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UNITED STATES
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of
ENTERGY NUCLEAR VERMONT YANKEE, LLC
and ENTERGY NUCLEAR OPERATIONS, INC.
(Vermont Yankee Nuclear Power Station)

December 26, 2005
Docket No. 50-271
ASLBP No. 04-832-02-OLA

DOCKETED
USNRC

December 27, 2006 (8:37am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Office of the Secretary
ATTN: Rulemaking and Adjudications Staff
Mail Stop: O-16C1
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Rulemaking and Adjudications Staff,

Please find for filing in the above captioned matter one original and two copies of **NEW ENGLAND COALITION'S ANSWER TO ENVY'S MOTION FOR SUMMARY DISPOSITION in the above caption proceeding.**

Please be advised that the enclosed is a conforming hardcopy of New England Coalition's **ANSWER,** filed electronically at 3:55 pm on December 23, 2005.

Due to a loading error, the electronic copy did not contain a List of Exhibits. New England Coalition has included a List of Exhibits in this filing and sincerely regrets any inconvenience or confusion that inadvertent omission of the list from the electronic filing of December 23, 2005 may have caused.

Service is provided to the parties via E-mail and via US Mail First Class in accordance with 10 CFR Part 2. Thank you for your kind assistance in making this filing,

Raymond Shadis
Pro se Representative
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SECY-02

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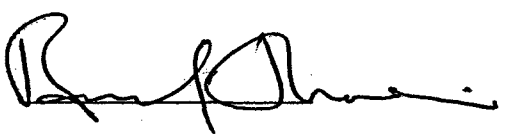
NEW ENGLAND COALITION"S REQUEST
FOR EXTENSION OF TIME

New England Coalition, by and through its *pro se* representative, Raymond Shadis, respectfully requests an extension of time in which to file its ANSWER to ENTERGY NUCLEAR VERMONT YANKEE' s ('ENVY") Motion for Summary Disposition of New England Coalition's Contention 3.

ENVY filed its motion on December 2, 2005 thus setting a deadline for New England Coalition's Answer of December 22, 2005. New England Coalition requests for good cause permission to file today, December 23, 2005. New England Coalition was hampered in preparing this filing in that the NRC ADAMS website was down for service on December 17 and 18, 2005 and unavailable to research and retrieve documents necessary for New England Coalition's filing.

Given the press of time on this Friday before a holiday weekend, New England Coalition has not consulted with counsel for the other parties, but respectfully requests that the Board use its discretion to permit this one-day extension.



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In the Matter of

ENTERGY NUCLEAR VERMONT YANKEE, LLC and ENTERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)	Docket No. 50-271-OLA ASLBP No. 04-832-02-OLA

NEW ENGLAND COALITION'S ANSWER TO ENTERGY'S MOTION FOR SUMMARY DISPOSITION OF NEW ENGLAND COALITION CONTENTION 3

INTRODUCTION

Pursuant to 10 C.F.R. § 2.323(c), the staff of the U.S. Nuclear Regulatory Commission ("Staff") herein files its Answer to Entergy's Motion for Summary Disposition of New England Coalition 3, ("Motion"), filed by the Entergy on December 2, 2005. For the reasons set forth below, the New England Coalition respectfully submits that Entergy's (or "ENVY's") Motion should be denied.

BACKGROUND

The instant case arises out of Entergy Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.'s (collectively, "ENVY" or "Applicant") application for an amendment to the operating license for the Vermont Yankee Nuclear Power Station ("VYNPS"), to authorize an extended power uprate ("EPU").[1] The Licensing Board granted New England Coalition's petition to intervene on November 22, 2004.[2] The Board accepted two New England Coalition contentions for review included the one that is the subject of this filing. As re-written by the Board it reads, "The license amendment should not be approved unless Large Transient Testing is a condition of the Extended Power Uprate."

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[1] *See* Letter from J.K. Thayer, Entergy, to the NRC Document Control Desk, "Vermont Yankee Nuclear Power Station, License No. DPR-28 (Docket No. 50-271), Technical Specification Proposed Change No. 263, Extended Power Uprate," dated September 10, 2003 ("Application") (ADAMS Accession No. ML032580089).

[2] *See* Licensing Board Memorandum and Order (Ruling on Standing, Contentions, and State Reservation of Rights), dated November 22, 2004. (ADAMS Accession No. ML43280053).

For the reasons set forth below, New England Coalition submits that ENVY has failed to show that a material dispute has ceased to exist or has been resolved since the Board's review of New England Coalition's initial contentions and the Board's order of November 22, 2005 confirming existence a material dispute regarding the necessity for full-transient testing.

LEGAL STANDARDS FOR GRANTING/DENYING A MOTION FOR SUMMARY DISPOSITION

a. Under the Rules of Practice, 10 CFR Part 2, a motion for summary disposition should be granted if the Licensing Board determines, with respect to the question at issue, that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law. 10 CFR § 2.749(d).

b. Under the concept of summary disposition (or summary judgment), the motion is granted only where the movant is entitled to judgment as a matter of law, where it is quite clear what the truth is and where there is no genuine issue of material fact that remains for trial.

Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1, 2 & 3), LBP-73-29, 6 AEC 682, 688 (1973); Private Fuel Storage. L.L.C., LBP-99-23, 49 NRC 485, 491 (1999); Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-01-1 1, 53 NRC 370, 384 (2001).

10CFR §2.323(b) requires:

A motion must be rejected if it does not include a certification by the attorney or representative of the moving party that the movant has made a sincere effort to contact other parties in the proceeding and resolve the issue(s) raised in the motion, and that the movant's efforts to resolve the issue(s) have been unsuccessful.

c. Summary disposition is a useful tool for resolving contentions that, after discovery is completed are shown by undisputed facts to have nothing to commend them, but it is not a tool for trying to convince a Licensing Board to decide genuine issues of material fact that warrant resolution at a hearing. Private Fuel Storage. L.L.C. (Independent Spent Fuel Storage Installation), LBP-01-39,54 NRC 497,509 (2001).

d. Once an applicant has submitted a motion that makes a proper showing for summary disposition, the litmus test of whether or not to grant the summary disposition motion is whether Intervenor has presented a genuine issue as to any material fact that is relevant to its allegation that could lead to some form of relief. Georgia Power Company (Vogtle Electric Generating Plant, Units 1 and 2) LBP-94-37,40 NRC 288 (1994).

e. If there is any possibility that a litigable issue of fact exists or any doubt as to whether the parties should have been permitted or required to proceed further, the motion must be denied. General Electric Co. (GE Morris Operation Spent Fuel Storage Facility), LBP-82-14, 15 NRC 530, 532 (1982); Safety Light Corn. (Bloomsburg Site Decommissioning and License Renewal Denials), LBP-95-9,41 NRC 412,449 n.167) citing Anderson v. Liberty Lobby. Inc., 477 U.S. 242, 248 (1986).

f. The party seeking summary judgment has the burden to show the absence of a genuine issue as to any material fact. Evidence must reviewed in the light most favorable to the party opposing summary judgment. Advanced Medical Systems. Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993); Dr. James E. Bauer (Order Prohibiting Involvement in NRC Licensed Activities), LBP-95-7, 41 NRC 323, 329 (1995).

g. Based on judicial interpretations of Rule 56, the burden of proof with respect to summary disposition is upon the movant who must demonstrate the absence of any genuine issue of

material fact. Private Fuel Storage. L.L.C.(Independent Spent Fuel Storage Installation), LBP-00-6, 51 NRC 101, 112 (2000).

h. The Board's function, based on the filing and supporting material, is simply to determine whether genuine issues exist between the parties. It has no role to decide or resolve such issues at this stage of the proceeding. The parties opposing such motions may not rest on mere' allegations or denials, and facts not controverted are deemed to be admitted. Since the burden of proof is on the proponent of the motion, the evidence submitted must be construed in favor of the party in opposition thereto, who receives the benefit of any favorable inferences that can be drawn. Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359, 361 (1994).

i. Commission decisions affirm that a summary disposition opponent is entitled to the favorable inferences that may be drawn from any evidence submitted. See Sequoyah Fuels Corp. (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359, 361, affd, CLI-94-11,40 NRC 55 (1994). This authority, however, does not relieve the opposing party from the responsibility, in the face of well pled undisputed material facts, of providing something more than suspicions or bald assertions as the basis for any purported material factual disputes. Private Fuel Storage. L.L.C., LBP-99-35, 50 NRC 180, 194 (1999).

j. If it appears from the affidavits of a party opposing the motion for summary disposition that the party cannot for reasons stated present by affidavit facts essential to justify the party's opposition, the Board may refuse the application for summary disposition or may order a continuance as my be necessary or just. See Rule 56(f) of the Federal Rules of Civil Procedure.

DISCUSSION

1. Exclusive of NRC staff draft approval in the draft Safety Evaluation Report ("DSER") of proposed alternatives to full transient testing, ENVY has largely failed to demonstrate either that the arguments and evidence contained in the documents and declaration it provides in support of its motion for summary disposition are substantially different from that which it provided in opposition to New England Coalition's petition for leave to intervene.

2. New England Coalition avers that the instant Motion raises primarily the same arguments as were raised by ENVY previously, and New England Coalition therefore incorporates by reference its responses to ENVY's previous arguments regarding the admissibility of New England Coalition Contention 3. Further New England Coalition contends, that lacking new compelling or overwhelming evidence which would absolutely negate New England Coalition technical issues and concerns already determined by the Board to be litigable, the Board must affirm its earlier judgment, deny ENVY's Motion to for Summary Disposition, and make good its offer of a hearing on the disputed issues in Contention 3.

3. In the following discussion, the New England Coalition addresses, *first*, the inadmissibility of ENVY's Motion as, egregiously and with out a showing of good cause, untimely, *second*, the inadmissibility of ENVY's Motion because Entergy did not, as required by 10 CFR §2.323(b) and as claimed in the "Certification" included in Entergy's filing, "discuss this motion with counsel for the other parties in this proceeding in an attempt to resolve this issue; *third*, ENVY's failure to offer any information in support of its motion that it did not provide, or could not have provided, in its initial opposition to the admission of New England Coalition Contention 3 in its initial reply to New England Coalition's Petition for Leave to Intervene, etc, filed more than one year ago, August 30, 2004, *fourth*, taken in arguendo, ENVY's'

warmed-over and untimely-provided information in support of the basic thesis of its Motion; that no genuine material dispute exists, is wholly inadequate, off-point, and/or self-contradictory.

4. ENVY's' Motion is untimely.

The Board's Initial Scheduling Order of February 1, 2005 sets a deadline for filing motions for summary disposition pursuant to 10 C.F.R. § 2.1205 at 30 days after issuance of the draft SER; and a requirement that any answer or opposing motion must be filed within 20 days after service of the motion.

ENVY filed its Motion for Summary Dismissal on December 2, 2005; counting thirty days from the posting of the non-proprietary version of the DSER on ADAMS, November 2, 2005. However, ENVY received (issuance of) the full (proprietary) version of the DSER thirteen days earlier on October 21, 2005. ENVY offered no claim of good cause for lateness. ENVY cannot plead ignorance as it is represented by counsel with more than thirty years of practice before the NRC and with the resources of a law firm advertising the employ of more than 900 attorneys. In consideration of the above, and unless the Board has some heretofore undisclosed reason for allowing ENVY a considerable unfair advantage in time over any other party in which to prepare its motions, ENVY's Motion for Summary Disposition should be stricken as untimely filed.

5. ENVY did not comply with 10CFR §2.323(b).

10CFR §2.323(b) requires:

> A motion must be rejected if it does not include a certification by the attorney or representative of the moving party that the movant has made a sincere effort to contact other parties in the proceeding and resolve the issue(s) raised in the motion, and that the movant's efforts to resolve the issue(s) have been unsuccessful.

In its **Certification** , ENVY states over the signatures of two attorneys as follows,

> In accordance with 10CFR §2.323(b), counsel for Entergy has discussed this motion with counsel for the other parties in this proceeding in an attempt to resolve this issue. (p.14,¶2)

In contrast to the required sincere effort that is implied in ENVY's Certification, however, New England Coalition avers that counsel for ENVY contacted by telephone New England Coalition on or about December 2, 2005,

- advising that it reckoned it to be the last day in which it could a Motion for Summary Disposition (on Contention 3) and that it would do so.
- inquiring if we wanted (then and there) to talk about it
- stating the presumption that New England Coalition would not agree to summary disposition.

Counsel for ENVY made no attempt to describe to New England Coalition ENVY's perspective on full transient testing (subject of Contention 3) and any new information regarding the issue, or to engage in any substantive discussion of this issue. This single telephone conversation, lasting but a few minutes, is more fully described in an attached Declaration (EXHIBIT SEVEN) from New England Coalition's *pro se* Representative.

ENVY's claim that it acted in accordance with 10CFR §2.323(b) is false, therefore its motion for summary disposition must be rejected.

6. Without providing substantial new evidence, ENY seeks to reargue the basis for New England Coalition's Contention 3; already accepted for litigation by the Board.

In its application and replying New England Coalition's Petition for Leave to Intervene, ENVY argued that other plants had successfully completed EPU, that full transient testing was not required at some of them, that examination of individual components and analytical modeling would bound full transient conditions, that differences in thermal hydraulic impact between original licensed thermal power (OLTP)

and EPU at 120% were negligible, that experience at 100% (or some increment between 100% and 120%) at other reactors would be the same at Vermont Yankee at 120%, and so on.

The Board decided that evidence and arguments did not overwhelm Contention 3 or its basis as supported by the expert testimony of Arnold Gundersen so as to vacate a genuine material issue of dispute. ENVY has now through the Declaration of its EPU Project Manager, Craig Nichols, added to the mix little more than two arguments: (1) that Vermont Yankee with EPU modifications in place underwent two full transients in 2004 and 2005 at OLTP 1addressed the to the basis for contention 3, and (2) that NRC staff has now, in the draft Safety Evaluation Report, approved going forward without full transient testing.

In support of New England Coalition's Petition for Leave to Intervene, Mr. Gundersen refuted the first proposition and today, New England Coalition has retained Dr. Joram Hopenfeld, an expert in materials and thermal hydraulics, who refutes in his Declaration the first proposition with specific reference to technical data and documents in this proceeding.

A great deal of weight should, of course be accorded to NRC staff's draft approval of ENVY's proposed component (not system) testing and analysis deriving reactor systems EPU large transient response from response at OLTP. However, the fact that we have a review process that admits intervenors based on the acceptability for litigation of contentions supports the intervenors right to take issue with NRC staff approvals as well as applicant proposals. New England Coalition is not disputing NRC regulation on the issue of full transient testing but rather it is disputing what it sees as NRC staff's unwise use of discretion in approving the uprate, dating back to publication of a notice for opportunity for a hearing, and focusing on a significant safety assurance issue. In his declaration, Dr. Hopenfeld addresses the technical flaws in ENVY's no-test proposition as it is reflected in NRC staff's position. Finally, on the question of NRC staff's evaluation, New England Coalition respectfully draws the Board's attention to Exhibit Five, a Memorandum, from F. Brown, NRC, to L. Cupidon, NRC, Subject: Program Plan for Power Uprate

Operating Experience Review, wherein NRC references numerous , but as yet to be quantified, component failures under uprate and then ponders establishing, by early in 2006, a program to systematically assess EPU operating experience. This says nothing good about ENVY's proposition of building on an experience base and, because the experience base is incomplete, less about NRC's approval.

New England Coalition respectfully draws the Board's attention a second document, Exhibit Six, SECY-05-0118, Results of the Pilot Program to Improve the Effectiveness of Nuclear Regulatory Commission Inspections of Engineering and Design Issues, wherein an inspection team, having recently examined Vermont Yankee and having found operational, design, and engineering flaws that would be aggravated under uprate, suggests to the commission that the uprate review process should put some emphasis on physical inspection of EPU candidates instead of relying almost entirely on information supplied by the licensee.

New England Coalition contends that a fair assessment of the evidence presented by both sides will show that NRC staff's opinion, while it demands consideration, is disputed as it is presented in Mr. Nichols' *Declaration; and it is by no means dispositive.*

7. ENVY's' support of the basic thesis of its Motion; that no genuine material dispute exists, is wholly inadequate, off-point, and/or self-contradictory

Contrary to ENVY's assertions (Declaration of Craig Nichols at ¶5, ¶14, ¶21, etc) industry experience with EPU points to the need for full-transient testing (see, EXHIBIT THREE, Exelon Learnings). None of the many component failures at other EPU plants were anticipated. None of the examples that he cites, experienced a full transient from 120%

In addition ,Mr. Nichols has failed to shed any substantial light how the Quad Cities or Dresden Nuclear Power Stations may be physically similar or any different than the Vermont Yankee plant. He does not

say if steam dryers at Quad Cities and Dresden were subjected to the same level and sophistication of scrutiny that characterized the inspections, which recently discovered an additional forty stress induced cracks in the Vermont Yankee steam dryer.

9. Experience with Exelon Corporation's Quad Cities and Dresden EPU projects yielded a wide range of unanticipated and destructive events, marked by the discovery that increased steam and feed flow velocities have caused unanticipated increased pressure pulsations and vibration levels, leading to equipment failures and degradation, including:

– Steam Dryer Failures
– Main Steam Relief Valve Failure
– Main Steam Line Low Pressure Switch Failure (1/2 Group Isolation)
– Turbine Control Valve Pressure Switch Failure (1/2 Scram)
– HPCI Test Tap Connection Failure
– Main Steam Drain Line Failure
– Feedwater Sample Probe Failure

Industry data, according to Exelon, indicates that nearly all EPU related problems are caused by increased vibration.

In addition, reduction of margin has affected several systems:

– Reduction in available Main Steam Safety Valve set point tolerance
– Reduction in Feedwater Heater Drain Emergency Valve capacity
– Previous Standby Feedwater and Condensate Pumps are normally operated
– Reduction in Main Condenser margin3

ENVY's argument regarding industry experience seems to be based on its erroneous, and again unfounded, conclusion that industry has proven its analysis and solutions to repeated component failures under EPU. However, as pointed out in the NRC planning memorandum cited above, what is missing from the equation, is not only a complete accounting of EPU-related failures, but also, as alluded to by

3 See, EXHIBIT THREE, Presentation- Exelon Learnings from Extended Power Uprates, James R. Meister, Exelon, NRC Regulatory Information Conference, March 8, 2005, ADAMS No. ML0521140189

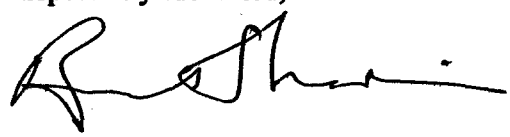
Dr. Hopenfeld, a most essential (to meaningful review) analysis of why EPU practitioners failed to predict and prepare for a high yield of expensive and unsettling failures.

CONCLUSION

1. ENVY fails to establish that a genuine issue of material dispute has ceased to exist.
   Since the burden of proof is on the proponent of the motion, the evidence submitted must be construed in favor of the party in opposition thereto, who receives the benefit of any favorable inferences that can be drawn. *Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359, 361 (1994).*
2. New England Coalition has responded to ENVY's Motion with expert, factual, and documented affirmation of the issues raised in Contention 3 and on point rebuttal of ENVY's pleading.
   If there is any possibility that a litigable issue of fact exists or any doubt as to whether the parties should have been permitted or required to proceed further, the motion must be denied. *General Electric Co. (GE Morris Operation Spent Fuel Storage Facility), LBP-82-14, 15 NRC 530, 532 (1982); Safety Light Corn. (Bloomsburg Site Decommissioning and License Renewal Denials), LBP-95-9,41 NRC 412,449 n.167) citing Anderson v. Liberty Lobby. Inc., 477 U.S. 242, 248 (1986).*
3. ENVY's Motion was filed more than ten days late and without any proffer of a showing of good cause. It should not be accepted for consideration.
4. ENVY's Motion was not filed in accordance with 10 CFR §2.323(b). 10CFR §2.323(b) requires:
   A motion must be rejected if it does not include a certification by the attorney or representative of the moving party that the movant has made a sincere effort to contact other parties in the proceeding and resolve the issue(s) raised in the motion, and that the movant's efforts to resolve the issue(s) have been unsuccessful.

For the reasons set forth above, ENVY's Motion for Summary Disposition should therefore be denied.

Respectfully submitted,



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Dated at Edgecomb, Maine,
this 23rd day of December 2005

December 22, 2005

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NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of ENTERGY NUCLEAR VERMONT YANKEE, LLC and ENTERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)	Docket No. 50-271-OLA ASLBP No. 04-832-02-OLA

NEW ENGLAND COALITION'S ANSWER TO ENTERGY'S STATEMENT OF MATERIAL FACTS REGARDING NEC CONTENTION 3

Introduction

New England Coalition, by and through its *pro se* representative, Raymond Shadis, herein answers, disputes, and takes issue with certain statements included in Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.'s Statement of Material Facts regarding NEC Contention 3 on Which No Genuine Dispute Exists. New England Coalition demonstrates through its Answer to Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.'s ("ENVY") Statement of Material Facts [etc.], that genuine issues remain to be heard with respect to New England Coalition Contention 3.

Each "Statement of Material Fact" asserted by ENVY is reproduced below; followed by New England Coalition's Answer. New England Coalition also answers through factual argument presented in its Response to ENVY's Motion For Summary Disposition and through the Declaration of its expert witness, Dr. Joram Hopenfeld. Dr. Hopenfeld's Declaration is attached to this filing as, Exhibit One (1) in support of New England Coalition's Response to ENVY's Motion For Summary Disposition.

Answers

1.On August 30,2004, the New England Coalition ("NEC") sought admission, inter alia, of its Contention 3 ("NEC Contention 3"). New England Coalition's Request For Hearing,

Demonstration of Standing, Discussion of Scope of Proceeding and Contentions, dated August 30,2004 at 11.

1-Answer Admitted

2. As admitted by the Board, NEC Contention 3 reads: "The license amendment should not be approved unless Large Transient Testing is a condition of the Extended Power Uprate."

2-Answer Admitted

3. The VY EPU request was prepared following the guidelines contained in the NRC-approved document "General Electric Company Licensing Topical Report (CLTR) for Constant Pressure Power Uprate Safety Analysis: NEDC-33004P-A Rev. 4, July 2003" ("NEDC-33004P-A"). Declaration of Craig J. Nichols ("Nichols Declaration"), ¶7.

3-Answer Admitted

4. Implementation of the guidance in NEDC-33004P-A results in an increase in reactor power without an increase in plant operating pressure (ie., a "constant pressure power uprate"). Nichols Declaration, ¶7.

4-Answer Admitted in part; Denied in Part. Industry experience (Dresden and Quad Cities) is that EPU may result in pressure pulses through out the system (Presentation- Exelon Learnings from Extended Power Uprate, James Meister, NRC Regulatory Information Conference, 03/03/2005, ADAMS No. ML052140189, Attached to New England Coalition's Response as Exhibit Three (3).

5. NEDC-33004P-A defines two Large Transient Tests ("LTTs") applicable to EPU operations: the Main Steam Isolation Valve ("MSIV") Closure and the Generator Load Rejection tests. Nichols Declaration, ¶ 8. 6.

5-Answer Admitted

6 - These tests, when conducted during EPU operation, are similar to counterpart tests performed during initial plant startup testing. Nichols Declaration, ¶8.

6-Answer Admitted

7. NRC's Review Standard RS-001, "Review Standard for Extended Power Uprates," Revision 0 (December 2003) references to Standard Review Plan (SRP) 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs," for the testing related to extended power uprates. Nichols Declaration, ¶11.

7-Answer Admitted

8. SRP 14.2.1 specifies that LTT is to be performed in a similar manner to the testing that was performed during initial startup testing of the plant. Nichols Declaration, ¶ 11.

8-Answer Admitted

9. The SRP also provides guidance on how to justify a request for elimination of the LTT requirement. Nichols Declaration, ¶ 11.

9-Answer Admitted

10. Entergy has followed the SRP guidance in taking exception to performing LTT during EPU operations at VY. Nichols Declaration, ¶ 12.

10-Answer Admitted

1 1. On November 2,2005 the NRC Staff issued its draft Safety Evaluation Report ("Draft SER"), in which the Staff concluded that the requested exception from LTT at VY should be granted. Exhibit 5 to Nichols Declaration.

11-Answer Admitted

12. The transient analyses for VY were performed using the NRC-approved code ODYN, which models the behavior of the safety-and non-safety-related systems of the plant during operational events. Nichols Declaration, ¶ 16.

12-Answer Admitted in part; Denied in part. ENVY's claim to have used ODYN is not disputed; whether it was properly applied is another matter. This is answered in Dr. Hopenfeld's Declaration.

13. The transient analyses for VY has been accepted by the NRC Staff. Nichols Declaration, ¶16.

13-Answer Admitted

14. The transient analyses of record for VY include the two LTT events. Nichols Declaration ¶16.

14-Answer Admitted

15. The transient analyses for VY model both the performance of the secondary side of the plant and any potential interactions between primary and secondary systems in a transient. Nichols Declaration, ¶17.

15- Answer Admitted

16. The transient analyses for VY assume operational configurations and component/system 'failures that bound (i.e., represent more severe conditions than) the transients that would occur during actual EPU plant operations or during LTTs. Nichols Declaration, ¶ 17.

16-Answer Denied –Assumptions integrated into this analysis do not represent the full range transients in that all configurations of component failures and human error that, based on industry and Vermont Yankee experience, can lead to more extreme transient conditions are not taken into consideration. (see, Hopenfeld Declaration)

17. While some of the plant operating parameters (e.g., core power distribution) will be modified to accommodate higher power operation after EPU, none of the plant modifications that have been or will be made for the EPU will introduce new thermal- hydraulic phenomena, nor will there be any new system interactions during or as the result of analyzed transients introduced. Nichols Declaration, ¶18.

17-Answer Denied – ENVY has replaced or modified several components within the steam and/or feedwater stream (e.g., increase of feedwater pump flow, full-time use of a third feedwater pump, installation of an additional relief valve (vent), modification of the steam dryer, replacement of turbine nozzles, and two loadings of defective fuel (subject to deformation and potential restriction of water flow and/or restriction of control element movement.

18. As part of the EPU analyses, Entergy evaluated the increase in main steam flow resulting from EPU operation and its effect on the loadings on piping and pipe supports during large transients. Entergy's analyses determined that the loadings on piping and pipe supports during large transients at EPU power levels are within acceptable bounds. Entergy's evaluation of the performance of piping and pipe supports was reviewed and accepted by the NRC Staff. Draft SER $ 2.2.1 at 29.

18–Answer Admitted in part, Denied in Part. In this statement, ENVY uses the terms, "evaluation" and "analyses" interchangeably, though they are not exactly synonyms. Which is it? The ACRS in its November 15, 2005 Meeting on the VY EPU, spoke directly to those impacts that can elude analysis, but which may yield a response in testing, such as the failure "Hilti" type fasteners for pipe supports. (See, Transcript, ACRS Subcommittee on Uprates Meeting, 11/15/2005, as discussed in New England Coalition's Response to ENVY's Motion for Summary Disposition, ADAMS No. ML053350214, Attached as Exhibit Two [2])

19. Since the analyses assume operational configurations and component system failures that bound the transients that would occur during actual EPU operations and since no changes will be made to the plant that could be reasonably anticipated to introduce new thermal hydraulic phenomena or give rise to any new system interactions during the transients, there is every reason to anticipate that the transient analyses will accurately predict the plant response to large transient events without need to perform actual LTT. Nichols Declaration, ¶ 20.

19-Answer Denied – This conclusive statement is not supportable for reasons stated in answers to ENVY Statements 4, 16, 17, and 18, as well as the Expert Testimony (Declaration) of Arnold Gundersen in support of New England Coalition Contention 3, August 30, 2004, and the Expert Testimony of Dr. Joram Hopenfeld in support of New England Coalition's Response to ENVY's Motion for Summary Judgment.

20. Thirteen boiling water reactor ("BWR,) plants similar to VY have implemented EPUs without increasing operating pressure:

- Hatch Units 1 and 2 (1 05% to 113% of Original Licensed Thermal Power ("OLTP"))
- Monticello (106% OLTP)
- Muehleberg (ie., KKM) (1 05% to 116% OLTP)
- Leibstadt (i.e., KKL) (105% to 117% OLTP)
- Duane Amold (1 05% to 120% OLTP)
- Brunswick Units 1 and 2 (1 05% to 120% OLTP)
- Quad Cities Units 1 and 2 (100% to 117% OLTP)
- Dresden Units 2 and 3 (100% to 117% OLTP)
- Clinton (100% to 120% OLTP)

Nichols Declaration, ¶ 14.

20-Answer Admitted in part; Denied in part. The declarant may mean that reactor vessel dome pressure did not increase, in which case, New England Coalition would admit this statement. However, two foreign reactors in the list are not regulated by NRC and there is no ready means of reconciling regulatory data even if it were relevant and applicable in this proceeding.

21. Of the thirteen BWR plants analogous to VY that have implemented EPUs without increased reactor operating pressure, four (Hatch 1 and 2, Brunswick 2 and Dresden 3) have experienced one or more unplanned large transients from uprated power levels. Nichols Declaration, ¶ 21.

21-Answer Admitted; with the caveat that analogus does not mean identical. ENVY's comparisons lose meaning as physical, material, configuration, and operational differences emerge. Further, as only one of the plants cited experienced a full-transient event at ENVY's target uprate of 120%, a rather small sample.

22. In every instance in which unplanned large transient power levels have been experienced at those four plants, the plant's response matched the analytical predictions and exhibited no new phenomena. Nichols Declaration, ¶ 22.

22-Answer Denied. The only direct or primary source evidence that the declarant provides in support of this statement is in the license event reports from these events. While the information in LERS is required by NRC to be complete, it is often sketchy and certainly does not include less obvious effects such as the loosening of fasteners, or as in the case of Vermont Yankee's 2004 SCRAM, the spurious trip of a reactor recirculation pump. Admission of this statement would pend examination of more exhaustive and comprehensive reports than LERs.

23. The analytical tools used to predict the performance of those plants during transients are the same as those used at VY. Nichols Declaration, ¶22.

23-Answer Admitted in part; Denied in part. This statement is denied if the declarant means that the available and NRC "analytical" tools were identically applied at "those plants" and VY. We have no way of knowing that at this point.

24. The KKL plant in Leibstadt, Switzerland performed LTT as part of its EPU implementation. Nichols Declaration, ¶ 25.

24-Answer Denied. No documentation was provided to New England Coalition whereby this statement could be verified.

25. The Leibstadt LTT results matched the analytical predictions and identified no anomalous plant behavior. Nichols Declaration, ¶26.

25- Answer Denied. No documentation was provided to New England Coalition whereby this statement could be verified.

26. The analytical tools used to predict the performance of the Leibstadt plant during transients are the same as those used at VY. NNichols Declaration, ¶ 26.

26- Answer Denied. No documentation was provided to New England Coalition whereby this statement could be verified.

27. In the draft SER, the NRC Staff concluded that the experience at the plants that have undergone large unplanned transients shows that "the behavior of the primary safety systems was as expected indicating that the analytical models being used are capable of modeling plant behavior at EPU conditions." Draft SER at 266.

27-Answer Admitted

28. In the draft SER, the NRC Staff concluded that the Leibstadt LTT program results "demonstrated the Performance of the equipment that was modified in preparation for the higher power levels. These transient tests also provided additional confidence that the uprate analyses consistently reflected the behavior of the plant." Draft SER at 266. 4

28-Answer Admitted

29. In approving the EPU application for the Duane Arnold Energy Center, the NRC Staff concluded that "[no] new plant behaviors have been observed that would indicate that the analytical models being used are not capable of modeling plant behavior at the EPU conditions." Letter dated March 17,2005 from Deirdre W. Spaulding (NRC) to Mark A. Peifer (Duane Arnold Energy Center), Attachment 2 at 11,Exhibit 14 to the Nichols Declaration.

29-Answer Admitted

30. During its operation at current licensed power levels, VY has experienced the following unplanned transients:

(1) On 3/13/91, the with reactor at full power, a reactor scram occurred as a result of Turbine/Generator trip on Generator Load Rejection due to a 345 kV Switchyard Tie Line Differential Fault. This event was reported to the NRC in LER 1991-005-00, dated 4/12/91.

(2) On 4/23/91, with the reactor at 100% power, a reactor scram occurred as a result of a turbine/generator trip on generator load rejection due to the receipt of a 345 kV breaker failure signal. The event included a loss of offsite power. This was reported to the NRC in LER 1991-009-00, dated 05/23/91.

(3) On 6/15/91, During normal operation with reactor power at 100% power, a reactor scram occurred due to a Turbine Control Valve Fast Closure on Generator Load Rejection resulting from a loss of the 345 kV North Switchyard bus. This event was reported to the NRC in LER 1991-014-00, dated 7/15/91.

(4) On 6/18/2004, during normal operation with the reactor at 100%power, a two phase electrical fault-to-ground caused the main generator protective relaying to isolate the main generator from the grid and resulted in a Generator Load Rejection reactor scram. This event was reported to the NRC in LER 2004-003-00, dated 8/16/2004. (5) On 7/25/2005, during normal operation with the reactor at full power, a generator load rejection scram occurred due to an electrical transient in the 345 kV Switchyard. This event was reported to the NRC in LER 2005-001-00. Nichols Declaration, ¶ 28.

30-Answer Admitted

3 1. Most of the modifications associated with EPU, including the new HP turbine rotor, Main Generator Stator rewind, the new high pressure feedwater heaters, condenser tube staking, an upgraded iso-phase bus duct cooling syystem, and condensate demineralizer filtered bypass were already installed at the time of the most recent (August 2004 and July 2005) transients. Nichols Declaration, ¶29. In each instance, the modified or added equipment functioned normally during the transient. Id.

31-Answer Admitted

32. VY performed as expected in response to all the transients. No significant anomalies were seen in the plant's response to the events. Nichols Declaration, ¶30.

32-Answer Admitted in part; Denied in Part. The issue of whether or not the 2004 SCRAM was the result of EPU modifications or activity is still before the Vermont Public Service Board. In this event a short in the iso-phase duct, with coolers modified for uprate caused a generator trip. Then several small events followed, including a hydrogen burn in the turbine hall, spurious trip of a reactor recirculation pump, actuation of the diesel generators, and a transformer oil fire. If these events, which could have triggered other more serious events, had been foreseen (expected), they could have been prevented.

33. The performance of VY in the transients it experienced at current power levels was well within the bounds of analyzed VY response. Nichols Declaration, ¶30.

33-Answer Denied. The secondary events described in answer to 32 were not to our knowledge included in the "analyzed VY response.

34. No systems have been added or changed at VY that are required to mitigate the consequences of the large transients that would be the subject of the LTT. Also, the VY EPU is performed without a change in operating reactor dome pressure from current plant operation. Nichols Declaration, ¶ 3 1.

34-Answer Admitted in part; Denied in part. Components added or changed at VY do have a role in a new or increased consequences accident should they retain or lose their integrity and/or function during a severe transient. These EPU designated components would include for example, new fuel (defective), modified steam dryer, added relief valve.

35. There is no basis for the transient performance of the plant under EPU to be outside the NRC Staff accepted experience base for EPU. Nichols Declaration, ¶3 1.

35-Answer Denied. Please see answers to 4,16,17,18,27,32, and 34.

36. In the draft SER, the NRC made the following determination with respect to the large transient experience at VY: "Another factor used to evaluate the need to conduct large transient testing for the EPU were actual plant transients experienced at the VYNPS. Generator load rejections from 100% current licensed thermal power, as discussed in VYNPS LERs 91-005,91-009, and 91-014, produced no significant anomalies in the plant's response to these events."Draft SER at 266.

36-Answer Admitted

37. Technical Specification-required surveillance testing (e.g., component testing, trip logic system testing, simulated actuation testing) performed during plant operations demonstrates that the systems, structures and components ("SSCs") required for appropriate transient performance will perform their functions, including integrated performance for transient mitigation as assumed in the transient analysis. Nichols Declaration, ¶33.

37-Answer Denied. Examination of the pieces is not proof that they will work in unison. In addition, it must be considered that individual components at VY, for example, MSIVs (see Gundersen Declaration, August 30, 2004) have been identified by the licensee as in a declining or adverse trend of performance.

38. MSIVs are tested quarterly. The safety relief valves and spring safety valves are tested once every operating cycle. These valves are required to perform in accordance with the design during large transients; their periodic testing assures that their performance during large transients will be acceptable. Likewise, the reactor protection system instrumentation is tested quarterly, assuring that it will carry out its design function in the event of a large transient. Nichols Declaration, ¶34.

38-Answer Denied. Same response as 37 (preceding item).

39. Because the characteristics and functions of SSCs are tested periodically during plant operations, they do not need to be demonstrated further in a large transient test. In addition, limiting transient analyses (i.e., those that affect core operating and safety limits) are re-

performed for each operating cycle and are included as part of the re-load licensing analysis. Nichols Declaration, ¶ 35.

39-Answer Denied. Same response as 37(above).

40. The performance of a scram from high power as those occurring during LTT results is a transient cycle on the primary system, Nichols Declaration, ¶ 37.

40-Answer Admitted

41. Primary system transient cycles should be avoided if at all possible, since they introduce unnecessary stresses on the primary system. Nichols Declaration, ¶ 37. 6

41-Answer Denied. Not in the present case. The idea of full transient testing is to introduce stresses that could be experienced under EPU for an integrated examination of whole system performance. It is contradictory to assert on one hand that all components function flawlessly and without apparent effect, that LT scrams are experienced without discernable harm at other EPU plants, to acknowledge that full-transients have occurred and will occur announced at VY, and the to demur and the basis of unnecessary stress. Since it appears that announced full transients are a certainty, Vermont Yankee having experienced two in two years following initiation of EPU modifications, then , if they are to be "avoided if at all possible," it follows that EPU efforts should be abandoned in favor of focusing on maintenance, training, and in-service inspection. (See, Transcript, ACRS Subcommittee on Uprates Meeting, 11/15/2005, as discussed in New England Coalition's Response to ENVY's Motion for Summary Disposition, ADAMS No. ML053350214, Attached as Exhibit Two [2])

I have prepared the answers herein with the assistance of Dr. Joram Hopenfeld and with reliance on the referenced documents. They are to my best knowledge complete and accurate.

Raymond Shadis
Pro Se Representative
New England Coalition

DOCKET 50-271
NEW ENGLAND COALITION
EXHIBIT ONE

UNITED STATES
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of ENTERGY NUCLEAR VERMONT YANKEE, LLC and ENTERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)	December 21, 2005 Docket No. 50-271 ASLBP No. 04-832-02-OLA

DECLARATION OF DR. JORAM HOPENFELD
SUPPORTING
NEW ENGLAND COALITION'S RESPONSE
TO ENVY'S MOTION FOR SUMMARY DISPOSITION

I, Dr. Joram Hopenfeld, declare as follows:

1. My name is Dr.Joram Hopenfeld. I reside at 1724 Yale Place, Rockville, Maryland.

2. The New England Coalition has retained me as an expert witness in the above captioned matter.

3. I am a mechanical engineer and hold a doctorate in engineering.

4. I have 45 years of professional experience in the fields of instrumentation, design, project management, and nuclear safety; including 18 years in the employ of the U.S. Nuclear Regulatory Commission. My resume is attached as "Exhibit A."

5. I have reviewed the Entergy Nuclear Vermont Yankee ("ENVY," or the "Licensee") Motion For Summary Disposition Of New Coalition Contention Three (Full Transient Testing), and such publicly available documents as are relevant to the subject of my

declaration, including New England Coalition's Petition for Leave to Intervene and the Attached Declaration of Nuclear Engineer Arnold Gundersen, and including those in the record of the above captioned proceeding.

6. My declaration is intended to support New England Coalition's Response.

7. My expert opinion and analysis is as follows:

8. Entergy rationale for seeking exemptions from transient testing is based first and in large part on the following three propositions:

a. " ...none of the plant modifications that have been or will be made for the Extended Power Uprate ("EPU") will introduce new thermal-hydraulic phenomena, nor will there be any new system interaction during or as the result of analyzed transients introduced."

b. "...there is every reason to anticipate that the transient analysis will accurately predict the plant respond to large transient events without need to perform actual tests"

c. "The transient analyses for Vermont Yankee are performed using the NRC approved code ODYN"

9. In my opinion, and based upon my professional experience, knowledge, and understanding, propositions "a" and "b" above are highly speculative and have no technical validity for the following reasons:

a. The structural changes that ENVY made to the various reactor components such as the dryer for example (Reference 1) are expected to change the natural frequency of the dryer structure, therefore the interaction between the flow and the dryer at the EPU condition may cause the dryer to resonate at different frequencies depending on the transient.

Because of the higher flow and level of turbulence at the EPU conditions, the potential for the dryer to resonate during a transient that was initiated at 120% power level is higher than if it were initiated at the100% power level. Improper dryer operation will affect the thermal hydraulic performance of the system in an as yet unpredictable manner.

b. Extensive experience with Pressure Water Reactor ("PWR") steam generator testing under transient conditions ((MB-2) Transient Testing Program. NUREG/CR-3661, EPRI NP-3494, WCAP-10475

) clearly demonstrates that thermal hydraulic behavior of high pressure heat exchangers under typical transients is more complex than steady state conditions. While the thermal hydraulic phenomena in the PWR steam generator are not exactly the same as the thermal phenomena in the BWR system, the principle is still the same. Transient testing data show that computer codes, such as RELAP, must be bench marked against data at the specified flow range.

c. Contention "c" above is misleading because the NRC approves codes only for such applications where the code was benchmarked. It is also a well-established scientific principle that Thermal /Hydraulic computer codes can be employed reliably only within a certain range of variables where they were tested and where the thermal hydraulic behavior is well understood. ENVY failed to state whether the ODYN code was specifically designed and verified (benchmarked) for the type of transients they have analyzed at EPU conditions. ENVY has not referenced any prototypic separate effects, or system transient tests that were conducted at EPU conditions. Unless ENVY can show that ODYN code was properly benchmarked, the ASLB should consider the statement quoted in "c" as too general and irrelevant.

10. Full scale transient tests at EPU power and flow are the most reliable means to discover unexpected events and demonstrate that the plant will operate safely and therefore should be conducted.

This rationale is developed and proven in Prototypical Steam Generator (MB-2) Transient Testing Program. NUREG/CR-3661, EPRI NP-3494, WCAP-10475

11. ENVY claims that the wealth of worldwide experience during transients eliminates the need for transient testing at Vermont Yankee. The ENVY claim disregards the wealth of experience that has been gained by the nuclear industry in the last 40 years. This experience shows that plant events depend on :

- plant design,
- operating and maintenance history,

  as well as
- quality assurance during construction.

These are plant specific variables and therefore ENVY must support its proposition by demonstrating that the design and operating histories of the cited plants are the same as the design and operating history of the Vermont Yankee plant.

At the November 15 and 16, 2005 ACRS meetings (TRANSCRIPTS at ADAMS No. ML053350214 and ML053350214) on the proposed Vermont Yankee uprate, ENVY stated that the Quad Cities type dryer failure will not occur at Vermont Yankee because of differences in plant design. In the present document VY is claiming that all plants are similar so there is no need for separate testing. It is apparent that ENVY is selectively using the phrase "plant experience" as a justification for whatever suits their need at a particular time with blatant disregard to technical relevance.

12. We strongly disagree with ENVY's contention that that Vermont Yankee operational experience justifies the proposed exception for transient testing. ENVY claims that they should be granted the above exception because of their belief that the consequences from transients that they have experienced at the 100% power level will not require any different mitigation from transients at the 120% power level. The ENVY contention is based strictly on speculation and not on data.

13. ENVY has not provided any relevant data showing that the plant will operate safely and efficiently when the transients are initiated at the relatively high EPU flow rates where high dynamic loads could be created during the transient adversely affecting its mitigation.

14. The ENVY contention is based on the erroneous assumption that computer codes and analysis can be used as a substitute for testing. We strongly disagree with this approach; one of the main purposes of the transient testing is to discover unforeseen component behavior or operator actions. It is preposterous for ENVY to claim that transient testing at the 120% power level is not required in the light of the Quad Cities dryer failure. Load variations and insufficient full scale testing resulted in the unexpected failure of the dryer.

11. The Vermont Yankee plant should not be allowed to operate at the 120% power level without a complete revalidation of the plant ability through analysis, and both individual component and full transient testing to operate safely at these power levels.

12. Conclusion

For the above-discussed reasons, it is my professional opinion that New England Coalition's new contentions addressing the above-described inadequacies are supported

by credible evidence based upon an examination of documents submitted as part of the license amendment process for the extended power uprate in this case and, further, upon careful examination of the Entergy's Motion for Summary Disposition, the Declaration and Exhibits of Craig Nichols, that genuine issues of material dispute with the licensee remain open.

Based upon my experience working for the United States Nuclear Regulatory Commission and the documents referenced herein above, it is also my professional opinion that the issues discussed above are serious safety considerations germane to the subject of the license application in this case.

In my professional opinion the above-discussed issues are included in New England Coalition's new contentions and the Atomic Safety and Licensing Board should examine all of these issues in the context of a full hearing before making a final

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

Executed this day, December 21, 2005 at Rockville, Maryland.

Joram Hopenfeld 12/21/05

Joram Hopenfeld, PhD

Curriculum Vitae for Dr. Joram (Joe) Hopenfeld

A. Professional Expertise

Technical analyst in the fields of nuclear safety, thermal hydraulics, corrosion, industrial instrumentation and environmental monitoring.

B. Current Position

CEO, Noverflo Inc

C. Education

Engineering- University of California at Los Angeles: BS 1960, MS 1962, Ph.D 1967.

D. Summary of Work Experience

I have 45 years of experience in industry and government primarily in the areas of thermal hydraulics, material corrosion, instrumentation and PWR steam generator testing and licensing. I have managed major international programs on steam generator performance during accidents involving various thermal transients. As a result of my work at the Nuclear Regulatory Commission, ("NRC") my position regarding the safety implication of steam generator tube degradation was adopted. Consequently, in 2001 the NRC launched a five-year major program on the effects of steam generator tube aging on core melt. This program is related to the 2002 reactor head failure at Davis-Besse. I have testified at great lengths before the Advisory Committee on Reactor Safety, ("ACRS") on steam generator tube degradation and related safety issues. In the last several years, I have consulted to law firms and citizen groups regarding steam generator issues.

I am the owner and CEO of a small Maryland company, Noverflo, Inc.. Noverflo is developing fiber optic sensors for the oil & gas, the transportation, and the environmental monitoring industries. In 2004 Noverflo has completed a three year program which was sponsored by the U.S. Department of Energy. The program produced a new system for automatic tank gauging. In 1994-1996 Noverflo has developed and commercialized a shutoff valve for fuel tanks to comply with new EPA regulations.

I have funded and sponsored research and development work at the Engineering Department of the University of Virginia, which resulted in a novel method of measuring pipe wall thinning from erosion/corrosion

I have published 14 papers in peer-reviewed technical journals in the areas of thermal-hydraulics, corrosion/ erosion, steam generator dose releases during accidents, steam explosions, sensors and ECM machining. I hold eight US patents and I am listed in the Engineers of Distinction published by the Engineers Joint Council and in American Men and Women in Science.

E. Recent Consulting

1. Winston & Strawn , 1400 L St. Washington D.C

2001

Provided assistance in connection with the February 2000 steam generator event at Indian Point.

2. C-10 Research and Education Foundation, Inc. 44Merrimac St. Newburyport, MA

2002-2003

Provided assistance in the preparation of a 2.206 petition to the NRC and other matters in connection with steam generator problems at the Seabrook Station

3. California Earth Corps (Sabrina D. Venskus, Attorney at Law, Santa Monica, CA)

2005

Provided testimony to the Public Utility Commission of the State of California on behalf of California Earth Corps in connection with the San Onofre steam generator replacement project

F. Brief Employment History

1962- 1971 –Corrosion testing of materials for the design and operation of liquid metal cooled nuclear reactors. Atomics International, Canoga Park, Calif.

1971- 1973- Participated in the resolution of design issues as related to material corrosion and thermal hydraulics of nuclear reactors. Atomic Energy Commission

1973 – 1978 Project Manager for the safety evaluation and testing of steam generators for liquid metal reactors. Department of Energy (and its predecessor ERDA).

1978 – 1982 Project Manager for the development of materials and instrumentation for high temperature steam generators for fossil plants. Responsible for the resolution of issues relating to corrosion/erosion. Department of Energy.

1982 – 2001 Program manager for the resolution of various material and safety issues primarily in relation to PWR steam generators. Nuclear Regulatory Commission.

PUBLICATIONS IN PEER REVIEWED JOURNALS

1. Distributed Fiber Optic Sensors for Leak Detection In Landfills, Proceeding of SPIE Vol 3541 (1998)
2. Continuous Automatic Detection of Pipe Wall Thinning, ASME Proceedings of the 9th, International Conference on Offshore Mechanics and Arctic Engineering. Feb. 1990
3 Iodine Speciation and Partitioning in PWR Steam Generators, Nuclear Technology, March 1990
4. Comments on "Assessment of Steam Explosion Induced Containment Failures" Letter to the Editor, Nuclear Science and Engineering, Vol. 103, Sept. 1989
5. Experience and Modeling of Radioactivity Transport Following Steam Generator Tube Rupture, Nuclear Safety, 26,286, 1985
6. Simplified Correlations for the Predictions of Nox Emissions from Power Plants. AIAA Journal of Energy, Nov.-Dec., 1979
7. Grain Boundary Grooving of Type 304 Stainless Steel in Armco Iron Due to Liquid Sodium Corrosion, Corrosion, 27, No.11, 428, 1971
8. Corrosion of Type 316 Stainless Steel with Surface Heat Flux in 1200 Flowing Sodium, Nuclear Engineering and Design, 12; 167-169, 1970
9 Prediction of the One Dimensional Cutting Gap in Electrochemical Machining, ASME Transaction, J. of Engineering for Industry, p100 (1969)
10. Electrochemical Machining- Prediction and Correlation of Process Variables, ASME Transactions, J. of Engineering for Industry, 88:455-461, (1966)
11. Laminar Two-Phase Boundary Layers in Subcooled Liquids, J. of Applied Mathematics and Physics (ZAMP), 15, 388-399 (1964)
12. Onset of Stable Film Boiling and the Foam Limit, International j. of Heat Transfer and Mass Transfer, 6; 987-989 (1963)) (co-author)
13 Operating Conditions of Bubble Chamber Liquids, The Review of Scientific Instruments, 34, 308-309. (1963); co-author

14. Similar Solutions of the Turbulent Free Convention Boundary Layer for an Electrically Conducting Fluid in the Presence of a Magnetic Field, AIAA J. 1:718-719 (1965)

LIST OF PATENTS

1. Automatic Shut-Off Valve for Liquid Storage Tanks, 5,522,415
2. Method and Apparatus for Detecting the Presence of Fluids, 5,200,615
3. Sensors For Detecting Leaks, 5,187,366
4. Method for Monitoring Thinning of Walls and Piping Components 4,922,748
5. Method for Monitoring Thinning of Pipe Walls, 4,779,453
6. Looped Fiber Optic Sensor for the Detection of Substances (5,828,798)
7. Coated Fiber Optic Sensor for The Detection of Substances (5,982,959)
8. Method and Apparatus for Analyzing Information of Sensors Provided Over Multiple Waveguides (6,870,607)

DOCKET 50-271
NEW ENGLAND COALITION
EXHIBIT TWO
December 22, 2005

NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
SUBCOMMITTEE ON POWER UPRATES –MEETING TRANSCRIPT
(EXCERPT) NOVEMBER 15, 2005 – ADAMS No. ML053320354

PAGE 98
4 MEMBER SIEBER [John Sieber] Let me ask a question. If
5 I increase the steam flow through a stop valve by 20
6 percent, in other words 20 percent more momentum, and
7 then you close that valve, do you think the forces on
8 the valve and piping would go up?
9 MR. NICHOLS [Craig Nichols, ENVY]: I believe they do and we
10 performed that analysis.
11 MEMBER SIEBER: Let me ask an additional
12 question then. When you exert perhaps 20 percent more
13 force on the piping in the valve, what about its
14 hangers and supporters? Are you going to rip them out
15 of the wall? Or you're going to loosen up the hilties
16 (PH)?
17 This is really what you're testing. You
18 aren't testing operator response. You aren't testing
19 whether the valve will close or not or how the reactor
20 will respond. You're really looking at whether the
21 plant's going to stay together or not.
22 MR. NICHOLS: In reference to your stop
23 valve closure, we did perform an analysis of that. I
24 would like to ask Mr. Yasi to address that.
25 MEMBER SIEBER: An analysis is different
PAGE 98
1 than a test.
2 MR. YASI [Daniel Yasi, ENVY]: Yes. We did a stop valve
3 closure test. It bounds the MSID closure test. I'm
4 sorry, analysis.
5 MEMBER SIEBER: It's the same.
6 MR. YASI: Yes.
7 MEMBER SIEBER: I'm thinking the same
8 valve, MSID.
9 MR. YASI: And the stop valves close much
10 quicker. So we analyzed closure of the stop valves
11 and demonstrated with a dynamic analysis that the
12 loads are acceptable.
13 MEMBER SIEBER: Provided that the hangers
14 and the supports and all the hilties that fasten as to
15 the concrete walls and everything are as they were in
16 1971? 1974? That would be the assumption. Right?
17 MR. YASI: Potentially but we also did do

18 a walkdown with the pipe support people. They did
19 walkdown the critical supports in the plant.
20 MEMBER SIEBER: But that doesn't mean
21 anything if you don't do the test. Right? You walk
22 down after the test to see if there's any damage done.
23 MR. YASI: Well, that's one purpose of the
24 walkdown, Jack, obviously.
25 MEMBER SIEBER: Sooner or later, you're
PAGE 99
1 going to do it at large transient test. You just
2 don't know when. Right?
3 MEMBER WALLIS [Graham Wallis, Ph. D]: That's not called a test
4 though.
5 MEMBER SIEBER: It has the same result
6 except you don't have instrumentation and nobody
7 watching.

DOCKET 50-271
NEW ENGLAND COALITION
EXHIBIT THREE
DECEMBER 22, 2005

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Exelon Learnings from Extended Power Uprates

Presentation to NRC 2005 Regulatory Information Conference
March 8, 2005 Washington DC
James R. Meister, Exelon Nuclear

Overview

Operational Challenges from EPU
Vibration Monitoring and Actions
EPU Vulnerability Review and Actions
Steam Dryer Repairs and Replacement

Operational Challenges from Dresden / Quad Cities EPU

Increased steam and feed flow velocities have caused increased pressure pulsations and vibration levels, leading to equipment failures and degradation.
Steam Dryer Failures
Main Steam Relief Valve Failure
Main Steam Line Low Pressure Switch Failure (1/2 Group Isolation)
Turbine Control Valve Pressure Switch Failure (1/2 Scram)
HPCI Test Tap Connection Failure
Main Steam Drain Line Failure
Feedwater Sample Probe Failure
Industry data indicates that nearly all EPU related problems are caused by increased vibration.

Operational Challenges from D/Q EPU

Reduction of margin has affected several systems
Reduction in available Main Steam Safety Valve set point tolerance
Reduction in Feedwater Heater Drain Emergency Valve capacity
Previous Standby Feedwater and Condensate Pumps are [now] normally operated
Reduction in Main Condenser margin

Exelon Response to EPU Lessons Learned

Teams were established to address three major impact areas
Vibration Impact Resolution
EPU Vulnerability Review and Actions
Steam Dryer Repair and Replacement
Exelon established Technical Human Performance Initiative

Vibration Monitoring and Actions

Monitoring and Performance Evaluations for Critical Subcomponents
Accelerometers to collect actual vibration data for piping, valves and actuators
Shaker table testing at Wyle Labs
Analytical Modeling of affected components
Resulting Actions
Adjust PM scope and frequency based on results
Implemented focused / detailed outage walkdowns
Identify subcomponent wear and implement modifications for ERV and Target Rock Valves

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EPU Vulnerability Review

Comprehensive and rigorous review of systems and components
Utilized multiple industry organizations
For the purpose of this review, every component in the plant was assumed to be susceptible to failure, unless proven otherwise
Evaluated changes in operating parameters post EPU for all 4 units
Flow rates, temperature, pressure, radiation levels, vibration levels, wear
Review was conducted both at the system and component levels
53 systems included
Identified potential vulnerabilities due to the changed parameters
Provided recommendations to address the potential vulnerabilities

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EPU Vulnerability Review Results

Reviews confirmed that adequate safety margin exists
101 recommendations were made
60 require outage inspections over next 4 years
9 involve non-outage work
32 involve additional analyses or studies
27 are Exelon specific
74 have potential BWR fleet applicability
Review results were subject to three independent challenges

Internal Team Challenges
Executive Challenge Board
BWROG Challenge review
Actions are in progress and Dresden and Quad Cities

Steam Dryer Repairs and Replacement

Enhanced repairs implemented at Dresden 2/3and Quad Cities 2
Dryer Replacement Project Initiated
Develop advanced steam dryer design
Implement design features to minimize stresses
Qualify the replacement dryer through testing and analysis
Instrument the first dryer to verify design loadings
First installations will be at Quad Cities units 1 & 2 Spring 2005

Conclusions

Adverse effects have been and are being addressed
Safety margins were confirmed adequate
Exelon experience has been shared with the industry and with the NRC
Implementation of recommended actions continues

DOCKET 50-271
NEW ENGLAND COALITION ANSWER
EXHIBIT FOUR

EXCERPT FROM THE DECLARATION OF ARNOLD GUNDERSEN
IN SUPPORT OF PETITIONERS' CONTENTIONS (August 30, 2004)

Exception to Large Transient Testing

Entergy does not plan to perform Large Transient Testing of its systems (SCRAM from full power) at uprated condition. This cannot be justified as good engineering practice nor is it in accord with staff positions interpreting NRC regulation. I disagree with and dispute the assumptions and reasoning Entergy musters to promote this exception. It is my strongly held professional opinion that no such exception or exemption must be allowed.

On September 8, 2003, Entergy transmitted by letter to NRC, as part of its license amendment application, BVY 03-08/Attachment 7, **Justification for Exception to Large Transient Testing**, which states at page 1 under **Background**,

> The basis for the Constant Pressure Power Uprate (CPPU) request was prepared following the guideline lines contained in the NRC approved General Electric (GE) Company Licensing Topical Report for Constant Pressure Power Uprate (CLTR) Safety Analysis: NEDC-3300-A Rev.4, July 2003. The NRC Staff did not accept GE's proposal for the generic elimination of large transient testing (i.e., Main Steam Isolation Valve (MSIV) closure and turbine load rejection) presented in NEDDC-33004P Rev.3. Therefore, on a plant specific basis, Vermont Yankee Nuclear Power Station, is taking exception to the large transient tests; MSIV closure and turbine generator load rejection."

Entergy then argues that, "although no plants have implemented an Extended Power Uprate (EPU) using the CLTR, thirteen plants have implemented EPUs without increasing reactor pressure."

Entergy proceeds to list the thirteen including, to flesh out the list and as if they were regulated by NRC, two in Europe.

Further, Entergy says, " Data collected from testing responses to unplanned transients for [two US plants and One Swiss plant] has shown that plant response has consistently been within expected parameters." It is unclear if these transients were indeed unplanned or if

they were deliberate tests. It makes a difference when the discussion is about whether or not to do tests.

Entergy ignores the NRC staff's decision in the case of the Duane Arnold EPU application,

> Section 10.4, of your submittal, NEDC-32980P, stated that DAEC does not intend to perform tests involving automatic scram from high power, because Duane Arnold's operating history, the transient analysis performed at uprated condition and comparable uprate test performed at other stations such as Hatch, all demonstrate the unit can withstand these test. You pointed out that high power test will subject the unit to unnecessary plant transients. You added that is Duane Arnold experiences a Main Steam Isolation Valve closure of Generator Load reject at the uprates RTP, you will analyze the data available and confirm that the unit responded as expected. You concluded that you have verified that the data to assess the plants response to the transient.
>
> **The NRC-approved ELTR-1 requires the MSIVC test to be performed if the power uprate is more than 10% above previously recorded MSIV closure transient data. The topical report also requires the GLR test to be performed if the uprate is more than 15%of previously recorded transient data.** (Emphasis added)
>
> .
>
> Please provide further clarifications, information and answers to the following questions.
> 5) You cited uprated test performed at Hatch as an example of industry experience that indicates Duane Arnold could also withstand isolation transients form high power. For the Hatch Unit 1 and 2 uprate test, compare the units actual response with the applicable transient analyses. Discuss how this industry experience demonstrates that Duane Arnold power uprate, the cycle-specific limiting transient analysis would provide equivalent protection compared to startup test.
> 10.04

Entergy's next argument, were it applied to the aircraft industry, would scare away airline passengers in droves: " If performed, these tests would not confirm any new or insignificant aspect of performance that is not routinely demonstrated by component level testing." To follow the analogy, if an aircraft were fitted with a more powerful engine, so long as the engine was tested on the ground, why bother to test it in flight; fastened to the airframe. Why not just put it on the morning run to Minneapolis?

Entergy argues that Vermont Yankee has experienced full power load rejections at 100% power in the past and no significant anomalies were seen. How this bears on performance at 120% power is something of a mystery. I believe that Entergy simply doesn't want to rapid cycle the plant for fear of immediate or cumulative consequences. In as much as Entergy has already announced that it will seek a twenty-year license extension with all

of the thermal and pressure cycles in excess of its design life, such a timid approach to one full power test seems to me to be very much out of place.

It is my professional opinion that, in order to preserve the current levels of assurance of safety, Entergy should be required to test Vermont Yankee rapid shutdown capability at full uprated power not only to test its aging components, but also to test its operating crew under circumstances that are not a complete surprise.

March 31, 2005

MEMORANDUM TO:
Frederick D. Brown, Acting Chief
Advanced Reactors and Regulatory Effectiveness Branch
Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research

FROM:
Les R. Cupidon, Electrical Engineer /RA/
Advanced Reactors and Regulatory Effectiveness Branch
Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research

SUBJECT:
PROGRAM PLAN FOR POWER UPRATE OPERATING EXPERIENCE REVIEW

Since June 2002, the extended power uprates (EPUs) have generated increased feedwater flow that have resulted in steam generator dryer failure at Quad Cities Units 1 and 2, and steam dryer cracks and feedwater sampling probes failures at Dresden Units 2 and 3. These events and associated failures throughout the EPU BWR fleet, such as pipe support structures failures, and other failed internal structures as a result of increased flow-induced vibrations have not all been formally compiled. The attached Program Plan has been developed for gathering information and producing an internal report for the agency documenting the operating experience of BWRs that have had an EPU since 1998. The report will provide an overview on the effects of increased flow-induced vibration on structures, systems and components (SSCs) resulting from EPU operation.

Various agency sources will be searched to gather and compile available operational experience data in SSC failures associated with EPUs. Furthermore, an effort will be made to obtain cooperation with relevant utilities and industry groups such as INPO and EPRI for operating experience information related to the topic not currently available to NRC. Various

F. Brown 2
discussions with NRR contacts have confirmed that at the present date, this RES effort is not being duplicated in NRR and as the study progresses, the project manager will continue to coordinate with other relevant NRC offices.
The draft report will be sent to the other relevant offices for comment. Furthermore, this internal report will be used as a tool to identify and justify any further analyses that would result in a follow-up study.

For questions or additional information on this proposed plan, please contact Les Cupidon, 301-415-6366.

Attachment: As stated

F. Brown 2
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Attachment: As stated

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*See Previous Concurrence

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NAME LCupidon:dfw JIbarra FBrown LCupidon FBrown
DATE 03/31/05 03/31/05 03/31/05 03/31/05 03/31/05

PROGRAM PLAN
EXTENDED POWER UPRATE OPERATING EXPERIENCE

WORK SCOPE

To collect and compile operating experience of boiling water reactor (BWR) power plants that have had an extended power uprate (EPU) with known increased flow-induced vibration effects on plant structures, systems and components (SSCs) and document this experience in an internal report. Ascertain the existence of issues that would require a larger work effort.

STATUS

This plan is in the initial phases pending an approval of this Program Plan.

System Applicability: All SSCs that may be affected by increased flow-induced vibration related to an EPU at various BWRs.

Project Manager: Les Cupidon, RES/DSARE/ARREB

Program Plan for Power Uprate Operating Experience Review

The approach begins with the PM gathering information and reviewing activities to summarize operating experience pertaining to various failures of BWR power plant SSCs as a result of increased flow-induced vibrations associated with EPUs.

Information Gathering and Evaluation with Recommendations

Task Resource and Schedule Estimates:
NRC effort: 5 staff-months
Contract funds: $0K
Duration: 5 months for a final report

Task Description: The PM will review and compile operational experience data on the effects of increased flow-induced vibration on SSCs in BWRs associated with EPUs. The PM shall coordinate with other relevant NRC offices and obtain comments on the draft internal report.

Task Deliverables: Draft and final internal report on EPU operational experience review. The draft report will be distributed to other program offices for review and comment, with comments to be addressed as necessary in the final report.

Further assessments if necessary will be completed as a follow-up activity in a separate study.

Summary of Preliminary Resource and Schedule Estimates for Power Uprate Study Plan

POLICY ISSUE
(Information)

July 1, 2005 SECY-05-0118
FOR: The Commissioners
FROM: Luis A. Reyes

Executive Director for Operations /RA/

SUBJECT: RESULTS OF THE PILOT PROGRAM TO IMPROVE THE EFFECTIVENESS

OF NUCLEAR REGULATORY COMMISSION INSPECTIONS OF

ENGINEERING AND DESIGN ISSUES

PURPOSE:

The purpose of this paper is to provide the Commission the staff's assessment of the results of the pilot program to improve the effectiveness of Nuclear Regulatory Commission (NRC) inspections in the design and engineering area. The paper also contains a summary of the planned changes to NRC programs based on the assessment results.

SUMMARY:

In SECY-04-0071, "Proposed Program to Improve the Effectiveness of the Nuclear Regulatory Commission Inspections of Design Issues," the staff described its plans to implement a three-part program to improve the NRC's ability to identify significant design issues at commercial nuclear power facilities. Phase 1 of the program involved data analysis of recent design and engineering issues. The results of Phase 1 were given in SECY-04-0071. Phase 2 of the program involved the development of a new inspection approach and the conduct of four pilot inspections. These four pilot inspections have now been completed. Phase 3 of the program

CONTACT: Jeffrey Jacobson, NRR/DIPM
301-415-2977

involved analysis of the pilot inspection results and the development of program changes. A summary of the Phase 3 analysis and the planned program changes, including enhancement to the baseline engineering inspection and inspection of power uprates, are included in this paper. The recommended program changes will result in additional contractor expenditures which have been reflected in the FY 2006 and FY 2007 budgets.

BACKGROUND:

As previously stated in SECY-04-0071, licensees must demonstrate to the NRC that plant systems and components are designed with sufficient margins and redundancy to ensure they can perform their intended safety-related functions. After granting an operating license, the NRC relies on the licensee to maintain the facility's design in accordance with its licensing requirements. In addition, recent risk-informed initiatives intended to reduce unnecessary regulatory burden are based in part on the assumption that the changes requested do not result in an unacceptable risk to public health and safety despite reductions in margin or redundancy. To support this assumption, the NRC staff and its licensees rely on calculations and analyses that predict the performance of the facility under various accident sequences. Therefore, the accuracy of these design basis calculations and analyses has become increasingly important as the industry and NRC implement new risk-informed regulatory initiatives. It is also important that NRC inspection resources be directed towards aspects of the plant design and operation that represent the most risk and that those resources be implemented as effectively as possible.

DISCUSSION:

Summary of Phase 1 Data Analysis and Phase 2 Pilot Program Development

In the Phase 1 analysis documented in SECY-04-0071, the NRC staff summarized its review of 3 years of data from the Reactor Oversight Process (ROP) to see whether NRC inspections and licensee self-assessment efforts had been effective in identifying latent engineering and design issues. The results of the review highlighted the need for aggressive licensee self-assessments in the design area and effective corrective action programs that can evaluate and resolve the identified issues in a timely manner. The results also showed that in some instances, the NRC had indications of programmatic design and engineering weaknesses, but did not engage the licensee's further, since the programmatic weaknesses had not yet resulted in issues classified as risk-significant through the ROP's Significance Determination Process (SDP).

Using the insights gained from its Phase 1 review, and based on its review of existing and past NRC inspection practices in the design and engineering area, the staff developed a prototype inspection module to focus on aspects of the facility's design that represented a relatively high degree of risk and for which there appeared to be relatively low margin. This inspection module, "Temporary Instruction 2515/158 Functional Review of Low Margin/Risk Significant Components and Human Actions," was implemented at one site in each of the four NRC regions: Vermont Yankee, V.C. Summer, Kewaunee, and Diablo Canyon.

Phase 3 Assessment of Pilot Program Results

The staff's assessment of the pilot inspection results has been an iterative process, with changes being made to the pilot inspection approach based on lessons learned from each of the pilot inspections. In addition, following the completion of the last of the four inspections, the NRC staff and contractors most directly involved with the pilot inspections conducted a detailed review of the program results and developed recommendations for enhancing the current NRC baseline inspections in the engineering area. The staff's assessment included the inspection approach and

content, the inspection frequency, staffing, and training considerations. A separate group conducted an assessment of the Vermont Yankee pilot inspection results and developed preliminary recommendations for enhancing the NRC inspection process for licensee requests for power uprates. A member of the NRC's staff also participated in a panel discussion with pilot inspection recipients at a recent American Nuclear Society conference and received feedback regarding the inspection approach from the industry's perspective. The pilot program was also discussed with external stakeholders at the 2005 Regulatory Information Conference during the regional breakout sessions, and during a monthly public NRC/industry working group meeting to discuss issues associated with the ROP.

CONCLUSIONS:

Effectiveness of Pilot Inspection Approach

The staff concluded that the pilot inspection approach resulted in improvements that should be incorporated into the baseline inspection program. The effectiveness of the pilot inspections was largely attributed to:

- the experience and qualifications of the inspection team leaders and inspectors
- the inclusion of contractors on each inspection with extensive design knowledge
- the selection of components for inspection based on design margin and risk significance
- the inclusion of samples of operating experience
- the inclusion of samples that involve the operations/design interface
- the allowance of additional time on-site to thoroughly assess the inspection samples
- the participation of a senior reactor analyst during the component selection phase of the inspection
- the participation of one of the site resident inspectors (at least during the component selection phase of the inspection)

The staff plans to incorporate these attributes into a revised baseline inspection procedure to be implemented beginning January 1, 2006. The revised inspection procedure will be conducted over a seven week cycle, including three weeks of onsite inspection. This is similar

to the approach used during the pilot inspections. The recommended team composition will consist of an NRC team leader, two design contractors (typically one mechanical and one electrical/IC), one regional operations inspector, one regional engineering inspector, and one inspector trainee. This is a reduction of one contractor and one NRC inspector from the approach used during the pilot inspections. The Office of Nuclear Reactor Regulation (NRR) will conduct a short general training session for team leaders and/or regional inspectors covering the revised inspection approach.

Consistent with the current baseline approach, this inspection will be performed biennially (once in every two-year ROP cycle). Since future inspections will include samples of relatively greater margin and lower risk than those in the first round, consideration will be given to reduced-scope inspections and/or licensee self-assessments, based on performance during the first round and other existing objective criteria. The staff plans to develop specific guidance in this area following the completion of the first year of the program and prior to completion of the first two-year cycle. Included will be specific criteria for determining the appropriate scope and/or staffing of future inspections, including guidance for allowing credit for licensee self assessments.

Assessment of Pilot Inspection Results

The results of the pilot inspections appear to indicate that latent design and engineering issues, mostly of very low safety significance,1 persist at operating reactors. The pilot inspections resulted in 29 inspection findings. Of interest was the number of inspection findings that involved inadequate operating procedures and the operations-design interfaces. The pilot inspections focused on these areas which had not recently received significant inspection attention. The staff plans to continue this focus during future inspections. Also noteworthy was the large number of findings that involved inadequate corrective actions. This is consistent with other recently performed NRC evaluations in this area. The focus on corrective action programs and their effective implementation remains an important element of the ROP. A more detailed analysis of the inspection findings and a comparison against baseline inspection program data are given in Attachments 1 and 2.

In aggregate, the pilot program results support the need for continued inspection focus in the engineering and design area. However, the results do not indicate the existence of widespread risk-significant issues. As such, the staff plans to enhance, rather than revamp, its approach to inspection and oversight in the design and engineering area. The staff concludes that many aspects of the approach used during the pilot inspections should be incorporated into the current baseline inspection program.

Regional Staffing Considerations

In order to effectively implement future inspections, the staff believes that each region should form a core group of inspectors and team leaders for the inspections. This will help in an unresolved issue at Kewaunee involving deficiencies in the auxiliary feedwater system remains to be assessed for risk significance.

scheduling both staff and contractors and will allow more consistency from inspection to inspection. Also, a branch chief should be designated in each region as the inspection procedure lead. The regional branch chiefs and the NRR lead will form a focus group that will meet periodically to assess the effectiveness of this part of the inspection program.

Parallel ROP Changes

The staff also looked at what parallel changes might be needed to other aspects of the ROP to address engineering and design inspection issues. The staff identified that enhanced guidance is needed in Inspection Manual Chapter (IMC) 0612 to define what types of engineering and design issues should be considered "minor" or greater than minor. This guidance is important,

since issues identified as being minor are typically not documented in NRC inspection reports and are not included in NRC cross cutting issue assessments. The staff is planning to address this concern by revising IMC 0612 prior to the end of calender year (CY) 2005. The staff believes that no other changes to the ROP are necessary at this time. The staff will revisit the question of other parallel ROP changes after revising the IMC 0612 guidance and conducting the revised engineering and design inspections for one year.

Assessment of Power Uprate Inspection Approach

In response to the Commission's Staff Requirements Memorandum M041209, dated December 23, 2004, the staff performed a preliminary assessment of the results of the Vermont Yankee inspection, with the goal of determining whether the NRC needs to enhance the current inspection process for power uprate license amendment requests. Traditionally, the NRR technical staff has reviewed license amendment requests in detail for a power uprate, but the inspection part of that review has been limited. The pilot engineering inspection at Vermont Yankee was an attempt to perform an in-depth inspection of aspects of the facility's design that would be impacted by the requested power uprate.

The staff has reviewed the results of the Vermont Yankee inspection and has concluded that the current power uprate inspection procedure should be enhanced. In addition, a process should be developed to better integrate the inspection and NRR technical review process for power uprates and other important license amendment requests. These conclusions are based primarily on the identification of several issues during the Vermont Yankee inspection. These issues involved the acceptability of the licensee's power uprate submittals with respect to the Station Blackout Rule, motor-operated valve testing, certain operator response times, and certain assumptions in accident analyses. The staff believes it unlikely that these inspection-identified issues would have been identified by subsequent NRR technical reviews, because the NRR technical reviews rely primarily on licensee-submitted documentation. The staff therefore believes a detailed inspection is a good complement to the NRR technical review in this area.

To address the above concerns, the staff plans to perform a more detailed assessment of what specific changes should be made to the inspection part of the power uprate process. The staff will also develop a process for better integrating inspections and NRR technical reviews for important license amendment requests. This assessment, as it relates to power uprates, should be completed before the end of CY 2005.

The Commissioners - 6
COMMITMENTS:
Listed below are the significant actions or activities planned by the staff to improve the effectiveness of NRC inspections in the design/engineering area:

•
The staff will modify the current baseline inspection program based on the lessons learned from the pilot program and the results of this assessment.
This activity will be completed by the end of CY 2005.
The revised inspection procedure will be implemented beginning January 1, 2006.

•
The staff will revise the guidance in Inspection Manual Chapter 0612 to better define the types of engineering and design issues that should be considered minor or greater than minor and thus documented in the associated inspection reports.
This activity will be completed before the end of CY 2005.

•
Each region will designate a branch chief as the management lead for the revised procedure and will form a core group of inspectors and team leaders to conduct the inspections. A short general training session for this group will be provided by NRR.
These activities will be completed before the end of CY 2005.
•
The staff will further assess and define the scope of changes necessary to enhance the inspection part of the power uprate license amendment review process. This assessment will include the scoping of enhanced inspection procedures and a process for integrating the inspection with the concurrent technical staff reviews for the power uprate license amendment. Lessons learned from this activity may also be used to better integrate the inspection and technical reviews for other types of license amendments. This activity will be completed before the end of CY 2005.
RESOURCES:

NRC staff hours to revise the baseline inspection procedures, conduct training, and perform program management are currently budgeted. This work is estimated to be approximately 0.25 FTE.

The planned changes for the first round of inspections should result in a savings of about 1 FTE per year that will be used to help complete other baseline or supplemental inspections. However, there will be an increase in the use of contractor funds for the first round of inspections. It is estimated that contract support needs will total about $70K per inspection. Assuming 33 inspections per year, approximately $2.3 million dollars per year of contract support will be needed. This is in contrast to the approximate $500K allocated to engineering inspections in fiscal year (FY) 2005. Sufficient funds to cover this planned increase in contract support have already been included in the FY 2006 and 2007 budgets.

It is anticipated that after the first round of inspections, the scope of some inspections may be reduced and that consideration may be given to crediting licensee self-assessments in lieu of some NRC inspections in this area. This may result in a reduction in total inspection effort in the subsequent rounds of inspections.

The Commissioners - 7

COORDINATION:

The Office of the General Counsel has reviewed this Commission paper and has no legal objections to its content.

The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications.

/RA/

Luis A. Reyes

Executive Director

for Operations

DOCKET 50-271
NEW ENGLAND COALITION
EXHIBIT SEVEN
DECEMBER 22, 2005

UNITED STATES
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of	December 22, 2005
ENTERGY NUCLEAR VERMONT YANKEE, LLC and ENTERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)	Docket No. 50-271 ASLBP No. 04-832-02-OLA

DECLARATION OF NEW ENGLAND COALITION PRO SE REPRESENTATIVE REGARDING ENVY'S TREATMENT COMPLIANCE WITH 10CFR §2.323(b) WITH RESPECT TO ENVY'S MOTION of DECEMBER 2, 2005

I, Raymond Shadis, declare the following under penalty of perjury:

1. My name is Raymond Shadis. I am a member of, employed as Staff Technical Advisor to, the New England Coalition. My office and residence is at Shadis Road, Edgecomb, Maine.

2. I am serving as pro se representative of the New England Coalition in the above captioned proceeding

3. On or about December 2, 2005, Jay Silber, counsel for Entergy Nuclear Vermont Yankee, Llc., and Entergy Nuclear Operations, Inc. ('ENVY"), telephoned me at my home-office.

- Mr. Silber's manner and tone was very light, friendly, and brisk. He informed me that ENVY thought that December 2nd was the last day that they could be filing a motion for summary disposition and that he thought that they would probably file one regarding New England Coalition's Contention on Full Transient testing.

- 4. He couched a single question on approval in the negative; something on the order of, I don't suppose you would want to go along with it?

5. I answered in a cordial manner that it was not likely and further that my office was quite busy; and that I really didn't have time at that point to contemplate it. I told him that I guessed I would have a look at it when it was filed.

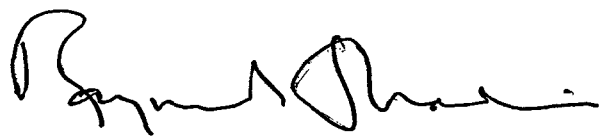
6. Mr. Silberg made no attempt to describe, ENVY's perspective on full transient testing (subject of Contention 3) and any new information regarding the issue to me. He made no further offer to engage in any discussion of this issue.

7. This single breezy telephone conversation regarding lasted but a few minutes and was the only contact from ENVY's regarding the Motion for Summary Disposition.

8. In my opinion, in no way could this perfunctory notice be credibly described in terms of 10CFR §2.323(b), "...the movant has made a sincere effort to contact other parties in the proceeding and resolve the issue(s) raised in the motion, and that the movant's efforts to resolve the issue(s) have been unsuccessful."

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

Executed on December 22, 2005



Raymond Shadis
Pro se Representative
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Docket No. 50-271-OLA
ASLBP No. 04-832-02-OLA
New England Coalition Answer
December 22, 2005

LIST OF EXHIBITS

1. EXHIBIT ONE - Declaration of Joram Hopenfeld, Ph.D.- 6 pages

2. EXHIBIT A - Joram Hopenfeld, Ph.D. Curriculum Vitae – 5 pages

3. EXHIBIT TWO - Meeting Transcript- Advisory Committee on Reactor Safeguards Subcommittee on Power Uprates, November 15, 2005 (excerpt), ADAMS No. ML053320354 - 2 pages

4. EXHIBIT THREE – Presentation- Exelon Learnings from Extended Power Uprates, James R. Meister, Exelon, NRC Regulatory Information Conference, March 8, 2005, ADAMS No. ML0521140189 - 3 pages

5. EXHIBIT FOUR – Declaration Excerpt- Arnold Gundersen, August 30, 2004 - 2 pages

6. EXHIBIT FIVE – Memorandum, F. Brown, NRC, to L. Cupidon, NRC, Subject: Program Plan for Power Uprate Operating Experience Review, March 31, 2005, ADAMS No. ML050900444 - 4 pages

7. EXHIBIT SIX – Policy Issue, SECY-05-0118, Results of the Pilot Program to Improve the Effectiveness of Nuclear Regulatory Commission Inspections of Engineering and Design Issues, July 1, 2005, ADAMS No.ML051390465 – 6 Pages

8. EXHIBIT SEVEN – Declaration, New England Coalition Pro Se Representative, Raymond Shadis, December 22, 2005 – 2 Pages.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of ENTERGY NUCLEAR VERMONT YANKEE LLC and ENTERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)	Docket No. 50-271-OLA ASLBP No. 04-832-02-OLA

CERTIFICATE OF SERVICE

I hereby certify that copies of "NEW ENGLAND COALITION'S ANSWER TO ENTERGY'S MOTION FOR SUMMARY DISPOSITION OF NEW ENGLAND COALITION CONTENTION 3," in the above-captioned proceeding have been served on the following by e-mail as indicated by a double asterisk (**), this 23rd day of December, 2005 and by deposit in the United States mail, first class within two mailing days; U.S. Mail only as indicated by an asterisk (*).

Alex S. Karlin, Chair** Administrative Judge Atomic Safety and Licensing Board Panel Mail Stop T-3F23 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: ask2@nrc.gov	Dr. Anthony J. Baratta** Administrative Judge Atomic Safety and Licensing Board Panel Mail Stop T-3F23 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: ajb5@nrc.gov
Lester S. Rubenstein** Administrative Judge Atomic Safety and Licensing Board Panel 4760 East Country Villa Drive Tucson, AZ 85718 E-mail: lesrrr@comcast.net	Office of the Secretary** ATTN: Rulemaking and Adjudications Staff Mail Stop: O-16C1 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: HEARINGDOCKET@nrc.gov
Office of Commission Appellate Adjudication* Mail Stop: O-16C1 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001	Jonathan M. Rund, Esq.** Law Clerk Atomic Safety and Licensing Board Panel Mail Stop: T-3F23 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 (E-mail: jmr3@nrc.gov)
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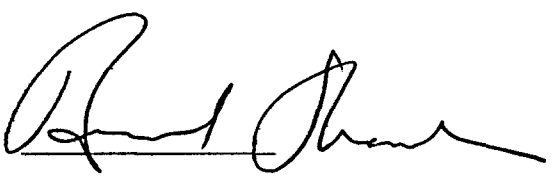

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