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NL-12-039

May 23, 2012

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

SUBJECT: Proposed License Amendment Regarding Atmospheric Dump Valves
Indian Point Unit Number 3
Docket No. 50-286
License No. DPR-64

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc, (Entergy) hereby requests a License Amendment to Operating License DPR-64, Docket No. 50-286 for Indian Point Nuclear Generating Unit No. 3 (IP3). The proposed amendment will revise Technical Specification 3.7.4 limiting condition for operation to require four rather than three atmospheric dump valves. The current limiting condition for operation is not conservative and is being addressed in accordance with Administrative Letter 98-10.

Entergy has evaluated the proposed change in accordance with 10 CFR 50.91(a)(1) using the criteria of 10 CFR 50.92(c) and Entergy has determined that this proposed change involves no significant hazards, as described in Attachment 1. The marked up page showing the proposed changes are provided in Attachment 2. The associated Bases changes are provided in Attachment 3 for information. A copy of this application and the associated attachments are being submitted to the designated New York State official in accordance with 10 CFR 50.91.

Entergy requests approval of the proposed amendment within 12 months and an allowance of 30 days for implementation. There are no new commitments being made in this submittal. If you have any questions or require additional information, please contact Mr. Robert Walpole, Manager, Licensing at (914) 254-6710.

A001
NRR

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 23, 2012.

Sincerely,

JAV/sp

Attachments:
1. Analysis of Proposed Technical Specification Changes Regarding Atmospheric Dump Valves
2. Marked Up Technical Specifications Pages for Proposed Changes Regarding Atmospheric Dump Valves
3. Marked Up Technical Specification Bases Changes Associated with the Proposed Changes Regarding Atmospheric Dump Valves

cc: Mr. Douglas Pickett, Senior Project Manager, NRC NRR DORL
Mr. William Dean, Regional Administrator, NRC Region 1
NRC Resident Inspectors
Mr. Francis J. Murray, Jr., President and CEO, NYSERDA
Ms. Bridget Frymire, New York State Dept. of Public Service

ATTACHMENT 1 TO NL-12-039

ANALYSIS OF PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING ATMOSPHERIC DUMP VALVES

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

1.0 DESCRIPTION

Entergy Nuclear Operations, Inc (Entergy) is requesting an amendment to Operating License DPR-64, Docket No. 50-286 for Indian Point Nuclear Generating Unit No. 3 (IP3). The proposed amendment will revise Technical Specification (TS) 3.7.4 limiting condition for operation (LCO) to require four rather than three atmospheric dump valves (ADVs). The current limiting condition for operation is not conservative.

The specific proposed changes are listed in the following section.

2.0 PROPOSED CHANGES

The proposed TS changes are as follows:

Change TS 3.7.4 LCO from

> Three ADV lines shall be OPERABLE

To

> Four ADV lines shall be OPERABLE

The marked up Technical Specification page showing these changes is in Attachment 2. The associated Technical Specification Bases, to be made after approval using the 10 CFR 50.59 process, are in Attachment 3 for information.

3.0 BACKGROUND

The ADVs provide a method for cooling the unit to residual heat removal (RHR) entry conditions should the preferred heat sink via the Steam Bypass System (High Pressure Steam Dump) to the condenser not be available, as discussed in the FSAR, Section 10.2. This is done in conjunction with the Auxiliary Feedwater System providing cooling water from the condensate storage tank (CST). The ADVs may also be required to meet the design cooldown rate during a normal cooldown when steam pressure drops too low for maintenance of a vacuum in the condenser to permit use of the High Pressure Steam Dump System.

One ADV line for each of the four steam generators is provided. Each ADV line consists of one ADV and an associated manually operated block valve. The block valves are upstream of the ADVs to permit testing and maintenance at power, and to provide an alternate means of isolation. The ADVs are equipped with pneumatic controllers to permit control of the cooldown rate.

The ADVs are credited in the analysis for a steam generator tube rupture. The SG tube rupture will result in a reactor trip. The reactor trip automatically trips the turbine and, if offsite power is available, the steam dump valves open permitting steam dump to the condenser. The steam dump valves automatically close to protect the condenser in the event of a coincident loss of offsite power and subsequent circulating water pump trip. In this case the pressure in the steam generator

would rapidly increase resulting in steam discharge to the atmosphere through the steam generator ADVs. Steam would also be discharged to the atmosphere through the main steam safety valves (MSSVs) if their setpoint is reached (see FSAR Section 14.2.4).

4.0 TECHNICAL ANALYSIS

When IP3 converted from custom TS to Standard Technical Specifications (STS) (Reference 1) the specification for ADV was added because the custom TS had no requirements for the ADV. That conversion added three ADVs consistent with the STS. When the TS were revised for the power uprate (Reference 2), the SG tube rupture analysis assumed that three ADVs were available to reduce pressure and allow isolation of the ruptured generator. An LCO of 4 ADVs is required for three to be available since the ADV on the ruptured SG is not considered available. No additional ADV is assumed to fail consistent with the analysis (Reference 3) that was submitted in Reference 4.

The current LCO requires three atmospheric dump valves to be operable and proposed revision requires four atmospheric dump valves to be operable to conform to the analyses approved by the NRC during power uprate. The ADVs are not the initiators of any accident because a failed open ADV can be isolated with a block valve. The ADVs are relied upon to limit the releases during a steam generator tube rupture and the analysis depends on three ADVs. This requires the TS change to support the analysis. There are no changes to design, no changes to operating procedures and the revised LCO is consistent with the normal operating condition. The change reflects the approved accident analysis and therefore restores safety margin.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

Entergy Nuclear Operations, Inc. (Entergy) has evaluated the safety significance of the proposed change to the Indian Point 3 Technical Specifications which revise TS 3.7.4 LCO to require four rather than three ADVs. The proposed changes have been evaluated according to the criteria of 10 CFR 50.92, "Issuance of Amendment". Entergy has determined that the subject changes do not involve a Significant Hazards Consideration as discussed below:

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

   No. The current LCO requires three atmospheric dump valves to be operable and this would be revised to require four atmospheric dump valves to be operable to conform to the analyses approved by the NRC during power uprate. The ADV are not the initiators of any accident because a failed open ADV can be isolated with a block valve. The ADV are relied upon to limit the releases during a steam generator tube rupture and the analysis depends on three ADVs which requires the TS change to support it.

   Therefore the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   No. There are no changes to design, no changes to operating procedures and the revised LCO is consistent with the normal operating condition. Also, the ADV are not the initiators of any accident because a failed open ADV can be isolated with a block valve.

   Therefore the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   No. The change reflects the approved accident analysis and therefore restores safety margin by increasing the amount of ADVs required by the TS.

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

Based on the above, Entergy concludes that the proposed amendment to the Indian Point 3 Technical Specifications 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.

5.2 Applicable Regulatory Requirements / Criteria

The plant will continue to meet Criterion 3 of 10 CFR 50.36 which says "A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The current version of TS 3.7.4 is non conservative because the analysis of record for the steam generator tube rupture requires four ADVs to be operable. This allows three ADVs to be available for cooldown where one ADV becomes unavailable due to the ruptured steam generator tube. The plant is administratively controlled to ensure that four ADVs are available.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.3 Environmental Considerations

The proposed changes to the IP3 Technical Specifications do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment 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 amendment.

6.0 PRECEDENCE

Entergy found no Technical Specification revisions that would serve as precedent. Indian Point 2 has the same requirements that are proposed in this amendment and were approved at the time of change to improved TS.

7.0 REFERENCES

1. NRC Letter to Entergy Issuing Amendment For Conversion to Improved Standard Technical Specifications (TAC No. MA4359), dated February 27, 2001.

2. NRC Letter to Entergy Issuance of Amendment Regarding 4.85 Percent Stretch Power Uprate and Relocation of Cycle-Specific Parameters (TAC No. MC3552), dated March 24, 2005.

3. Indian Point Nuclear Generating Unit No. 3 Stretch Power Uprate NSSS and BOP Licensing Report, WCAP-16212-P, dated June 1, 2004 (Section 6.4.1).

4. Entergy Letter to NRC (NL-04-069) Regarding Proposed Changes to Technical Specifications; Stretch Power Uprate (4.85%) and Adoption of TSTF-339, dated June 3, 2004.

ATTACHMENT 2 TO NL-12-039

MARKED UP TECHNICAL SPECIFICATION PAGES FOR PROPOSED CHANGES REGARDING ATMOSPHERIC DUMP VALVES

Changes indicated by lineout for deletion and Bold/Italics for additions

Unit 3 Affected Pages:

3.7.4-1

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Dump Valves (ADVs)

LCO 3.7.4 ~~Three~~ ***Four*** ADV lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required ADV line inoperable.	A.1	Restore required ADV line to OPERABLE status.	7 days
B. Two or more required ADV lines inoperable.	B.1	Restore all but one ADV line to OPERABLE status.	24 hours
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	Be in MODE 4 without reliance upon steam generator for heat removal.	18 hours

ATTACHMENT 3 TO NL-12-039

MARKED UP TECHNICAL SPECIFICATION BASES CHANGES

ASSOCIATED WITH THE PROPOSED CHANGES

REGARDING ATMOSPHERIC DUMP VALVES

Changes indicated by lineout for deletion and Bold/Italics for additions

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

B 3.7 PLANT SYSTEMS

B 3.7.4 Atmospheric Dump Valves (ADVs)

BASES

BACKGROUND

The ADVs provide a method for cooling the unit to residual heat removal (RHR) entry conditions should the preferred heat sink via the Steam Bypass System (High Pressure Steam Dump) to the condenser not be available, as discussed in the FSAR, Section 10.2 (Ref. 1). This is done in conjunction with the Auxiliary Feedwater System providing cooling water from the condensate storage tank (CST). The ADVs may also be required to meet the design cooldown rate during a normal cooldown when steam pressure drops too low for maintenance of a vacuum in the condenser to permit use of the High Pressure Steam Dump System.

One ADV line for each of the four steam generators is provided. Each ADV line consists of one ADV and an associated manually operated block valve.

The block valves are upstream of the ADVs to permit testing and maintenance at power, and to provide an alternate means of isolation. The ADVs are equipped with pneumatic controllers to permit control of the cooldown rate.

The ADVs are provided with a pressurized gas supply of bottled nitrogen that is needed to support manual operation of the atmospheric dump valves. The nitrogen supply is sized to provide the sufficient pressurized gas to operate the ADVs for the time required for Reactor Coolant System cooldown to RHR entry conditions.

A description of the ADVs is found in Reference 1.

APPLICABLE SAFETY ANALYSES

The design basis of the ADVs is established by the capability to cool the unit to RHR entry conditions. The total relief capacity of the four ADVs is approximately 10% of the rated steam flow.

(continued)

APPLICABLE SAFETY ANALYSES (continued)

This is adequate to cool the unit to RHR entry conditions with only one steam generator and one ADV, utilizing the cooling water supply available in the CST.

In the accident analysis presented in Reference ~~1~~**2**, the ADVs are assumed to be used by the operator to cool down the unit to RHR entry conditions for accidents accompanied by a loss of offsite power. Prior to operator actions to cool down the unit, the main steam safety valves (MSSVs) are assumed to operate automatically to relieve steam and maintain the steam generator pressure below the design value. For the recovery from a steam generator tube rupture (SGTR) event, the operator is also required to perform a limited cooldown to establish adequate subcooling as a necessary step to terminate the primary to secondary break flow into the ruptured steam generator. The time required to terminate the primary to secondary break flow for an SGTR is more critical than the time required to cool down to RHR conditions for this event and also for other accidents. Thus, the SGTR is the limiting event for the ADVs. The requirement that ~~3 of the~~ 4 ADVs must be OPERABLE is established to ensure that at least ~~one~~ ***three*** ADV line***s are*** ~~is~~ available under local ***or remote*** control to conduct a plant cooldown following an event in which one steam generator becomes unavailable due to the event (i.e., SGTR ~~or SLB~~)~~., accompanied by a single, active~~ ***No*** failure of a second ADV line on an unaffected steam generator ***is postulated***.

The ADVs are equipped with block valves in the event an ADV spuriously fails open or fails to close during use.

The ADVs satisfy Criterion 3 of 10 CFR 50.36.

LCO

~~Three of the four~~ ***Four*** ADV lines are required to be OPERABLE. One ADV line is required from each of ~~three~~ ***four*** steam generators to ensure that at least ~~one~~ ***three*** ADV line***s are*** ~~is~~ available to conduct a unit cooldown following an SGTR, in which one steam generator becomes unavailable~~, accompanied by a single, active~~ ***and no*** failure of a second ADV line on an unaffected steam generator ***is postulated***. The block valves must be OPERABLE to isolate a failed open ADV line. A closed block valve does not render it or its ADV line inoperable because operator action time to open the block valve is supported in the accident analysis.

(continued)

BASES

LCO (continued)

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Turbine Steam Bypass System (High Pressure Steam Dump).

An ADV is considered OPERABLE when it is capable of providing controlled relief of the main steam flow and capable of fully opening and closing on demand (either remotely or under local control).

APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the ADVs are required to be OPERABLE.

In MODE 5 or 6, an SGTR is not a credible event.

ACTIONS

A.1

With one required ADV line inoperable, action must be taken to restore OPERABLE status within 7 days. The 7 day Completion Time allows for the ~~redundant~~ capability afforded by the remaining OPERABLE ADV lines. Specifically, with one of the ~~three~~ ***four*** required ADVs inoperable, at least ~~one~~ ***two*** ADV line***s are*** ~~is~~ available to conduct a plant cooldown following an event in which one steam generator becomes unavailable due to the event (i.e., SGTR ~~or SLB), accompanied by a single, active failure of a second ADV line on an unaffected steam generator~~. ***Also available are a nonsafety grade backup in the Steam Bypass System, and the safety related MSSVs. Additionally, the substantial margin between the SGTR analysis results and the Reference 3 dose acceptance limits supports a conclusion that the limits would be met if an inoperable ADV increases the time required to equalize pressure between the RCS and the ruptured SG following a SGTR.***

B.1

With two or more required ADV lines inoperable, action must be taken to restore all but one ADV line to OPERABLE status. Since the block valve can be closed to isolate an ADV, some repairs may be possible with the unit at power. The 24 hour Completion Time is reasonable to repair inoperable ADV lines, based on the availability of the Steam Bypass System (HP Steam Dump) and MSSVs, and the low probability of an event occurring during this period that would require the ADV lines.

(continued)

BASES

ACTIONS (continued)

C.1 and C.2

If the ADV lines cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4, without reliance upon steam generator for heat removal, within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

To perform a controlled cooldown of the RCS, the ADVs must be able to be opened either remotely or locally and throttled through their full range. This SR ensures that the ADVs are tested through a full control cycle at least once per fuel cycle. Performance of inservice testing or use of an ADV during a unit cooldown may satisfy this requirement. Operating experience has shown that these components usually pass the Surveillance when performed at the specified Frequency and, therefore, is acceptable from a reliability standpoint.

SR 3.7.4.2

The function of the block valve is to isolate a failed open ADV. Cycling the block valve both closed and open demonstrates its capability to perform this function. Performance of inservice testing or use of the block valve during unit cooldown may satisfy this requirement. Operating experience has shown that these components usually pass the Surveillance when performed at the specified Frequency and, therefore, is acceptable from a reliability standpoint.

REFERENCES

1. FSAR, Section 10.2.

2. ***FSAR, Section 14.2.4.***

3. ***NUREG-0800, Standard Review Plan, US Nuclear Regulatory Commission, Section 15.0.1, "Radiological Consequences Analysis Using Alternative Source Terms," Rev. 0, July 2000***