

August 19, 1999
RC-99-0154

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

Attention: Ms. K. R. Cotton

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
TECHNICAL SPECIFICATION CHANGE REQUEST – TSP 980009
SUPPLEMENT 1
REACTOR COOLANT SYSTEM - HEATUP/COOLDOWN CURVES

Reference: Gary J. Taylor, SCE&G, to NRC, RC-98-0185, October 9, 1998
Gary J. Taylor, SCE&G, to NRC, RC-99-0030, February 18, 1999
Gary J. Taylor, SCE&G, to NRC, RC-99-0152, August 19, 1999

Note: This letter supersedes the above referenced letter dated February 18, 1999.

South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for South Carolina Public Service Authority, hereby requests an amendment to the Virgil C. Summer Nuclear Station (VCSNS) Technical Specifications (TS). This request is being submitted pursuant to 10 CFR 50.90. This Technical Specification Change Request supercedes the change request dated February 18, 1999 in its entirety.

The proposed changes will revise the heatup and cooldown curves located in TS section 3/4.4.9 Reactor Coolant System Pressure/Temperature Limits and the Technical Basis of TS Section B 3/4.4.9. This change is required since the current curves are only applicable to 13 Effective Full Power Years (EFPY) and will expire on or after October 23, 1999.

SCE&G desires that this change be approved by October 6, 1999, to permit implementation of the change, including training, prior to exceeding the applicability of the current Heatup/Cooldown curves.

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Enclosed is WCAP-15102, Revision 1, V. C. Summer Unit 1 Heatup and Cooldown Limit Curves for Normal Operation. This report details the development of the revised heatup and cooldown curves based on the data obtained from the analysis of surveillance capsule W, removed from the V. C. Summer's reactor vessel in October 1997. The analysis on this specimen was sent to the USNRC via SCE&G letter dated October 9, 1998.

The curves presented in this WCAP were developed using guidance located in 10 CFR 50, Appendix G, and meet the criteria of Appendix G to the ASME Boiler and Pressure Vessel Code, Section XI. The curves provided by this proposed change do not include instrument uncertainties. The curves that will provide operational limitations will be located in plant operating procedures. Instrument uncertainties, elevation differences between the relief valves and the reactor vessel beltline, and the effect of forced flow are factored into developing the operational limitations.

Included in the methodology for the generation of these curves is the utilization of the 1996 ASME Boiler and Pressure Vessel Code, Section XI, Appendix G, along with ASME Code Case N-640. In addition, a justification for a reduced flange temperature requirement is provided in the attached WCAP. This reduced flange temperature requirement was incorporated into the pressure-temperature limit (heatup and cooldown) curves. Reference 3 is the Exemption Request to permit utilization of the alternative methodology.

The Low Temperature Over-Pressurization (LTOP) protection setpoint was also reviewed using the data provided in the WCAP. For the most limiting transient condition, the setpoint remains adequate to satisfy the ASME Code, Section XI, Appendix G requirements.

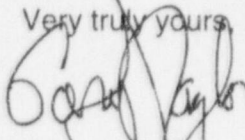
The TS change request is contained in the following attachments:

- | | |
|----------------|--|
| Attachment I | Explanation of Changes Summary
Marked-up Technical Specification Pages
Revised Technical Specification Pages |
| Attachment II | Safety Evaluation |
| Attachment III | No Significant Hazards Evaluation |

This proposed amendment has been reviewed and approved by the Plant Safety Review Committee and the Nuclear Safety Review Committee.

These statements and matters set forth herein are true and correct to the best of my knowledge, information, and belief.

Should you have questions, please call Mr. Philip A. Rose at (803) 345-4052.

Very truly yours,

Gary L. Taylor

PAR/GJT/dr
Attachment

c: See page 3

SCE&G -- EXPLANATION OF CHANGES

Page	Affected Section	Bar #	Description	Reason
Index XIII	B 3/4.4.5 through B 3/4.4.10	1	Renumbered such that index match Bases.	Mistake made to Index during original issuance of Tech Specs.
3/4 4-31	Figure 3.4-2	1	Revised Figure 3.4-2 heatup rates curves for 32 EFPY.	Curves revised due to analysis of surveillance specimen capsule W.
		2	Revised description of Figure 3.4-2 for applicability to 32 EFPY.	Curves revised due to analysis of surveillance specimen capsule W.
3/4 4-32	Figure 3.4-3	1	Revised Figure 3.4-3 cooldown rates curves for 32 EFPY.	Curves revised due to analysis of surveillance specimen capsule W.
		2	Revised description of Figure 3.4-3 for applicability to 32 EFPY.	Curves revised due to analysis of surveillance specimen capsule W.
B 3/4 4-6	B 3/4.4.9	1	Revised ASME B&PV code reference from Section III to Section XI, changed to 1996 Section XI, Appendix G, included reference to 14040, included reference to ASME Code Case N-640	Section XI incorporated Appendix G; 1996 ASME Code and Code Case used to develop new P-T curves.
B 3/4 4-7	B 3/4.4.9	1	Changing methodology of calculating P-T Limit lines	Curves were calculated using updated methodology which required prior NRC approval.
		2	Deleted bottom half of page.	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
B 3/4 4-8	B 3/4.4.9	N/A	Deleted page	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
B 3/4 4-9	Table B 3/4.4-1	N/A	Deleted page	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1, Table now found in WCAP 15102, Revision 1

SCE&G -- EXPLANATION OF CHANGES

Page	Affected Section	Bar #	Description	Reason
B 3/4 4-10	B 3/4.4.9	N/A	Figure B 3/4 4.1 deleted.	Figure located in Regulatory Guide 1.99, Revision 2.
B 3/4 4-10a	B 3/4.4.9	N/A	Figure B 3/4 4.2 deleted and Page removed.	Figure located in Regulatory Guide 1.99, Revision 2.
B 3/4 4-i1	B 3/4.4.9	N/A	Deleted page	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
B 3/4 4-12	B 3/4.4.9	N/A	Deleted page	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
B 3/4 4-13	B 3/4.4.9	N/A	Deleted page	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
B 3/4 4-14	B 3/4.4.9	1	Added subtitle "PRESSURE/TEMPERATURE LIMITS (Continued)".	Keep consistency of Bases titles.
		2	Deleted first paragraph	Updated methodology can now be found in WCAP 14040 and WCAP 15102, Revision 1.
		3	1. Added reference to WCAP 15102, Revision 1. 2. Deleted last sentence of paragraph.	1. P-T curves were generated and presented in this WCAP. 2. Curves based on Methodology in WCAP-14040-NP-A, not Standard Review Plan.
		4	Corrected specimen designation. Removed discussion of weld metal. Revised limiting material heat numbers. Provided new ART limits/neutron fluence location. Provided calculated value at new curve applicability limit. Deleted unnecessary information.	Capsule W was the most recently removed and analyzed. Clarified the most limiting reactor vessel materials. Provided new limits from analysis of Capsule W. Provided bounding values for applicability of pressure/temperature limits curves. Removed information that is no longer required or is incorrect.

SCE&G -- EXPLANATION OF CHANGES

Page	Affected Section	Bar #	Description	Reason
B 3/4 4-14 Continued	B 3/4.4.9	5	Added clarification to sentence.	Provided lead-in to discussion of criticality on pressure/temperature limits.
		6	Included reference in text as opposed to using footnotes.	Relevant information moved into body of text.
		7	Added discussion of criticality impact on the requirements of ASME Code and 10 CFR 50, Appendix G.	Provided clarification of impacts on stress intensity factor and margin provided.
		8	Added discussion on handling of instrument uncertainties.	TS curves no longer contain uncertainties; heatup/cooldown curves in operating procedures contain adjustments for uncertainties and other effects.
		9	Deleted footnote.	Relevant information moved into body of text.