



---

# Vermont Yankee Discussion

---

Presentation to the Texas Low-Level Radioactive  
Waste Disposal Compact Commission

October 2, 2013



## Background

---

- ❑ On 08/27/13, Entergy Nuclear Vermont Yankee (“ENVY”) announced its intention to close the VY station at the end of the current operating cycle, which is expected to be in 4Q 2014
- ❑ ENVY submitted a Notice of Cessation to the NRC on 09/23/13 advising that VY will permanently cease operations at the end of the current operating cycle, which is expected to be in 4Q 2014.
- ❑ ENVY will develop a plan for decommissioning the facility, managing the spent fuel on site, and restoring the site, all in accordance with NRC requirements as well as any specific commitments that have been made by ENVY on these subjects.
- ❑ Through the end of the current operating cycle, ENVY will remain focused on the safe, reliable operation of Vermont Yankee.



## Decommissioning

---

- ❑ ENVY must submit a Post-Shutdown Decommissioning Activities Report (PSDAR). Under 10 C.F.R. § 50.82(a)(4)(i), the PSDAR must be submitted to the NRC and the State of Vermont within two years of permanently ceasing operations (i.e., by 12/31/16). ENVY must also submit a Site-Specific Decommissioning Cost Estimate (DCE). Under 10 C.F.R. § 50.82(a)(8)(iii), this submittal is also required within two years of permanently ceasing operations.
- ❑ The NRC authorizes up to 60 years for a licensee to complete radiological decommissioning after permanently ceasing operations using, at the licensee's option, either the SAFSTOR method or DECON method of decommissioning. SAFSTOR is a decommissioning method authorized by NRC regulation since 1988. The NRC does not dictate which method (SAFSTOR or DECON) the licensee must use. SAFSTOR has three principal benefits: (1) it allows decommissioning to be accomplished with less risk to workers since radioactivity levels naturally decline over time, (2) it may result in reduced volumes of radioactive waste that must be disposed of, and (3) it allows decommissioning funds to grow.



## Decommissioning

---

- ❑ The 2002 “Sale MOU” governing the sale of Vermont Yankee to ENVY expressly provides that decommissioning “may include the implementation of SAFSTOR or other forms of delayed decommissioning.” The Vermont Department of Public Service, CVPS, GMP, VYNPC, and ENVY were party to that MOU.
- ❑ PSB Order in Docket 7082 (April 26, 2006) at p. 69: “Entergy VY maintains two trust funds to pay for the decommissioning of Vermont Yankee after the plant's closure. Entergy VY has agreed that it would include in decommissioning all costs associated with site restoration and spent-fuel management. In Docket No. 6545, the Board determined that, if the decommissioning trust funds were insufficient to complete immediate decommissioning upon plant closure, Vermont Yankee could be placed in SAFSTOR to allow the funds to increase in value until sufficient funds exist and that such an approach would not expose the state to any unnecessary risk, because SAFSTOR is a safe alternative to immediate decommissioning.”



## Spent Fuel Management

---

- ❑ ENVY must submit an Irradiated (a/k/a Spent) Fuel Management Plan to the NRC. Under 10 C.F.R. § 50.54(bb), this report is also required within two years of permanently ceasing operations. This submittal must describe how ENVY plans to manage and provide funding to manage spent fuel after permanently ceasing operations and until the DOE accepts title to and possession of the spent fuel.
  
- ❑ With permanent cessation of operations at the end of the current cycle, a total of approximately 3,900 spent fuel assemblies will have been generated over VY's lifetime. This includes approximately 880 assemblies stored on the ISFSI pad in 13 Holtec Storage Overpacks, approximately 2,650 assemblies stored in the spent fuel storage pool, and approximately 370 assemblies currently residing in the reactor.
  
- ❑ The current ISFSI pad is sized for 8x5 locations which, after accounting for vacant spaces needed to 'shuffle' casks on the pad, has a capacity of 36 Holtec Storage Overpacks. It is estimated that approximately 58 Holtec Storage Overpacks will be needed to place the entire spent fuel inventory in dry storage, so VY need places for approximately 22 more casks, which will be either a 5x5 or 8x3 pad.



## Other Site Decommissioning/Spent Fuel Management Information

<b>Kewaunee</b>	<b>San Onofre</b>	<b>Crystal River</b>
<p>On 11/02/12, Dominion filed Notice of Cessation for 2Q 2013. Notice was subsequently re-filed with specific date of 05/07/13.</p>	<p>On 06/12/13, SoCal Edison filed Notice of Cessation effective 06/07/13.</p>	<p>On 02/20/13, Duke filed Notice of Cessation stating that plant had been safely shut down since 09/26/09 and final removal of fuel from reactor was completed on 05/28/11.</p>
<p>PSDAR submitted 2/26/13 states that plant will be placed in SAFSTOR for approx. 50 years. Site restoration is expected to be completed by 2073.</p>	<p>SoCal Edison has distributed fact sheets stating that a detailed plan for decommissioning will be submitted to the NRC by 2015.</p>	<p>Duke has stated it will submit PSDAR in December 2013. In public presentation, Duke stated intention to utilize SAFSTOR, although expected duration has not yet been disclosed.</p>
<p>Update to spent fuel mgmt plan submitted 02/26/13 states that ISFSI capacity will be expanded and all spent fuel transferred to ISFSI by 2020.</p>	<p>SoCal Edison has stated that both units have been defueled and spent fuel will remain in pool until transferred to dry cask storage. No schedule for transfer has been provided.</p>	<p>Duke has not constructed ISFSI at Crystal River and has not committed to do so at this point. As a result, all spent fuel is in wet storage w/ no schedule for movement to dry cask storage.</p>



## VY Low-Level Radioactive Waste Management

---

- ❑ VY has a contract with WCS for disposal of LLRW at the Andrews County, Texas Compact Waste Facility, and has been actively shipping LLRW for disposal to that site since 2012.
  - ❑ 2013 waste shipped to Texas for burial
    - ❑ 1025 ft<sup>3</sup> (56 Ci) Class A
    - ❑ 175 ft<sup>3</sup> (15 Ci) Class B
  - ❑ 2013 waste remaining to be shipped
    - ❑ 854 ft<sup>3</sup> (61 Ci) Class A
    - ❑ 290 ft<sup>3</sup> (55 Ci) Class B
- ❑ VY's current export permit issued by the by the Compact Commission expires December 31, 2013 and allows shipment of up to 18,084 cubic ft. of Low-Dose Rate, High-Density Class A LLRW (less than or equal to 100 mR/hr) for calendar year 2013.
  - ❑ 2013 waste exported
    - ❑ 13,500 ft<sup>3</sup> (disposal volume 1100 ft<sup>3</sup> – post volume reduction)
- ❑ VY anticipates the need to request a similar export permit for LLRW for 2014.