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February 22, 2006

Docket No. 50-271
BVY 06-018
TAC No. MC0761

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

Subject: **Vermont Yankee Nuclear Power Station**
Technical Specification Proposed Change No. 263 – Supplement No. 45
Extended Power Uprate – Revised Technical Specification Pages

Reference:

1) Entergy letter to U.S. Nuclear Regulatory Commission, "Vermont Yankee Nuclear Power Station, License No. DPR-28 (Docket No. 50-271), Technical Specification Proposed Change No. 263, Extended Power Uprate," BVY 03-80, September 10, 2003

2) U.S. Nuclear Regulatory Commission (Richard B. Ennis) letter to Entergy (Michael Kansler), "Vermont Yankee Nuclear Power Station – Issuance of Amendment Re: Implementation of ARTS/MELLLA (TAC No. MB8070), April 14, 2004

3) Entergy letter to U.S. Nuclear Regulatory Commission, "Vermont Yankee Nuclear Power Station, License No. DPR-28 (Docket No. 50-271), Technical Specification Proposed Change No. 257, Implementation of ARTS/MELLLA at VYNPS, Supplemental Information and Proposed Allowable Value," BVY 03-115, December 11, 2003

4) Entergy letter to U.S. Nuclear Regulatory Commission, "Vermont Yankee Nuclear Power Station, Technical Specification Proposed Change No. 263 – Supplement No. 44, Extended Power Uprate – Revised License and Technical Specifications," BVY 06-001, January 10, 2006

This letter provides additional information regarding the application by Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (Entergy) for a license amendment (Reference 1, as supplemented) to increase the maximum authorized power level of the Vermont Yankee Nuclear Power Station (VYNPS) from 1593 megawatts thermal (MWt) to 1912 MWt.

A001

In Reference 1, Entergy provided proposed changes to the VYNPS Technical Specifications (TS) to support the extended power uprate (EPU). Included among the TS changes were revisions to the Average Power Range Monitor (APRM) flow-biased flux scram trip settings in TS 2.1.A.1.a and Table 3.1.1 (the trip settings are the same in both TS sections). The trip settings that were provided in Reference 1 for this function of the reactor protection system are EPU analytical limits.

Subsequent to Entergy's submittal of its EPU license amendment request, the NRC granted in Reference 2 (License Amendment No. 219) its approval of a separate Entergy application to implement the APRM, Rod Block Monitor TS / Maximum Extended Load Line Limit Analysis (ARTS/MELLLA) improvement program. Reference 2 accepted a revised setpoint methodology and the limited application of instrumentation allowable values (AVs) in the TS. Entergy's ARTS/MELLLA license amendment request (LAR) had indicated that the revised methodology and use of AVs for limiting safety system settings would also be applicable to the EPU LAR (Reference 3).

Attachment 2 to Reference 3 provided a copy of Entergy calculation VYC-0693A, "APRM Neutron Monitoring Trip Loops," which contains the APRM flow-biased flux scram trip setting AVs for ARTS/MELLLA, as well as the trip setting AVs for the same trip function for EPU. (See Table 10 on page 17 of 29.) The analytical limits in calculation VYC-0693A have been used as appropriate in the EPU safety analyses. However, through an administrative oversight, Entergy did not update the analytical limits set forth in Reference 1 with AVs in accordance with the changes implemented by Reference 3. Reference 4, which provided camera-ready, revised TS pages also did not change the subject APRM trip settings to AVs. To correct this oversight, Entergy is providing as Attachments 1 and 2 to this letter the marked-up TS pages and the re-typed TS pages, respectively, for the trip setting AVs applicable to the APRM flow-biased flux scram. Entergy apologizes for any inconvenience that this oversight may have caused.

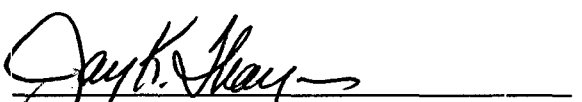
This supplement to the license amendment request provides additional information regarding Entergy's application for a license amendment and does not change the scope or conclusions in the original application, nor does it change Entergy's determination of no significant hazards consideration. There are no new regulatory commitments contained in this submittal.

If you have any questions or require additional information, please contact Mr. James DeVincentis at (802) 258-4236.

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

Executed on February 22, 2006.

Sincerely,



Jay K. Thayer
Site Vice President
Vermont Yankee Nuclear Power Station

Attachments (2)

cc: Mr. Samuel J. Collins (w/o attachment)
Regional Administrator, Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Richard B. Ennis, Project Manager
Project Directorate I
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USNRC Resident Inspector (w/o attachment)
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Mr. David O'Brien, Commissioner
VT Department of Public Service
112 State Street – Drawer 20
Montpelier, Vermont 05620-2601

BVY 06-018
Docket No. 50-271

Attachment 1

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 263 – Supplement No. 45

Extended Power Uprate

Marked-Up Technical Specifications Pages

Total number of pages in Attachment 1 (excluding this cover sheet) is 3.

1.1 SAFETY LIMIT

1.1 FUEL CLADDING INTEGRITY

Applicability:

Applies to the interrelated variable associated with fuel thermal behavior.

Objective:

To establish limits below which the integrity of the fuel cladding is preserved.

Specification:

A. Bundle Safety Limit (Reactor Pressure >800 psia and Core Flow >10% of Rated)

When the reactor pressure is >800 psia and the core flow is greater than 10% of rated:

1. A Minimum Critical Power Ratio (MCPR) of less than 1.07 (1.09 for Single Loop Operation) shall constitute violation of the Fuel Cladding Integrity Safety Limit (FCISL).

2.1 LIMITING SAFETY SYSTEM SETTING

2.1 FUEL CLADDING INTEGRITY

Applicability:

Applies to trip setting of the instruments and devices which are provided to prevent the nuclear system safety limits from being exceeded.

Objective:

To define the level of the process variable at which automatic protective action is initiated.

Specification:

A. Trip Settings

The limiting safety system trip settings shall be as specified below:

1. Neutron Flux Trip Settings

a. APRM Flux Scram Allowable Value (Run Mode)

When the mode switch is in the RUN position, the APRM flux scram Allowable Value shall be:

<INSERT>

Two loop operation:

S≤ 0.33W+ 53.7% for 0% < W ≤ 30.9%
S≤ 1.07W+ 30.8% for 30.9% < W ≤ 66.7%
S≤ 0.55W+ 65.5% for 66.7% < W ≤ 99.0%
With a maximum of 120.0% power for W > 99.0%

Single loop operation:

S≤ 0.33W+ 51.1% for 0% < W ≤ 39.1%
S≤ 1.07W+ 22.2% for 39.1% < W ≤ 61.7%
S≤ 0.55W+ 54.3% for 61.7% < W ≤ 119.4%
With a maximum of 120.0% power for W > 119.4%

where:

S = setting in percent of rated thermal power (1912 MWt)

TABLE 3.1.1

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT REQUIREMENTS

	Trip Function	Trip Settings	Modes in Which Functions Must be Operating: Refuel (1)	Startup (12)	Run	Minimum Number Operating Instrument Channels Per Trip System (2)	Required ACTIONS When Minimum Conditions For Operation Are Not Satisfied (3)
1.	Mode Switch in Shutdown (5A-S1)		X	X	X	1	A
2.	Manual Scram (5A-S3A/B)		X	X	X	1	A
3.	IRM (7-41(A-F))						
	High Flux	≤120/125	X	X		2	A
	INOP		X	X		2	A
4.	APRM (APRM A-F)						
	High Flux (flow bias)	Two loop operation: (4) S≤ 0.33W+ 53.7% for 0% < W ≤ 30.9% S≤ 1.07W+ 30.8% for 30.9% < W ≤ 66.7% S≤ 0.55W+ 65.5% for 66.7% < W ≤ 99.0% With a maximum of 120.0% power for W > 99.0% Single loop operation: (4) S≤ 0.33W+ 51.1% for 0% < W ≤ 39.1% S≤ 1.07W+ 22.2% for 39.1% < W ≤ 61.7% S≤ 0.55W+ 54.7% for 61.7% < W ≤ 119.4% With a maximum of 120.0% power for W > 119.4%			X	2	A or B
	High Flux (reduced)	≤15%	X	X		2	A
	INOP			X	X	2(5)	A or B
5.	High Reactor Pressure (PT-2-3-55(A-D) (M)	≤1055 psig	X	X	X	2	A

<INSERT>

INSERT TO MARKED-UP TECHNICAL SPECIFICATION PAGES

Two loop operation:
$S \leq 0.33W + 50.45\%$ for $0\% < W \leq 30.9\%$
$S \leq 1.07W + 27.23\%$ for $30.9\% < W \leq 66.7\%$
$S \leq 0.55W + 62.34$ for $66.7\% < W \leq 99.0\%$
With a maximum of 117.0% power for $W > 99.0\%$

Single loop operation:
$S \leq 0.33W + 48.00$ for $0\% < W \leq 39.1\%$
$S \leq 1.07W + 19.01$ for $39.1\% < W \leq 61.7\%$
$S \leq 0.55W + 51.22$ for $61.7\% < W \leq 119.4\%$
With a maximum of 117.0% power for $W > 119.4\%$

Attachment 2

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 263 – Supplement No. 45

Extended Power Uprate

Re-Typed Technical Specifications Pages

Total number of pages in Attachment 2 (excluding this cover sheet) is 2.

1.1 SAFETY LIMIT

1.1 FUEL CLADDING INTEGRITY

Applicability:

Applies to the interrelated variable associated with fuel thermal behavior.

Objective:

To establish limits below which the integrity of the fuel cladding is preserved.

Specification:

A. Bundle Safety Limit (Reactor Pressure >800 psia and Core Flow >10% of Rated)

When the reactor pressure is >800 psia and the core flow is greater than 10% of rated:

1. A Minimum Critical Power Ratio (MCPR) of less than 1.07 (1.09 for Single Loop Operation) shall constitute violation of the Fuel Cladding Integrity Safety Limit (FCISL).

2.1 LIMITING SAFETY SYSTEM SETTING

2.1 FUEL CLADDING INTEGRITY

Applicability:

Applies to trip setting of the instruments and devices which are provided to prevent the nuclear system safety limits from being exceeded.

Objective:

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A. Trip Settings

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1. Neutron Flux Trip Settings

a. APRM Flux Scram Allowable Value (Run Mode)

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Two loop operation:

$S \leq 0.33W + 50.45\%$ for $0\% < W \leq 30.9\%$
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With a maximum of 117.0% power for W > 99.0%

Single loop operation:

$S \leq 0.33W + 48.00\%$ for $0\% < W \leq 39.1\%$
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where:

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REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT REQUIREMENTS

	Trip Function	Trip Settings	Modes in Which Functions Must be Operating			Minimum Number Operating Instrument Channels Per Trip System (2)	Required ACTIONS When Minimum Conditions For Operation Are Not Satisfied (3)
			Refuel (1)	Startup(12)	Run		
1.	Mode Switch in Shutdown (5A-S1)		X	X	X	1	A
2.	Manual Scram (5A-S3A/B)		X	X	X	1	A
3.	IRM (7-41(A-F))						
	High Flux	≤120/125	X	X		2	A
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4.	APRM (APRM A-F)						
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	High Flux (reduced)	≤15%	X	X		2	A
	INOP			X	X	2(5)	A or B
5.	High Reactor Pressure (PT-2-3-55(A-D) (M)	≤1055 psig	X	X	X	2	A