

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

) Docket No. 8880
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PREFILED TESTIMONY OF STEVE SIMOES

On Behalf of the Vermont Agency of Natural Resources, Department of Environmental
Conservation, Hazardous Waste Management Program

Summary of Testimony

Mr. Simoes is an Environmental Analyst with the Hazardous Waste Management Program of the Waste Management and Prevention Division within the Vermont Department of Environmental Conservation. In his testimony, Mr. Simoes provides an overview of the applicable regulations and procedures for non-radiological hazardous waste management, and the steps required to comply with these regulations and procedures for purposes of non-radiological decontamination and restoration of the VYNPS site.

Mr. Simoes sponsors the following exhibits:

- ANR-SS-1 Resume of Steve Simoes
- ANR-SS-2 Vermont Hazardous Waste Management Regulations
- ANR-SS-3 March 6, 2015 ANR Request for Information and Records for VYNPS
- ANR-SS-4 March 27, 2015 ANR Letter re: Follow-up to ANR/Entergy Meeting of March 19, 2015
- ANR-SS-5 May 14, 2015 ANR Supplemental Request for Information and Records for VYNPS

1 **Q1. Please state your name, place of employment, and position.**

2 **A1.** My name is Steve Simoes, I am employed by the Vermont Agency of Natural Resources,
3 Department of Environmental Conservation, Waste Management & Prevention Division,
4 Hazardous Waste Program, 1 National Life Drive – Davis 1, Montpelier, Vermont 05620.
5 My title is Environmental Analyst VII.

6 **Q2. Please describe your education, professional background, and tenure at the Agency**
7 **of Natural Resources.**

8 **A2.** I have a Bachelor of Science degree from Johnson State College for both Environmental
9 Science and Ecology. I have worked in the State of Vermont's Hazardous Waste
10 Program for over 25 years. Prior to working for the State of Vermont, I worked for a
11 Vermont-based environmental testing laboratory for six years. During my career with
12 Vermont's Hazardous Waste Program, I have been involved in all aspects of program
13 implementation such as inspection and permitting of regulated entities, enforcement, rule
14 and policy development, and program authorization. During my career, I have also been
15 involved with both regional and national associations of state hazardous waste program
16 officials who provide state/territorial perspectives on implementation of the Resource
17 Conservation and Recovery Act (RCRA) Subtitle C program to the Environmental
18 Protection Agency and ensure consistent regional and national program implementation.
19 My resume is attached as **Exhibit ANR-SS-1.**

20

1 **Q3. While at the Agency, have you engaged in any training or classes related to your**
2 **work with non-radiological hazardous wastes?**

3 **A3.** Yes. See Answer to Question 2 and **Exhibit ANR-SS-1.**

4 I also attend and help develop regular training opportunities organized by the Association
5 of State and Territorial Solid Waste Management Officials (ASTSWMO) and the
6 Northeast Waste Management Official Association (NEWMOA). These trainings
7 provide me the opportunity to stay abreast of new developments related to RCRA
8 Subtitle C.

9 **Q4. What is the purpose of your testimony?**

10 **A4.** The purpose of my testimony is to describe the requirements of the Vermont Hazardous
11 Waste Management Regulations (VHWMR) that are applicable to the activities proposed
12 in the Petition with regard to the VYNPS. A copy of the current VHWMR are included
13 as **Exhibit ANR-SS-2**. Specifically, I explain how non-radiological wastes are to be
14 evaluated to determine if they are subject to regulation as hazardous waste (and if they
15 are subject to regulation, how those wastes must be managed), and how low-level mixed
16 wastes (LLMW) are regulated under the VHWMR. I also explain specific concerns that I
17 have as a result of reviewing information in this proceeding regarding NorthStar's ability,
18 as prospective owner of the VYNPS site, to characterize and manage non-radiological
19 hazardous waste appropriately and in a timely manner. My testimony explains why
20 having a complete understanding of how NorthStar will comply with non-radiological
21 hazardous waste management requirements of the VHWMR is essential to enable the

1 Agency to evaluated NorthStar's ability to achieve non-radiological restoration of the
2 site, and whether NorthStar has sufficient finances to complete this work.

3 **Q5. Have you previously provided testimony to the Public Utility Commission, the**
4 **Environmental Court, or the District Commissions?**

5 **A5.** Yes. I provided testimony to the Public Utility Commission (formerly the Public Service
6 Board) as part of Docket 8300 related to ENVY's proposal to construct a Second Dry
7 Cask Storage Pad/ISFSI at the VYNPS site. My testimony in that docket summarized
8 non-radiological hazardous waste management requirements that were applicable to the
9 proposed demolition and removal of the North Warehouse and construction of the second
10 storage pad, and I identified and explained issues and concerns I had with regard to
11 ENVY's compliance in meeting those standards based on my review of the activities
12 proposed in the Petition and associated work plans.

13 Additionally, I provided testimony in an environmental enforcement case before the
14 Vermont Superior Court Environmental Division.

15 **Q6. Please describe the scope of your review of the Petition.**

16 **A6.** My review of the Petition is limited to management of non-radiological hazardous waste
17 management and LLMW, including proposed plans for waste characterization, storage,
18 treatment, transportation, and disposal of these wastes.

1 **Q7. Please describe the Agency regulations regarding non-radiological hazardous waste**
2 **determinations, management, and disposal that are applicable to the activities**
3 **proposed in the Petition.**

4 **A7.** The Agency is authorized by federal law to administer the Vermont Hazardous Waste
5 Program and VHWMR in lieu of the federal RCRA Subtitle C hazardous waste program
6 and regulations. The VHWMR govern the identification and management of non-
7 radiological hazardous wastes (including LLMW), and specify the regulatory obligations
8 of persons who generate (“generators”), transport, treat, store, or dispose of non-
9 radiological hazardous waste in the State. Wastes that are regulated as non-radiological
10 hazardous waste in Vermont are identified in VHWMR Subchapter 2. The requirements
11 governing the management of non-radiological hazardous waste generated at the VYNPS
12 are included under VHWMR Subchapter 3. Subchapter 3 also includes the pre-transport
13 standards for preparing non-radiological hazardous waste for shipment off-site for
14 treatment, long-term storage, or disposal, as well as standards for closure of generator
15 facilities.

16 Vermont’s Hazardous Waste Program regulates several non-radiological hazardous
17 wastes in addition to those regulated under the federal RCRA Subtitle C Program (See
18 VHWMR § 7-211). Two Vermont-listed hazardous wastes that are likely applicable to
19 the activities proposed by the Petition include “Wastes containing polychlorinated
20 biphenyls (PCBs) in concentrations equal to or greater than 50 parts per million”
21 (identified by the VT01 hazardous waste code), and “Wastes containing greater than 5%
22 by weight of petroleum distillates” (identified by the VT02 hazardous waste code). The

1 VT01 listing may be applicable to deconstruction/demolition debris coated with PCB-
2 containing paints or including PCB-containing caulk, and PCB-contaminated soils. The
3 VT02 code may be applicable to petroleum-contaminated debris and soils (if the soils are
4 not eligible for or managed according to the VHWMR § 7-203(p) conditional exemption
5 for petroleum-contaminated soils).

6 **Q8. Please describe the Agency regulations regarding Low-Level Mixed Waste (LLMW)**
7 **that are applicable to the activities proposed in the Petition.**

8 **A8.** Low-level mixed waste (or LLMW) is defined as a waste that contains both low-level
9 radioactive waste (subject to regulation by the Nuclear Regulatory Commission) and non-
10 radiological RCRA hazardous waste. See VHWMR § 7-103. LLMW is regulated under
11 the Mixed Waste Rule codified in Subpart N of 40 CFR Part 266 (Storage, Treatment,
12 Transportation and Disposal of Mixed Waste). The Mixed Waste Rule and its provisions
13 are incorporated by reference into the VHWMR (see VHWMR § 7-109(b)(2)).

14 The Mixed Waste Rule provides an alternative to managing LLMW under both RCRA
15 and NRC requirements through the exemptions from RCRA requirements for the storage
16 and treatment of, and transportation and disposal of, LLMW that meets certain eligibility
17 requirements and that is managed in accordance with conditions set forth in the Rule.

18 The exemption for storage and treatment of LLMW under the Mixed Waste Rule allows a
19 facility to store and treat the waste in tanks or containers that comply with the
20 requirements of the facility's NRC license provided that certain conditions are met.

21 Waste that is eligible to be managed under the storage and treatment exemption is

1 LLMW that is generated and managed under a single NRC license, and that is managed
2 in accordance with the conditions in 40 CFR 266.230 (which include requirements to
3 notify the Agency of the facility's intent to claim the conditional exemption, certify that
4 personnel are properly trained, inventory LLMW, and maintain an emergency plan that
5 meets specified requirements).

6 The exemption for transportation and disposal of LLMW under the Mixed Waste Rule
7 allows the waste to be transported and disposed off-site, again, provided certain
8 conditions are met. Waste that is eligible to be managed under this exemption is LLMW
9 that meets waste acceptance criteria of a Low Level Radioactive Waste Disposal Facility
10 (LLRWDF). Conditions of the exemption require that waste meet or be treated to meet
11 applicable Land Disposal Restriction (LDR) treatment standards (identified in Subpart D
12 of 40 CFR Part 268, and incorporated into the VHWMR through § 7-106), the facility
13 manifest and transport the waste in accordance with the NRC regulations, and the waste
14 be disposed of at a LLRWDF. Like the Mixed Waste Rule storage and treatment
15 exemption, the facility is required to notify the Agency of the facility's intent to claim the
16 conditional exemption for transportation and disposal of LLMW stored on the facility
17 site. The facility is also required to notify the destination LLRWDF of each shipment of
18 waste sent for disposal prior of the shipment.

19 Also of note, the Mixed Waste Rule requires that a facility intending to claim either of
20 the conditional exemptions also maintain records to demonstrate compliance with the

1 conditions of the exemption(s), and notify the Agency of any noncompliance with any
2 applicable condition.

3 **Q9. How must non-radiological hazardous wastes and LLMW be managed at the**
4 **VYNPS?**

5 **A9.** All non-radiological hazardous waste at the VYNPS site must be managed in accordance
6 with the applicable standards of VHWMR Subchapters 1 through 7, including the
7 hazardous waste management standards applicable to generators of non-radiological
8 hazardous waste in Subchapter 3.

9 LLMW may be managed either in accordance with the applicable standards of both the
10 NRC (for radiological constituents) and the VHWMR (for non-radiological hazardous
11 constituents), or alternatively, in accordance with the Conditional Exemption for Low-
12 Level Mixed Waste Storage and Treatment, and/or the Conditional Exemption for
13 Transportation and Disposal as specified under Subpart N of 40 CFR Part 266 (as
14 explained above in my response to Question 8).

15 **Q10. What is the process for making a non-radiological hazardous waste determination,**
16 **and when should this process be conducted?**

17 **A10.** Pursuant to VHWMR § 7-303, a generator of hazardous waste is required to make a non-
18 radiological hazardous waste determination of any wastes generated by it in accordance
19 with the process set forth in VHWMR § 7-202. To do this, a generator of a waste must
20 first determine if that waste is excluded from regulation under VHWMR §§ 7-203 or
21 7-204. See VHWMR § 7-202(b)(1). If the waste is not excluded from regulation, a

1 generator then must determine if a hazardous waste is listed under VHWMR §§ 7-210
2 through 7-215. See VHWMR § 7-202(b)(2). If the waste is not listed, the generator must
3 determine if the waste exhibits the hazardous waste characteristic of ignitability
4 (§ 7-205), corrosivity (§ 7-206), reactivity (§ 7-207), and/or toxicity (§ 7-208). See
5 VHWMR § 7-202(b)(3). If a waste is not excluded from regulation and is listed or found
6 to exhibit one or more of the four hazardous waste characteristics, the waste is
7 determined to be “hazardous waste”.

8 The VHWMR also allow a generator of hazardous waste to make a hazardous waste
9 determination using either “generator knowledge” or laboratory analysis. See VHWMR
10 § 7-202(b)(3)(A) and (3)(B). The term “generator knowledge” refers to the use of
11 available information about the waste-generating process and all materials contributing
12 to, and/or constituents contained in, a waste. If the use of generator knowledge reveals
13 that a waste potentially contains a listed constituent (e.g., tetrachloroethylene that had
14 been used for its solvent properties) or could exhibit a hazardous characteristic (e.g., the
15 toxicity characteristic for lead), the generator may choose to either assume that the waste
16 is hazardous waste (without having it laboratory-tested or analyzed) and manage it as
17 such, or analyze the waste to determine if it is, in fact, hazardous waste.

18 Normally, a non-radiological hazardous waste determination is to be made when – or as
19 soon as possible after – a waste is generated. However, in the case of
20 deconstruction/demolition debris, it can be easier and more efficient to obtain samples for
21 purposes of making a hazardous waste determination prior to deconstruction and

1 demolition to better facilitate planning for segregation, management, and disposal of the
2 wastes that are generated.

3 **Q11. What is a “representative sample” for purposes of conducting a hazardous waste**
4 **determination?**

5 **A11.** “Representative sample” is defined as a sample of a universe or a whole (e.g., waste pile,
6 lagoon, ground water) which can be expected to exhibit the average properties of the
7 universe or whole. This definition is in 40 CFR 260.10, and incorporated into the
8 VHWMR through § 7-103 (Definitions).

9 The methods used for sampling waste materials for purposes of testing and analysis of a
10 waste vary depending on the form and consistency of the material being sampled. See
11 VHWMR § 7-219. In all cases, however, samples must be representative of the waste
12 being evaluated and the contaminant(s) of concern. Given the difficulty of
13 representatively sampling structural debris following demolition (as I explain in my
14 response to Question 10 above), it is best to obtain samples from potentially
15 contaminated structures or structural components prior to demolition. A core sample or
16 cross-sectional piece of the structure to be demolished that contains an amount of the
17 contaminant(s) of concern (e.g., lead- and PCB-containing paint) that is representative of
18 both the structure and contaminant-containing material would qualify as a representative
19 sample for the purpose of making a hazardous waste determination.

1 **Q12. Do the activities proposed in the Petition involve the creation of waste that will**
2 **require the Petitioner to characterize waste to determine whether it is non-**
3 **radiological hazardous waste?**

4 **A12.** Yes. Based on my review of the activities proposed in the Petition and supporting
5 information, it is my understanding that many of the structures that remain on-site and
6 that are to be either deconstructed or demolished during the proposed site activities are
7 coated with materials that are believed to contain lead, PCBs and potentially other metals,
8 and/or contain PCB-containing caulk. These wastes must, at a minimum, must be
9 evaluated to determine if they exhibit the hazardous waste toxicity characteristic for lead
10 (and potentially other toxicity characteristic metals), and meet the Vermont VT01
11 hazardous waste listing criteria for PCBs, as appropriate. However, if there is reason to
12 suspect the presence of additional non-radiological hazardous waste contaminants, these
13 wastes must also be evaluated to determine if other non-radiological hazardous waste
14 listings or characteristics apply.

15 In addition, a hazardous waste determination must be made for any product materials that
16 remain on-site that are not to be used for their intended purpose (i.e., that become a
17 “waste”); site remediation wastes that contain listed constituents or have the potential to
18 exhibit a non-radiological hazardous waste characteristic, such as contaminated soils;
19 wastes resulting from on-site processes that contain listed constituents or have the
20 potential to exhibit a non-radiological hazardous waste characteristic (e.g., wastes from
21 on-site laboratory testing/analyses); and any underground sheathed cables (i.e., the

1 sheathing materials may contain PCBs) or other underground infrastructure that is
2 removed during the course of site activities.

3 As I explain in my responses to Questions 8 and 9, NorthStar may choose to manage any
4 LLMW under the provision of the Mixed Waste Rule. This would still require that a
5 hazardous waste determination be made on the non-radiological hazardous component
6 (either through testing and analysis, or through generator knowledge), but would allow
7 NorthStar to manage the LLMW waste under the streamlined provisions of the Mixed
8 Waste Rule provided such management was conducted in accordance with the eligibility
9 requirements and conditions of the Rule.

10 Based on my review of the proposed activities described in the Petition, it is unclear to
11 me how non-radiological waste determinations will be made with regard to non-
12 radiological hazardous wastes that are to be generated through the deconstruction and
13 demolition phases of work, or through other decontamination and remediation activities
14 proposed to occur on-site.

15 **Q13. Are there other regulatory requirements relevant to the activities proposed in the**
16 **Petition that Petitioners must comply with? If so, please explain.**

17 **A13.** Yes. ENVY is currently a Small Quantity Generator (SQG) of non-radiological
18 hazardous waste, and therefore subject to the management requirements for SQGs in
19 VHWMR Subchapter 3. Pursuant to VHWMR § 7-104, if NorthStar becomes
20 owner/operator of the facility, NorthStar would be required to notify the Agency of its
21 new owner/operator status and the types and amount of hazardous waste it expects to

1 generate. Moreover, the generation of increased amounts of non-radiological hazardous
2 waste as a part of site decontamination and/or decommissioning activities as proposed in
3 the Petition could result in NorthStar (as the owner/operator of the VYNPS) to become
4 classified as a Large Quantity Generator (LQG) of non-radiological hazardous waste
5 during the proposed activities.

6 Small and large quantity generators of non-radiological hazardous waste are required to
7 comply with the general management standards of VHWMR § 7-309, including those
8 applicable to closure of the generator facility. Under VHWMR § 7-309(c)(1), a generator
9 must close its site (or a portion of the site if the generator is conducting partial closure) in
10 a manner that minimizes the need for further maintenance and controls, minimizes or
11 eliminates, to the extent necessary to protect human health and the environment, post-
12 closure escape of non-radiological hazardous waste, non-radiological hazardous
13 constituents, leachate, contaminated run-off or hazardous waste decomposition products
14 to the groundwater or surface waters or to the atmosphere (in addition to complying with
15 other applicable requirements of VHWMR § 7-309(c)).

16 A generator is required to provide notification of the intent to commence closure
17 activities by submitting a Pre-Closure Notification Form to the Secretary 90 days prior to
18 commencement of closure activities. VHWMR § 7-304(d); § 7-309(c)(2). Based on the
19 information reported by the generator in the Pre-Closure Notification Form, the Secretary
20 may require that the generator develop and submit a plan for non-radiological hazardous
21 waste closure activities. VHWMR § 7-309(c)(2). The closure plan must identify how the

1 generator will achieve the standards of VHWMR § 7-309(c) for non-radiological
2 hazardous waste for the entire site (if implementing final closure) or a portion of the site
3 (if implementing partial closure). Plans for final generator closure may be included as
4 part of an overall plan for non-radiological restoration of a site.

5 The Agency has notified ENVY of its obligation, as a small quantity generator of non-
6 radiological hazardous waste, to submit a plan for closure of the VYNPS site, and has
7 made several requests for a closure plan. See **Exhibit ANR-GN-7** (page 3 and Comment
8 ANR-4), **Exhibit ANR-SS-3** (page 2 of Information Request), **Exhibit ANR-SS-4** (page
9 1), **Exhibit ANR-SS-5** (page 2 and Comment 3(d)). Despite these repeated requests,
10 ENVY has not provided a plan for closure of the VYNPS site. NorthStar has also not
11 submitted a plan in this proceeding for how it intends to meet generator closure standards
12 of VHWMR Subchapter 3, § 7-309(c).

13 **Q14. Regarding NorthStar's plans for management of non-radiological hazardous waste,**
14 **are cost estimates for such management and associated activities dependent on**
15 **having adequate plans for conducting non-radiological hazardous waste**
16 **determinations? If so, please explain.**

17 **A14.** Yes. Though I do not routinely review costs associated with management and disposal of
18 non-radiological hazardous waste as a part of my position with the Agency, it is my
19 understanding from working with permitted non-radiological hazardous waste facilities in
20 Vermont that these costs vary based on the type and amount of non-radiological
21 hazardous wastes being managed, on costs for representative sampling and laboratory

1 analysis of such wastes (i.e., costs vary based on the methods employed, the type of
2 waste being sampled/analyzed and the laboratory doing the work), on costs associated
3 with on-site storage of such wastes, and of course, on costs of shipment and off-site
4 treatment or disposal.

5 Costs of characterizing waste to determine whether such waste is non-radiological
6 hazardous waste, alone, can vary greatly depending on the type of waste determination
7 performed. For instance, the cost of conducting representative sampling of materials or
8 wastes to determine whether those materials must be managed as non-radiological
9 hazardous waste will vary significantly from the costs associated with either using
10 generator knowledge to make such a determination or assuming that a waste is non-
11 radiological hazardous waste (as there would be no cost associated with sampling or
12 laboratory analysis).

13 Management and disposal costs vary depending on individual off-site treatment, storage,
14 and disposal facility rates, facility capacity for various types of waste, and the distance
15 that a waste must be transported off-site.

16 Without an understanding of what types and amounts of non-radiological hazardous
17 wastes and LLMW will be generated through the proposed activities, how those wastes
18 will be characterized, and how those wastes will ultimately be managed and disposed of,
19 it not possible assess the adequacy of NorthStar's cost estimation for remediation of the
20 site with respect to non-radiological hazardous waste management.

1 **Q15. Do you have any other concerns regarding the Petition? If so, please explain them.**

2 **A15.** I do. My first concern is related to Answer ANR:NS.2-8 of the Petitioners' Responses to
3 ANR's Second Set of Information Requests in this proceeding, which references a set of
4 three documents prepared by Haley & Aldrich, Inc. that are collectively titled "Waste
5 Acceptance Grouping Identification Plan" (Plan). The response states that the Plan
6 "identifies the potential waste streams and presents how each type of waste will be
7 characterized" and "was developed to comply with the VHWMR as well as applicable
8 state and federal laws". While, overall, the Plan seems to be consistent with the response
9 regarding intended compliance with the VHWMR, there are specific elements of the Plan
10 that are inconsistent with the response and for which the intention of compliance with the
11 VHWMR is less clear. It would be beneficial for the Petitioner and/or Haley & Aldrich
12 to coordinate and work with the Agency to revise the Plan as necessary to ensure
13 VHWMR compliance.

14 Secondly, I am concerned about past and present management of non-radiological
15 hazardous wastes generated in the on-site chemistry laboratory and whether those wastes
16 have been and will be characterized and managed in accordance with the VHWMR. The
17 Agency conducted a Hazardous Waste Program inspection of the Vermont Yankee
18 Nuclear Power Station on May 18, 2015, but was not able to inspect the laboratory since
19 that area was located within the designated "Radiologically Controlled Area" (which
20 required a higher level of security clearance to access) at the time of inspection.

21 Moreover, my review of documents provided in response to discovery questions revealed
22 that chemical wastes generated in the laboratory had for some period of time been

1 disposed down a laboratory drain that conveyed the waste through underground piping to
2 an on-site storage tank. According to the documents I reviewed, it was discovered that
3 the underground piping had been leaking for an undetermined amount of time potentially
4 releasing chemical constituents to the subsurface. Since the documents that I reviewed
5 indicate that only a very limited investigation was conducted to evaluate the
6 environmental impact of the leak, I am concerned about non-radiological hazardous
7 waste constituents that may be present in soils and potentially other environmental media
8 in the vicinity of the laboratory.

9 Lastly, I would like to note that Petitioners reference Appendix G of the Vermont
10 Conditionally Exempt Generator (CEG) Handbook in Responses to ANR's Second Set of
11 Information Requests submitted on July 21, 2017 (See Answer to ANR:NS.2-11(b)). The
12 CEG Handbook is a guidance document that was developed as a regulatory assistance
13 tool for Vermont CEG's that summarizes the VHWMR requirements applicable to CEGs;
14 it is not a substitute for compliance with the VHWMR. Moreover, Appendix G of the
15 CEG Handbook provides a table that compares VHWMR requirements that are
16 applicable to CEGs, Small Quantity Generators and Large Quantity Generators, and does
17 not provide information about making non-radiological hazardous waste determinations
18 as suggested by the Petitioners' response.

19 **Q16. Does this conclude your testimony?**

20 **A16.** Yes.