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February 20, 2007
Docket No. 50-271
BVY 07-010

Ms. Anne De'Francisco
USNRC RI
475 Allendale Rd,
King of Prussia, PA 19046

Reference: 1. Letter, Entergy to USNRC, "Vermont Yankee Nuclear Power Station, License No. DPR-28, License Renewal Application," BVY 06-009, dated January 25, 2006.

**Subject: Vermont Yankee Nuclear Power Station
License No. DPR-28 (Docket No. 50-271)
License Renewal Regional Inspection Proprietary Information Request**

On January 25, 2006, Entergy Nuclear Operations, Inc. and Entergy Nuclear Vermont Yankee, LLC (Entergy) submitted the License Renewal Application (LRA) for the Vermont Yankee Nuclear Power Station (VYNPS) as indicated by Reference 1. During the week of January 19, 2007, NRC Region 1 conducted a License Renewal Inspection at VYNPS. A request for a document published by the Electric Power Research Institute (EPRI) containing proprietary information was conveyed to Entergy personnel. This letter contains two attachments as necessary to transmit the requested information to the NRC.

Information contained in Attachment 1 to this letter is considered proprietary and EPRI requests that the document be withheld from public disclosure in accordance with 10 CFR 2.390(a)(4) and 10 CFR 9.17(a)(4). An affidavit supporting this request is also contained in Attachment 1. Attachment 2 contains a non-proprietary version of the EPRI report.

Should you have any questions concerning this letter, please contact Mr. David Mannai at (802) 451-3304.

Sincerely,



David Mannai
Licensing Manager
Vermont Yankee Nuclear Power Station

Enc: Attachments 1 and 2.

PROPRIETARY

Attachment 1

Vermont Yankee Nuclear Power Station

**VYNPS License Renewal Regional Inspection
Supporting Information**

**EPRI NSAC-202L-R3
Recommendations for an Effective
Flow-Accelerated Corrosion Program**

Affidavit

and

PROPRIETARY VERSION

PROPRIETARY

February 16, 2007

Document Control Desk
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Request for Withholding of the following Proprietary Document:

"Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R3)", EPRI Report 1011838, May 2006

To Whom It May Concern:

This is a request under 10 C.F.R. §2.390(a)(4) that the U.S. Nuclear Regulatory Commission ("NRC") withhold from public disclosure the information identified in the enclosed Affidavit consisting of the proprietary information owned by Electric Power Research Institute, Inc. ("EPRI") and identified above (the "Report"). Copies of the Report and the Affidavit in support of this request are enclosed.

EPRI desires to disclose, in confidence, the Report for in connection with an application for license renewal submitted to the NRC by Entergy Nuclear Vermont Yankee. The Report is not to be divulged to anyone outside of the NRC or to any of its contractors, nor shall any copies be made of the Report provided herein. EPRI welcomes any discussions and/or questions relating to the information enclosed.

If you have any questions about the legal aspects of this request for withholding, please do not hesitate to contact me at 704-595-2169. Questions on the content of the Report should be directed to Albert Machiels of EPRI at (650) 855-2054.

Sincerely,

ELECTRIC POWER RESEARCH INSTITUTE, INC.



John P. Gaertner
Senior Sector Business Operations Manager

AFFIDAVIT

RE: Request for Withholding of the Following Proprietary Document:

"Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R3)", EPRI Report 1011838, May 2006

I, JOHN P. GAERTNER, being duly sworn, depose and state as follows:

I am a Senior Sector Business Operations Manager of Electric Power Research Institute, Inc. whose principal office is located at 3420 Hillview Avenue, Palo Alto, California ("EPRI") and I have been specifically delegated responsibility for the above-listed Report that is sought under this Affidavit to be withheld (the "Report"). I am authorized to apply to the U.S. Nuclear Regulatory Commission ("NRC") for the withholding of the Report on behalf of EPRI.

EPRI requests that the Report be withheld from the public on the following bases:

Withholding Based Upon Privileged And Confidential Trade Secrets Or Commercial Or Financial Information:

a. The Report is owned by EPRI and has been held in confidence by EPRI. All entities accepting copies of the Report do so subject to written agreements imposing an obligation upon the recipient to maintain the confidentiality of the Report. The Report is disclosed only to parties who agree, in writing, to preserve the confidentiality thereof.

b. EPRI considers the Report and the proprietary information contained therein (the "Proprietary Information") to constitute trade secrets of EPRI. As such, EPRI holds the Report in confidence and disclosure thereof is strictly limited to individuals and entities who have agreed, in writing, to maintain the confidentiality of the Report. EPRI made a substantial economic investment to develop the Report, and, by prohibiting public disclosure, EPRI derives an economic benefit in the form of licensing royalties and other additional fees from the confidential nature of the Report. If the Report and the Proprietary Information were publicly available to consultants and/or other businesses providing services in the electric and/or nuclear power industry, they would be able to use the Report for their own commercial benefit and profit and without expending the substantial economic resources required of EPRI to develop the Report.

c. EPRI's classification of the Report and the Proprietary Information as trade secrets is justified by the Uniform Trade Secrets Act which California adopted in 1984 and a version of which has been adopted by over forty states. The California Uniform Trade Secrets Act, California Civil Code §§3426 – 3426.11, defines a "trade secret" as follows:

"Trade secret" means information, including a formula, pattern, compilation, program device, method, technique, or process, that:

(1) Derives independent economic value, actual or potential, from not being generally known to the public or to other persons who can obtain economic value from its disclosure or use; and

(2) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy."

d. The Report and the Proprietary Information contained therein are not generally known or available to the public. EPRI developed the Report only after making a determination that the Proprietary Information was not available from public sources. EPRI made a substantial investment of both money and employee hours in the development of the Report. EPRI was required to devote these resources and effort over a period of several years to derive the Proprietary Information and the Report. As a result of such effort and cost, both in terms of dollars spent and dedicated employee time, the Report is highly valuable to EPRI.

e. A public disclosure of the Proprietary Information would be highly likely to cause substantial harm to EPRI's competitive position and the ability of EPRI to license the Proprietary Information both domestically and internationally. The Proprietary Information and Report can only be acquired and/or duplicated by others using an equivalent investment of time and effort.

I have read the foregoing and the matters stated herein are true and correct to the best of my knowledge, information and belief. I make this affidavit under penalty of perjury under the laws of the United States of America and under the laws of the State of California.

Executed at 1300 W T Harris Blvd, Charlotte, North Carolina being the premises and place of business of Electric Power Research Institute, Inc.

Date

2-16-07



John P. Gaertner

Subscribed and sworn before me this 16th day of February 2007

Sheryl R. Stogner, Notary Public

My Commission expires August 23, 2009

NON-PROPRIETARY

Attachment 2

Vermont Yankee Nuclear Power Station

**VYNPS License Renewal Regional Inspection
Supporting Information**

**EPRI NSAC-202L-R3
Recommendations for an Effective
Flow-Accelerated Corrosion Program**

NON-PROPRIETARY INFORMATION

NON-PROPRIETARY

Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R3)

1011838

Final Report, May 2006

**EPRI Project Manager
A. Machiels**

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ORGANIZATION(S) THAT PREPARED THIS DOCUMENT

Munson & Associates

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NOTE

For further information about EPRI, call the EPRI Customer Assistance Center at 800.313.3774 or e-mail askepri@epri.com.

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CITATIONS

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This report describes research sponsored by the Electric Power Research Institute (EPRI).

The report is a corporate document that should be cited in the literature in the following manner:

Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R3).
EPRI, Palo Alto, CA: 2006. 1011838.

REPORT SUMMARY

The loss of pressure boundary material in piping and vessels to flow-accelerated corrosion (FAC) damage has caused a number of significant plant events over the last 20-plus years. This report presents the third revision of the EPRI Report "Recommendations for an Effective Flow-Accelerated Corrosion Program," NSAC-202L, issued in response to the tragic 1986 Surry pipe rupture event. Conforming FAC programs established throughout the domestic nuclear fleet have allowed plant operators to identify, monitor, and mitigate FAC-related damage in advance of failure without a single FAC-related injury at a domestic nuclear plant since that time.

Background

FAC—sometimes referred to as flow-assisted corrosion or erosion-corrosion—leads to wall thinning (metal loss) of steel piping exposed to flowing water or wet steam. The rate of metal loss depends on a complex interplay of many parameters such as water chemistry, material composition, and hydrodynamics. Carbon steel piping components that carry wet steam are especially susceptible to FAC and represent an industry wide problem. Experience has shown that FAC damage to piping at fossil and nuclear plants can lead to costly outages and repairs and can affect plant reliability and safety. EPRI and the industry as a whole have worked steadily since 1986 to develop and refine monitoring programs in order to prevent FAC-induced failures.

This revision of NSAC-202L contains recommendations updated with the worldwide experience of members of the CHECWORKS™ Users Group (CHUG), plus recent developments in detection, modeling, and mitigation technology. These recommendations are intended to refine and enhance those of the earlier versions, without contradiction, so as to ensure the continuity of existing plant FAC programs. The guidance contained in this document supersedes that contained in EPRI Report NP-3944 and all prior versions of NSAC-202L.

Objectives

To present a set of recommendations for nuclear power plants for implementing an effective program to detect and mitigate FAC.

Approach

Working together with the members of CHUG, EPRI developed a set of recommendations to help utility personnel design and implement a comprehensive FAC mitigation program.

Results

The Institute of Nuclear Power Operations (INPO), the Nuclear Energy Institute (NEI), the U.S. Nuclear Regulatory Commission (NRC), and the American Society of Mechanical Engineers (ASME) have all issued guidance related to the prevention of FAC failures. This report describes the organization and activities necessary to implement a successful FAC program. It identifies

typical elements of an effective FAC program and describes the steps utilities should take to minimize the chances of experiencing a FAC-induced failure and minimize the consequence of FAC-induced wall thinning in large-bore piping, small-bore piping, and equipment. However, since the approach is based on inspection of a prioritized sample of susceptible locations, the industry recognizes that it will never be possible to prevent all FAC-related leaks and ruptures.

Key elements of the guidelines include:

- Discussion of an effective FAC program design, with emphasis on corporate commitment, FAC operating experience, inspections, engineering judgment, and long-term strategies
- Description of implementation procedures and documentation, including use of a governing document
- Identification of recommended FAC program tasks, with key steps of identifying susceptible systems, performing FAC analysis, selecting and scheduling components for inspection, performing inspections, evaluating inspection data, assessing worn components, and repairing and replacing components
- Explanation of how to develop a long-term strategy, with discussions of FAC-resistant materials, water chemistry, and system design changes.

EPRI Perspective

All types of power and industrial process plants are susceptible to damage caused by FAC. The nuclear power industry has mounted a broad-based effort to reduce the amount of FAC that occurs and to uncover incidents of excessive FAC before failures are likely to occur. EPRI, NEI, and INPO have all contributed to this effort. Nevertheless, problems caused by FAC have continued to occur.

Several major ruptures in the early nineties showed the importance of having an effective FAC program. In response, EPRI—with the support of CHUG— sponsored a series of plant visits to learn about the implementation of utility FAC programs. These visits showed that there were large differences among utility programs. After these visits, EPRI and CHUG decided that a set of programmatic recommendations prepared by EPRI would be desirable. The original version of this document was a result of that decision. Later revisions have built on lessons learned from plant experience and from improvements to technology and industry understanding of FAC. This revision incorporates lessons learned and new technology that have become available since the last revision of this document published in April 1999.

Keywords

Flow-accelerated corrosion
Erosion corrosion
Wall thinning
Piping systems
Reliability

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