

EXHIBIT 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
ENTERGY NUCLEAR VERMONT)	Docket No. 50-271-LA-2
YANKEE, LLC AND ENTERGY)	
NUCLEAR OPERATIONS, INC.)	February 9, 2015
)	
(Vermont Yankee Nuclear Power Station))	

**STATE OF VERMONT'S
PETITION FOR LEAVE TO INTERVENE, AND HEARING REQUEST**

I. INTRODUCTION

Pursuant to 10 CFR § 2.309, the State of Vermont ("State"), through the Vermont Department of Public Service, submits the following Petition for Leave to Intervene, and Hearing Request in response to Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.'s (together, "Entergy") license amendment request ("LAR") related to the Vermont Yankee Nuclear Power Station ("VY") Permanently Defueled Emergency Plan and Emergency Action Level Scheme. The State opposes Nuclear Regulatory Commission ("NRC") issuance of the LAR. The State seeks to participate as a party in this proceeding, and it requests that the NRC and/or the Atomic Safety and Licensing Board ("ASLB") hold an evidentiary hearing in order to develop a full evidentiary record for the NRC and/or ASLB to consider when reviewing the LAR.

On June 12, 2014, Entergy filed its LAR seeking to revise the VY site emergency plan ("SEP") and Emergency Action Level ("EAL") scheme to reflect a permanently defueled

condition.¹ The LAR is based on exemptions from certain portions of 10 CFR §§ 50.47(b), 50.47(c)(2), and Part 50, Appendix E, Section IV requested by Entergy, but not yet granted by the NRC.² The State filed comments in response to the LAR, outlining its concerns and objections to the proposed license amendments on February 9, 2015.³

II. PETITION FOR LEAVE TO INTERVENE

The State meets all standing requirements outlined in 10 CFR § 2.309(d). The State, as represented by the Vermont Department of Public Service, 112 State Street, Montpelier, VT 05620, has a significant interest in the proposed license amendments contained in the LAR presently at issue. The VY station is located within the state of Vermont. As explained in the State's February 9, 2015 Comments and Declarations, and in the contentions below, the LAR, if granted, would significantly hinder the State's ability to coordinate and execute an effective response to an emergency situation at the station. This hindrance poses a safety risk to Vermont

¹ See Letter from Christopher Wamser, Entergy Site Vice President, to NRC Document Control Desk, June 12, 2014 (BVY 14-033)(NRC Agencywide Document Access Management System [ADAMS] Accession No. ML14168A302).

² See Letter from Christopher Wamser, Entergy Site Vice President, to NRC Document Control Desk, March 14, 2014 (BVY 14-009)(NRC ADAMS Accession No. ML14080A141); *Biweekly Notice; Applications and Amendments to Facility Operating Licenses and Combined Licenses Involving No Significant Hazards Considerations*, (79 FR 73109)(December 9, 2014). The December 9, 2014 Federal Register notice notes that "[t]he Commission may issue the license amendment before expiration of the 60-day period provided that its final determination is that the amendment involves no significant hazards consideration." Such issuance of the amendment prior to the expiration of the 60-day period to file a hearing request does not, however, preclude commission review of this request for hearing. The Federal Register makes clear that any hearing will take place after issuance of an amendment should the NRC make a No Significant Hazards Consideration Determination prior to review of this request.

³ The LAR was noticed in the December 9, 2014 edition of the *Federal Register* (79 FR 73109). The notice requested the submission of public comments on or before January 8, 2015. On January 8, 2015, the NRC issued a 30 day extension of the public comment period to February 9, 2015. See Notice from James Kim, Plant Licensing IV-2 and Decommissioning Transition Branch, January 8, 2015 (ADAMS Accession No. ML15008A098).

residents. The State therefore petitions the NRC for leave to intervene as a full party in this proceeding.⁴

III. REQUEST FOR HEARING

The State requests that a hearing be held to develop a full evidentiary record related to the contentions stated below and any later amendments to the contentions pursuant to 10 CFR § 2.309. It also requests that the State be granted the opportunity to engage in limited discovery to aid in the development of the evidentiary record, either as a matter of right in the event that the ASLB and/or NRC grants a hearing pursuant to 10 CFR Part 2, Subpart G, or, alternatively, at the discretion of the ASLB and/or NRC under Subpart L.

CONTENTION ONE

Entergy's license amendment request is not ready for review, as the amendment request is predicated upon and assumes approval of an exemption request that has not been ruled upon by the Nuclear Regulatory Commission and/or Atomic Safety and Licensing Board.

BASES

Entergy's instant LAR is not ready for review by the NRC and/or the ASLB. Entergy readily concedes in the LAR that "[t]he proposed PDEP and Permanently Defueled EAL scheme are predicated on approval of requests for exemption from portions of 10 CFR 50.47(b), 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E, Section IV, previously submitted."⁵ The requested exemptions would remove the planning, notice and protective action requirements in the event of

⁴ See *In the Matter of Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* Docket No. 50-271-LA, Memorandum and Order (Ruling on Request for Hearing and Petition to Intervene)(January 28, 2015) at 7 ("Vermont has standing because Vermont Yankee is "located within the boundaries of the State" and, accordingly, 'no further demonstration of standing is required.'").

⁵ BVEY14-033 at 2.

an emergency,⁶ reduce the emergency planning zone to the footprint of the plant,⁷ eliminate hostile action scenario planning,⁸ and eliminate State participation in emergency response exercises.⁹ The LAR seeks approval of a Permanently Defueled Emergency Plan and Permanently Defueled Emergency Action Level scheme that would reduce the scope of emergency planning at the VY site, and increase notification time of an emergency declaration to the State from 15 minutes to 60.¹⁰

The LAR, as presented, assumes actions by the NRC that have not yet occurred, and, more importantly, may never occur in the future. Approval of the LAR without NRC review of the predicate exemptions request – which would allow the State to comment on that request and request a hearing – is inappropriate, both as a matter of law and public policy. The exemptions request and the LAR effectively constitute a complete request by Entergy for changes to its approach to emergency planning and response. The two filings cannot be reviewed separately as they are dependent on one another. However, the State has not been afforded an opportunity to respond in a meaningful way to the exemptions request.

In addition, the NRC has options at its disposal beyond simple approval or denial the requested exemptions. It could, for example, impose conditions for approval. Neither the State nor the NRC is able to evaluate the full extent to which the proposed license amendment will or will not meet NRC safety and environmental requirements until the final decision on the

⁶ BKY 14-009, Attach. 1 at 4-7, addressing changes to 10 CFR § 50.47(b); 11, addressing changes to Part 50, App. E.IV; 16, addressing changes to Part 50 App. E.IV.A; 19-22, addressing changes to E.IV.D; 25-28, addressing changes to Part 50, App. E.IV.E.

⁷ *Id.* at 8, addressing changes to 10 CFR § 50.47(c)(2).

⁸ *Id.* at 10, addressing changes to 10 CFR 50, App. E IV.1; 15, addressing changes to Part 50, App. E.IV.A; 17, addressing changes to Part 50 App. E.IV.B; 26, addressing changes to Part 50, App. E. IV.E.

⁹ *Id.* at 33-36, addressing changes to Part 50, App. E.IV.F.

¹⁰ BKY 14-033 at 2; App. 1 at 4; App 2 at 35.

exemption requests is made. The State is materially and unfairly disadvantaged when it is forced, as it is here, to challenge the LAR when the exact terms of the request are not known.

This issue is within the scope of the proceeding. NRC approval of exemptions request serves as the foundation on which the LAR is built. In this instance, Entergy seeks approval of the LAR prior to the necessary foundation being laid. Unless and until the State is given an opportunity to at least comment on the exemptions request and the NRC makes a ruling on the same, the issue of whether the NRC and/or ASLB is in an appropriate position to even review the LAR is within the scope of this proceeding. Likewise, this issue is material to core findings that the NRC must make – namely that the predicate exemptions are approved – to support the changes Entergy seeks in the LAR. The ASLB and/or NRC should, at a minimum, hold this proceeding and the deadline for filing contentions and a hearing request in abeyance until at least 30 days after NRC has taken final action on Entergy's exemptions request. The NRC should likewise provide a meaningful opportunity for the State to provide comments and request a hearing with respect to the exemptions request.

SUPPORTING EVIDENCE

This issue poses a genuine dispute between Entergy and the State with respect to the appropriateness of LAR review now. A significant portion of the State's February 9, 2015 LAR Comments and Declarations speak to significant concerns it has with the LAR that flow from the underlying exemptions request, and are incorporated into this Petition by reference.¹¹ The Comments and Declarations detail the deficiencies and problems of the requested exemptions,

¹¹ See Vermont Department of Public Service LAR Comments and Declarations (February 9, 2015), attached as Attachment A; Vermont Division of Emergency Management LAR Comments and Declarations (February 9, 2015), attached as Attachment B; and Vermont Department of Health LAR Comments and Declarations (February 9, 2015), attached as Attachment C.

and illustrate the interaction between the LAR and the exemptions request. This interaction, as detailed by the Declarations, cuts to the core of the findings the ASLB and/or NRC must make in reviewing the LAR here. As discussed below, the State disputes Entergy's claim that the proposed PDEP and Permanently Defueled EAL scheme continues to "preserve the . . . effectiveness of the emergency plan," particularly when evaluated in conjunction with the requested exemptions.¹²

CONTENTION TWO

Entergy's license amendment request, if approved along with the predicate requested exemptions, fails to account for all credible emergency scenarios, undermines the effectiveness of the site emergency plan and off-site emergency planning, and poses an increased risk to the health and safety of Vermont citizens in violation of NRC regulatory requirements 10 CFR § 50.54(q)(4) and Appendix E to Part 50.

BASES

The LAR, if approved in conjunction with Entergy's requested exemptions, would increase the threat to public health and safety in the event of a credible accident scenario at the VY plant. First, the requested exemptions outlined above would eliminate Entergy's obligations to keep the State emergency response organizations and the general public informed in the event of an emergency.¹³ The exemptions would further reduce the State's ability to adequately and effectively respond to an emergency by discontinuing the federal requirement for support to State planning and monitoring activities, placing the health and safety of Vermont citizens in jeopardy in the event of a plant emergency. The exemptions would hamper the State's ability to

¹² BVE-033 at 2.

¹³ BVE 14-009, Attach. 1 at 19-22, addressing changes to Part 50, App. E.IV.D.

implement the Vermont Radiological Emergency Response Program, and any additional off-site response to an emergency.¹⁴

The exemptions request effectively treats the VY plant, with radioactive material stored in a spent fuel pool, as if it were a dry cask independent spent fuel storage installation (“ISFSI”) and/or monitored retrievable storage (“MRS”) facility, which is clearly not the case now or for the next several years. Entergy’s exemptions request does not even contain implementing procedures, preventing the State from understanding what changes it would need to make to its emergency response protocols if the exemptions and LAR are approved. The State would be unable to effectively execute its own Radiological Emergency Response Plan in harmony with the VY Emergency Plan without such implementing procedures in the event of an emergency at the plant. In sum, the requested exemptions would eliminate substantial emergency plan requirements contained in 10 CFR Part 50, Appendix E, which in turn would necessarily reduce the effectiveness of any VY emergency plan going forward, including the PDEP and EAL schemes proposed in the instant LAR. The requested exemptions would significantly reduce, if not eliminate, notification procedures currently required by 10 CFR Part 50, Appendix E. For instance, the exemptions request proposes that the procedures requiring notification and interaction with State and local agencies be eliminated almost in their entirety, based on the erroneous assumption that the VY station (in its present state with spent fuel in the cooling pool) be viewed as an ISFSI and/or MRS facility. This would result in no effective means for Entergy to communicate critical information to the State in the event of an emergency, as required by Part 50, Appendix E.¹⁵

¹⁴ See DEMHS LAR Comments and Declarations at 1-3, 5-9; and VDH LAR Comments and Declarations at 5-7.

¹⁵ See BVY 14-009, Attach. 1 at 19-22, addressing changes to Part 50, App. E.IV.D.

Second, the LAR fails to adequately analyze a number of credible scenarios whereby public health and safety may be put at risk. The LAR does not provide analysis of multiple credible Beyond Design Basis scenarios that continue to pose a health risk while fuel rods remain in the VY spent fuel cooling pool. The exemptions request, if granted, would eliminate the federal requirement that Entergy take responsibility for planning a response to a spent fuel pool emergency that may last more than 10 hours.¹⁶ This problem would be compounded by the lack of clear notification procedures to the State otherwise required by Part 50, Appendix E. Likewise, Entergy has relied upon stale NRC guidance issued prior to the September 11, 2001 attacks in developing the PDEP / EAL scheme that does not consider post-9/11 security concerns. The PDEP /EAL scheme should address all safety concerns present in today's threat environment. The LAR fails to do so. The LAR also fails to address heightened safety concerns at Vermont Yankee due to the existence of high-burnup fuel at the site, even though the NRC has recognized that the use of high-burnup fuel causes special problems, including a greater chance of accidents and an increased chance of structural failure of the fuel rods such that transfer to dry casks is more difficult, more dangerous, and more expensive.¹⁷

When viewed together, the exemptions request and LAR create a circular logic that results in a clear reduction in emergency plan effectiveness that cannot meet the requirements of 10 CFR § 50.54(q)(4) and companion Part 50, Appendix E emergency plan requirements. Entergy has filed the LAR pursuant to § 50.54(q)(4), which requires a request to change an emergency plan that would reduce the effectiveness of the plan to include "the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements

¹⁶ See, for instance, DPS LAR Comments and Declarations at 1-2, addressing the possibility of fuel pool accident scenarios involving accelerants.

¹⁷ See DPS LAR Comments and Declarations at 3.

in appendix E to this part.” The exemptions request seeks to strike significant portions of 50 App. E.IV.B and D related to actions outside the plant boundary and emergency notification to state and local response organizations. The LAR meets the requirements of § 50.54(q)(4) only in the event Entergy is exempted from material requirements of Part 50, Appendix E. Section 50.54(q)(4), however, mandates that all Appendix E requirements are met. The LAR therefore fails to satisfy § 50.54(q)(4).

The contention is within the scope of this proceeding. The LAR must show that it conforms to the requirements of Part 50, Appendix E given that Entergy readily admits its request would reduce the effectiveness of the VY emergency plan. On its face, the LAR does not meet all the Appendix E requirements as mandated by § 50.54(q)(4). Furthermore, the contention is material to the finding the NRC must make that the LAR satisfies all requirements of § 50.54(q)(4) and Appendix E of Part 50. The State has submitted comments from experts in its Division of Emergency Management and Homeland Security, the Department of Health, and the Department of Public Service, all of which raise concerns about the LAR and companion exemptions request’s adverse impact on the State’s ability to execute monitoring and emergency response programs in the event of an emergency. The exemptions and LAR fail to adequately analyze credible Beyond Design Basis scenarios while spent fuel is present in the VY cooling pool, eliminate critical State notification, monitoring and planning activities, and fail to adopt dose radiation monitoring standards that would best protect public health and safety, as spelled out in the State’s Comments and Declarations.¹⁸

¹⁸ See DPS LAR Comments and Declarations at 1-2; DEMHS Comments and Declarations at 1-2, 5, 7-9; VDH Comments and Declarations at 3-9/

SUPPORTING EVIDENCE

A genuine dispute exists between the State and Entergy with respect to whether the LAR meets all Part 50, Appendix E requirements aimed at ensuring protection of the public health and safety of Vermont citizens. The State has submitted extensive evidence in the form of Declarations sponsored by experts in their respective fields. The details spelled out in the Declarations strongly support the bases by which this contention is set forth, and are incorporated into this Petition by reference. The LAR provides insufficient analysis of credible Beyond Design Basis emergency scenarios and is based on inadequate NRC guidance. The requested exemptions fail to meet the requirements of 10 CFR § 50.54(q)(4) and companion Appendix E to Part 50 by eliminating the federal requirement for notification protocols, and planning and monitoring resources to the State required to ensure public health and safety.

IV. CONCLUSION

Based on the foregoing the State of Vermont, through the Vermont Department of Public Service, respectfully requests the U.S. Nuclear Regulatory Commission and/or Atomic Safety and Licensing Board to grant its request for intervention, admit the State's two contentions offered above, and hold a hearing on Entergy's LAR related to the VY Permanently Defueled Emergency Plan and Emergency Action Level Scheme with the opportunity for the State to engage in discovery to develop a full evidentiary record for review when considering the LAR and associated exemptions request.

Dated at Montpelier, Vermont this 9th of February, 2015

Respectfully submitted,

/s/ Christopher Recchia
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**COMMENTS AND DECLARATIONS OF THE VERMONT DEPARTMENT OF
PUBLIC SERVICE REGARDING VERMONT YANKEE PERMANENTLY DEFUELED
EMERGENCY PLAN AND EMERGENCY ACTION LEVEL SCHEME
LICENSE AMENDMENT REQUEST BVY 14-033**

February 9, 2015

The Vermont Department of Public Service (Department or DPS), by and through Anthony Leshinskie, Vermont State Nuclear Engineer and Decommissioning Coordinator, (curriculum vitae attached) submits the following comments and declarations with respect to the license amendment request filed by Entergy Nuclear Operations, Inc. (Entergy) regarding the Vermont Yankee Permanently Defueled Emergency Plan and Emergency Action Level Scheme on June 12, 2014. *See Letter from Chris Wamser, Entergy Site Vice President, to NRC Document Control Desk, June 12, 2014 (BVY 14-033) (NRC Agencywide Document Access Management System [ADAMS] Accession No. ML14168A302).*

The License Amendment Request (LAR) generally raises significant concerns to the Department, both because of the flawed assumptions used by Entergy in assessing threat scenarios, and because of Entergy's reliance on outdated NRC guidance as support for the LAR.

The representations made by Entergy in the LAR do not contemplate the full scope of possible threat scenarios impacted by the proposed license amendments. Analysis of certain credible Beyond Design Basis events is not properly presented, preventing the Department (and the NRC) from adequately evaluating the impact of the proposed license amendments.

For example, the LAR fails to analyze Potential Hostile Actions such as aircraft assault. Entergy states throughout the Permanently Defueled Emergency Plan (PDEP) / Emergency Action Level (EAL) scheme filing that the remaining Design Basis Accidents and credible Beyond Design Basis events will progress slowly. This assertion is used to justify extending the required emergency level notification time from 15 to 60 minutes, and in part to justify the

elimination of Site Area Emergency and General Emergency EALs currently used in Vermont Yankee Emergency Planning. The PDEP and its EALs rely on a definition of Hostile Action described in NEI-99, Rev. 6 Sections 3.1.3 & 3.1.4. Potential Hostile Actions include aircraft assault, which—based on the discussion in the PDEP—can occur with little or no advanced warning. The lack of advanced warning for this type of Hostile Action contradicts the slow progression assumption.

Additionally, the Fuel Assembly Heat Up / Zirconium Fire probability event discussed in the PDEP / EAL scheme (but submitted as part of a separate License Exemption Request, *see Entergy Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E*, March 14, 2014 (BVY 14-009) (ADAMS Accession No. ML14080A141)) lacks adequate analysis. It ignores the conclusion of the U.S. General Accounting Office in August 2012 that “it is difficult to quantify the probability” of a spent fuel pool fire. *See* GAO 12-797 at 27. While it attempts to work around the conclusion by assuming that a fire will occur once a 900 °C fuel temperature is reached, there is no NRC defined criteria to determine whether this is an acceptable evaluation method. It also does not discuss the possibility of chemical accelerants being used to reduce the time to reach the 900°C fuel temperature defined as the onset of a Zirconium Fire, even though such an accelerant was considered in a recent Vermont Yankee Hostile Action Emergency Drill. One potential accelerant would be jet fuel from an aircraft intentionally crashed into the spent fuel pool (which could conceivably fuel a fire regardless of the water level in the Spent Fuel Pool) causing a fuel assembly fire well before the 10 hour “heat-up time” determined by the Zirconium Fire analysis. The possibility of a much more rapid heat-up time contradicts the slow progression assumption of the PDEP / EAL scheme, and could require an EAL beyond Alert to properly address.

The Department also has significant concerns about the quality of the NRC guidance Energy used in developing the PDEP / EAL scheme. A significant portion of the guidance used to develop the PDEP / EAL scheme is derived from plant decommissioning information that the NRC has compiled in SECY-00-145, well before the September 11, 2001 attacks. By the NRC's own admission, the SECY-00-145 guidance has not been updated since then because plant security concerns raised by the September 11, 2001 attacks were given higher priority. As such, the SECY-00-145 guidance has not been reevaluated while considering post-9/11 plant security concerns. The Department believes that, once the SECY-00-145 guidance has been considered, ideas such as reducing the Emergency Planning Zone (EPZ) to the Vermont Yankee fence line and relying on "ad hoc" offsite emergency planning (rather than continued offsite radiological emergency planning support) will be found to be imprudent and unwarranted.

The LAR is also deficient because it fails to properly analyze the risks of an accident while transferring fuel from the spent fuel pool to dry casks. This risk is heightened at Vermont Yankee because of the existence of high-burnup fuel at the site. The NRC has recognized that the use of high-burnup fuel causes special problems, including a greater chance of accidents and an increased chance of structural failure of the fuel rods such that transfer to dry casks is more difficult, more dangerous, and more expensive. *See* NUREG-1738 at ix, 3-1; *see also, e.g.*, National Research Council, Board on Radioactive Waste Management, Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, National Academies Press (2006) at 101, *available at* http://www.nap.edu/openbook.php?record_id=11263&page=101 (noting that high-burnup fuel "results in an increase in the decay-heat power of the spent fuel assembly by the time it is put into the spent fuel pool"); R. Alvarez, *The Storage and Disposal Challenges of High Burnup Spent Power Reactor Fuel* (Jan. 3, 2014) at 9-11 (noting that new evidence shows

that when high-burnup fuels are placed in the spent fuel pools at certain reactors, it can create special problems that interfere with Spent Fuel Pool systems integrity); NRC Division of Spent Fuel Storage and Transportation Interim Staff Guidance-24, Revision 0 (Issue: The Use of a Demonstration Program as Confirmation of Integrity for Continued Storage of High Burnup Fuel Beyond 20 Years) (ADAMS Accession No. ML13056A516) (recognizing that further studies are needed on the long-term structural integrity and safety of storing and transferring high-burnup fuel).

In addition:

Section 5.1.2: The Fuel Assembly Heat Up / Zirconium Fire event discussed as part of the PDEP / EAL scheme has been submitted as part of a separate License Exemption Request (BVY 14-009), but that exemption has not been granted or even noticed for public comment yet. Further, Entergy's zirconium fire analysis ignores the NRC's conclusion in NUREG-1738 that "fuel assembly geometry and rack configuration . . . are subject to *unpredictable* changes after an earthquake or cask drop that drains the pool." NUREG-1738 at x, 5-2 (emphasis added).

Section 5.1.3.1: Additional information supporting the discussion of the Loss of Spent Fuel Pool Cooling event is required, but the submittal does not provide a reference supporting the stated results. Please indicate where the analysis supporting the stated results can be found.

Section 5.5.3: While it is stated that Entergy will discuss the implementation of the PDEP / EAL scheme with Vermont State and Local officials subsequent to NRC approval, such discussions should occur prior to NRC approval to allow for modification of Entergy's action prior to regulatory approval.

Section 6.2: The cited examples of decommissioning plants extending their required emergency level notification time from 15 to 60 minutes were all granted prior to the September

11, 2001 attacks. Once post-9/11 plant security concerns are considered, the Department believes that permitting this increase in emergency level notification time will be found to be imprudent and unwarranted.

Section 6.3: The Department disagrees with the conclusion that no reduction in safety margin would occur with the implementation of the proposed PDEP / EAL scheme. Elimination of the Site Area Emergency and General Emergency EALs indicates that significant changes in plant operations during emergency conditions will occur, which bears on safety.

Attachment 1, Sections 3.3 & 7.7: These sections discuss notifying the NRC of Emergency Conditions via a system called the Emergency Notification System (ENS). Under the terms of the Site Access MOU between Entergy and DPS, Entergy is required to send the Department Designee all notifications made to the NRC. The LAR should reflect this arrangement.

Attachment 1, Section 6.1: This section notes that the safety of on-site Vermont Yankee staff during an on-going security event or Hostile Action could result in the suspension of Emergency Response Organization activation. The Emergency Operation Facility (EOF) in the proposed PDEP / EAL scheme is the on-site Vermont Yankee Control Room. In the current emergency plan, the EOF is located off-site. The LAR contains no assurances that EOF activation will be restored in sufficient time for the Emergency Response Organization to respond within the emergency response times discussed throughout the proposed PDEP / EAL scheme. The Department believes that Entergy should include an alternate, off-site EOF, such as the current Vermont Yankee EOF, in the proposed PDEP / EAL scheme.

Attachment 1, Section 7.0: The proposed PDEP / EAL scheme makes no mention of the Entergy / State of Vermont communication channel via the DPS Designee (typically the State

Nuclear Engineer) that exists during emergency conditions. This communication means should be described as part of the proposed PDEP / EAL scheme.

Attachment 1, Section 9.9.2: The noted evacuation of on-site plant contractors during an Alert condition could impede the DPS Designee (typically the State Nuclear Engineer) from reaching the EOF (the Vermont Yankee Control Room) in the proposed PDEP / EAL scheme. Measures to mitigate this potential impediment should be made either in the PDEP / EAL scheme or in a related implementation procedure.

Conclusion

Based on these and other reasons, the LAR lacks the requisite analysis and supporting evidence and should be denied. The Department respectfully recommends that the NRC conduct a thorough examination of the LAR's impacts on a full range of Beyond Design Basis events, as well as the PDEP / EAL scheme assumptions in the post-9/11 world.

**COMMENTS AND DECLARATIONS OF THE VERMONT DIVISION OF
EMERGENCY MANAGEMENT AND HOMELAND SECURITY ON
BVY 14-033 VERMONT YANKEE PERMANENTLY DEFUELED EMERGENCY PLAN
AND EMERGENCY ACTION LEVEL SCHEME**

February 9, 2015

INTRODUCTION

The Vermont Division of Emergency Management and Homeland Security, by and through Erica Bornemann, Chief of Staff, (curriculum vitae attached) submits the following comments and declarations with respect to the license amendment request filed by Entergy Nuclear Operations, Inc. (Entergy) regarding the Vermont Yankee Permanently Defueled Emergency Plan and Emergency Action Level Scheme on June 12, 2014. *See Letter from Chris Wamser, Entergy Site Vice President, to NRC Document Control Desk, June 12, 2014 (BVY 14-033) (NRC Agencywide Document Access Management System [ADAMS] Accession No. ML14168A302).*

The Vermont Yankee Permanently Defueled Emergency Plan (VY PDEP) and Emergency Action Level Scheme (EAL) proposed in Entergy's license amendment request presents a number of concerns for the State of Vermont (the State) regarding the status of off-site emergency preparedness if the Vermont Yankee Nuclear Power Station (VY) receives exemption from portions of 10 CFR § 50.47(b), 10 CFR § 50.47(c)(2) and 10 CFR § 50, Appendix E. Through the requested exemptions, VY seeks to alter the emergency planning requirements imposed by its license and subsequently revise the current VY Emergency Plan after the plant enters an anticipated permanently defueled condition. If those license exemptions are granted, Entergy intends to essentially cease its off-site emergency preparedness and response functions beyond the statutorily mandated all-hazards approach required of each Vermont town today. If

the requested exemptions are granted, the license would no longer require the licensee to support activities such as planning, exercises, and training even though the proposed plan continues to rely upon supplemental emergency response organizations and agencies for incidents on-site.

Under the proposed exemptions, Entergy also intends to significantly reduce the number of personnel in the Emergency Response Organization which has historically been tasked with managing a declared incident on-site. Entergy intends to make these reductions even while nuclear fuel remains in the Spent Fuel Pool (SFP) before being moved to Dry Cask Storage. The licensee has proposed to be given a series of exemptions to a relatively robust set of safety measures for which there is not a comparable substitute commensurate with the hazards presented until the fuel is housed in dry casks.

The State continues to bear a large responsibility for response to a Vermont Yankee incident (industrial or radiological). Although the spectrum of possible incidents is reduced, there are still significant risks posed by the plant that require planning and preparedness. Off-site response organizations (ORO) and government entities cannot just dismiss hazards such as those posed by Vermont Yankee in its permanently defueled status.

Vermont law identifies the Division of Emergency Management and Homeland Security (DEMHS) as the delegated lead entity to coordinate all emergency management functions within the State. As such, DEMHS is responsible for maintaining a robust set of preparedness standards for local jurisdictions, public and private sector partners, and governmental partners to uphold. DEMHS is also the steward of the State Emergency Operations Center (SEOC) which coordinates all state level response to incidents such as those which could potentially occur at Vermont Yankee at any time. The Radiological Emergency Response Program (RERP) is housed in DEMHS and includes the state- and local-level plans to respond to an incident at VY.

Licensee funding for the RERP program supports Emergency Management Directors (EMD) and their staff in the six Emergency Planning Zone (EPZ) towns to train and exercise on a regular basis in order to sustain their level of readiness. It supports agencies such as the Department of Health (VDH) and the Division of Fire Safety (DFS) to train Radiological Plume Tracking and Radiological Sampling Teams. The funding also supports the equipment and training needs of fire, rescue, and law enforcement organizations in the EPZ specific to the hazards presented at Vermont Yankee. Regular training and exercises, as well as the periodic planning meetings, ensures that local and state personnel have solid relationships ahead of catastrophic events that stress systems beyond their capabilities. The State has historically followed the robust set of standards in the Federal Emergency Management Agency (FEMA) Radiological Emergency Preparedness (REP) Program Manual to ensure the public safety of the citizens who live outside of plant boundaries through the evaluation of exercises and the maintenance of plans, facilities and equipment.

THE VY PDEP PROPOSES INSUFFICIENT STANDARDS FOR THE FACILITY WHILE SPENT FUEL REMAINS IN THE FUEL POOL

Title 10 of the Code of Federal Regulations (CFR) outlines the regulations nuclear power plants are required to follow to ensure “there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.” 10 CFR. §§ 50.47(a)(1)(i) in 10 CFR § 50.47 and 10 CFR § 50 Appendix E. If a licensee is exempted from the applicable portions of these regulations, its license no longer imposes needed standards until the license is amended once more and the site is classified as an Independent Spent Fuel Installation (ISFSI) and required to adhere to 10 CFR § 72.32. The set of regulations in 10 CFR § 72.32 specifically pertain to ISFSIs or Monitored Retrieval Storage (MRS) and as such are not

written to support the inherently different hazards presented while fuel is stored in a spent fuel pool and not in dry cask storage. While the spent fuel remains in pool storage, the facility poses a higher risk than an ISFSI. The standards applied at VY should reflect and respond to the circumstances at the site.

VY VDEP SUBMISSION IS INCOMPLETE

10 CFR § 72.32 requires licensee emergency plans to “promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate.” 10 C.F.R. § 72.32(a)(8). The proposed VY PDEP refers to the need for supplemental assistance in several places including the following:

Arrangements have been made for the extension of the ERO's capability to address emergencies. The following arrangements are in place through letters of agreement for ambulance services, treatment of contaminated and injured patients, fire support services, and law enforcement response as requested by the station:

1. Transportation of injured personnel using an ambulance service;
2. Treatment of radioactively contaminated and injured personnel at a local support hospital (Brattleboro Memorial) as specified in the local support hospital plans; and
3. Fire support services by the Vernon and Brattleboro Fire Departments and the Tri-State and Southwestern Fire Mutual Aid Networks.
4. Law enforcement support services provided by local, county, state, and federal law enforcement authorities as appropriate and response capabilities are documented in the letters of agreement maintained by Security.

Evidence of agreements with participating local services is addressed in Appendix E; the Vermont Yankee Fire Protection Program; and the Annual Law Enforcement Letters of Agreement (Safeguards Information) maintained by Security.

LAR, Attachment 2, *Vermont Yankee Nuclear Power Station Permanently Defueled Emergency Plan*, Rev. 0, at 21

The agreements referred to in this section of the plan were not included in the submission. Rather the reader is directed to the Vermont Yankee Emergency Preparedness Department where the documents are said to be on file. LAR, Attachment 2 at 50. Among those agreements said to be on file is one with the State of Vermont. The current agreement Vermont Yankee maintains with the State pertains to Emergency Plan activation under the current regulatory guidelines and outlines response based on the current Emergency Response Organization structure. Before the State could adequately prepare for the implementation of the proposed VY PDEP, the agreement would need to be updated and reflect the conditions as they will exist if the VY PDEP is applicable. Without this piece of documentation in place, the VY PDEP does not comply with 10 CFR § 72.32.

Appendix E of the VY PDEP submission references an Index of Emergency Plan Implementing Procedures and Support Plans, yet none of these pieces of documentation is available for review. Implementing Procedures are meant to provide depth and detail not contained in the main plan. Without the Implementing Procedures and Support Plans, the proposed VY PDEP does not adequately describe how the Emergency Response Organization will respond to an emergency. Without this level of depth it is impossible for those agencies and governmental entities identified to provide supplemental support to the licensee to understand how and when that support will be needed. In these circumstances, the NRC should not approve the exemptions since it cannot find that no significant hazards consideration is needed.

THE VY PDEP FAILS TO ADEQUATELY EVALUATE AND SUPPORT OFF-SITE RESPONSE RESOURCES

Exercises are a cornerstone of the Federal Emergency Management Agency's (FEMA) evaluation that OROs can provide reasonable assurance they can respond to an incident at a nuclear power plant. "FEMA bases its reasonable assurance determination that OROs can protect the health and safety of the public in the event of an incident at an NPP on both adequate plans/procedures and the demonstrated ability to implement them. OROs use exercises, drills, seminars, training, SAVs, and actual events to practice and fine-tune plan implementation."

Federal Emergency Management Agency, *Program Manual Radiological Emergency*

Preparedness, June 2013 at III-1. The VY PDEP describes the exercise activities the licensee will maintain:

Biennial exercises shall be conducted to test the timing and content of implementing procedures and methods; to test emergency equipment and communication networks; and to ensure that emergency personnel are familiar with their duties. VY offers the following organizations the opportunity to participate to the extent assistance would be expected during an emergency declaration; however, participation is not required:

1. State of Vermont
2. Brattleboro Memorial Hospital
3. Brattleboro Fire Department
4. Law Enforcement
5. Rescue, Inc. Ambulance Service

At least one drill involving a combination of some of the principal functional areas of emergency response shall be conducted in the interval between biennial exercises.

Vermont Yankee will continue to be evaluated by the NRC to assess their on-site response capabilities yet several areas of the plan reference the assistance provided by OROs to supplement their own capabilities. Without the requirement to evaluate OROs, the assessment of the licensee's ability to address significant issues is inherently incomplete. The NRC should, at a minimum, require the evaluation of OROs by FEMA to respond as outlined in the PDEP and subsequent Letters of Agreement. Instituting this requirement would lead to a more holistic approach to evaluation instead of the compartmentalized framework that currently exists in regulation. Without this requirement, the NRC and the licensee have no basis in which to enforce improvement actions for those areas that rely on ORO assistance. Furthermore, without a specific requirement to train and evaluate OROs in exercise there is potential risk agencies will not have the knowledge needed to ensure proficiency in responding to a very specialized type of response such as a nuclear power plant incident. The institution of regimented planning, training and exercise requirements for OROs consequently requires the licensee to support them through financial means in order to facilitate the compliance with said measures. The licensee should be required, rather than encouraged, to continue coordination efforts in order to ensure planning standards continue to be upheld.

THE NRC STAFF HAS FAILED TO CONSIDER THE ABILITY OF OFF-SITE RESOURCES TO PROVIDE NECESSARY ASSISTANCE TO VERMONT YANKEE

On November 14, 2014, the NRC Executive Director for Operations issued a memorandum to NRC Commissioners outlining NRC Staff analysis and recommendations related to Entergy's pending request for exemption from certain emergency planning requirements. In that memorandum, the Staff analysis and recommendations speak, in part, directly to the substance of the LAR. The State therefore includes comments on the

memorandum on the basis and to the extent that the memorandum encompasses issues that are intimately tied to the LAR under review.

The NRC Staff's recommendations included in the November 14 memorandum assert that the analysis conducted by ENO "provides reasonable assurance that in granting the requested exemptions to ENO: (1) an offsite radiological release will not exceed the EPA PAGs at the site boundary for a DBA; and (2) in the unlikely event of a beyond DBA resulting in a loss of all SFP cooling, there is sufficient time to initiate appropriate mitigating actions and, if a release is projected to occur, there is sufficient time for offsite agencies to take protective actions using a CEMP to protect the health and safety of the public." Memorandum from Mark Satorius, NRC Executive Director of Operations to NRC Commissioners, November 14, 2014 (SECY-14-0125) (ADAMS Accession No. ML14227A711). These assertions assume that Comprehensive Emergency Management Plans (Emergency Operations Plans or EOPs) at the State and local level specifically account for an incident involving a radiological release from a fixed facility such as Vermont Yankee. While the all hazards emergency management concept is widely adopted and implemented in Vermont as outlined in the National Response Framework, incidents such as a radiological release are extremely specialized in nature. Even if a release did not exceed Environmental Protection Agency (EPA) Protective Action Guidelines (PAGs) off-site, the burden remains with local and State government to validate what has or has not occurred. The health and economic viability of the areas surrounding Vermont Yankee depend on the assurances provided by governmental entities that impacted areas are safe as is the case in any other disaster. Those assurances can only be provided by training, exercising and equipping personnel to assess the impacts to health and the environment outside of site boundaries. Without the ongoing license requirement to maintain accident assessment capabilities off-site and the

subsequent provision of support, as is now the case, the State might have to rely on resources of surrounding states and the federal government. Unfortunately that reliance could delay response times as resources are mobilized and assigned. This is time that cannot be wasted once a release has occurred even if it below EPA PAGs.

The NRC Staff appears to have come to a number of conclusions regarding the status of off-site EOPs without conducting any sort of formal review of those documents to assure their readiness to address the changing circumstances at the plant. Coupled with the fact that significant portions of the proposed VY PDEP are not available for review by State and local entities, it is impossible for the EOPs of OROs to be revised to reflect the specific response and recovery actions at the plant. Again, the State contends that the NRC Staff should not make a no significant hazards consideration determination as long as plans on-site call for the supplemental assistance of OROs without reviewing the associated plans for such instances and providing the opportunity for revision as applicable.

**COMMENTS AND DECLARATIONS OF THE VERMONT DEPARTMENT OF
HEALTH ON ENERTEGY VERMONT YANKEE'S LICENSE AMENDMENT REQUEST
FOR THE EMERGENCY PLANNING ZONE IN LETTER
BVY 14-033 DATED JUNE 12, 2014 AND SECY-14-0125 DATED NOVEMBER 14, 2014.**

February 9, 2015

Introduction to Comments from the Vermont Department of Health

The Vermont Department of Health (VDH or Department), by and through Dr. William Irwin, Sc.D, CHP, Vermont Radiological and Toxicology Sciences Program Chief (curriculum vitae attached), focuses its comments and declarations on the NRC staff analysis and recommendations contained in a November 14, 2014 Policy Issue memorandum addressing certain exemption requests made by Energy Nuclear Operations, Inc. (ENO). See *Memorandum from Mark Satorius, NRC Executive Director of Operations to NRC Commissioners*, November 14, 2014 (Satorius Memorandum)(SECY-14-0125)(NRC Agencywide Document Access Management System [ADAMS] Accession No. ML14227A711). Specifically, the Satorius Memorandum seeks "Commission approval for the staff to grant [ENO's] request for exemptions from certain emergency planning (EP) requirements of Part 50 . . . of Title 10 of the *Code of Federal Regulations*." *Id.*, at 1. ENO's request for the referenced exemptions was filed on March 14, 2014, prior to this License Amendment Request (LAR). See *Entergy Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E*, March 14, 2014 (BVY 14-009)(ADAMS Accession No. ML14080A141).

While the SECY-14-0125 Satorius Memorandum is not necessarily under review by the commission here, the memorandum's contents are highly relevant to any Commission consideration of the instant LAR. The BVY 14-009 exemption request acts foundational requirement for the operation of this LAR. As a result, the Commission's review of the LAR is

necessarily predicated upon consideration of SECY-14-0125, and comment on the memorandum is appropriate and within the scope of relevant commentary.

VDH strongly disagrees with the recommendation of the NRC staff in SECY-14-0125 to grant Entergy Nuclear Operations' (ENO) requested emergency plan (EP) exemptions from certain requirements of 10 CFR § 50.47 (b) and Appendix E to 10 CFR Part 50. The primary reasons for this are:

1. The exemption approval recommendation of the NRC staff is inappropriately based solely upon dose of radioactive contamination and does not include the health impacts of radioactive contamination from releases that result in doses below the Environmental Protection Agency (EPA) Protective Action Guidelines (PAGs);
2. The exemption approval recommendation of the NRC staff incorrectly assumes a comprehensive emergency management plan (CEMP) appropriate for response and recovery from radioactive contamination releases can exist and be maintained by offsite response organizations without licensee financial support; and
3. There has been no rulemaking and public comment appropriate to the proposed exemptions to the EP requirements of 10 CFR 50 .47 (b) and Appendix E to 10 CFR Part 50.

The Recommendation for Exemption Approval Is Based Only on Doses In Excess Of EPA PAGs Which Ignores Other Possible Public Health Consequences

Entergy and the NRC staff has determined that accidents at Entergy Vermont Yankee Power Station after April 2016 are unlikely to result in whole body doses in excess of one rem or thyroid doses in excess of five rem beyond the site boundary. The Department has not had the opportunity to assess the evidence to support that conclusion. Beyond that, those dosage levels are not the only thresholds for potential detriment to public health. Should a fire, a leaking container, or a transportation or industrial accident result in the release of radioactive materials that contaminate the environment around Vermont Yankee, numerous other consequences that are a detriment to public health will occur.

Radioactive contamination in solid, liquid or gaseous form that leaks from structures, systems or components or is released due to deliberate or accidental container damage or destruction may contaminate the water, land or air beyond the Vermont Yankee site boundary. While, according to the NRC staff and ENO, the contamination may not lead to doses that exceed the EPA PAGs, there still could be adverse health consequences. Some members of the public may inhale or ingest radioactive materials and receive low doses. Nonetheless, these doses will solely be due to the release from Vermont Yankee, and even though they may be less than the EPA PAGs, they still pose a risk of later health effects in those exposed. While evacuation and medical counter measures like potassium iodide may not be ordered in such circumstances, many of those exposed will self-evacuate and expect medical care.

In the case of a release related to Vermont Yankee, the public will look to the Department to explain what occurred, how the exposure affects health and well-being and what should be done in response to the exposures. Environmental samples would be collected by Vermont's

radiological first responders and samples would be analyzed in the VDH radiochemical laboratory. The analytical results would then be published to provide facts to allow people to trust that the land and water are, or will be at some future time, free of contamination. These capabilities have been developed over 42 years of Vermont Yankee operation, and should be sustained until the large volumes of radioactive materials stored at Vermont Yankee are removed from Vermont and properly disposed of at licensed radioactive waste facilities.

The NRC staff is using the EPA PAGs improperly. They are designed to provide guidance, not regulation, as to when and how protective actions like evacuation, potassium iodide administration, relocation, reentry and return may be appropriate, not when emergency plans are to be written, replaced or exempted. Emergency Plan requirements for nuclear power reactors in SAFSTOR must address all sources of radioactive contamination of the environment and not just those that result in doses greater than the EPA PAGs. This includes planning for and funding of dedicated state radiological health resources to survey the environment outside the site boundary for contamination of any media, analysis of those media for contamination, even at low levels, and reporting of the results to the public.

The Vermont Department of Health also lacks confidence that Entergy has provided sufficient evidence that all accident scenarios have been considered for its permanently defueled emergency plan. In particular, the accident and dose assessment software used by Entergy, Unified RASCAL Interface 2.0.1.0 of October 2014 (URI) does not recognize the widely accepted possibilities of hostile action-based scenarios that could severely damage spent nuclear fuel in its spent fuel pool. Such scenarios are described by the NRC in NUREG-1738 and the National Academies of Science. *Safety And Security Of Commercial Spent Nuclear Fuel Storage (Public Report), Committee on the Safety and Security of Commercial Spent Nuclear Fuel*

Storage Board on Radioactive Waste Management Division on Earth and Life Studies National Research Council Of The National Academies (2006). Lacking consideration of these and other scenarios in this important Entergy Vermont Yankee emergency preparedness software is evidence that the PDEP does not adequately consider these scenarios as pointed out by the Vermont Public Service Department in its comments on the license amendment request.

Recent use of the software by the Vermont Department of Health's US Department of Energy-trained Assessment Scientists revealed that URI would be useless for spent fuel accidents caused by aircraft crashes, whether accidental or hostile action-based or by large explosions caused by missiles or by armed intruders. Other scenarios that could result in the loss of the sheet metal structure that is the only secondary containment for the spent fuel pool, such as those identified with the accident at Fukushima, also do not appear to have been provided for in URI and the PDEP. The Health Department recognizes it would require the use of other software to model the consequences of these scenarios. The Department is well-trained in this other software, and in the interpretation of its output for the public and decision-makers. The elements of a law enforcement, fire department and emergency medical services based Comprehensive Emergency Management Plan are not.

The Assumption That a Comprehensive Emergency Management Plan (CEMP) Adequate to Respond to Radiological Releases from a Decommissioning Nuclear Facility Can Exist and Be Maintained without Licensee Support is Erroneous

SECY-14-0125 states that "elements of the revised emergency plan would facilitate the ability of offsite authorities to take protective actions under a CEMP." *Satorius Memorandum at 5*. There are numerous industrial accident scenarios, especially involving the movement or transportation of radioactive materials, hostile action based scenarios, and natural disasters that

could lead to the release of radioactive materials being stored in the structures, systems and components used for SAFSTOR for what ENO projects in its PSDAR to be a period of fifty years. Assaying these kinds of offsite consequences requires much more than law enforcement, fire department and emergency medical service personnel. It requires personnel trained to survey people and the environment for radioactive contamination, personnel trained to interpret radioactive material contamination for dose consequences and decisions about decontamination and disposal as radioactive waste, and personnel to inform decision-makers and the public of the situation to put risks in perspective and to plan other response actions. These kinds of people make up the existing offsite response organizations that the ENO exemptions would eliminate.

SECY-14-0125 also notes that precedent for approval of the EP exemption request has been set at Kewaunee Power Station and the Zion facility. *Id.* at 2. This is not evidence, let alone adequate evidence, for the NRC staff to recommend approval of the EP exemptions requested by ENO in its March 14, 2014 letter. See *BVY 14-009*. Emergency Planning has always been, is now, and always will be a local matter, and what other states or localities may have approved—in processes that Vermont was not a party to—cannot be imposed on Vermont. There are significant differences between Vermont and other states where decommissioning has occurred that show the exemption should not be approved here. Most importantly, unlike all other states with nuclear reactors in SAFSTOR, Vermont does not have other operating nuclear facilities within its borders and therefore, absent continued support from Vermont Yankee, would lack the infrastructure required to respond to a radiological release, including those resulting in doses less than the EPA PAGs.

SECY-14-0125 describes how the Federal Emergency Management Agency (FEMA) concurs with the NRC staff position recommending approval of the ENO EP exemptions. Should

there no longer be EP requirements to financially or otherwise support Vermont Yankee offsite response organizations, there is no way these organizations can meet FEMA or any other authority's guidance. It is also likely that, absent the emergency planning requirements for which ENO seeks exemption, any of the FEMA resources described in SECY-14-0125 (the Federal Radiological Preparedness Coordinating Committee, FEMA Headquarters and FEMA Regional Staff) would actually support Vermont's EP efforts at a level required for the people and environment of Vermont.

Not only should the decommissioning EP require plans that include offsite response organizations including the Vermont Radiological Tracking Team, the Radiological Sampling Team, and the Vermont Department of Health and its radiochemistry laboratory, but ENO should be required to financially support them.

There Has Been No Rulemaking and Public Comment on Exemptions from EP Requirements for Decommissioning Facilities

In its summary, the SECY-14-0125 letter includes the statement that "there are no explicit regulatory provisions distinguishing EP requirements for a power reactor that has been shut down from those for an operating power reactor." *Satorius Memorandum* at 1. The document notes that rulemaking for nuclear power plant decommissioning was planned, but put off with the "higher priority work after the terrorist attacks of September 11, 2001." *Id.*, at 3. With a growing number of nuclear power reactors presently undergoing decommissioning and expected to begin decommissioning in the next twenty years, this lack of clear regulation and absence of rulemaking makes circumstances unpredictable for many states who have lacked the opportunity to have their concerns for emergency planning addressed properly.

The NRC staff inappropriately based its recommendation to approve emergency plan exemptions for Vermont Yankee on analyses applicable to an independent spent fuel storage installation (ISFSI) or monitored retrieval Site (MRS). This methodology is inappropriate because former nuclear power reactors in SAFSTOR contain very large radioactive materials storage areas, not discrete spent fuel canisters tested and licensed specifically for the storage of high level waste. The structures, systems and components of a nuclear power reactor in SAFSTOR present a multitude of pathways for releases of radioactive materials into the environment. While the consequences may not result in doses in excess of EPA PAGs, environmental and public health consequences are possible. The probability of such releases is clearly greater than zero as has been documented in the Vermont Yankee PSDAR, including the extensive leak of reactor coolant/condensate from the augmented off gas system discovered in 2009.

Had there been required rulemaking for decommissioned nuclear power reactors, many states, including Vermont likely would request that NRC staff require licensees, including ENO, to financially support offsite radiological emergency response. Funding levels would be commensurate with the appropriate level of offsite response, and not simply eliminate essentially all offsite radiologically appropriate emergency response. One level might be set for the period through the removal of all spent fuel from the spent fuel pool (SFP), and another, reduced level might be set for the remaining time until decontamination, dismantling, and license termination. Absent rulemaking with public comment, the opportunity for states to weigh in is lost or significantly diminished.

It is unfortunate that the NRC staff has reinforced the misleading implication put forth by ENO in its Permanently Defueled Emergency Plan (PDEP) that elements of the EP “have been

established with the review and agreement of responsible State authorities.” BVY 14-033, Attachment 2, *Vermont Yankee Nuclear Power Station Permanently Defueled Emergency Plan*, Rev. 0, at 35, § 11.1. It is the understanding of the Department that the only review of the decommissioning EP with State authorities has occurred in briefings by ENO EP personnel in routine meetings of what is called the Tri-State Directors. A brief slide presentation before this audience is certainly not adequate State review and it should not be construed as State agreement.

Absent appropriate regulations for emergency planning during the decades-long phases of decommissioning, ENO should be allowed by the NRC staff to work extensively with the State of Vermont to identify mutually agreeable conditions for offsite radiological emergency response rather than have that possibility hampered by exemption of offsite responsibilities.

Conclusions of the Vermont Department of Health

According to SECY-14-0125, “FEMA acknowledges that individual states and local governments have the primary authority and responsibility to protect their citizens and respond to disasters and emergencies.” *Id.*, at 6. This certainly includes radiological emergencies, and it includes those that contaminate the environment with radioactive materials and lead to doses to members of the public both less than and greater than the EPA PAGs. These radiological emergencies require significantly more resources than what the NRC staff describes as a comprehensive emergency management plan using law enforcement, fire departments and emergency medical services. This includes the capability to survey for contamination, to properly collect samples with chain of custody, to efficiently analyze a wide variety of environmental media for radioactive material concentrations, to precisely interpret field

measurements and laboratory results, and to effectively report the situation to the public to allay concerns and to decision-makers so agencies can take appropriate public health and environmental protection response actions.

The recommendations of SECY-14-0125 undermine the ability to provide necessary emergency services for a plant in SAFSTOR by unilaterally exempting NRC licensees from most offsite emergency planning regulation based on inappropriate analysis applicable to ISFSIs and MRSs and a lack of consideration of hostile action-based scenarios. The Commission should reject the staff recommendations of SECY-14-0125.

Respectfully,

/s/ William Irwin
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