June 9, 2006

Mr. Michael R. Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING TECHNICAL SPECIFICATION CHANGES TO REVISE CONTROL ROD OPERABILITY, SCRAM TIME AND CONTROL ROD ACCUMULATOR SURVEILLANCE TESTING (TAC NO. MC5488)

Dear Mr. Kansler:

By letter dated December 15, 2004, as supplemented by letter on December 12, 2005, Entergy Nuclear Operations, Inc. submitted an amendment request to revise the Vermont Yankee Nuclear Power Station control rod operability, scram time and control rod accumulator technical specification surveillance testing requirements.

The Nuclear Regulatory Commission staff has been reviewing the submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). A response to these RAIs is requested to be provided within 30 days.

Sincerely,

/RA/

James J. Shea, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosure: As stated

cc w/encl: See next page

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SECOND REQUEST FOR ADDITIONAL INFORMATION

REGARDING TECHNICAL SPECIFICATION CHANGES

TO REVISE CONTROL ROD OPERABILITY, SCRAM TIME AND CONTROL ROD

ACCUMULATOR SURVEILLANCE TESTING

ENTERGY NUCLEAR OPERATIONS, INC.

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

By letter dated December 15, 2004, as supplemented by letter on December 12, 2005, Entergy Nuclear Operations, Inc. submitted an amendment request to revise the Vermont Yankee Nuclear Power Station (VY) control rod operability, scram time and control rod accumulator technical specification surveillance testing requirements.

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The Nuclear Regulatory Commission staff has been reviewing the submittal and has determined that additional information is needed to complete its review.

1) Based upon your response to RAI #2 (Reference 2), the staff infers that you are operating under Option B[1] but that if during scram time testing any control rods are declared "slow" or if the cycle specific analytical scram reactivity curve requires faster scram times than what's in TS 3.3.C you will impose the use of higher MCPR limits (Option A)[2]. Please verify if this is correct. Otherwise, please address the following:

   Previously your TS required that the average of all control rods scrammed in accordance with your analytical scram reactivity curve. In your proposed amendment, you propose an allowance for up to 6 "slow" control rods whose scram times would exceed the requirements of the curve. In your justification for this change you state that the analytical scram reactivity curve will be met if some rods scram slower than the limit as long as some rods scram faster than the limit. The allowable scram times in TS 3.3.C (Table 4.3.C-1) are the same as your analytical scram reactivity curve (provided in response to RAI #2 in Reference 2) with the exception of the scram time until control rods reach notch position 46 which is 0.017 seconds faster than the analytical scram reactivity curve. However the overall scram time (3.419 seconds) is the same as the

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[1] In Section 4.3.1.2.6 "MCPR Uncertainty Considerations" GESTAR-II gives 2 options for adjusting the ΔCPR value for all rapid pressurization AOOs such that a 95/95 ΔCPR/ICPR licensing basis is calculated. In regard to Option A, GESTAR-II states: "Plants that do not demonstrate compliance with the statistically evaluated scram times must operate using a higher [MCPR] limit that does not take credit for these scram times." In regard to Option B, GESTAR-II states: "the generic basis utilized adjustment factors that are dependent on plant and event type" and "since both the GENESIS and GEMINI adjustment factors take credit for conservatism in the scram speed assumed for the transient analysis, each plant operating under Option B must demonstrate that their actual scram speeds are within the distribution assumed in the derivation of the adjustment factors."

[2] In response to RAI #2 you state that "as specified in [GESTAR-II], an evaluation is performed for any "slow rod" (i.e., control rod that does not meet the TS scram time). For rods that do not meet the TS scram times, an adjustment (τ) to the Operating Limit Minimum Critical Power Ratio (MCPR) (Safety Limit + AOO ΔCPR from analysis) is determined as specified in the VY cycle specific Core Operating Limits Report."

analytical scram reactivity curve. In your justification (Page 5 of Enclosure 3 of Reference 1) you state that "to account for single failures and "slow" scramming control rods, the scram times specified in Table 4.3.C-1 are faster than those assumed in the design basis analysis" and that "the scram times have a margin that allows up to approximately 7% of the control rods to have scram times exceeding the s pecified limits."

a. Please explain how control rods scramming 0.017 seconds faster until notch 46 can account for the scram reactivity worth of up to six control rods which can be allowed to scram up to 3.581 seconds slower at a fully withdrawn position?

b. You state in response to RAI #2 that the scram reactivity curve used in the AOO analysis is cycle specific. What happens if during a subsequent cycle the scram reactivity curve requires scram times faster than those specified in the TS? How is the NRC staff assured that Entergy will amend the VY TS to coincide with the scram reactivity curve used in each cycle specific AOO analysis?

References

1. Letter from J.K. Thayer (Entergy/Vermont Yankee) to the U.S. Nuclear Regulatory Commission "Technical Specification Proposed Change No. 266; Revision to Control Rod Operability, Scram Time Testing and Control Rod Accumulators." December 15, 2004

2. Letter from J.K. Thayer (Entergy/Vermont Yankee) to the U.S. Nuclear Regulatory Commission "Technical Specification Proposed Change No. 266; Revision to Control Rod Operability, Scram Time Testing and Control Rod Accumulators - Response to Request for Additional Information." December 12, 2005

Vermont Yankee Nuclear Power Station

cc:

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. David R. Lewis
Pillsbury, Winthrop, Shaw, Pittman, LLP
2300 N Street, N.W.
Washington, DC 20037-1128

Mr. David O'Brien, Commissioner
Vermont Department of Public Service
112 State Street
Montpelier, VT 05620-2601

Mr. James Volz, Chairman
Public Service Board
State of Vermont
112 State Street
Montpelier, VT 05620-2701

Chairman, Board of Selectmen
Town of Vernon
P.O. Box 116
Vernon, VT 05354-0116

Operating Experience Coordinator
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

G. Dana Bisbee, Esq.
Deputy Attorney General
33 Capitol Street
Concord, NH 03301-6937

Chief, Safety Unit
Office of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Ms. Carla A. White, RRPT, CHP
Radiological Health
Vermont Department of Health
P.O. Box 70, Drawer #43
108 Cherry Street
Burlington, VT 05402-0070

Mr. James M. DeVincentis
Manager, Licensing
Vermont Yankee Nuclear Power Station
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500

Resident Inspector
Vermont Yankee Nuclear Power Station
U. S. Nuclear Regulatory Commission
P.O. Box 176
Vernon, VT 05354

Director, Massachusetts Emergency
Management Agency
ATTN: James Muckerheide
400 Worcester Rd.
Framingham, MA 01702-5399

Jonathan M. Block, Esq.
Main Street
P.O. Box 566
Putney, VT 05346-0566

Mr. John F. McCann
Director, Licensing
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Gary J. Taylor
Chief Executive Officer
Entergy Operations
1340 Echelon Parkway
Jackson, MS 39213

Vermont Yankee Nuclear Power Station

cc:

Mr. John T. Herron
Sr. VP and Chief Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Oscar Limpias
Vice President, Engineering
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Christopher Schwarz
Vice President, Operations Support
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Michael J. Colomb
Director of Oversight
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Assistant General Counsel
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Theodore Sullivan
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500

Mr. James H. Sniezek
5486 Nithsdale Drive
Salisbury, MD 21801

Mr. Garrett D. Edwards
814 Waverly Road
Kennett Square, PA 19348

Ms. Stacey M. Lousteau
Treasury Department
Entergy Services, Inc.
639 Loyola Avenue
New Orleans, LA 70113

Mr. Norman L. Rademacher
Director, NSA
Vermont Yankee Nuclear Power Station
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500

Mr. Raymond Shadis
New England Coalition
Post Office Box 98
Edgecomb, ME 04556

Mr. James P. Matteau
Executive Director
Windham Regional Commission
139 Main Street, Suite 505
Brattleboro, VT 05301

Mr. William K. Sherman
Vermont Department of Public Service
112 State Street
Drawer 20
Montpelier, VT 05620-2601

Mr. Michael D. Lyster
5931 Barclay Lane
Naples, FL 34110-7306

Ms. Charlene D. Faison
Manager, Licensing
440 Hamilton Avenue
White Plains, NY 10601