verifying that the air flow distribution is uniform within 20% across HEPA filters and charcoal adsorbers when tested in accordance with ASME N510-1989.

2. Verifying that the filtration system starts automatically on a Containment Isolation Signal (CIS).

3. Verifying that the filter cooling makeup air and cross connection valves can be manually opened.

4. Verifying that each system produces a negative pressure of $\geq$ 2.0 inches W.G. in the annulus within 2 minutes after a Containment Isolation Signal (CIS).

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7.1 The control room emergency ventilation system shall be OPERABLE with:

a. Two booster fans,

b. Two isolation valves in each outside air intake duct,

c. Two isolation valves in the toilet area air exhaust duct,

d. One filter train,

e. At least two air conditioning units, and

f. Two isolation valves in the kitchen area exhaust duct.

NOTE
The control room envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3 and 4:

a. With one booster fan inoperable, restore the inoperable fan to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one isolation valve per air duct inoperable, operation may continue provided the other isolation valve in the same duct is maintained closed; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 4

c. ~~With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the filter train to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

d. With only one air conditioning unit OPERABLE, restore at least two air conditioning units to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 5

Inserts for Unit 1 Technical Specifications

Insert 1

NOTE
Action not applicable when second or third required boron injection flow path intentionally made inoperable.

b. With none of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, immediately verify at least one HPSI subsystem is OPERABLE as a boration flow path, and restore at least one required boron injection flow path to the Reactor Coolant System to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

Insert 2

NOTE
Action not applicable when second containment spray train intentionally made inoperable.

d. With two containment spray trains inoperable, within 1 hour verify TS 3.7.7, "Control Room Emergency Ventilation System," is met, and restore at least one containment spray train to OPERABLE status within 24 hours; otherwise, be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

Insert 3

NOTE
Action not applicable when second shield building ventilation system intentionally made inoperable.

b. With two shield building ventilation systems inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one shield building ventilation system to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

Insert 4

With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and
2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and
3. Within 24 hours restore the filter train to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

Insert 5

NOTE
Action not applicable when second booster fan intentionally made inoperable.

e. With two booster fans inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and
2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and
3. Within 24 hours restore at least one booster fan to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

NOTE
Action not applicable when third air conditioning unit intentionally made inoperable.

f. With three air conditioning units inoperable for reasons other than an inoperable Control Room Envelope boundary, restore at least one air conditioning unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

ATTACHMENT 3

PROPOSED UNIT 2 TECHNICAL SPECIFICATIONS PAGES

(MARK-UPS)

REACTIVITY CONTROL SYSTEMS

FLOW PATHS – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a boric acid makeup pump through a charging pump to the Reactor Coolant System.

b. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a gravity feed valve through a charging pump to the Reactor Coolant System.

c. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System.

OR

At least two of the following three boron injection flow paths shall be OPERABLE:

d. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both boric acid makeup pumps through a charging pump to the Reactor Coolant System.

e. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both gravity feed valves through a charging pump to the Reactor Coolant System.

f. The flow path from the refueling water storage tank, via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to its COLR limit at 200 °F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

← INSERT 1

REACTOR COOLANT SYSTEM

3/4.4.3 PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.3 The pressurizer shall be OPERABLE with a minimum water level of greater than or equal to 27% indicated level and a maximum water level of less than or equal to 68% indicated level and at least two groups of pressurizer heaters capable of being powered from 1E buses each having a nominal capacity of at least 150 kW.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one group of the above required pressurizer heaters inoperable, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

INSERT 2

c~~b~~. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The pressurizer water volume shall be determined to be within its limits at least once per 12 hours.

4.4.3.2 The capacity of each of the above required groups of pressurizer heaters shall be verified to be at least 150 kW at least once per 92 days.

4.4.3.3 The emergency power supply for the pressurizer heaters shall be demonstrated OPERABLE at least once per 18 months by verifying that on an Engineered Safety Features Actuation test signal concurrent with a loss of offsite power:

a. the pressurizer heaters are automatically shed from the emergency power sources, and

b. the pressurizer heaters can be reconnected to their respective buses manually from the control room after resetting of the ESFAS test signal.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY AND COOLING SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: Containment Spray System: MODES 1, 2, and MODE 3 with Pressurizer Pressure ≥ 1750 psia.

Containment Cooling System: MODES 1, 2, and 3.

ACTION:

1. Modes 1, 2, and 3 with Pressurizer Pressure ≥ 1750 psia:

   a. With one containment spray train inoperable, restore the inoperable spray train to OPERABLE status within 72 hours and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 54 hours.

   b. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 7 days and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   c. With one containment spray train and one containment cooling train inoperable, concurrently implement ACTIONS a. and b. The completion intervals for ACTION a. and ACTION b. shall be tracked separately for each train starting from the time each train was discovered inoperable.

INSERT 3

   ~~c~~d. With two containment cooling trains inoperable, restore one cooling train to OPERABLE status within 72 hours; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   ~~d~~e. With ~~two containment spray trains inoperable or~~ any combination of three or more trains inoperable, enter LCO 3.0.3 immediately.

2. Mode 3 with Pressurizer Pressure < 1750 psia:

   a. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 72 hours; otherwise be in MODE 4 within the next 6 hours.

   b. With two containment cooling trains inoperable, enter LCO 3.0.3 immediately

CONTAINMENT SYSTEMS

3/4.6.6 SECONDARY CONTAINMENT

SHIELD BUILDING VENTILATION SYSTEM (SBVS)

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent Shield Building Ventilation Systems shall be OPERABLE.

APPLICABILITY: At all times in MODES 1, 2, 3, and 4.
In addition, during movement of recently irradiated fuel assemblies or during crane operations with loads over recently irradiated fuel assemblies in the Spent Fuel Storage Pool in MODES 5 and 6.

ACTION:

a. With the SBVS inoperable solely due to loss of the SBVS capability to provide design basis filtered air evacuation from the Spent Fuel Pool area, only ACTION-c is required. If the SBVS is inoperable for any other reason, concurrently implement ACTION-b and ACTION-c.

b. (1) With one SBVS inoperable in MODE 1, 2, 3, or 4, restore the inoperable system to OPERABLE status within 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 4

(2) ~~With both SBVS inoperable in MODE 1, 2, 3, or 4, immediately enter LCO 3.0.3.~~

c. (1) With one SBVS inoperable in any MODE, restore the inoperable system to OPERABLE status within 7 days; otherwise, suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

(2) With both SBVS inoperable in any MODE, immediately suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each Shield Building Ventilation System shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1. Performing a visual examination of SBVS in accordance with ASME N510-1989.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACS)

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency air cleanup systems shall be OPERABLE with:

a. A filter train and its associated fan per system, and

b. At least one air conditioning unit per system, and

c. Two isolation valves in the kitchen area exhaust duct, and

d. Two isolation valves in the toilet area exhaust duct, and

e. Two isolation valves in each (North and South) air intake duct.

NOTE
The control room envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

a. With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more control room emergency air cleanup systems inoperable due to an inoperable Control Room Envelope boundary:

1. Immediately initiate actions to implement mitigating actions, and

2. Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and

3. Restore Control Room Envelope boundary to OPERABLE status within 90 days.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. With an isolation valve in an air intake duct or air exhaust duct inoperable, operation may continue provided the other isolation valve in the same air intake or air exhaust duct is maintained closed; otherwise be in at least HOT STANDBY in the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 5

d. ~~With two control room emergency air cleanup systems inoperable for reasons other than an inoperable Control Room Envelope boundary, immediately enter LCO 3.0.3.~~

Inserts for Unit 2 Technical Specifications

Insert 1

NOTE
Action not applicable when second or third required boron injection flow path intentionally made inoperable.

b. With none of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, immediately verify at least one HPSI subsystem is OPERABLE as a boration flow path, and restore at least one required boron injection flow path to the Reactor Coolant System to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

Insert 2

NOTE
Action not applicable when second group of required pressurizer heaters intentionally made inoperable.

b. With two groups of required pressurizer heaters inoperable, restore at least one group of required pressurizer heaters to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

Insert 3

NOTE
Action not applicable when second containment spray train intentionally made inoperable.

d. With two containment spray trains inoperable, within 1 hour verify TS 3.7.7, "CREACS," is met and restore at least one containment spray train to OPERABLE status within 24 hours; otherwise, be in MODE 3 within the next 6 hours and in MODE 4 within the following 12 hours.

Insert 4

NOTE
Action not applicable when second SBVS intentionally made inoperable.

With both SBVSs inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one SBVS to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

Insert 5

NOTE
Action not applicable when second CREACS train intentionally made inoperable.

With two control room emergency air cleanup systems inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and
2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and
3. Within 24 hours restore at least one CREACS train to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

ATTACHMENT 4

PROPOSED UNIT 1 TECHNICAL SPECIFICATIONS BASES PAGES

(FOR INFORMATION ONLY)

SECTION NO.: 3/4.1	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 3 OF ADM-25.04 REACTIVITY CONTROL SYSTEMS ST. LUCIE UNIT 1	PAGE: 5 of 9
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3/4.1 **REACTIVITY CONTROL SYSTEMS** (continued)

BASES (continued)

3/4.1.2 **BORATION SYSTEMS**

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include 1) borated water sources, 2) charging pumps, 3) separate flow paths, 4) boric acid pumps, and 5) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

The boration capability of either system is sufficient to provide a SHUTDOWN MARGIN from all operating conditions corresponding to the requirements of Specification 3.1.1.2 after xenon decay and cooldown to 200°F. The maximum boration capability requirement occurs at EOL from full power equilibrium xenon conditions. This requirement can be met for a range of boric acid concentrations in the Boric Acid Makeup Tanks (BAMTs) and Refueling Water Tank (RWT). This range is bounded by 6800 gallons of 3.5 weight percent (6119 ppm boron) boric acid from the BAMTs and 17,000 gallons of 1900 ppm borated water from the RWT to 8700 gallons of 3.0 weight percent (5245 ppm boron) boric acid from the BAMTs and 13,000 gallons of 1900 ppm borated water from the RWT. A minimum of 45,000 gallons of 1900 ppm boron is required from the RWT if it is to be used to borate the RCS alone.

The requirements for a minimum contained volume of 401,800 gallons of borated water in the refueling water tank ensures the capability for borating the RCS to the desired level. The specified quantity of borated water is consistent with the ECCS requirements of Specification 3.5.4. Therefore, the larger volume of borated water is specified here as well.

INSERT 1B →

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable.

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3/4.1 **REACTIVITY CONTROL SYSTEMS** (continued)

BASES (continued)

3/4.1.2 **BORATION SYSTEMS** (continued)

Temperature changes in the RCS impose reactivity changes by means of the moderator temperature coefficient. Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SDM. Small changes in RCS temperature are unavoidable and so long as the required SDM is maintained during these changes, any positive reactivity additions will be limited to acceptable levels. Introduction of temperature changes must be evaluated to ensure they do not result in a loss of required SDM.

The boron addition capability after the plant has been placed in MODES 5 and 6 requires either 3650 gallons of 3.0 to 3.5 weight percent boric acid solution (5245 to 6119 ppm boron) from the boric acid tanks or 11,900 gallons of 1900 ppm borated water from the refueling water tank to makeup for contraction of the primary coolant that could occur if the temperature is lowered from 200°F to 140°F.

The restrictions associated with the establishing of the flow path from the RWT to the RCS via a single HPSI pump provide assurance that 10 CFR 50 Appendix G pressure/temperature limits will not be exceeded in the case of any inadvertent pressure transient due to a mass addition to the RCS. If RCS pressure boundary integrity does not exist as defined in Specification 1.16, these restrictions are not required. Additionally, a limit on the maximum number of operable HPSI pumps is not necessary when the pressurizer manway cover or the reactor vessel head is removed.

Ensuring that the BAM pump discharge pressure is met satisfies the periodic surveillance requirement to detect gross degradation caused by impeller structural damage or other hydraulic component problems. Along with this requirement, Section XI of the ASME Code verifies the pump developed head at one point on the pump characteristic curve to verify both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the unit safety analysis. Surveillance Requirements are specified in the Inservice Testing Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

INSERT 2B →

3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.2 **DEPRESSURIZATION AND COOLING SYSTEMS**

3/4.6.2.1 **CONTAINMENT SPRAY AND COOLING SYSTEMS**

The OPERABILITY of the containment spray and cooling systems ensures that depressurization and cooling capability will be available to limit post-accident pressure and temperature in the containment to acceptable values. During a Design Basis Accident (DBA), at least one containment cooling train and one containment spray train are capable of maintaining the peak pressure and temperature within design limits. One containment spray train has the capability, in conjunction with the Spray Additive System, to remove iodine from the containment atmosphere and maintain concentrations below those assumed in the safety analyses. To ensure that these conditions can be met considering single-failure criteria, two spray trains and two cooling trains must be OPERABLE.

The 72 hour action interval specified in ACTION 1.a and ACTION 1.d, and the 7 day action interval specified in ACTION 1.b take into account the redundant heat removal capability and the iodine removal capability of the remaining operable systems, and the low probability of a DBA occurring during this period. The 10 day constraint for ACTIONS 1.a and 1.b is based on coincident entry into two ACTION conditions (specified in ACTION 1.c) coupled with the low probability of an accident occurring during this time. If the system(s) cannot be restored to OPERABLE status within the specified completion time, alternate actions are designed to bring the unit to a mode for which the LCO does not apply. The extended interval (54 hours) specified in ACTION 1.a to be in MODE 4 includes 48 hours of additional time for restoration of the inoperable CS train, and takes into consideration the reduced driving force for a release of radioactive material from the RCS when in MODE 3. With ~~two containment spray trains or~~ any combination of three or more containment spray and containment cooling trains inoperable in MODES 1, 2, or Mode 3 with Pressurizer Pressure $\geq$ 1750 psia, the unit is in a condition outside the accident analyses and LCO 3.0.3 must be entered immediately. In MODE 3 with Pressurizer Pressure < 1750 psia, containment spray is not required.

INSERT 3B

The specifications and bases for LCO 3.6.2.1 are consistent with NUREG-1432, Revision 0 (9/28/92), Specification 3.6.6A (Containment Spray and Cooling Systems; Credit taken for iodine removal by the Containment Spray System), and the plant safety analyses.

3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.2 **DEPRESSURIZATION AND COOLING SYSTEMS** (continued)

3/4.6.2.1 **CONTAINMENT SPRAY AND COOLING SYSTEMS** (continued)

Ensuring that the containment spray pump discharge pressure is met satisfies the periodic surveillance requirement to detect gross degradation caused by impeller structural damage or other hydraulic component problems. Along with this requirement, Section XI of the ASME Code verifies the pump developed head at one point on the pump characteristic curve to verify both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the unit safety analysis. Surveillance Requirements are specified in the Inservice Testing Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

INSERT 4B

3/4.6.2.2 **SPRAY ADDITIVE SYSTEM**

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a containment sump pH value of between 7.0 and 9.66 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

3/4.6.2.3 **DELETED**

3/4.6.3 **CONTAINMENT ISOLATION VALVES**

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

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3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SHIELD BUILDING VENTILATION SYSTEM

The OPERABILITY of the shield building ventilation systems ensures that containment vessel leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere. This requirement is necessary to meet the assumptions used in the accident analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions.

INSERT 5B

With respect to Surveillance 4.6.6.1.b, this SR verifies that the required Shield Building Ventilation System filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP).

INSERT 6B

3/4.6.6.2 SHIELD BUILDING INTEGRITY

SHIELD BUILDING INTEGRITY ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with operation of the shield building ventilation system, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

3/4.6.6.3 SHIELD BUILDING STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment shield building will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide 1) protection for the steel vessel from the external missiles, 2) radiation shielding in the event of a LOCA, and 3) an annulus surrounding the steel vessel that can be maintained at a negative pressure within two minutes after a LOCA.

3/4.7 **PLANT SYSTEMS** (continued)

BASES (continued)

3/4.7.7 **CONTROL ROOM EMERGENCY VENTILATION SYSTEM** (continued)

In order for the CREVS to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and that CRE occupants are protected from smoke.

The LCO is modified by a Note allowing the CRE boundary to be opened intermittently under administrative controls. This Note only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

In MODES 1, 2, 3, or 4, the CREVS must be OPERABLE to ensure that the CRE will remain habitable to limit operator exposure during and following a DBA. ← INSERT 7B

If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem total effective dose equivalent - TEDE), or inadequate protection of CRE occupants from smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

← INSERT 8B

Inserts for Unit 1 Technical Specification Bases

Insert 1B

With none of the required boron injection flow paths OPERABLE, restoring at least one required boron injection flow path to OPERABLE status is required within 24 hours. The Action is modified by a Note stating it is not applicable if the second or third required boron injection flow path is intentionally declared inoperable. The Action is not intended for voluntary removal of redundant systems or components from service. The Action is only applicable if two required boron injection flow paths are inoperable for any reason and the third required boron injection flow path is discovered to be inoperable, or if all required boron injection flow paths are discovered to be inoperable at the same time. In addition, it must be verified that at least one boron injection flow path via high pressure safety injection is OPERABLE. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the defense-in-depth that is afforded by the high pressure safety injection pumps, the infrequent use of the Action, and the small incremental effect on plant risk.

Insert 2B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 3B

With two required containment spray trains inoperable, at least one of the required containment spray trains must be restored to OPERABLE status within 24 hours. Both trains of containment cooling must be OPERABLE or Action e is also entered. The Action is modified by a Note stating it is not applicable if the second containment spray train is intentionally declared inoperable. The Action does not apply to voluntary removal of redundant systems or components from service. The Action is only applicable if one train is inoperable for any reason and the second train is discovered to be inoperable, or if both trains are discovered to be inoperable at the same time. In addition, LCO 3.7.7, "Control Room Emergency Ventilation System," must be verified to be met within 1 hour. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs after an accident. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the redundant heat removal capabilities afforded by the Containment Cooling System, the iodine removal capability of the Control Room Emergency Ventilation System, the infrequent use of the Action, and the small incremental effect on plant risk.

Insert 4B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Inserts for Unit 1 Technical Specifications Bases

Insert 5B

If two shield building ventilation systems (SBVSs) are inoperable, at least one SBVS must be returned to OPERABLE status within 24 hours. The Action is modified by a Note stating it is not applicable if the second SBVS is intentionally declared inoperable. The Action does not apply to voluntary removal of redundant systems or components from service. The Action is only applicable if one system is inoperable for any reason and the second system is discovered to be inoperable, or if both systems are discovered to be inoperable at the same time. In addition, at least one train of containment spray must be verified to be OPERABLE within 1 hour. In the event of an accident, containment spray reduces the potential radioactive release from the containment, which reduces the consequences of the inoperable SBVS. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the infrequent use of the Actions and the small incremental effect on plant risk.

Insert 6B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 7B

If the CREVS function, whether that for maintaining control room habitability or for cooling, is lost in MODE 1, 2, 3, or 4 due to the filter train, both booster fans, or all (three) air conditioning units being inoperable for reasons other than an inoperable CRE boundary, the filter train, at least one booster fan, or at least one air conditioning unit must be returned to OPERABLE status within 24 hours (Action c, Action e, and Action f), respectively. Action e for the booster fans and Action f for the air conditioning units are each modified by a Note stating it is not applicable if the second booster fan of if the third air conditioning unit is intentionally declared inoperable. Action e and Action f do not apply to voluntary removal of redundant systems or components from service. Action e is only applicable if one booster fan is inoperable for any reason and the second booster fan is discovered to be inoperable, or if both booster fans are discovered to be inoperable at the same time. Action f is only applicable if one or two air conditioning units are inoperable for any reason and the remaining two or the remaining one air conditioning unit(s), respectively, is discovered to be inoperable, or if all air conditioning units are discovered to be inoperable at the same time. During the period that components are inoperable such that the CREVS function for maintaining habitability is lost, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from potential hazards. In the event of a DBA, the mitigating actions will reduce the consequences of radiological exposures to the CRE occupants. Specification 3.4.8, "Specific Activity," allows limited operation with the reactor coolant system (RCS) activity significantly greater than the LCO limit. This presents a risk to the plant operator during an accident when the CREVS control room habitability function is lost. Therefore, for Action c and Action e it must be verified within 1 hour that LCO 3.4.8 is met.

Additional RCS sampling beyond that normally required by LCO 3.4.8 is not necessary. At least one CREVS train, regardless of which function is impaired, must be returned to OPERABLE status within 24 hours. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the infrequent use of the Actions and the small incremental effect on plant risk.

Insert 8B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

ATTACHMENT 5

PROPOSED UNIT 2 TECHNICAL SPECIFICATIONS BASES PAGES

(FOR INFORMATION ONLY)

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3/4.1 **REACTIVITY CONTROL SYSTEMS** (continued)

BASES (continued)

3/4.1.2 **BORATION SYSTEMS**

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include (1) borated water sources, (2) charging pumps, (3) separate flow paths, (4) boric acid makeup pumps, and (5) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

The boration capability of either system is sufficient to provide a SHUTDOWN MARGIN from expected operating conditions of the limit specified in the COLR after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs at EOL from full power equilibrium xenon conditions. This requirement can be met for a range of boric acid concentrations in the Boric Acid Makeup Tank (BAMT) and Refueling Water Tank (RWT). This range is bounded by 8,750 gallons of 3.1 weight percent (5420 ppm boron) from the BAMT and 10,492 gallons of 1900 ppm borated water from the RWT to 7,550 gallons of 3.5 weight percent (6119 ppm boron) boric acid from BAMT and 11,692 gallons of 1900 ppm borated water from the RWT. A minimum of 33,000 gallons of 1900 ppm boron is required from the RWT if it is to be used to borate the RCS alone. This volume requirement, however, is expected to always be bounded by the ECCS RWT volume requirements of Specification 3.5.4.

INSERT 1B

With the RCS temperature below 200°F one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes inoperable.

#R5

3/4.1 REACTIVITY CONTROL SYSTEMS (continued)

BASES (continued)

3/4.1.2 BORATION SYSTEMS (continued)

Temperature changes in the RCS impose reactivity changes by means of the moderator temperature coefficient. Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SDM. Small changes in RCS temperature are unavoidable and so long as the required SDM is maintained during these changes, any positive reactivity additions will be limited to acceptable levels. Introduction of temperature changes must be evaluated to ensure they do not result in a loss of required SDM.

The boron capability required below 200°F is based upon providing a SHUTDOWN MARGIN corresponding to its COLR limit after xenon decay and cooldown from 200°F to 140°F. This condition can be satisfied by maintaining either 1443 gallons of 1900 ppm borated water from the refueling water tank or 1433 gallons of 3.1 weight percent boric acid solution from the boric acid makeup tanks. ~~R5~~

The contained water volume limits includes allowance for water not available because of discharge line location and other physical characteristics.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on contained water volume and boron concentration of the RWT also ensure a pH value of between 7.0 and 8.1 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. ~~R5~~

Ensuring that the BAM pump discharge pressure is met satisfies the periodic surveillance requirement to detect gross degradation caused by impeller structural damage or other hydraulic component problems. Along with this requirement, Section XI of the ASME Code verifies the pump developed head at one point on the pump characteristic curve to verify both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the unit safety analysis. Surveillance Requirements are specified in the In-service Testing Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

INSERT 2B

3/4.4 **REACTOR COOLANT SYSTEM** (continued)

BASES (continued)

3/4.4.2 **SAFETY VALVES** (continued)

Surveillance Requirements are specified in the Inservice Testing Program. Pressurizer code safety valves are to be tested in accordance with the requirements of Section XI of the ASME Code, which provides the activities and the frequency necessary to satisfy the Surveillance Requirements. No additional requirements are specified.

The pressurizer code safety valve as-found setpoint is 2500 psia +/- 3% for OPERABILITY; however, the valves are reset to 2500 psia +/- 1% during the Surveillance to allow for drift. The LCO is expressed in units of psig for consistency with implementing procedures. -JR9-

3/4.4.3 **PRESSURIZER**

A OPERABLE pressurizer provides pressure control for the Reactor Coolant System during operations with both forced reactor coolant flow and with natural circulation flow. The minimum water level in the pressurizer assures the pressurizer heaters, which are required to achieve and maintain pressure control, remain covered with water to prevent failure, which could occur if the heaters were energized uncovered. The maximum water level in the pressurizer ensures that this parameter is maintained within the envelope of operation assumed in the safety analysis. The maximum water level also ensures that the RCS is not a hydraulically solid system and that a steam bubble will be provided to accommodate pressure surges during operation. The steam bubble also protects the pressurizer code safety valves against water relief. The requirement to verify that on an Engineered Safety Features Actuation test signal concurrent with a loss of offsite power the pressurizer heaters are automatically shed from the emergency power sources is to ensure that the non-Class 1E heaters do not reduce the reliability of or overload the emergency power source. The requirement that a minimum number of pressurizer heaters be OPERABLE enhances the capability to control Reactor Coolant System pressure and establish and maintain natural circulation.

INSERT 3B

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3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY AND COOLING SYSTEMS

The OPERABILITY of the containment spray and cooling systems ensures that depressurization and cooling capability will be available to limit post-accident pressure and temperature in the containment to acceptable values. During a Design Basis Accident (DBA), at least one containment cooling train and one containment spray train are capable of maintaining the peak pressure and temperature within design limits. One containment spray train has the capability, in conjunction with the Iodine Removal System, to remove iodine from the containment atmosphere and maintain concentrations below those assumed in the safety analyses. To ensure that these conditions can be met considering single-failure criteria, two spray trains and two cooling trains must be OPERABLE.

The 72 hour action interval specified in ACTION 1.a and ACTION 1.d, and the 7 day action interval specified in ACTION 1.b take into account the redundant heat removal capability and the iodine removal capability of the remaining operable systems, and the low probability of a DBA occurring during this period. The 10 day constraint for ACTIONS 1.a and 1.b is based on coincident entry into two ACTION conditions (specified in ACTION 1.c) coupled with the low probability of an accident occurring during this time. If the system(s) cannot be restored to OPERABLE status within the specified completion time, alternate actions are designed to bring the unit to a mode for which the LCO does not apply. The extended interval (54 hours) specified in ACTION 1.a to be in MODE 4 includes 48 hours of additional time for restoration of the inoperable CS train, and takes into consideration the reduced driving force for a release of radioactive material from the RCS when in MODE 3. With ~~two containment spray trains or~~ any combination of three or more containment spray and containment cooling trains inoperable in MODES 1, 2, or Mode 3 with Pressurizer Pressure $\geq$ 1750 psia, the unit is in a condition outside the accident analyses and LCO 3.0.3 must be entered immediately. In MODE 3 with Pressurizer Pressure < 1750 psia, containment spray is not required.

INSERT 4B

The specifications and bases for LCO 3.6.2.1 are consistent with NUREG-1432, Revision 0 (9/28/92), Specification 3.6.6A (Containment Spray and Cooling Systems; Credit taken from iodine removal by the Containment Spray System), and the plant safety analyses.

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3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.2 **DEPRESSURIZATION AND COOLING SYSTEMS** (continued)

3/4.6.2.1 **CONTAINMENT SPRAY AND COOLING SYSTEMS** (continued)

Ensuring that the containment spray pump discharge pressure is met satisfies the periodic surveillance requirement to detect gross degradation caused by impeller structural damage or other hydraulic component problems. Along with this requirement, Section XI of the ASME Code verifies the pump developed head at one point on the pump characteristic curve to verify both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the unit safety analysis. Surveillance Requirements are specified in the Inservice Testing Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

INSERT 5B →

3/4.6.2.2 **IODINE REMOVAL SYSTEM**

The OPERABILITY of the Iodine Removal System ensures that sufficient N_2H_4 is added to the containment spray in the event of a LOCA. The limits on N_2H_4 volume and concentration ensure a minimum of 50 ppm of N_2H_4 concentration available in the spray for a minimum of 6.5 hours per pump for a total of 13 hours to provide assumed iodine decontamination factors on the containment atmosphere during spray function and ensure a pH value of between 7.0 and 8.1 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the safety analyses.

3/4.6.2.3 **DELETED**

3/4.6.3 **CONTAINMENT ISOLATION VALVES**

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through GDC 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.6.5 **VACUUM RELIEF VALVES** (continued)

SURVEILLANCE REQUIREMENTS: This SR references the Inservice Testing Program, which establishes the requirement that inservice testing of the ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda and approved relief requests. Therefore, the Inservice Testing Program governs SR interval. The butterfly valve setpoint is 9.85±0.35 inches of water gauge differential.

3/4.6.6 **SECONDARY CONTAINMENT**

3/4.6.6.1 **SHIELD BUILDING VENTILATION SYSTEM**

The OPERABILITY of the shield building ventilation systems ensures that containment vessel leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere and also reduces radioactive effluent releases to the environment during a fuel handling accident involving a recently irradiated fuel assembly in the spent fuel storage building. This requirement is necessary to meet the assumptions used in the safety analyses and limit the site boundary radiation doses to within the limits of 10 CFR 50.67 during LOCA conditions.

The fuel handling accident analysis assumes a minimum post reactor shutdown decay time of 72 hours. Therefore, recently irradiated fuel is defined as fuel that has occupied part of a critical reactor core within the previous 72 hours. This represents the applicability bases for fuel handling accidents. Containment closure will have administrative controls in place to assure that a single normal or contingency method to promptly close the primary or secondary containment penetrations will be available. These prompt methods need not completely block the penetrations nor be capable of resisting pressure, but are to enable the ventilation systems to draw the release from the postulated fuel handling accident in the proper direction such that it can be treated and monitored.

Operation of the system with the heaters on for at least 10 hours continuous over a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters.

INSERT 6B

SECTION NO.: 3/4.6	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 8 OF ADM-25.04 CONTAINMENT SYSTEMS ST. LUCIE UNIT 2	PAGE: 11 of 11
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3/4.6 CONTAINMENT SYSTEMS (continued)

BASES (continued)

With respect to Surveillance 4.6.6.1.b, this SR verifies that the required Shield Building Ventilation System filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP).

INSERT 7B →

3/4.6.6.2 SHIELD BUILDING INTEGRITY

SHIELD BUILDING INTEGRITY ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with operation of the shield building ventilation system, will ensure that the site boundary radiation doses are below the guidelines established for design basis.

3/4.6.6.3 SHIELD BUILDING STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment shield building will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide (1) protection for the steel vessel from the external missiles, (2) radiation shielding in the event of a LOCA, and (3) an annulus surrounding the steel vessel that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.

SECTION NO.: 3/4.7	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 9 OF ADM-25.04 PLANT SYSTEMS ST. LUCIE UNIT 2	PAGE: 13 of 16
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3/4.7 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.7.7 **CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM** (continued)

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour allowable outage time (AOT) is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day AOT is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day AOT is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

In MODE 1, 2, 3, or 4, if the inoperable CREACS or the CRE boundary cannot be restored to OPERABLE status within the required AOT, the unit must be placed in a MODE that minimizes the accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 3630 hours. The AOT 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.

INSERT 8B

When in MODES 5 and or 6, or during movement of irradiated fuel assemblies, with both CREACS trains inoperable or with one or more CREACS trains inoperable due to an inoperable CRE boundary, action must be taken immediately to suspend activities that could result in a release of radioactivity that might require isolation of the CRE. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

3/4.7 **CONTAINMENT SYSTEMS** (continued)

BASES (continued)

3/4.7.7 **CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM** (continued)

The Surveillance Requirement (SR) 4.7.7.e verifies the OPERABILITY of the CRE boundary by testing for unfiltered air inleakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air inleakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air inleakage is greater than the assumed flow rate in Modes 1, 2, 3, and 4, ACTION b must be taken. Required ACTION b.3 allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3, which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F. These compensatory measures may also be used as mitigating actions as required by Required Action b.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY, as discussed in letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability." Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

← INSERT 9B

3/4.7.8 **ECCS AREA VENTILATION SYSTEM**

The OPERABILITY of the ECCS Area Ventilation System ensures that cooling air is provided for ECCS equipment.

With respect to Surveillance 4.7.8.b, this SR verifies that the required ECCS Area Ventilation System filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP).

Inserts for Unit 2 Technical Specification Bases

Insert 1B

With none of the required boron injection flow paths OPERABLE, restoring at least one required boron injection flow path to OPERABLE status is required within 24 hours. The Action is modified by a Note stating it is not applicable if the second or third required boron injection flow path is intentionally declared inoperable. The Action is not intended for voluntary removal of redundant systems or components from service. The Action is only applicable if two required boron injection flow paths are inoperable for any reason and the third required boron injection flow path is discovered to be inoperable, or if all required boron injection flow paths are discovered to be inoperable at the same time. In addition, it must be verified that at least one boron injection flow path via high pressure safety injection is OPERABLE. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the defense-in-depth that is afforded by the high pressure safety injection pumps, the infrequent use of the Action, and the small incremental effect on plant risk.

Insert 2B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 3B

If two required groups of pressurizer heaters are inoperable, restoring at least one group of pressurizer heaters to OPERABLE status is required within 24 hours. The Action is modified by a Note stating it is not applicable if the second group of required pressurized heaters is intentionally declared inoperable. The Action is not intended for voluntary removal of redundant systems or components from service. The Action is only applicable if one group of required pressurized heaters is inoperable for any reason and the second group of required pressurized heaters is discovered to be inoperable, or if both groups of required pressurized heaters are discovered to be inoperable at the same time. If both required groups of pressurizer heaters are inoperable, the pressurizer heaters may not be available to help maintain subcooling in the RCS loops during a natural circulation cooldown following a loss of offsite power. The inoperability of two groups of required pressurizer heaters during the 24-hour Allowed Outage Time has been shown to be acceptable based on the infrequent use of the Action and the small incremental effect on plant risk (Reference 1).

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 4B

With two required containment spray trains inoperable, at least one of the required containment spray trains must be restored to OPERABLE status within 24 hours. Both trains of containment cooling must be OPERABLE or Action e is also entered. The Action is modified by a Note stating it is not applicable if the second containment spray train is intentionally declared inoperable. The Action does not apply to voluntary removal of redundant systems or components from service. The Action is only applicable if one train is inoperable for any reason and the second train is discovered to be inoperable, or if both trains are discovered to be inoperable at the same time. In addition, LCO 3.7.7, "CREACS," must be verified to be met within 1 hour. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs after an accident. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the redundant heat removal capabilities afforded by the Containment Cooling System, the iodine removal capability of the Control Room Emergency Air Cleanup System, the infrequent use of the Action, and the small incremental effect on plant risk.

Insert 5B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 6B

If two shield building ventilation systems (SBVSs) are inoperable, at least one SBVS must be returned to OPERABLE status within 24 hours. The Action is modified by a Note stating it is not applicable if the second SBVS is intentionally declared inoperable. The Action does not apply to voluntary removal of redundant systems or components from service. The Action is only applicable if one system is inoperable for any reason and the second system is discovered to be inoperable, or if both systems are discovered to be inoperable at the same time. In addition, at least one train of containment spray must be verified to be OPERABLE within 1 hour. In the event of an accident, containment spray reduces the potential radioactive release from the containment, which reduces the consequences of the inoperable SBVS. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the infrequent use of the Actions and the small incremental effect on plant risk.

Insert 7B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

Insert 8B

If both CREACS trains are inoperable in MODE 1, 2, 3, or 4 for reasons other than an inoperable control room boundary (i.e., Action b), at least one CREACS train must be returned to OPERABLE status within 24 hours. The Action is modified by a Note stating it is not applicable if the second CREACS train is intentionally declared inoperable. The Action does not apply to voluntary removal of redundant systems or components from service. The Action is only applicable if one train is inoperable for any reason and the second train is discovered to be inoperable, or if both trains are discovered to be inoperable at the same time. During the period that the CREACS trains are inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from potential hazards while both trains of CREACS are inoperable. In the event of a DBA, the mitigating actions will reduce the consequences of radiological exposures to the CRE occupants. Specification 3.4.8, "Specific Activity," allows limited operation with the reactor coolant system (RCS) activity significantly greater than the LCO limit. This presents a risk to the plant operator during an accident when all CREACS trains are inoperable. Therefore, it must be verified within 1 hour that LCO 3.4.8 is met. This Action does not require additional RCS sampling beyond that normally required by LCO 3.4.8. At least one CREACS train must be returned to OPERABLE status within 24 hours. The Allowed Outage Time is based on Reference 1 which demonstrated that the 24-hour Allowed Outage Time is acceptable based on the infrequent use of the Actions and the small incremental effect on plant risk.

Insert 9B

References

1. WCAP-16125-NP-A, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 2, August 2010.

ATTACHMENT 6

REVISED UNIT 1 TECHNICAL SPECIFICATIONS PAGES

(CLEAN PAGES)

REACTIVITY CONTROL SYSTEMS

FLOW PATHS – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a boric acid makeup pump through a charging pump to the Reactor Coolant System.

b. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a gravity feed valve through a charging pump to the Reactor Coolant System.

c. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System.

OR

At least two of the following three boron injection flow paths shall be OPERABLE:

d. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both boric acid makeup pumps through a charging pump to the Reactor Coolant System.

e. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both gravity feed valves through a charging pump to the Reactor Coolant System.

f. The flow path from the refueling water storage tank, via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or make the reactor subcritical within the next 2 hours and borate to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.2 at 200°F; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

REACTIVITY CONTROL SYSTEMS

FLOW PATHS – OPERATING

LIMITING CONDITION FOR OPERATION

NOTE
Action not applicable when second or third required boron injection flow path intentionally made inoperable.

b. With none of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, immediately verify at least one HPSI subsystem is OPERABLE as a boration flow path, and restore at least one required boron injection flow path to the Reactor Coolant System to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY AND COOLING SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: Containment Spray System: MODES 1, 2, and MODE 3 with Pressurizer Pressure ≥ 1750 psia.

Containment Cooling System: MODES 1, 2, and 3.

ACTION:

1. Modes 1, 2, and 3 with Pressurizer Pressure ≥ 1750 psia:

   a. With one containment spray train inoperable, restore the inoperable spray train to OPERABLE status within 72 hours and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 54 hours.

   b. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 7 days and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   c. With one containment spray train and one containment cooling train inoperable, concurrently implement ACTIONS a. and b. The completion intervals for ACTION a. and ACTION b. shall be tracked separately for each train starting from the time each train was discovered inoperable.

NOTE
Action not applicable when second containment spray train intentionally made inoperable.

   d. With two containment spray trains inoperable, within 1 hour verify TS 3.7.7, "Control Room Emergency Ventilation System," is met, and restore at least one containment spray train to OPERABLE status within 24 hours; otherwise, be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   e. With two containment cooling trains inoperable, restore one cooling train to OPERABLE status within 72 hours; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   f. With any combination of three or more trains inoperable, enter LCO 3.0.3 immediately.

2. Mode 3 with Pressurizer Pressure < 1750 psia:

   a. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 72 hours; otherwise be in MODE 4 within the next 6 hours.

   b. With two containment cooling trains inoperable, enter LCO 3.0.3 immediately.

CONTAINMENT SYSTEMS

3/4.6.6 SECONDARY CONTAINMENT

SHIELD BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent shield building ventilation systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one shield building ventilation system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

NOTE
Action not applicable when second shield building ventilation system intentionally made inoperable.

b. With two shield building ventilation systems inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one shield building ventilation system to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each shield building ventilation system shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 10 hours with the heaters on.

b. By performing required shield building ventilation system filter testing in accordance with the Ventilation Filter Testing Program.

c. At least once per 18 months by:

1. Verifying that the air flow distribution is uniform within 20% across HEPA filters and charcoal adsorbers when tested in accordance with ASME N510-1989.

2. Verifying that the filtration system starts automatically on a Containment Isolation Signal (CIS).

3. Verifying that the filter cooling makeup air and cross connection valves can be manually opened.

4. Verifying that each system produces a negative pressure of $\geq$ 2.0 inches W.G. in the annulus within 2 minutes after a Containment Isolation Signal (CIS).

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7.1 The control room emergency ventilation system shall be OPERABLE with:

a. Two booster fans,

b. Two isolation valves in each outside air intake duct,

c. Two isolation valves in the toilet area air exhaust duct,

d. One filter train,

e. At least two air conditioning units, and

f. Two isolation valves in the kitchen area exhaust duct.

NOTE
The control room envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3 and 4:

a. With one booster fan inoperable, restore the inoperable fan to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one isolation valve per air duct inoperable, operation may continue provided the other isolation valve in the same duct is maintained closed; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and

2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and

3. Within 24 hours restore the filter train to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

d. With only one air conditioning unit OPERABLE, restore at least two air conditioning units to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

NOTE
Action not applicable when second booster fan intentionally made inoperable.

e. With two booster fans inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and
2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and
3. Within 24 hours restore at least one booster fan to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

NOTE
Action not applicable when third air conditioning unit intentionally made inoperable.

f. With three air conditioning units inoperable for reasons other than an inoperable Control Room Envelope boundary, restore at least one air conditioning unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

ATTACHMENT 7

REVISED UNIT 2 TECHNICAL SPECIFICATIONS PAGES

(CLEAN PAGES)

REACTIVITY CONTROL SYSTEMS

FLOW PATHS – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a boric acid makeup pump through a charging pump to the Reactor Coolant System.

b. One flow path from the boric acid makeup tank(s) with the tank meeting Specification 3.1.2.8 part a) or b), via a gravity feed valve through a charging pump to the Reactor Coolant System.

c. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System.

OR

At least two of the following three boron injection flow paths shall be OPERABLE:

d. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both boric acid makeup pumps through a charging pump to the Reactor Coolant System.

e. One flow path from each boric acid makeup tank with the combined tank contents meeting Specification 3.1.2.8 c), via both gravity feed valves through a charging pump to the Reactor Coolant System.

f. The flow path from the refueling water storage tank, via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to its COLR limit at 200 °F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

NOTE
Action not applicable when second or third required boron injection flow path intentionally made inoperable.

b. With none of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, immediately verify at least one HPSI subsystem is OPERABLE as a boration flow path, and restore at least one required boron injection flow path to the Reactor Coolant System to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

REACTOR COOLANT SYSTEM

3/4.4.3 PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.3 The pressurizer shall be OPERABLE with a minimum water level of greater than or equal to 27% indicated level and a maximum water level of less than or equal to 68% indicated level and at least two groups of pressurizer heaters capable of being powered from 1E buses each having a nominal capacity of at least 150 kW.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one group of the above required pressurizer heaters inoperable, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

NOTE
Action not applicable when second group of required pressurizer heaters intentionally made inoperable.

b. With two groups of required pressurizer heaters inoperable, restore at least one group of required pressurizer heaters to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The pressurizer water volume shall be determined to be within its limits at least once per 12 hours.

4.4.3.2 The capacity of each of the above required groups of pressurizer heaters shall be verified to be at least 150 kW at least once per 92 days.

4.4.3.3 The emergency power supply for the pressurizer heaters shall be demonstrated OPERABLE at least once per 18 months by verifying that on an Engineered Safety Features Actuation test signal concurrent with a loss of offsite power:

a. the pressurizer heaters are automatically shed from the emergency power sources, and

b. the pressurizer heaters can be reconnected to their respective buses manually from the control room after resetting of the ESFAS test signal.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY AND COOLING SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: Containment Spray System: MODES 1, 2, and MODE 3 with Pressurizer Pressure ≥ 1750 psia.

Containment Cooling System: MODES 1, 2, and 3.

ACTION:

1. Modes 1, 2, and 3 with Pressurizer Pressure ≥ 1750 psia:

   a. With one containment spray train inoperable, restore the inoperable spray train to OPERABLE status within 72 hours and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 54 hours.

   b. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 7 days and within 10 days from initial discovery of failure to meet the LCO; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   c. With one containment spray train and one containment cooling train inoperable, concurrently implement ACTIONS a. and b. The completion intervals for ACTION a. and ACTION b. shall be tracked separately for each train starting from the time each train was discovered inoperable.

NOTE
Action not applicable when second containment spray train intentionally made inoperable.

   d. With two containment spray trains inoperable, within 1 hour verify TS 3.7.7, "CREACS," is met and restore at least one containment spray train to OPERABLE status within 24 hours; otherwise, be in MODE 3 within the next 6 hours and in MODE 4 within the following 12 hours.

   e. With two containment cooling trains inoperable, restore one cooling train to OPERABLE status within 72 hours; otherwise be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours.

   f. With any combination of three or more trains inoperable, enter LCO 3.0.3 immediately.

2. Mode 3 with Pressurizer Pressure < 1750 psia:

   a. With one containment cooling train inoperable, restore the inoperable cooling train to OPERABLE status within 72 hours; otherwise be in MODE 4 within the next 6 hours.

   b. With two containment cooling trains inoperable, enter LCO 3.0.3 immediately.

CONTAINMENT SYSTEMS

3/4.6.6 SECONDARY CONTAINMENT

SHIELD BUILDING VENTILATION SYSTEM (SBVS)

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent Shield Building Ventilation Systems shall be OPERABLE.

APPLICABILITY: At all times in MODES 1, 2, 3, and 4.
In addition, during movement of recently irradiated fuel assemblies or during crane operations with loads over recently irradiated fuel assemblies in the Spent Fuel Storage Pool in MODES 5 and 6.

ACTION:

a. With the SBVS inoperable solely due to loss of the SBVS capability to provide design basis filtered air evacuation from the Spent Fuel Pool area, only ACTION-c is required. If the SBVS is inoperable for any other reason, concurrently implement ACTION-b and ACTION-c.

b. (1) With one SBVS inoperable in MODE 1, 2, 3, or 4, restore the inoperable system to OPERABLE status within 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

NOTE
Action not applicable when second SBVS intentionally made inoperable.

(2) With both SBVSs inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one SBVS to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. (1) With one SBVS inoperable in any MODE, restore the inoperable system to OPERABLE status within 7 days; otherwise, suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

(2) With both SBVS inoperable in any MODE, immediately suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each Shield Building Ventilation System shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1. Performing a visual examination of SBVS in accordance with ASM N510-1989.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACS)

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency air cleanup systems shall be OPERABLE with:

a. A filter train and its associated fan per system, and
b. At least one air conditioning unit per system, and
c. Two isolation valves in the kitchen area exhaust duct, and
d. Two isolation valves in the toilet area exhaust duct, and
e. Two isolation valves in each (North and South) air intake duct.

NOTE
The control room envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

a. With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more control room emergency air cleanup systems inoperable due to an inoperable Control Room Envelope boundary:

1. Immediately initiate actions to implement mitigating actions, and
2. Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and
3. Restore Control Room Envelope boundary to OPERABLE status within 90 days.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. With an isolation valve in an air intake duct or air exhaust duct inoperable, operation may continue provided the other isolation valve in the same air intake or air exhaust duct is maintained closed; otherwise be in at least HOT STANDBY in the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

NOTE
Action not applicable when second CREACS train intentionally made inoperable.

d. With two control room emergency air cleanup systems inoperable for reasons other than an inoperable Control Room Envelope boundary:

1. Immediately initiate action to implement mitigating actions, and
2. Within 1 hour, verify LCO 3.4.8, "Specific Activity," is met, and
3. Within 24 hours restore at least one CREACS train to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.