August 29, 2002

Mr. Anthony Pietrangelo
Nuclear Energy Institute
1776 I Street, N. W.
Suite 400
Washington, DC 20006-3708

Dear Mr. Pietrangelo:

The Nuclear Regulatory Commission (NRC) has completed its review of the Nuclear Energy Institute Technical Specification Change Traveler, TSTF-410, "Relocation of Steam Generator Level - High Trip to the TRM" proposed changes to NUREG-1432, Rev. 2, "Standard Technical Specifications Combustion Engineering Plants."

TSTF-410 proposes to relocate the RPS steam generator high level trip function to a licensee controlled document such as the technical requirements manual (TRM). The RPS steam generator level high trip function is provided to protect the main turbine from excessive moisture carryover that may result in damage to the turbine in the event of a feedwater transient. The main turbine is not a safety-related component and its loss does not impact the safety of the reactor core. The RPS steam generator high level trip function does not meet the criteria of 10 CFR 50.36. Therefore, the staff finds the proposed changes acceptable without modification. Accordingly, enclosed is the staff safety evaluation approving TSTF-410 for plant-specific license amendment requests and for incorporation into NUREG-1432, Rev. 2, "Standard Technical Specifications Combustion Engineering Plants."

Please contact me at (301) 415-1161 or e-mail wdb@nrc.gov if you have any questions or need further information on these proposed changes.

Sincerely,

/RA/
William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Enclosure: As stated

cc: J. Arbuckle, BWROG
D. Bice, CEOG
N. Clarkson, BWOG
S. Wideman, WOG
D. Hoffman, EXCEL

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SAFETY EVALUATION ON
PROPOSED CHANGES TO NUREG-1432,
STANDARD TECHNICAL SPECIFICATIONS
COMBUSTION ENGINEERING PLANTS

1.0 INTRODUCTION

By letter dated May 29, 2001 (Reference 1), the Nuclear Energy Institute (NEI) submitted Technical Specification (TS) Change Traveler, TSTF-410, "Relocation of Steam Generator Level - High Trip to the TRM" to NUREG-1432, Rev. 2, "Standard Technical Specifications Combustion Engineering Plants." The proposed changes would relocate the RPS steam generator high level trip function and the associated bases to a licensee controlled document such as the technical requirements manual (TRM). The TRM is part of the licensee's Final Safety Analysis Report (FSAR).

2.0 BACKGROUND

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant operating licenses to include Technical Specifications (TSs) as a part of the license. The Nuclear Regulatory Commission's (NRC or the Commission) regulatory requirements related to the content of TSs are set forth in Title 10 of the Code of Federal Regulations (10 CFR), Section 50.36, which requires that the TSs include items in five specific categories. These include (1) safety limits, limiting safety system settings and limiting control settings; (2) Limiting Conditions for Operation (LCOs); (3) Surveillance Requirements (SRs); (4) design features; and (5) administrative controls.

10 CFR 50.36 sets forth the following four criteria to be used in determining whether an LCO is required to be included in the TSs:

(1) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary (RCPB);

(2) A process variable, design feature, or operating restriction that is an initial condition of a design basis accident (DBA) or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;

(3) A structure, system, or component (SSC) that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; or

(4) An SSC which operating experience or probabilistic risk assessment (PRA) has shown to be significant to public health and safety.

Therefore, existing TS LCOs and related SRs that meet any of these criteria must be retained in the TSs, while those TS requirements that do not satisfy these criteria may be relocated to other, licensee-controlled documents.

The NRC has previously approved the subject change on a plant specific basis. These previous approvals include Arkansas Nuclear One, Unit 2, dated May 18, 2000 (ADAMS Accession Number ML003718712), San Onofre, Units 2 and 3, dated February 9,1996, and San Onofre, Unit 1, dated June 23, 1989.

3.0 EVALUATION

The RPS “steam generator level - high” trip function is provided to protect the main turbine from excessive moisture carryover that may result in damage to the turbine in the event of a feedwater transient. During a feedwater malfunction, steam generator (SG) level may rise to the point that significant portions of the moisture separators are covered with water. At some point, the moisture carryover which is normally less than 1% begins to rise. The moisture mist entering the steam line could cause increased vibration, blade wear, and eventual permanent damage to the main turbine. Therefore, upon the SG level exceeding the high SG level trip setpoint, a reactor trip is initiated, which automatically trips the main turbine. However, the main turbine is not a safety-related component and its loss does not impact the safety of the reactor core.

The high SG level trip function does not act to protect the reactor core. This trip function is not credited in any DBA or transient analysis, nor does it correspond to any safety limit. Furthermore, this trip (1) is not an instrument that is used to detect a significant abnormal degradation of the RCPB; (2) is not a process variable, design feature, nor operating restriction that is an initial condition of a DBA or transient analysis; and (3) is not relied upon as part of the primary success path nor functions or actuates to mitigate a DBA or transient.

The high SG level trip function does not meet criterion 4. As discussed in its safety evaluation (Reference 2) on Combustion Engineering Owners Group’s (CEOG) response to NRC Generic Letter 89-19 regarding the SG overfill protection, the NRC staff accepted the CEOG’s contention from a PRA viewpoint that SG overfill events do not have a significant impact on the public health and safety. The NRC staff concluded that there is a low likelihood of significant risk to public health and safety due to SG overfill event. Additionally, the NRC staff concluded that if CE plant licensees implement appropriate operator training and procedures to address steam generator overfill events and the small break loss-of-coolant accident scenarios, and perform an evaluation to confirm the applicability of the CEOG analyses to their facilities, then automatic overfill protection for the steam generators is not necessary.

Accordingly, the RPS high SG level trip function does not meet any of the 10 CFR 50.36 criteria for inclusion in the TS and can be removed from the TS. The proposed TS changes would delete the following items related to the high SG level trip function from the Standard Technical Specifications Combustion Engineering Plants (digital only) and relocate them to the TRM.

(1) The allowable value of Function 10, “Steam Generator #1 Level - High” in TS Table 3.3.1-1, “Reactor Protective System Instrumentation,” and the associated Bases of the CEOG 3.3.1 digital specifications.

(2) The allowable value of Function 11, “Steam Generator #2 Level - High” in TS Table 3.3.1-1, “Reactor Protective System Instrumentation,” and the associated Bases of the CEOG 3.3.1 digital specifications.

Additional editorial changes to the CE Standard Technical Specifications include renumbering of Functions 12, 13, 14, 15, and 16 in STS Table 3.3.1-1.

Based on the above, the staff has concluded that RPS SG level high trip function does not meet the requirements of 10 CFR 50.36 for inclusion into the TSs, and therefore, the RPS SG level high trip function can be relocated to the TRM.

4.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that RPS SG level high trip function can be relocated from NUREG-1432, Rev. 2, “Standard Technical Specifications Combustion Engineering Plants,” to the TRM. As such, the Commission has concluded that the proposed TSTF-410, Revision 0, changes are acceptable.

5.0 REFERENCES

1. Pietrangelo, A. R., Nuclear Energy Institute, to W. D. Beckner, USNRC, “Forwarding TSTFs and Updating TSTFs Status,” May 29, 2001.

2. Thomas, C.O., USNRC, to J. J. Hutchinson, CE Owners Group, “NRC Generic Letter 89-19, CEOG Concerns Regarding Steam Generator Overfill Protection (SGOP),” September 13, 1994.