

**STATE OF VERMONT**

**PUBLIC UTILITY COMMISSION**

Joint Petition of NorthStar Decommissioning )  
Holdings, LLC, NorthStar Nuclear )  
Decommissioning Company, LLC, NorthStar )  
Group Services, Inc., LVI Parent Corp., )  
NorthStar Group Holdings, LLC, Entergy )  
Nuclear Vermont Investment Company, LLC, )  
and Entergy Nuclear Operations, Inc., and any ) Docket No. 8880  
other necessary affiliated entities to transfer )  
ownership of Entergy Nuclear Vermont Yankee, )  
LLC, and for certain ancillary approvals, )  
pursuant to 30 V.S.A. §§ 107, 231, and 232 )  
)

**SUMMARY OF PREFILED REBUTTAL TESTIMONY OF JOSEPH R. LYNCH**

Mr. Lynch, Senior Governmental Affairs Manager for the Vermont Yankee Nuclear Power Station (“VY Station”), describes the characterization that has been done and is ongoing at the VY Station, in response to testimony from witnesses for the Agency of Natural Resources, the Department of Public Service, and others. In his testimony, Mr. Lynch describes the comprehensive on-going characterization, monitoring, and reporting at the VY Station for both radiological and non-radiological contaminants, and responds to the concern that unknown contamination at the VY Station could cause NorthStar’s cost estimates to balloon unexpectedly.

Mr. Lynch sponsors the following exhibits:

- Exhibit JP-JRL-1      Resume of Joseph R. Lynch
- Exhibit JP-JRL-2      Radiological Historical Site Assessment
- Exhibit JP-JRL-3      Haley & Aldrich North Warehouse Soil Characterization Report
- Exhibit JP-JRL-4      Offsite Dose Calculation Manual
- Exhibit JP-JRL-5      Operating Procedure Environmental Radiation Sampling and Analysis
- Exhibit JP-JRL-6      Entergy Nuclear Management Manual Response to Contaminated Spill/Leaks
- Exhibit JP-JRL-7      Oil and Hazardous Material Spill Prevention and Control

Exhibit JP-JRL-8

“Hydrogeologic Investigation of Tritium in Groundwater,”  
GZA GeoEnvironmental, Inc., May 2011

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**PREFILED REBUTTAL TESTIMONY OF JOSEPH R. LYNCH**

1 **Q1. Please state your name and business address.**

2 A1. Joseph R. Lynch, 320 Governor Hunt Road, Vernon, Vermont 05354.

3 **Q2. What is your occupation?**

4 A2. I am the Senior Government Affairs Manager for the Vermont Yankee Nuclear Power  
5 Station (“VY Station”) and the Pilgrim Nuclear Power Station (“Pilgrim”). I am  
6 employed by Entergy Nuclear Operations, Inc. (“ENOI”).

7 **Q3. What is your educational and professional background?**

8 A3. I have thirty-five years of experience in the nuclear industry. I have a B.S. in mechanical  
9 engineering from Worcester Polytechnic Institute (1982). After I graduated, I went to  
10 work for Yankee Atomic Electric Company. I provided engineering services to the  
11 Yankee Rowe Nuclear Power Station in Rowe, Massachusetts from 1982 until 1992.  
12 After that, I worked as a Project Manager in the Nuclear Services Division, where I

1 serviced multiple nuclear plants in New England between 1992 and 1995. In 1995, I was  
2 promoted to Design Engineering Manager at the VY Station in Vernon, Vermont. From  
3 2000 to 2006, I worked at decommissioning sites across New England. I started at the  
4 Connecticut Yankee Nuclear Power Plant located in Haddam Neck, Connecticut and  
5 transitioned to Yankee Rowe located in Rowe, Massachusetts. During this time, I was  
6 also involved with the decommissioning of Maine Yankee Nuclear Power Plant in  
7 Wiscasset, Maine. From 2006 to 2007, I worked as a Senior Consultant at Environmental  
8 Resources Management in Boston, where I conducted environmental assessments  
9 including American Society for Testing and Materials (“ASTM”) Phase I assessments.  
10 In 2007, I joined Entergy Nuclear Operations, Inc. as a Licensing Manager for Pilgrim.  
11 In May of 2014, I moved to my current position at the VY Station. In April 2016, I also  
12 became the Pilgrim Senior Government Affairs Manager. Exhibit JP-JRL-1 (Resume of  
13 Joseph R. Lynch).

14 **Q4. Please describe your responsibilities and experience working on the**  
15 **decommissioning of Connecticut Yankee, Yankee Rowe, and Maine Yankee.**

16 A4. From 2000 to 2003, I was the Decommissioning Oversight Manager at Connecticut  
17 Yankee responsible for the physical decommissioning activities performed by Bechtel as  
18 well as the design and licensing of the Independent Spent Fuel Storage Installation  
19 (“ISFSI”). From 2004 to 2006, I was the Site Closure Director at Yankee Rowe  
20 responsible for working with State and Federal agencies to establish the site clean-up  
21 standards (radiological and non-radiological) for the site. In addition, I directed the non-  
22 radiological site clean-up activities as well as the groundwater monitoring program at the

1 site. I also had the lead for revising the Decommissioning Cost Estimate (“DCE”) for  
2 Yankee Rowe in 2004. From 2000 to 2006, I benchmarked the decommissioning project  
3 at Maine Yankee for lessons learned and resolution of key issues beneficial to the Yankee  
4 Rowe and Connecticut Yankee decommissioning projects.

5 **Q5. What is the purpose of your testimony?**

6 A5. The purpose of my testimony is to respond to certain testimony that has been prefiled by  
7 non-petitioner witnesses (principally Agency of Natural Resources witnesses Gerald  
8 Noyes and Chuck Schwer and Department of Public Services witnesses Warren Brewer  
9 and Gregory Maret) in this proceeding concerning site characterization, monitoring, and  
10 reporting at the VY Station. Those witnesses generally suggest that there may be  
11 extensive unknown conditions at the VY Station, the remediation of which could cause  
12 NorthStar’s project cost estimate to increase significantly. In fact, as I will describe in  
13 this prefiled rebuttal testimony, substantial comprehensive radiological and non-  
14 radiological site characterization has been performed at the site over the years, and the  
15 results of that characterization have been carefully documented. In addition, the site has  
16 a robust process for ongoing monitoring and reporting of conditions (*e.g.*, tritium in  
17 groundwater), as well as a comprehensive program governing the clean-up and reporting  
18 of any spills involving radiological or non-radiological contaminants. Accordingly, the  
19 non-petitioner witnesses drastically overstate the possibility that material “unknowns”  
20 will be discovered at the site.

21 **Q6. Please describe the site characterization that has been undertaken to date at the VY**  
22 **Station site.**

1 A6. Since Entergy first considered purchasing the VY Station, four major site assessment  
2 studies have been completed. *First* and *second*, in 2001, as part of Entergy's due  
3 diligence, it engaged Environmental Compliance Services ("ECS") to perform an ASTM  
4 Phase I and a Phase II Environmental Site Assessment in order to assess the past and  
5 current conditions of the site and to identify potential issues. These Site Assessments  
6 provided substantial information about past incidents, recognized environmental  
7 conditions ("RECs"), and areas of concern ("AOCs") at the VY Station, dating back to  
8 the construction of the VY Station in 1967 and identifying materials that were utilized  
9 during the construction of the site. As part of the Phase II assessment, ECS conducted  
10 physical sampling of environmental media for the RECs identified in the Phase I  
11 assessment. *Third*, in 2014, as part of Entergy's obligations under the Docket 7862  
12 Memorandum of Understanding, Entergy engaged Radiation Safety & Control Services  
13 ("RSCS") to conduct a Radiological Historical Site Assessment and a Non-Radiological  
14 Historical Site Assessment. *Fourth*, in 2017, Entergy engaged Normandeau Associates,  
15 Inc. ("Normandeau") to conduct an ASTM Phase I Environmental Site Assessment. The  
16 Normandeau Phase I included an exhaustive review of earlier site assessments and  
17 involved independent investigation and interviews with on-site personnel. The 2017  
18 Phase I did not identify any new or previously unidentified RECs or AOCs.

19 **Q7. Taking each of those reports in order, please describe the methodology, scope and**  
20 **findings or results of each of the major site assessment studies.**

21 A7. As part of the 2001 ECS ASTM Phase I and Phase II assessments, the consultants  
22 reviewed documents and conducted site reconnaissance. In addition, "[s]ubsurface

1 investigations” including “a program of soil borings, monitoring well installations, and  
2 the collection of materials” were all undertaken. Exhibit ANR-GN-3 at 1.

3 The 2014 Non-Radiological Historical Site Assessment identified 134 areas where non-  
4 radiological contamination may exist. The Assessment evaluated “reports related to  
5 incidents of non-radiological contamination of the Site” and had the purpose of  
6 “assist[ing] in planning for decommissioning of the nuclear plant.” As a part of the  
7 assessment, the consultants’ review included “the 2001 Phase I and Phase II  
8 environmental site assessment of the Site, reports related to incidents of non-radiological  
9 contamination of the Site, review of the file required by federal regulation 10 CFR  
10 50.75(g) to document contamination incidents pertinent to decommissioning of the Site,  
11 review of selected inspection reports by American Nuclear Insurers (“ANI”), search of  
12 company records of leaks, spills of hazardous materials and an inventory of components  
13 containing elemental mercury, review of the spills database maintained by the Waste  
14 Management Division of the Vermont Agency of Natural Resources, review of various  
15 permits related to environmental regulation of the Site, interviews of current or former  
16 long-time station employees, and an inspection of the power plant to observe each  
17 identified potentially impacted area.” Exhibit ANR-GN-4 at 2-3. The report concluded  
18 that “[n]one of the potentially impacted areas identified is considered to pose a current or  
19 expected threat to human health or the environment that would warrant immediate  
20 corrective action.” *Id.* at 11. It further noted that each potentially impacted area “will be  
21 characterized as it becomes more accessible during decommissioning, to determine the  
22 extent to which it may have been impacted, if at all.” *Id.*

1 The 2014 Radiological Historical Site Assessment identified 72 areas at the VY Station  
2 that have been or may have been impacted by radiological contamination. Exhibit JP-  
3 JRL-2 (Radiological Historical Site Assessment). As part of its assessment, RSCS  
4 reviewed spill reports, radiological incident files, special survey and operational survey  
5 records, the VY Station file maintained in compliance with 10 C.F.R. 50.75(g), the VY  
6 Station Radioactive Effluent Release Reports, the VY Station Annual Radiological  
7 Environmental Monitoring Reports, and the 2001 ASTM Phase I and II Environmental  
8 Site Assessment reports. RSCS also conducted interviews of long-tenured employees  
9 and walk downs of the VY Station site. Importantly, the assessment did not identify any  
10 impacted areas that were not previously known or documented. *Id.* at 6. The report  
11 noted that prior “[e]vents and conditions were investigated upon discovery and  
12 appropriate actions taken to terminate/secure the leaks or stabilize and/or eliminate the  
13 condition.” *Id.* It also concluded that “[n]o identified areas of radiological contamination  
14 are a current or expected threat to human health, the environment, or appear to present a  
15 significant challenge for decommissioning.” *Id.*

16 In 2017, Normandeau’s Phase I assessment sought to “identify non-radiological, site-  
17 based RECs, controlled RECs (“CRECs”), or historical RECs (“HRECs”), that may have  
18 arisen or been identified, since completion of two prior environmental site assessments  
19 initiatives.” Exhibit ANR-GN-6 at vii. After undertaking a thorough review and  
20 evaluation, the Normandeau consultants, like RSCS in its 2014 assessment, noted that  
21 “[t]his Phase I ESI has identified no new or different non-radiological RECs, CRECs, or



1 HRECs in connection with the Site, beyond those already identified in the Prior Site  
2 Assessments.” *Id.*

3 **Q8. Are you aware of comments provided by Vermont State agencies to Entergy**  
4 **regarding the 2014 Site Assessment Study and PSDAR?**

5 A8. Yes, I am aware that Entergy provided the 2014 Site Assessment Study and a draft of the  
6 Post-Shutdown Decommissioning Activities Report (“PSDAR”) to the State on October  
7 17, 2014, and received comments on both the Site Assessment Study and draft PSDAR  
8 from the Vermont Department of Public Service, Department of Health, and Agency of  
9 Natural Resources on December 13, 2014. Consistent with the 2013 Settlement  
10 Agreement, Entergy considered the comments from the State agencies for inclusion in the  
11 final PSDAR that was submitted to the NRC. Although the Settlement Agreement did  
12 not require Entergy to take further action with regard to the State’s comments on the Site  
13 Assessment Study, Entergy nonetheless provided responses to those comments and  
14 engaged in an ongoing dialogue with the relevant parties.

15 **Q9. Describe any invasive physical sampling Entergy has had performed at the site for**  
16 **radiological or non-radiological contaminants since the 2001 Phase II**  
17 **Environmental Site Assessment.**

18 A9. There have been a number of invasive tests and physical sampling conducted at the VY  
19 Station site since Entergy purchased the plant. The first groundwater monitoring wells  
20 for the Nuclear Energy Institute’s Industry Ground Water Protection Initiative, NEI 07-  
21 07, were installed in 2007, and there are currently thirty groundwater monitoring wells on  
22 the site, which are sampled regularly to test for tritium and other radiological

1 contaminants, including hard-to-detect radionuclides, as part of the NEI 07-07 and  
2 Entergy procedures.<sup>1</sup> Further, up through 2007, the VY Station sampled soil to monitor  
3 non-radiological contamination as part of the abatement of a fuel oil tank leak that was  
4 discovered during Entergy's due diligence before it purchased the site. In addition  
5 Entergy regularly sampled septic materials and septage, and provided those results to the  
6 ANR.

7 In order to construct the second ISFSI pad, the North Warehouse had to be demolished.  
8 In preparation for that work, 18 soil and subsurface soil samples were collected from  
9 areas within and adjacent to the North Warehouse pursuant to an ANR-approved work  
10 plan. Although the North Warehouse was identified as an area with the potential for non-  
11 radiological contamination in the 2014 Non-Radiological Historical Site Assessment, no  
12 contaminants were present at levels exceeding the allowable Vermont Soil Screening  
13 Values. *See* Exhibit JP-JRL-3 (Haley & Aldrich North Warehouse Soil Characterization  
14 Report).

15 In addition, the VY Station complies with the Radiological Environmental Monitoring  
16 Program ("REMP"), and procedure RP 4605, Environmental Radiation Sampling and  
17 Analysis, which provides instructions for performance of the REMP environmental  
18 sampling program. Results of the REMP program are provided as part of an annual  
19 submission. *See* Exhibit JP-JRL-4 (Offsite Dose Calculation Manual), Exhibit JP-JRL-5  
20 (Operating Procedure Environmental Radiation Sampling and Analysis).

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<sup>1</sup> *See* Exhibit JP-JRL-8 (Attachment A.CLF.JP.1-51.1: "Hydrogeologic Investigation of Tritium in Groundwater," GZA GeoEnvironmental, Inc., May 2011).

1 **Q10. Is there any ongoing sampling, testing, or monitoring at the VY Station Site?**

2 A10. Yes. The VY Station conducts routine radiological and non-radiological monitoring  
3 pursuant to state and federal requirements.

4 **Q11. Please describe any non-radiological monitoring and reporting requirements to**  
5 **which the VY Station is subject.**

6 A11. The VY Station conducts routine, permit-based non-radiological monitoring, as stipulated  
7 in various ANR-issued permits. Those include the Indirect Discharge Permit, Solid Waste  
8 Management Certificate, Potable Water Permits, Multi-Sector General Permit (“MSGP”)  
9 Stormwater, and national pollutant discharge elimination system (“NPDES”) permit. In  
10 addition, although the VY Station is not required to hold an Air Permit, we track  
11 emissions from large sources, like the house heating boiler and emergency generators,  
12 and report data annually to ANR.

13 **Q12. Taking those one by one, please describe what each permit allows and what it**  
14 **requires.**

15 A12. Indirect Discharge Permit. In compliance with provision of 10 V.S.A. §1263, and in  
16 accordance with the conditions stipulated in the Permit, the VY Station is authorized to  
17 indirectly discharge treated domestic sewage and other laboratory wastes defined within  
18 the permit, from subsurface and mound disposal systems serving the Plant, to the ground  
19 water and indirectly into the Connecticut River in the Town of Vernon, Vermont. The  
20 permit requires timely renewal, annual system inspections, submission of inspection  
21 reports and a commitment letter from Entergy to address any items found during the  
22 annual inspection, groundwater and effluent analysis and reporting, and proper system

1 operations, and maintenance. Groundwater samples are analyzed for chemical  
2 constituents listed in the IDP and effluent is pre-screened for radionuclides by the VY  
3 Station's Radiochemistry Laboratory, then sent for chemical analysis to the appropriate  
4 laboratory, depending on whether any radioisotopes are identified in the samples. All  
5 reports are submitted to the Watershed Management Division of ANR.

6 Solid Waste Management Certificate. This permit governs the on-site management of  
7 septic sludge and septage. Under the terms of this permit, on-site land application of  
8 septage to two designated grass fields is allowed. All septage is sampled and analyzed in  
9 accordance with the permit requirements before it is applied to the land. Those analysis  
10 results are required to be submitted to ANR prior to land application. ANR has routinely  
11 been on site to conduct observations of the land application process. In addition to  
12 septage analyses, the permit requires the analysis of groundwater, soil, and plant tissue on  
13 a regular schedule and all from the area of the land application field. Septage samples are  
14 pre-screened for radionuclides by the VY Station's Radiochemistry Laboratory, then sent  
15 for chemical analysis to the appropriate laboratory, depending on whether any  
16 radioisotopes are identified in the samples. All reports are submitted to the Waste  
17 Management and Prevention Division of ANR.

18 Potable Water Permits. In accordance with Chapter 56 of Title 10, the Department of  
19 Environmental Conservation ("DEC"), specifically its Drinking Water and Groundwater  
20 Protection Division, determined that the VY Station may operate the Public, Non-  
21 Transient, Non-Community potable water systems for the Main Plant and the New

1 Engineering Office Building,<sup>2</sup> subject to specific conditions. Each year, the Agency  
2 distributes monitoring schedules to permittees, that list the required analyses for that  
3 calendar year, by quarter. Most monitoring consists of biological (total coliform), and  
4 chemical analyses and occasionally, the State requires testing for uranium. The VY  
5 Station submitted timely and complete renewal applications, which remain with DEC,  
6 awaiting renewal. All reports are submitted to the Drinking Water and Ground Water  
7 Protection Division of ANR.

8 MSGP Stormwater Permit. The Department of Environmental Conservation, Stormwater  
9 Management Division, authorizes the VY Station to discharge stormwater to the  
10 Connecticut River under the Multi Sector General Permit (“MSGP”), 3-9003. As a  
11 permittee, the VY Station must comply with the authorization and all terms, conditions,  
12 and eligibility provision under the General Permit. The Permit requires monthly  
13 inspections, quarterly monitoring outfalls with discharged for total iron, and reporting on  
14 specific schedules. The DEC administratively continued otherwise-expiring permits  
15 while DEC revises the General Permit language, and indicated that DEC would notify  
16 permittees to apply for a new permit once DEC has completed its revision. All reports  
17 are submitted to the Wastewater Management Division of ANR.

18 NPDES Permit. In compliance with the provision of the Vermont Water Pollution  
19 Control Act as amended (10 V.S.A. Chapter 47), the Vermont Water Pollution Control  
20 Permit Regulations as amended, and the federal Clean Water Act as amended (33 U.S.C.

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<sup>2</sup> The New Engineering Office Building (“NEOB”) is more commonly known as the VY Station Site Plant Support Building (“PSB”).

1       §1251 *et seq.*), the VY Station is authorized to discharge from the Station, to the  
2       Connecticut River, Class B waste at the point of discharge, in accordance with specific  
3       conditions. The NPDES Permit requires River water temperature monitoring at the  
4       Station's intake and discharge, River water sample analysis for total and dissolved metals  
5       at the intake and discharge structures, and routine compliance reporting, even after plant  
6       closure. All reports are submitted to the Wastewater Management Division of ANR.

7       **Q13. Please describe any radiological monitoring and reporting requirements to which**  
8       **the VY Station is subject.**

9       A13. The VY Station continues to perform radiological monitoring and annual reporting in  
10       compliance with NRC requirements imposed by the Part 50 and Part 72 Licenses.

11       The principal regulatory basis for requiring effluent and environmental monitoring at  
12       nuclear power plants is contained in General Design Criteria 60, 61, and 64 of Appendix  
13       A of Title 10 of the Code of Federal Regulations Part 50. The criteria require that a  
14       licensee control, monitor, perform radiological evaluations of all releases, and document  
15       and report all radiological effluents discharged into the environment.

16       In compliance with Part 72, the VY Station monitors the spent nuclear fuel casks for  
17       temperature and radiation. The VY Station also provides this information to the State of  
18       Vermont on a monthly basis. Finally, the VY Station monitors the site boundary for  
19       radiation dose for protection of members of the public in accordance with 10 C.F.R. Part  
20       20.

21       **Q14. Are the Joint Petitioners planning to conduct additional site characterization?**

1 A14. NorthStar committed to conducting a Phase II investigation or developing a corrective  
2 action plan if the Normandeau Phase I identified any previously unrecognized RECs.  
3 State PFT at 29:7-21. The Normandeau Phase I did not identify any new RECs, and so  
4 NorthStar plans to move forward with its proposed plan to characterize the site and its  
5 constituents as part of the decommissioning and decontamination of the site. Any  
6 remediation would be conducted in conjunction with radiological decommissioning to  
7 minimize risk and environmental impacts. I understand that NorthStar has engaged an  
8 environmental consulting firm, Haley & Aldrich, Inc., to assist with these efforts.

9 **Q15. Have the Joint Petitioners evaluated the decommissioning experience of other**  
10 **nuclear plants with regard to site characterization and decontamination?**

11 A15. Yes. Joint Petitioners conducted a thorough review of key documents, including the  
12 Yankee Rowe Site Closure Project Plan and associated reports to state and federal  
13 agencies. Joint Petitioners also reviewed and considered site closure documents  
14 associated with Maine Yankee and Connecticut Yankee as part of the proposed site  
15 restoration standards and approach to site characterization. In addition, both VY Station  
16 site employees and employees from NorthStar have experience with prior  
17 decommissioning projects (including me), and Joint Petitioners have leveraged the  
18 experience of key staff from prior decommissioning projects to inform the potential need  
19 for both radiological and non-radiological decontamination.

20 **Q16. Have you reviewed the testimony of the ANR witnesses in this proceeding?**

21 A16. Yes. I understand that ANR believes that the risks of the proposed transaction cannot be  
22 properly evaluated without additional site characterization and sampling.

1 **Q17. What is your assessment of whether such site characterization or sampling is**  
2 **necessary to have confidence in NorthStar's cost estimate to perform radiological**  
3 **decommissioning and site restoration of the VY Station site?**

4 A17. The characterization of the VY Station conducted to date is more comprehensive than  
5 what was known at the other Yankee stations prior to the start of decommissioning. To  
6 the best of my knowledge none of the Yankee plants previously decommissioned had the  
7 benefit of multiple ASTM Environmental Site Assessments. In addition, non-  
8 radiological impacts at Yankee Rowe were due in part to poor management of  
9 contaminants at the site, such as PCBs in coatings, which were allowed to degrade over  
10 time after the plant ceased operations. These lessons learned have been factored into the  
11 planning and execution of the VY Station decommissioning project.

12 Although ANR witnesses<sup>3</sup> question the characterization of the VY Station Site, ANR is  
13 not aware of, or at least has not identified, any AOCs, RECs, or potentially impacted  
14 areas beyond those identified in the prior site assessment studies.

15 Additional characterization and sampling of these already-identified areas would  
16 potentially introduce the risk of spreading any potential contaminants. Moreover,  
17 sampling in some of the identified areas cannot even be done until certain buildings are  
18 removed. Entergy continues to believe that additional sampling is not necessary for  
19 confidence in NorthStar's cost estimate given the great amount of prior site  
20 characterization done.

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<sup>3</sup> Mr. Gundersen from the NEC makes this same claim (Gundersen PFT at 15-20).



1 **Q18. In his prefiled testimony, ANR witness Gerald Noyes identified 14 RECs or AOCs**  
2 **that ANR would like to have characterized through sampling. Noyes PFT at 17:15-**  
3 **19:13. What is your response?**

4 A18. Of the fourteen RECs/AOCs identified by ANR, seven are currently inaccessible because  
5 there are existing buildings, underground utilities, or other structures in those locations.  
6 These areas will not become accessible for soil or groundwater sampling until those  
7 buildings, utilities, or structures are removed. Even for the areas that may be accessible  
8 currently, there is no reason to believe that further characterization of those areas is  
9 necessary given the known uses of those areas and expected potential contaminants. For  
10 example, stockpiles of materials would not be expected to contaminate groundwater  
11 because the depth of the first aquifer is between 15 and 18 feet and typically no runoff  
12 would fall below a foot or two feet.

13 I also understand that Mr. Noyes has suggested drilling holes into the floor of the Turbine  
14 Building to conduct soil sampling under the building, but there are a number of problems  
15 with such a proposal. *First*, additional testing always carries with it the risk of creating  
16 new problems or spreading any potential contaminants, so any sampling or invasive  
17 testing needs to be carefully considered and the risks and benefits analyzed. *Second*, with  
18 regard to the Turbine Building—a building that has not yet been dismantled—there  
19 would be logistical problems associated with procuring the proper equipment to do the  
20 drilling in the space available before the upper part of the building is removed. *Third*,  
21 any drilling could create a groundwater intrusion problem and change the hydrodynamics  
22 under the floor. The floor elevation of the Turbine Building is below the groundwater

1 table and hydraulic pressure is continuously being applied to the floor and lower  
2 elevation of the building. The VY Station site is already challenged with approximately  
3 600 gallons of infiltrating groundwater<sup>4</sup> each day, and any drilling could impact the  
4 intrusion rate. Any increase in the intrusion rate would increase the disposal cost of that  
5 water that is currently shipped to an off-site disposal facility in Tennessee.

6 **Q19. Are there any other procedures in place at the VY Station to ensure that potential**  
7 **AOCs are identified and timely addressed?**

8 A19. The VY Station maintains a robust response and recording process for any spills or  
9 related incidents at the site. All spills are timely reported to the Control Room, no matter  
10 how small. The Control Room contacts the Hazardous Materials Coordinator and the spill  
11 is cleaned up. If soil were contaminated as part of a spill, it would be excavated and  
12 containerized for proper disposal. If the volume of a spill met the threshold criteria for  
13 state reporting, a report to the State of Vermont would be made after the spill was  
14 documented and cleaned up. *See* Exhibit JP-JRL-6 (Entergy Nuclear Management  
15 Manual Response to Contaminated Spill/Leaks); Exhibit JP-JRL-7 (Oil and Hazardous  
16 Material Spill Prevention and Control).

17 **Q20. Does that conclude your testimony?**

18 A20. Yes, at this time.

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<sup>4</sup> Infiltrating groundwater that comes in contact with the Turbine Building becomes radiologically contaminated. Intercept wells may be installed to limit some of the infiltrating groundwater, but this issue will ultimately be resolved when the Turbine Building is decontaminated and removed.