

STATE OF VERMONT
PUBLIC SERVICE BOARD

Petition of Entergy Nuclear Vermont Yankee,)
LLC, and Entergy Nuclear Operations, Inc.,)
For a Certificate of Public Good Pursuant to)
30 V.S.A. § 248 and 10 V.S.A. § 6522 to) PSB Docket No.
Construct a Second Independent Spent Fuel)
Storage Installation (“ISFSI”) at the Vermont)
Yankee Nuclear Power Station)

PREFILED TESTIMONY AND EXHIBITS OF JOHN GOODELL

Mr. Goodell’s testimony presents a site plan for the Project and explains how the Project will not have an undue adverse impact on the resources protected by the criteria encompassed in Section 248(b)(5), including the Act 250 criteria to which the Board must give due consideration.

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- 1 Q1. Please state your name, occupation and business address.
- 2 A1. My name is John Goodell. I am a civil engineer with the firm of SVE Associates
3 (“SVE”).
4
- 5 Q2. Please describe your educational background and professional experience.
- 6 A2. I am a licensed professional engineer in good standing in Vermont. Over the years, I
7 have had responsibility for preparing site plans, facilitating environmental permits,
8 preparing water, wastewater and stormwater-run-off designs and generally analyzing
9 environmental impacts on behalf of Entergy Nuclear Vermont Yankee, LLC, and Entergy
10 Nuclear Operations, Inc. (to which I refer to in my testimony collectively as “Entergy
11 VY”), at the Vermont Yankee Nuclear Power Station (or “VY Station”). I have attached
12 my resume as Exhibit EN-JG-1.
13
- 14 Q3. Have you previously provided testimony to the Board on behalf of Entergy VY?

1 A3. Yes. I have previously testified on behalf of Entergy VY in Dockets 7082, 7208 and
2 7862.

3

4 Q4. What is the purpose of your testimony?

5 A4. Entergy VY is proposing to construct a second dry-fuel, or Independent Spent Fuel
6 Storage Installation (“ISFSI”) storage pad, which I will refer to as the “Second ISFSI” or
7 the “Project.” I have been retained by Entergy VY to review the Project under most of
8 the Section 248(b)(5) criteria, including the criteria from Act 250 to which the Board
9 must give due consideration under Section 248. My testimony does not address
10 radiological impacts or impacts which are the subject of the NRC license process for this
11 system.

12

13 Q5. Please begin by describing the Project.

14 A5. The prefiled testimony of George Thomas provides a detailed description of the Project.
15 I have analyzed the environmental impacts of the Project, which I understand will involve
16 the removal of the existing North Warehouse, underground facilities, the existing 175 kW
17 diesel generator and underground fuel oil storage tank and, as currently planned, the
18 installation of a highly-engineered 93’ x 76’ ISFSI storage pad and new 200 kW diesel
19 generator with an approximately 1,250 gallon above-ground oil storage tank.

20 SVE prepared two site plans for the Project. The first plan, which I sponsor as
21 Exhibit EN-JG-2, shows the proposed Second ISFSI storage pad and related
22 improvements to the ISFSI ramp and apron. The second plan, which I sponsor as Exhibit

1 EN-JG-3, shows the location of the Second ISFSI storage pad and the new 200 kW diesel
2 generator in relation to the entire site.

3 As currently planned, the Second ISFSI storage pad will be located 30 feet to the
4 west of the existing ISFSI storage pad. The Project area has been previously disturbed
5 and is the current location of the North Warehouse and 175 kW diesel generator. The
6 North Warehouse and diesel generator will be removed before the Second ISFSI storage
7 pad is installed.

8

9 **Section 248(b)(5) Criteria**

10 Q6. Will the Project result in undue air pollution?

11 A6. No. The Project will not result in undue air pollution.

12 There are no significant sources of air emissions involved with the construction of
13 the Second ISFSI storage pad, other than minimal dust during construction and exhaust
14 from construction equipment. If necessary, dust can be controlled by use of water trucks
15 or a water spray, a typical construction practice in Vermont.

16 The VY Station is a registered source as defined by Section 5-801 of the State of
17 Vermont Air Pollution Control Regulations and Entergy VY makes the required reports
18 and payment of fees for the annual review of its Air Source Registration. The VY
19 Station's current air emissions (i.e., during operation) are less than 10 tons per year, and
20 therefore it does not require an Air Pollution Control Operating Permit. Entergy VY
21 does, however, file an annual Air Emissions Inventory Report with the Air Pollution

1 Control Division of the Vermont Department of Environmental Conservation (or
2 “VDEC”) of the Vermont Agency of Natural Resources (or “ANR”).

3 Emissions from the current 175 kW diesel generator are included in the annual
4 Air Emissions Inventory Report. The existing 175 kW diesel generator will be replaced
5 with a 200 kW diesel generator. As explained in the testimony of George Thomas, the
6 new 200 kW diesel generator is expected to operate approximately 20 hours per year for
7 maintenance purposes, and will otherwise only be operated on an emergency basis. The
8 new 200 kW diesel generator will not require an Air Pollution Control Operating Permit.
9 Entergy VY will include emissions associated with the new 200 kW diesel generator in
10 its annual Air Emissions Inventory Report.

11
12 Q7. Please describe the expected noise impacts associated with the Project.

13 A7. Noise from the Project will not have an undue, adverse impact. Noise associated with the
14 construction of the Project will be that of construction vehicles and equipment working
15 and similar to many different construction projects at the VY Station over the years.
16 Noise from the operation of this Project will consist primarily of that associated with the
17 routine test runs of the 200 kW diesel generator. The CAT C9, 200 ekW generator
18 currently specified has an overall sound level of 84.6 dBA at 49.2 feet when operating at
19 full load. The generator will be installed in a sound-attenuating enclosure designed to
20 provide a minimum of 25 dBA noise reduction, considerably reducing the overall sound
21 level. Additionally, the diesel generator will be installed at least 400 feet from the nearest
22 property line. The 200 kW diesel generator is replacing the existing 175 kW diesel

1 generator. Therefore, after construction of the Project is complete, noise levels should
2 not materially differ from current levels at the VY Station.

3
4 Q8. Will the Project result in undue water pollution?

5 A8. No. The Project will not result in undue water pollution. Existing underground utilities
6 in the area of the new pad will either be removed or relocated. The Project will not
7 impact any existing wells or water sources on site.

8 Stormwater will be managed during construction in accordance with the Project's
9 Erosion Control Plan. The plan includes the use of stone check dams, silt fence, and
10 construction fencing to limit the area of disturbance. I am sponsoring a copy of the
11 Erosion Control Plan as Exhibit EN-JG-5.

12 The Project area presently consists of sections of pavement, stone and grass.
13 Construction of the Project will result in approximately 4,500 square feet of new
14 impervious surface at the site. Stormwater runoff from the new impervious areas
15 associated with the Second ISFSI storage pad will be treated in accordance with the
16 requirements of the VDEC requirements and will utilize spare capacity in the existing
17 sand filter treatment tank. A Vermont Individual Stormwater Permit application has been
18 submitted to address the new impervious area associated with the ISFSI pad and also to
19 address impervious areas from an unrelated walkway project at the VY Station. I am
20 sponsoring a copy of the Notice of Intent and Project Narrative for the Vermont
21 Individual Stormwater Permit Application as Exhibit EN-JG-6.

22

1 Q9. Will the Project have an undue adverse effect on the natural environment?

2 A9. No. The Project is located entirely within previously developed areas at the VY Station.

3 The VY Station is an industrial area, and the construction site was entirely disturbed
4 during its initial construction. Construction of the Project will not have an undue adverse
5 impact on the natural environment.

6

7 Q10. Will the Project have an undue adverse impact with respect to the use of natural resources
8 or greenhouse gas impacts?

9 A10. No. I understand that construction of the Project will minimize the number of truck trips
10 to what is required to complete the Project in the most efficient and economical way,
11 thereby limiting the greenhouse gas emissions associated with construction. The
12 construction of this project will require approximately 420 truck visits (840 truck trips) to
13 the site for the construction work associated with the Project. Once construction is
14 completed, the Project's impact on greenhouse gases will generally be that related to the
15 test runs of the 200 kW diesel generator. The proposed generator is EPA Tier 3
16 compliant. Neither the construction work nor the future operation of the generator will
17 cause an undue adverse impact with respect to the use of natural resources or greenhouse
18 gas impacts.

19

20 Q11. Is the Project located in a headwaters area?

21 A11. No. The Project is not located in the headwaters of applicable watersheds, characterized
22 by steep slopes and shallow soils, and is located in a drainage area, the Connecticut

1 River, greater than 20 square miles. The VY Station and the location of the Project
2 specifically is not over 1,500 feet in elevation and is not in the watershed of a public-
3 water supply as designated by the VDEC's Water Supply Division. Surface water at the
4 VY Station does not have the opportunity to reach the bedrock aquifer in any significant
5 amounts, because it either (1) leaches into the ground and travels a short distance through
6 the sandy soil to the Connecticut River where it discharges along the riverbank or (2) is
7 collected in the existing storm-drain system and discharges directly to the river. The
8 Project is therefore not located in a significant aquifer-recharge area.

9
10 Q12. Will the Project meet any applicable regulations regarding the disposal of waste adopted
11 by the VDEC, and does it involve injection of waste materials or harmful toxic
12 substances into groundwater or wells?

13 A12. The Project will meet any applicable regulations regarding the disposal of waste adopted
14 by the VDEC. It will not involve the injection of waste materials or harmful toxic
15 substances into groundwater or wells.

16 As described in George Thomas's prefiled testimony, excavated soil will be
17 managed in accordance with NRC regulations and approval for on-site disposal of
18 slightly contaminated material at the VY Station.

19 The Project involves tearing down the existing North Warehouse building. I
20 understand that initial site characterizations suggest that the North Warehouse may
21 contain asbestos, but that Entergy VY will not be able to perform a complete
22 characterization of the North Warehouse until after the VY Station ceases operations and

1 the contents of the North Warehouse can be removed. As George Thomas's prefiled
2 testimony explains, Entergy VY will follow the Vermont Department of Health asbestos
3 regulations as necessary when removing the North Warehouse. Other materials will be
4 recycled, stored on-site or disposed of in accordance with Entergy VY protocols and
5 applicable State solid-waste requirements.

6 The Project also involves removal of the 175 kW diesel generator and related
7 underground oil storage tank. As George Thomas explains in his prefiled testimony, this
8 tank will be removed in full compliance with the Vermont Underground Storage Tank
9 Rules and the Vermont Underground Closure and Site Assessment Regulations.

10
11 Q13. Have the Project plans addressed water conservation?

12 A13. Yes, to the extent necessary, because the Project will not have water-supply or wastewater
13 connections. Also, it is not anticipated that additional water will be used at the VY
14 Station as a result of the Project, except for limited quantities of water during concrete
15 placement and dust control during construction.

16
17 Q14. Is the Project located within a floodway?

18 A14. No. The Project is not located within a floodway or floodway fringe. Based on review of
19 the Federal Emergency Management Agency Flood Insurance Rate Map for the Town of
20 Vernon dated September 28, 2007, it is evident that the Project site is well outside the
21 100-year and 500-year floodplains. I sponsor a copy of the flood map as
22 Exhibit EN-JG-4.

1

2 Q15. Will development of the Project, whenever feasible, maintain the natural condition of
3 streams and not endanger the health, safety or welfare of the public or adjoining
4 landowners?

5 A15. Yes. Other than a small unnamed, intermittent stream located approximately 900 feet to
6 the north of the Project area, the only waterway near the Project area is the Connecticut
7 River. The Project will not impact the unnamed stream to the north as stormwater
8 discharged from the Project area will be treated in the existing sand filter tank and
9 discharged directly to the Connecticut River via existing drainage piping.

10 The Second ISFISI storage pad will be located greater than 300 feet from the
11 mean high water mark of the Connecticut River.

12

13 Q16. Is the Project located on a shoreline?

14 A16. No. A shoreline is defined under Act 250 as “the land adjacent to the waters of lakes,
15 ponds, reservoirs, and rivers. Shorelines shall include the land between the mean high
16 water mark and the mean low water mark of such surface waters.” The Project is located
17 over 300 feet from the mean high water mark of the Connecticut River. Therefore, the
18 Project does not involve construction on or the use of shorelines. The Project will not
19 change the natural condition of the waters or the lands adjacent to the Connecticut River
20 as such lands have been previously and extensively developed.

1 Additionally, access to the Connecticut River will not be affected by the Project.
2 Access to the Connecticut River from the VY Station is already prohibited for security
3 and safety reasons.

4
5 Q17. Will the Project impact any wetlands?

6 A17. No. There are no wetlands in the area of the Project. The Project is located in a highly
7 developed area where there are no wetlands that would be subject to U.S. Army Corps of
8 Engineers or State requirements.

9
10 Q18. Will the Project cause an unreasonable burden on any existing water supply?

11 A18. The Project will not require any additional water-supply or wastewater connections.
12 The existing drilled well at the site has ample capacity for water that may be needed
13 during construction.

14
15 Q19. Will the Project cause unreasonable soil erosion or reduction in the capacity of the land to
16 hold water?

17 A19. No. The Project will not exceed one acre of earth disturbance, and therefore it does not
18 require a Construction General Permit. The construction site will be managed in
19 accordance with the Project's Erosion Control Plan. This plan requires the use of control
20 practices such as silt fence, stone/gravel check dams for inlet protection, and inspection
21 and report keeping on a weekly basis and after precipitation events. The initial phase of
22 the construction project will involve excavation to approximately 5 feet below grade for

1 the Second ISFSI storage pad area. This excavation will result in approximately 2,650
2 cubic yards of material being removed. As discussed above, and in George Thomas's
3 testimony, this material will be managed in accordance with NRC regulations and
4 approval for on-site disposal of slightly contaminated material at the VY Station.

5 Excavated soil that is not radioactively contaminated will be trucked to the Overflow
6 Parking Lot where it will be spread out, covered with topsoil, seeded and mulched. This
7 area will also be managed in accordance with the Erosion Control Plan.

8
9 Q20. Will the Project cause unusual congestion or unsafe conditions with respect to
10 transportation?

11 A20. No. As noted in Mr. Thomas's testimony, construction of the Project will require
12 approximately 85 cement truck visits (170 truck trips) on the day the Second ISFSI
13 storage pad is poured. The day of the concrete pour for the Second ISFSI storage pad is
14 expected to be the most concentrated period of construction-related traffic. This level of
15 traffic is well below that seen during previous refueling outages and other projects at the
16 VY Station.

17 Approximately 420 truck visits (840 truck trips) will be required for the entire
18 construction project, spread out over several months. Given the plant access, no special
19 traffic requirements are necessary, other than local traffic management around the
20 construction site. Construction of the Project will not cause unreasonable congestion or
21 unsafe conditions with respect to the use of highways, waterways, railways, airports and
22 airways and other means of transportation.

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Q21. Will the Project cause an unreasonable burden on the ability of the Town of Vernon to provide education services?

A21. No. The Project will not have an adverse impact on educational services. It will not change the number of employees at Entergy VY and therefore will not change the number of employee children educated in the area.

Q22. Will the Project place an unreasonable burden on the ability of the Town of Vernon to provide municipal or governmental services?

A22. No. As explained by Mr. Twomey, the Vernon Planning Commission, the Windham County Sheriff's Office and the Vernon Fire Department have confirmed that the Project will not unreasonably burden their ability to provide municipal services.

Q23. Are there any necessary wildlife habitats or rare and irreplaceable natural areas, or rare, threatened or endangered species near the Project site?

A23. No. There are no known occurrences of necessary wildlife habitat, rare, threatened or endangered species or significant natural communities in the Project area. The Project is wholly located in an area that has been previously disturbed.

Q24. Will the Project unnecessarily or unreasonably endanger public or quasi-public investments including public utilities, services and lands?

1 A24. No. The most significant quasi-public investment in the area is the VY Station itself.
2 The Project will not jeopardize any public investment in the VY Station. Other public or
3 quasi-public investment facilities in the area are the New England Central Railroad, the
4 Vernon hydroelectric station, the Connecticut River, the Vernon Substation and the Town
5 of Vernon's roads.

6 As mentioned earlier, the Project will have a minimal impact, if any, on the
7 Connecticut River. As explained by George Thomas, the Project is not located in close
8 proximity to the New England Central Railroad, the Vernon hydroelectric station or the
9 Vernon Substation, and therefore the Project will not unnecessarily or unreasonably
10 endanger the New England Central Railroad, the Vernon hydroelectric station, the Vernon
11 Substation or the Town of Vernon's roads.

12
13 Q25. Is the Project located on any segment of waters designated as outstanding resource waters
14 by the Vermont Water Resources Board?

15 A25. No. There are only four designated outstanding resource waters in Vermont. The
16 Connecticut River is not designated as outstanding resource water. Therefore, the Project
17 will not affect any outstanding resource waters.

18
19 Q26. Does this conclude your testimony?

20 A26. Yes.