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Joseph R. Lynch  
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SVY 15-014

February 28, 2015

Mr. Christopher Recchia, Commissioner  
Vermont Public Service Department  
112 State Street  
Montpelier, VT 05620-2601

SUBJECT: Entergy Vermont Yankee (ENVY) Response to State of Vermont Agency  
Comments on the draft Post-Shutdown Decommissioning Activities  
Report (PSDAR) for the Vermont Yankee Nuclear Power Station  
(VYNPS)

Dear Mr. Recchia:

The Vermont Department of Public Service (DPS) provided by letter, dated December 13, 2014, comments from the Agency of Natural Resources (ANR), the Vermont Department of Public Health (VDH) and DPS on the VYNPS Site Assessment Study (SAS) and its attachments, including a draft of the PSDAR.

This letter provides our responses to the comments provided on the draft PSDAR and acknowledges follow-up on requests for additional information/data that is relevant to meeting State of Vermont regulations and participation in the decommissioning of VYNPS is required. It is expected this will occur in the continuation of face-to-face meetings which commenced in 2014.

In the Attachment to this letter we have categorized the comments by subject area in an effort to focus our comment resolution on the draft PSDAR. The Site Assessment Study was issued as a comprehensive report of VYNPS site conditions as required by the Settlement Agreement. Certain attachments to the SAS such as the Historical Site Assessments (HSAs) are intended to be "living" documents and will be revised throughout the SAFSTOR decommissioning process as new information is obtained from site characterization efforts. While the SAS was not intended to be revised, comments on the HSAs have been reviewed and will be considered in future revisions.

We look forward to meeting with the agencies to continue the process of sharing information and answering questions relative to specific issues within their areas of regulation.

Should you have any questions regarding this information, please contact me at 802-258-4107.

Sincerely,

A handwritten signature in black ink that reads "Joseph R. Lynch".

Joseph R. Lynch

cc: Mr. David. K. Mears, Commissioner  
Vermont Department of Environmental Conservation  
1 National Life Drive, Main 2  
Montpelier, Vermont 05620-3520

Mr. Harry L. Chen, M.D., Commissioner  
Vermont Department of Health  
108 Cherry Street  
Burlington, Vermont 05402

Mr. Anthony R. Leshinskie  
State Nuclear Engineer & Decommissioning Coordinator  
Vermont Public Service Department  
112 State Street  
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Summary of State of Vermont Agency Comments on the Draft Post Shutdown Decommissioning Activities Report (PSDAR).

On December 13, 2014, Entergy received a letter from Mr. Christopher Recchia, Commissioner of the Vermont Department of Public Service transmitting comments on the SAS and draft PSDAR from several state agencies, local stakeholders and the public.

State of Vermont comments were provided by the Department of Public Service (DPS), the Agency of Natural Resources (ANR), and the Department of Public Health (VDH).

A tally of the total number of comments by each agency and those that are specific to the PSDAR is summarized below:

Department of Public Service (DPS)

Total number of comments	-	136
• General	-	8*
• Site Assessment Study	-	64
• PSDAR	-	40
• Spent Fuel Management Plan	-	13
• TLG Maximum SAFSTOR Cost Estimate	-	10
• Radiological HAS	-	1

\* Four (4) of the General comments were specific to the PSDAR.

Agency of Natural Resources (ANR)

Total number of comments	-	31
• General (Request for additional data)	-	3
• Site Assessment Study	-	21
• Non-Rad HAS	-	7

Vermont Department of Health (VDH)

Total number of comments	-	23
• General	-	1
• Site Assessment Study	-	16
• PSDAR	-	6

There are a total of fifty-two (52) comments specific to the PSDAR from the various Vermont agencies and three (3) from a public stakeholder. The questions posed by the member of the public are directed to the Department of Public Service for consideration and therefore are not specifically addressed in this response. The following is a summary of the questions specific to the PSDAR and the responses to each question by Entergy Nuclear Vermont Yankee, LLC (ENVY):

PSD-1 General: Entergy has until December 2016 to submit its PSDAR and should use this time to engage in a more thorough site characterization so that it can incorporate a more accurate Decommissioning Cost Estimate into its PSDAR.

Response – Immediately following the announcement of the planned shutdown of the Vermont Yankee Nuclear Power Station (VYNPS) in August of 2013, a Decommissioning Planning Organization (DPO) was formed to commence the development of a detailed decommissioning plan for the site. In addition to this work, the DPO also focused on the development of the PSDAR. This strategy was further validated in fulfillment of the provisions in the State of Vermont/ENVY/Entergy Nuclear Operations, Inc. (ENO), Memorandum of Understanding and Settlement Agreement that were filed with the Vermont Public Service Board on December 23, 2013. In Paragraph 6 of the Settlement Agreement, ENVY committed to complete and provide the PSD, ANR and DOH a Site Assessment Study (SAS) which included a draft of the PSDAR. This provision necessitated the development of the PSDAR prior to cessation of operations which occurred on December 29, 2014. As required by 10 CFR 50.82(a)(8)(v), annual updates of the DCE will report actual and estimated costs associated with decommissioning.

PSD-6 General: The funding analysis indicates that even with the significantly delayed dismantlement there is not sufficient funding to cover the Entergy estimated scope of site restoration that may be understated. According to Entergy's calculations, it currently falls \$82 million short of having enough money to pay for license termination and spent fuel management, and even if it made up for that shortfall, there would be no money left to cover the Entergy estimated site restoration cost of about \$57 million. If more stringent criteria were invoked or actual site characterization reveals added scope, the shortfall would be larger.

Response – Details are provided in the detailed Decommissioning Cost Estimate (DCE) which is included as Attachment 1 to the PSDAR and in Appendix I, "Funding Strategy Financial Scenarios" of the Site Assessment Study and the "Update to Irradiated Fuel Management Program Pursuant to 10 CFR 50.54(bb) submitted to the USNRC on December 19, 2014.

PSD-7 General: The decommissioning schedule assumes a delay of about 17 years after all spent fuel has been removed from the site in 2052 but before actual dismantlement begins. The rationale for this delay is unclear given that the financial benefit of the delay is very small and depending on actual investment performance and cost escalation could easily be zero or negative.

Response – Details are provided in the detailed Decommissioning Cost Estimate (DCE) which is included as Attachment 1 to the PSDAR. Specifically, Section 4.0 provides the Schedule Estimate including (in Section 4.1) Schedule Estimate Assumptions which discusses each period assumed in the development of the SAFSTOR schedule.

PSD-8 General: While the documentation provided is substantial, there is a lack of discussion of actual assumptions, work activities, and schedule information concerning the cost estimate. The detailed backup calculations and data that are part of decommissioning costs estimates have not been made available. As a result, the ability to review the actual estimated costs in any detail is extremely limited.

Response – Details are provided in the detailed Decommissioning Cost Estimate (DCE) which is included as Attachment 1 to the PSDAR. Specifically, Section 3.5 of the DCE provides the Assumptions supporting the Cost Estimates, and Section 4.0 provides the Schedule Estimate including (in Section 4.1) Schedule Estimate Assumptions. In addition, Appendix C, Detailed Cost Analysis provides detailed breakdowns of the period costs.

PSD-73 VYNPS Post-Shutdown Decommissioning Activities Report, Sept. 30, 2014 Draft (“PSDAR”), General: Entergy has until December 2016 to submit its PSDAR and should use this time to engage in a more thorough site characterization so that it can incorporate a more accurate Decommissioning Cost Estimate into its PSDAR.

Response – This comment is addressed in the response to PSD-1 (above).

PSD-74 PSDAR, General: In light of the uncertainty surrounding the ultimate site restoration standards, Entergy should not assume that site restoration will cost only \$57 million. The Department has presented evidence before the Public Service Board in Docket #7862 that a more reasonable estimate for site restoration would equate, adjusted for current 2014 dollars, to around \$100 million and could be as high as \$133 million once contingencies are taken into account. Entergy should assume that site restoration could cost as much as \$133 million.

Response – Period 5 – Site Restoration is described in Section 2.5 of the DCE. Basis for the \$57M is provided in the detailed DCE. Specifically, Table 3.6, “Site Restoration Expenditures,” and Appendix C, Detailed Cost Analysis (Pages 12 and 13) provide detailed breakdowns of the period costs.

PSD-75 PSDAR, General: Entergy should acknowledge that the Nuclear Decommissioning Trust Fund is subject to a Master Trust Agreement that places legal restrictions on when and for what purposes Entergy can withdraw funds from this Fund.

Response - The PSDAR format and content requirements meet NRC regulations and guidance as provided in 10 CFR 50.82(a)(4) and Regulatory Guide 1.185, Revision 1. All disbursements from the NDT have been, and will be noticed and executed in accordance with our NRC operating license and the Master Decommissioning Trust Agreement.

PSD-76 PSDAR, General: In particular, Entergy should acknowledge in the PSDAR that the Master Trust Agreement requires all radiological decontamination and decommissioning to be complete before any leftover money from the Nuclear Decommissioning Trust Fund can be used for spent fuel management or site restoration, and that even once radiological decontamination and decommissioning is complete, the only withdrawals allowed for spent fuel management costs are for expenses that were not recovered by DOE.

Response - The PSDAR format and content meet NRC regulations and guidance as provided in 10 CFR 50.82(a)(4) and Regulatory Guide 1.185, Revision 1. Reference to the Master Trust Agreement is not a required element of the PSDAR. Also, reference the Letter from ENVY (T. Michael Twomey) to Kyle H. Landis-Marinello, Assistant Attorney General and Christopher Recchia, Commissioner, Vermont Department of Public Service, "Pre-Notice of Disbursement from Entergy Nuclear Vermont Yankee Decommissioning Trust," dated February 9, 2015.

PSD-77 PSDAR General: Entergy should note in the PSDAR that Vermont ratepayers contributed the majority of the funds that currently exist in the Nuclear Decommissioning Trust Fund, that Entergy has never contributed and money to this Fund, and that Vermont ratepayers have an existing 55% interest in any leftover funds.

Response- The PSDAR format and content meet NRC regulations and guidance as provided in 10 CFR 50.82(a)(4) and Regulatory Guide 1.185, Revision 1, and this comment is not relevant to meeting the requirements of these NRC references.

PSD-78 PSDAR, § 1.2, pg. 3: Entergy acknowledges that site restoration standards fall under the State's jurisdiction and are yet to be determined. In light of that uncertainty, Entergy should not assume (as it does, for instance, at p.6 and p.15) that remaining structures will be demolished only "to three-feet below grade." Consistent with the Settlement Agreement and state law, the State may well require demolition beyond that level.

Response- The PSDAR and DCE were developed using the expertise of industry experts such as TLG Services, conservative assumptions and the experience of other decommissioning sites. Section 3.4.10, "Site Conditions Following Decommissioning",

provides the following information and basis for the assumption that remaining structures will be demolished to three feet below grade;

*“Foundations and exterior building walls are removed to a nominal depth of three feet below grade. The three-foot depth allows for the placement of gravel for drainage, as well as topsoil, so that vegetation can be established for erosion control. A removal depth of three feet is commonly used by the nuclear industry as an estimating basis [33] and has been used since 1989 as a basis for site restoration estimates for Vermont Yankee. It is also consistent with the restoration practices employed at the decommissioned Maine Yankee, Yankee Rowe and Connecticut Yankee sites.”*

PSD-79 PSDAR, § 2.0, pg. 6, third paragraph: This paragraph discusses site staffing during dormancy and the expectation the staffing will change during the dormancy period. However, there is no qualitative or quantitative description of how the staffing is expected to change over time. A description of how the staffing will change along with the basis for the changes should be provided. A quantitative description of the staffing should also be provided to allow assessment of the staffing costs included in the cost estimate.

Response – Basis for the staffing plan is provided in the detailed DCE which is included as Attachment 1 to the PSDAR. The Site Staffing Levels are summarized in Figure 3.1 of the DCE.

PSD-80 PSDAR, § 2.0, pg. 6, fourth paragraph: This states that the spent fuel will remain in the pool until it meets the criteria for transfer but does not specify any specific dates. The SAS on the other hand states that the fuel will all be in dry storage by late 2020. The PSDAR discussion should be consistent with the SAS and explain why the criteria for transfer will be met in time to support the given date.

Response – Refer to Table 2.1, Page 8, of the PSDAR for the Decommissioning Schedule and Plant Status Summary including the time for Dormancy with Wet Fuel Storage. In addition, Section 2.2, “Period 2 – Dormancy” provides a discussion on the fuel transfer schedule.

PSD-81 PSDAR, § 2.0, pg. 6: Entergy notes that an “additional ISFSI pad will be added.” Entergy should clarify whether it intends to seek a new or amended NRC license for the additional ISFSI pad. Entergy also should note that its petition for approval for the additional ISFSI pad from the Vermont Public Service Board is pending.

Response - Section 2.2, “Period 2 – Dormancy” provides a discussion on expansion of the ISFSI including acknowledgement that this activities requires state regulatory approvals. The expansion of the ISFSI will be compliant with NRC regulations and our current license.

PSD-82 PSDAR, § 2.0, pg. 6, last paragraph: This paragraph states: “For the purposes of a current decommissioning cost estimate, it is assumed that the remaining structures are to be demolished to three-feet below grade and the excavations backfilled.” Indicate that this assumption carries significant uncertainty, as the depth to which structures will be removed is subject to the development of site restoration standards pursuant to state law. Provide a discussion of the uncertainty that the actual demolition will be different. Describe any alternative possibilities and relative likelihood of each. Include a discussion of how the cost estimate and funding analysis provide allowance or margin for the other alternatives.

Response – This comment is addressed in the response to PSD-78 (above). There is not a regulatory requirement for the PSDAR to contemplate alternative approaches.

PSD-83 PSDAR, § 2.0, pg. 7: Entergy should delete the assertion that there are “no identified or anticipated decommissioning activities that are unique to the VYNPS site outside the bounds considered in the GEIS.” Entergy should acknowledge, as detailed in part below, that there are a number of aspects of its planned decommissioning that were never analyzed or considered in the GEIS.

Response – This statement was reviewed prior to issuance of the PSDAR and deemed consistent with our review of the GEIS.

PSD-84 PSDAR, Table 2.1, pg. 8: A duration of 5.2 years is listed for the wet fuel storage period with a start date of 2016. Assuming this period begins Jan 1, 2016, the wet storage period would end in February or March 2021. However, the SAS states all fuel will be moved to dry storage by late 2020. In addition, Section 2.1.2 of the PSDAR also says fuel transfer will be complete by late 2020. The date that is the basis for the cost estimate should be unambiguously identified. The SAS and PSDAR should be modified to be consistent.

Response - This comment has been resolved in the final revision of the PSDAR issued on December 19<sup>th</sup>, 2014.

PSD-85 PSDAR, Table 2.1, pg. 8: Fifteen years is listed as the duration for the dormancy with no fuel storage period. Based on the other dormancy period lengths and a start of January 2016, the dormancy period with no fuel storage would end in late 2067 rather than 2068. This difference is small, but the years should be made consistent with the period lengths given.

Response - This comment has been resolved in the final revision of the PSDAR issued on December 19<sup>th</sup>, 2014.



PSD-86 PSDAR, Table 2.1, pg. 8: The Large Component Removal duration is given as 1.3 years. This appears to be overly optimistic. For more detail, see the comment PSD – 61.

Response - This is the same comment as PSD-61 which was specific to Site Assessment Study (SAS) Table 8.1 questioning the Large Component Removal duration of 1.3 years. The DCE describes the approach and plan for large component removal in Section 3 of Attachment 1 to the PSDAR. This estimate is based upon experience from sites that have completed this work scope including the appropriate contingencies and inherent risks.

PSD-87 PSDAR, § 2.1.1, pg. 10, seventh bullet: Provide a description of what water and water filter and treatment media will be required to support dormancy so that the scope of this effort is more clearly defined. Identify the WBS that includes this cost.

Response – Water management costs are detailed in the Table C, “SAFSTOR Alternative Decommissioning Cost Estimate” included as part of Appendix C to the DCE. There are specific costs for water clean-up/processing in Period 1a, Period 1b, Period 2aa, Period 3a, Period 4a, and Period 4b.

PSD-88 PSDAR, § 2.1.1, pg. 10, eighth bullet: Explain whether there is a separate WBS for this waste disposal in the cost estimate. Provide a discussion of the inventory and the basis for that inventory that was used to calculate the costs included in the cost estimate for this waste disposal.

Response – Disposal of incident waste costs prior to the start of dormancy are detailed in the Table C, “SAFSTOR Alternative Decommissioning Cost Estimate” included as part of Appendix C to the DCE. There are specific costs for waste disposal including Dry Active Waste (DAW) in Period 1a, Period 1b, and Period 2a and Period 2aa.

PSD-89 PSDAR, § 2.1.1, pg. 10, tenth bullet: Identify the cost included in the estimate for this work. Explain the basis for the estimated cost. If based on plant records, identify the records reviewed.

Response – Stabilization of loose incidental surface contamination to facilitate future building access during dormancy and prior to D&D are detailed in the Table C, “SAFSTOR Alternative Decommissioning Cost Estimate” included as part of Appendix C to the DCE. There are specific costs for Building Layups in Period 1a, Period 1b, and Period 2a.

PSD-90 PSDAR, § 2.1.2, pg. 12, fourth paragraph: This discusses the reasons for security. The first is to safeguard fuel and the associated cost would reasonably be considered spent fuel management. The second reason is to prevent unauthorized access. The PSDAR or other documents should describe the allocation of security costs and the basis for this allocation among license termination, spent fuel management and site restoration.

While the specific paragraph of the PSDAR referenced is only related to the dormancy period, the question of how security cost is allocated would apply to all periods of the decommissioning. The requested discussion should be provided for all periods of decommissioning.

Response – Details in the form of a Staffing Curve (Figure 3.1, including Security) are provided in the detailed DCE. In addition, Security costs, by Period, are detailed in the Table C, “SAFSTOR Alternative Decommissioning Cost Estimate” included as part of Appendix C to the DCE. The allocation of security costs between spent fuel management and other activities will likely be the subject of litigation when we seek recovery of spent fuel management costs from DOE and, as such, will eventually be determined through that litigation.

PSD-91 PSDAR, § 2.1.5, pg. 15, first paragraph: This states that subject to the development of site restoration standards pursuant to the Settlement Agreement, it is being assumed that structures will be removed to three feet below grade. Description of any allowance in the cost estimate for standards that require some greater level of removal should be provided. If no allowance is provided, this should be identified along with a discussion as to why this is reasonable. Also, if no allowance is included there should be a discussion of how the added costs will be provided for if more stringent criteria are ultimately developed. Finally, there should be a description of how development of more stringent criteria would affect the funding plan/analysis.

Response – This comment is addressed in the response to PSD-78 (above). Details on the assumptions used for site restoration are provided in the detailed DCE. Additionally, site restoration standards, costs and funding following license termination is not a subject that the NRC’s regulations require to be specifically addressed in the PSDAR.

PSD-92 PSDAR, § 2.1.5, pg. 15, last paragraph: This paragraph indicates that intact removal of the reactor vessel may not be a viable option. If there is reason to believe that intact removal may be a viable option, provide a discussion of the rationale for such possibility. If the cost estimate is based on segmentation, the PSDAR should clearly state that the estimate and schedule are based on segmentation. If the basis of the cost estimate is other than segmentation, the PSDAR should identify the reactor vessel removal assumption on which the cost estimate is based.

Response - Details on the assumptions used for estimating the removal and disposal of the reactor vessel are provided in Section 3.4.2 of the DCE. The DCE assumes the reactor vessel will be segmented.

PSD-93 PSDAR, § 2.2.3, pg. 16, first paragraph: This paragraph states that radioactive decay during the SAFSTOR period will significantly reduce the quantity of contamination and radioactivity that must be disposed of during decommissioning. As noted in comments on the SAS (e.g., PSD – 57 & PSD – 59), there appears to be no reduction in waste volume based on decay during SAFSTOR. While decay would reduce the number of curies to be removed and in that sense decrease the quantity of radioactivity removed, the discussion should be clarified to note that waste volumes are not decreased. The discussion should also include some quantitative description of what is meant by “significantly” reduce.

Response - Details on the assumptions used for estimating the types and volumes of waste (radioactive and non-radioactive) are provided in Section 5.0 of the DCE.

PSD-94 PSDAR, § 2.2.4, pg. 16: The discussion should be clarified to identify that the estimated cost of radioactive waste disposal is based on disposal of all low-level waste at the WCS facility in Texas. If this is not the basis of the estimated costs, the basis for the cost estimate should be clearly stated along with explaining the rationale for basing the cost on disposal of some or all of the radioactive waste at a different site.

Response - Details on the assumptions used for estimating the transportation/disposal of waste (radioactive) are provided in Section 5.0 of the DCE with assumes radioactive waste is being shipped to Waste Control Specialists (WCS) in Texas.

PSD-95 PSDAR, § 2.2.4, pg. 16: Assuming that the current cost estimate is based on disposal of waste at the WCS facility, a comparison of waste disposal costs in the 2012 VY estimate and the current estimate is confusing. In the 2012 estimate, it was assumed that a large fraction of the low-level waste was sent to an off-site processing facility with the remainder being sent to Envirocare for burial. The total cost of waste processing and burial for a total of about 669,000 cubic feet of waste was a little over \$60 million dollars. However, in the current estimate it appears no waste is sent to a processor and all waste is sent for burial at WCS, with higher disposal cost than Envirocare, but the total waste burial cost is only about \$45 million for a total volume of about 666,000 cubic feet. It is unclear how shifting from the lower cost off-site processing and Envirocare assumption to the WCS assumption results in substantially lower cost. Further, the average cost per cubic foot for disposing of waste through a processor in the 2012 estimate is about \$66 per cubic foot. Calculating the average cost of waste disposal at WCS in the current estimate, the cost is about \$67 per cubic foot. It is unclear how the per cubic foot cost for disposal at WCS could be comparable to the 2012 cost for off-site processing which was cheaper than even disposal at Envirocare. In 2012, the rate for disposal at WCS was about \$150 per cubic foot. Using that rate the total waste burial cost would be about \$99 million rather than about \$45 million. The rates assumed for disposal of low-level waste and the basis for these rates should be specified.

Response - Details on the assumptions used for estimating the transportation/disposal of waste (radioactive) are provided in Section 5.0 of the DCE with assumes radioactive waste is being shipped to WCS in Texas. In addition, waste disposal costs, by Period, are detailed in the Table C, "SAFSTOR Alternative Decommissioning Cost Estimate" included as part of Appendix C to the DCE.

- PSD-96 PSDAR, § 2.2.7, pg. 17, second paragraph: If this discussion is limited to remediation of tritium in ground water, that limitation should be clearly stated. If the discussion applies to more than groundwater, the basis for assuming that remediation or removal of structural materials or soil containing tritium will not be required even if the levels are less than those required by the NRC for license termination should be provided. The Yankee Rowe plant processed or removed all material with detectable tritium. Any discussion of why remediation will not be required or will be limited should include an explanation as to why the criteria for the VY site are expected to be less restrictive than the criteria for the Yankee Rowe site.

Response – The statements made in Section 2.2.7 of the PSDAR are specific to tritium in groundwater and any standards beyond those imposed by NRC for License Termination have not been assumed in the DCE or decommissioning assumptions for this media.

- PSD-97 PSDAR, § 5.0, pg. 21: Entergy states that "ENVY has concluded that the environmental impacts associated with planned VYNPS site-specific decommissioning activities" are bounded by previous environmental impact statements (PSDAR at p.21). Entergy should recognize that the NRC, not Entergy, is the entity legally responsible for compliance with the National Environmental Policy Act.

Response – Regulatory Guide 1.185, "Standard Format and Content for Post-Shutdown Decommissioning Activities Report," Section 4., "Environmental Impacts," clearly states, "Under 10 CFR 50.82(a)(4)(i), a licensee's PSDAR must include the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by previously issued environmental impact statements." Section 5 of the PSDAR goes through a systematic summary of why that statement can be made.

- PSD-98 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, an operating elementary school is located just 1500 feet from the reactor building.

Response - PSDAR Sections 5.1.8, Radiological, and 5.1.9, Radiological Accidents, both address dose to the public for decommissioning activities which address any concern for individuals/buildings outside of the plant boundary via compliance with 10 CFR Part 20 and Part 50.

PSD-99 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, recreational activities take place on the Connecticut River bordering the plant, as was the case when the plant was being constructed and was operating.

Response - PSDAR Sections 5.1.8, Radiological, and 5.1.9, Radiological Accidents, both address dose to the public for decommissioning activities which address any concern for individuals/buildings outside of the plant boundary via compliance with 10 CFR Part 20 and Part 50.

PSD-100 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, in addition to what Entergy identifies as currently endangered and threatened species, over the next 60 years it is likely the list of endangered and threatened species will increase due to human activity, climate change and other factors.

Response - PSDAR Section 5.1.7, Threatened and Endangered Species, acknowledges that "...VYNPS has procedural administrative controls in place which require that significant project activities undergo an environmental review prior to the activity occurring to ensure that impacts are minimized through implementation of best management practices (BMPs). Federal and state regulations pertaining to listed species will also remain in effect, which will further ensure that impacts to listed species and their habitats are minimized." This statement confirms VY's long term compliance with state and federal regulations regarding Threatened and Endangered Species.

PSD-101 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, there is known and unknown contamination from previously identified tritium leaks and the effect of any delay during the SAFSTOR period in addressing such leaks (such as migration that increases the area that is contaminated).

Response – PSDAR Section 2.2.7 describes VY's participation in the NEI Groundwater Protection Initiative (GPI). In addition, there is a vast amount of historical information that have been collected (and shared with the State of VT through split samples and information exchange) regarding tritium levels through the extensive monitoring well network. No additional information is necessary in Section 5.0 regarding tritium contamination and the GEIS.

PSD-102 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, there are unique environmental and economic impacts related to the length of any SAFSTOR period, and numerous reasonable alternatives (each with unique environmental and economic impacts) to the SAFSTOR period that Entergy has elected.

Response – This comment is addressed in Section 5.2, “Environmental Impacts of License Termination” recognizing that the completion of decommissioning can extend to 2072.

PSD-103 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, there are negative economic impacts to the surrounding area resulting from Entergy’s decision to use the maximum SAFSTOR period rather than a shorter SAFSTOR. Regulations implementing the National Environmental Policy Act (such as 40 CFR § 1508.8) require the NRC to analyze the economic impacts of major federal actions significantly affecting the environment. Neither the NRC nor Entergy has ever done such an analysis, which would require, among other things, accounting for the economic costs of leaving the plant dormant, taking up space that could otherwise be used productively, as well as 60 years of downward pressure on property values and area development due to hesitancy to invest in an area that is slated for a major industrial deconstruction project (with attending noise, aesthetic, and other concerns). Entergy should acknowledge that this analysis is required by federal law.

Response - The Socioeconomic impact of the plant closure is discussed in Section 5.1.12 of the PSDAR and reference Section 4.3.12 of the GEIS as its basis. NRC review of the PSDAR is not a major federal action since its purpose is to ensure planned decommissioning activities are within the scope of previously licensed activities.

PSD-104 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that the GEIS never took into account the fact that, for this particular nuclear power plant, because it is owned by a merchant generator, unlike a regulated utility, Entergy cannot go back to ratepayers if it has underestimated the costs of decommissioning, spent fuel management, or site restoration.

Response – The NRC guidance document, NUREG 1.185 provides no differentiation between whether a plant is in a regulated or non-regulated operating environment. The current NDT is not underfunded in accordance with NRC financial regulations and this issue therefore does not require any changes to the PSDAR. As required by 10 CFR 50.82(a)(8)(vi), financial status reports submitted annually pursuant to 10 CFR 50.82(a)(8)(v) are required to include additional financial assurance if required to cover the estimated cost of completion.

PSD-105 PSDAR, § 5.0, pg. 21: Entergy should acknowledge that its decommissioning plan raises numerous environmental, safety, and other impacts related to spent fuel storage that are not addressed by the GEIS, and Entergy should analyze all of those impacts. For example, the GEIS did not analyze any environmental, safety, or other impacts related to spent fuel storage, but rather explicitly relied on the NRC’s Waste Confidence

Decision—a decision that has since been vacated by the U.S. Court of Appeals for the District of Columbia Circuit in *New York v. NRC I*.

Response - NUREG-2157, “Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel” referenced in the PSDAR is the source document for addressing this issue.

PSD-106 PSDAR, § 5.0, pg. 21: If, for purposes of analyzing the environmental and other impacts of spent fuel storage, Entergy is relying not on the GEIS, but on the NRC’s recently issued Continued Storage Rule, Entergy should explicitly state that it is doing so and should also note in the PSDAR that this Rule is the subject of a current court proceeding (*New York v. NRC II*).

Response - NUREG-2157, “Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel” referenced in the PSDAR is the source document for addressing this issue.

PSD-107 PSDAR, § 5.0, pg. 21: The NRC’s Continued Storage Rule recognizes that spent fuel may be stored indefinitely at each reactor site and assumes that, in that scenario, each reactor operator will use a Dry Fuel Transfer Station to move spent fuel into new dry casks every 100 years. Entergy should explain how it would address the contingency of indefinite onsite storage, including all safety and environmental concerns regarding such a transfer and identification of the funding source for: (a) the construction of a Dry Fuel Transfer Station; (b) the purchase of 58 new casks and all other labor and material costs for transferring the fuel every 100 years; and (c) the costs of maintaining security at the site indefinitely.

Response – The assumption that is used in both the PSDAR and the DCE is that the DOE will commence the removal of the spent fuel from Vermont Yankee in 2026 and be complete in 2052. This is referenced in a Section 2.1.2 of the PSDAR. Any significant changes to the assumptions in the PSDAR and DCE, if and when required, will be reflected in the annual updates required by 10 CFR 50.82(a)(8)(v) and/or pursuant to 10 CFR 50.82(a)(7).

PSD-108 PSDAR, § 5.1, pg. 21: Entergy should delete the assertion that because “VYNPS is smaller than the reference boiling water reactor used in the GEIS . . . [it] is therefore bounded by those assessments.” The size of a plant is not the exclusive factor for determining its potential environmental and other impacts during decommissioning.

Response – This statement does not infer that the fact VYNPS is smaller than the reference boiling water reactor is the exclusive factor for determining environmental and other potential impacts. Section 5 of the PSDAR goes through a systematic summary of why each statement can be made.

PSD-109 PSDAR, § 5.1.3 & Reference List (Section 6.0), pg. 23: Reference 9 refers to an NPDES permit that has been superseded. Entergy should cite the current (October 2014) NPDES permit.

Response - This comment has been resolved in the final revision of the PSDAR issued on December 19th, 2014.

PSD-110 PSDAR, § 5.1.17, pg. 32: This section provides low-level waste volumes by Class. There should be some discussion, here or elsewhere in the PSDAR or supporting documents, describing how the plant equipment and material inventories were developed and how these inventories were then used to generate the waste volumes. This discussion should include identification of assumptions such as packing efficiencies and waste packaging weight limitations that were utilized in calculating the burial volume for low-level waste.

Response - Details on the assumptions and quantities used for estimating the types and volumes of LLRW (Class A, B, and C) waste are provided in Section 5.0 of the DCE.

PSD-111 PSDAR § 5.1.9, pg. 28: Does the NRC generic offsite radiological consequences analysis discussed in this section make any assumptions on the population likely to receive a radiological dose from any of its scenarios? Such assumptions should be identified, and the section should state whether the assumptions include the existence of an elementary school in close proximity to the site, as is the case with the VY site. Any change in the offsite radiological analysis due to the close proximity of a school to the VY and accompanying change to the generic offsite radiological analysis should be noted. For example, is the breathing rate for elementary school children different than the generic breathing rate used in the NRC generic analysis? Would any such differences warrant maintaining the EPZ for a period beyond that normally proscribed by the risk reduction for the zirconium fire event?

Response - PSDAR Sections 5.1.8, Radiological, and 5.1.9, Radiological Accidents, both address dose to the public for decommissioning activities which address any concern for individuals/buildings outside of the plant boundary and compliance with 10 CFR Part 20 and Part 50.

PSD-112 PSDAR, § 5.1.17, pg. 32: The total disposal volume for Class A, B and C waste is identified as 666,399 cubic feet. However, in the actual cost estimate Maximum SAFSTOR Decommissioning Cost Estimate – DRAFT), on the last page shows a total of 666,336 cubic feet. Though close, this difference should be reconciled.

Response - This comment has been resolved in the final revision of the PSDAR issued on December 19th, 2014.



VDH-2 PSDAR Section 5.1.3 & Reference List (Section 6.0): Reference 9 refers to an NPDES permit that has been superseded. Please cite current (October 2014) NPDES permit.

Response - This comment has been resolved in the final revision of the PSDAR issued on December 19th, 2014.

VDH-3 Follow-up to Comment VDH-2: It may be preferable to cite both the 2006 & the 2014 permits.

Response – This comment was taken into consideration and since the previous (2006) permit was not referenced in the PSDAR it was not included as a reference.

VDH-6 Explicitly acknowledge that it will comply with all parts of the VDH Radiological Health Rule until the NRC license is terminated and include an express provision in the PSDAR for coordinating the above processes with VDH during post-closure activities.

Response – Paragraph 4 of the Settlement Agreement which is included as Attachment 2 to the PSDAR states, *“Entergy shall conduct all activities in Vermont, including at the VT Station site, in accordance with federal and state laws, including VDH’s Radiological Health Rule.”*

VDH-10 Entergy should address in future planning and in the PSDAR whether the radiologically controlled area boundaries during decontamination and dismantling should be expanded.

Response – The radiologically controlled area boundaries assumed in the development of the PSDAR and the DCE are stated in each document and are based upon the Radiological Historical Site Assessment (HSA) information assembled as part of the decommissioning planning process.

VDH-17 Comply with the NEI Groundwater Protection Initiative at the VY facility until NRC license termination. This is especially so since radioactive materials will remain in storage for decades before decontamination and dismantling.

Response – Section 2.2.7, “Groundwater Protection and Radiological Decommissioning Records Program” of the PSDAR describes the groundwater protection program currently in place at VYNPS and its compliance with the NEI Groundwater Protection Initiative (NEI 07-07).

VDH-19 Describe how many of the different types of radioactive waste shipments are likely and how frequently they will occur, for example by shipments per month.

Response- Details on the assumptions used for estimating the transportation/disposal of waste (radioactive) are provided in Section 5.0 of the DCE. In addition, waste disposal quantities, by Period, are detailed in the Table C, "SAFSTOR Alternative Decommissioning Cost Estimate" included as part of Appendix C to the DCE.