Docket No. 7440

Petition of Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc., for amendment of their certificates of public good and approvals required under 10 V.S.A. §§ 6501-6504 and 30 V.S.A. §§ 231(a), 248 & 254, for authority to continue after March 21, 2012, operation of the Vermont Yankee Nuclear Power Station, including the storage of spent-nuclear fuel.

BRIEF OF THE
VERMONT DEPARTMENT OF PUBLIC SERVICE

July 17, 2009
Again, Petitioners' objections should be rejected by the Board. Similar to the funding review proposal, if Mr. Thayer is correct that the fund is on a trajectory to cover all costs by 2032, the exposure to the parent company is limited, and should grow smaller each year as the fund grows. And, in any event, the backstop provided by the guaranty is necessary for Petitioners to demonstrate the financial wherewithal not only to own and operate the plant, but to responsibly remove it from service, decommission the facilities and decontaminate the site, manage spent fuel issues and restore the site to an appropriate condition commencing in 2032 in a timely manner. The ultimate dismantling of the plant, restoration of the site, and management of spent fuel is a critical risk area to be mitigated to protect the public interest as part of the Petitioners responsibilities for being allowed to operate the plant for an additional twenty years.

V. CRITERIA UNDER 30 V.S.A. § 248(b)

30 V.S.A. § 248(b)(1) Orderly Development of the Region

Findings

85. Provided appropriate conditions are imposed on a period of extended operations, continued operation of VY will not unduly interfere with the orderly development of the region, due consideration being given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. 30 V.S.A. § 248(b)(1). This finding is supported by Finding Nos. 86 to 95 below.
86. The VY Station's continued operation will not unduly interfere with the orderly development of the region, taking into account the land-use policies and the recommendations of the Town of Vernon and the Windham Regional Commission, provided that, upon cessation of commercial operations the plant is promptly and properly decommissioned and the site restored to an appropriate state so that it can be utilized consistent with local and regional planning goals. Dodson pf. 3/3/08 at 40; tr. 5/26/09 at 35-36 (Buchanan); tr. 6/3/09 at 41-42 (Lamont).

87. Per NRC regulations, a nuclear generation facility site qualifies for release for unrestricted use when the site radiation levels, net of background, are no higher than a total effective dose equivalent of 25mrem per year, with no more than 4mrem per year of that total coming from the groundwater pathway. However, when decommissioning a site, an operator must apply the As Low As Reasonably Achievable (ALARA) principle so it is possible that a decommissioned site will actually have radiation levels lower than the NRC maximum of 25mrem per year. Vanags pf. 2/11/09 at 11; tr. 6/2/09 at 83 (Vanags).

88. Petitioners' current decommissioning study from TLG includes a cost of $9.1 million to remediate soil contamination. This figure is based on known contamination from the time the plant was purchased in 2002 and includes a significant contingency factor. No major incidents have occurred since the plant was purchased that would render the assumed amount of soil contamination and its related contingency unreliable. Tr. 5/20/09 at 49-50 (Thayer); tr. 5/21/09 at 11-12 (Thayer); Thayer pf. 2/11/09 at 7.

89. Given the required application of the ALARA principle and Petitioners' inclusion of a cost
item in the TLG study for known soil contamination that includes a contingency, the
potential incremental costs associated with decommissioning to a level of 10mrem year
with no more than 4mrem per year of that total coming from the groundwater pathway
(the 10/4 level) are reasonable given the benefits of the lower threshold. Vanags pf.
4/24/09 at 2-4.

90. Petitioners should be required to decommission the plant and decontaminate the site to the
10/4mrem level recommended by the Department when it ceases to be used for nuclear
generation purposes, even if the site is then used for some other commercial or industrial
purpose consistent with the orderly development of the property. This is consistent with
the terms of the Docket 6545 MOU, which allows deferral only of site restoration to
accommodate non-nuclear commercial or industrial uses. Exh. DPS-9 at 3.

91. NRC decommissioning regulations do not include a requirement for site restoration. Tr.
5/19/09 at 57 (Cloutier).

92. Petitioners committed to site restoration after the site is no longer used for nuclear
generation or some other commercial or industrial use consistent with the orderly
development of the property. Thayer pf. 3/23/09 at 4; Exh. DPS-9 at 2-3.

93. Site restoration is defined in the Docket 6545 MOU as “removal of all structures and, if
appropriate, regrading and reseeding the land.” Exh. DPS-9 at 2.

94. Removing the existing structures to a level of three feet below grade is a reasonable means
to implement site restoration. Actually removing each foundation to its full depth will add
significant costs to the project, create increased safety risks to workers, and yield little
incremental benefit. Tr. 6/2/09 at 236-38 (Vanags).

95. Removing existing structures to a depth of three feet below grade will not interfere with orderly development of the region because a purchaser of the site would account for the existing foundations in the purchase price and would not necessarily need to remove them in their entirety depending on the intended use of the site. Tr. 6/3/09 at 41-42 (Lamont).

**Discussion**

Provided Vermont Yankee is promptly decommissioned beginning in 2032, and the site decontaminated to the 10/4 level recommended by the Department, and provided site restoration is undertaken once the site ceases to be used for commercial or industrial purposes, an extended period of operations will not cause undue interference with the orderly development of the region.

1. **Prompt decommissioning.**

Petitioners must promptly decommission the plant beginning in 2032 in order to avoid undue impacts on orderly development. If the plant does not enter prompt decommissioning, it will likely be placed into SAFSTOR, rendering a significant portion of the site essentially unusable for other purposes for up to 60 years. Additionally, there will be a precipitous drop off in jobs if the plant is placed in SAFSTOR that will not be present if the plant enters prompt decommissioning.\(^{19}\)

Petitioner's request for flexibility to place the plant into SAFSTOR if necessary should be

\(^{19}\) Tr. 5/26/09 at 35-36 (Buchanan).
rejected by the Board. Entergy could not give any reason why such an option would be necessary, leaving one to assume that the real reason behind the requested flexibility would be to allow time for the decommissioning trust fund to grow if it proves to be inadequate in 2032, something the Department’s decommissioning fund recommendations are designed to prevent.\textsuperscript{20}

If a situation should arise, other than a shortfall in the decommissioning fund, that requires the plant be placed in SAFSTOR, the Petitioners can submit a request to the Board asking that the prompt decommissioning requirement be waived and demonstrate why such a waiver would be consistent with the orderly development of the region.

The Board should also reject Petitioners' characterization that its position is consistent with the terms of the Docket 6545 MOU. Petitioners incorrectly claim that \textit{decommissioning} can be deferred under that agreement if the site is being utilized for a non-nuclear commercial or industrial purpose. The MOU allows a deferral only of \textit{site restoration} if the site is used for non-nuclear commercial or industrial purposes. The MOU specifically contemplates decommissioning occurring even if the site is reused for non-nuclear purposes. “Completion of Decommissioning shall be deemed to have occurred for purposes of this MOU notwithstanding that ENVY may choose to re-use the site, and portions of existing structures, systems and components, and that spent fuel is not removed from the site.”\textsuperscript{21} Site restoration is treated as a separate activity from

\begin{itemize}
\item[\textsuperscript{20}] Vanags p.f. 4/24/09 at 4-5.
\item[\textsuperscript{21}] Exh. DPS-9 at 3.
\end{itemize}
decommissioning and the Board should reject Petitioners' characterization of the MOU.\textsuperscript{22}

If the Board were to accept Petitioners' position that decommissioning can be deferred if the plant is used for some non-nuclear commercial or industrial purpose, it would allow Petitioners to utilize a period of SAFSTOR to cover a shortfall in the fund, thereby immunizing the parent corporation from the effects of a parental guaranty or equivalent security, simply by maintaining an active presence in one of the office buildings on the site. Such a result is unacceptable and the Board should reject Petitioners' request for discretion to rely on SAFSTOR in 2032.

2. **Decontamination levels.**

The Board should require Petitioners to decontaminate the site to the 10/4 level recommended by the Department because it will provide enhanced benefits to orderly development by making the property more attractive, without imposing undue expense on Petitioners.

The Board should reject Petitioners claim that the true expense of decontaminating to the 10/4 level cannot be known until a site survey is performed for three reasons. First, the petitioners are required to apply the ALARA principle under NRC regulations which could actually result in Petitioners achieving the 10/4 standard without any incremental cost. Second, the most recent cost study done by TLG includes a cost of $9.1 million to remediate soil

\textsuperscript{22} Even if Petitioners' characterization was correct, it wouldn't be controlling. The Docket 6545 MOU provisions that address this issue are all based on the assumption that the plant ceases operations in 2012 while the Board in this proceeding must determine what is appropriate for operations beyond that date.
contamination. According to witnesses for Petitioners, this figure is based on known contamination from the time the plant was purchased in 2002, includes a significant contingency factor and no major incidents have occurred since the plant was purchased that would render the assumed amount of soil contamination, its related contingency or the cost figure unreliable. Third, industry experience has shown that the costs of decontaminating to this level are reasonable when compared to the overall costs of decommissioning. The approximate incremental cost figure for Maine Yankee to cleanup to the 10/4 level is $11 million.\textsuperscript{23} If one assumes that the TLG cost study is accurate, then decommissioning and spent fuel management costs are over $900 million,\textsuperscript{24} meaning the potential incremental costs to reach the 10/4 level would likely be in the neighborhood of 1%. Given the enhanced benefits of the decreased radiation levels, this is an entirely reasonable figure in the overall cost structure.

3. Site restoration.

The Petitioners have agreed to site restoration following decommissioning and cessation of use of the site for non-nuclear commercial or industrial purposes. The Department agrees this is necessary to avoid undue interference with the orderly development of the region.

The Department recommends that site restoration include removal of all above ground structures and all below ground structures to a depth of at least three feet below grade, followed by regrading and reseeding where necessary or appropriate. Requiring that all foundations be

\textsuperscript{23} Vanags pf. 4/24/09 at 3.

\textsuperscript{24} See Finding No. 63.
removed in their entirety adds significant costs to decommissioning, raises the risk of worker accidents and yields little in the way of incremental benefit since the vast majority of contaminated materials will need to be removed to achieve the 10/4 decontamination level recommended by the Department.

The existence of non-contaminated, sub-surface foundations should not unduly interfere with redevelopment or reuse of the site. A buyer of the site will be well aware of its previous use as a nuclear facility, if by no other means than searching the land records to develop a picture of the status of title to the property. Additionally, the Board's order regarding what has to be removed and what may remain behind will be public record. A purchaser would therefore be aware of any remaining underground structures and their presence would be accounted for in the purchase price if indeed their presence impacted the value of the land based on its intended use. There is no record evidence sufficient to conclude that leaving foundations in place at three or more feet below grade will interfere with redevelopment or reuse of the property.\textsuperscript{25}

In order to ensure that the continued operation of the facility does not unduly interfere with the orderly development of the region, any CPG issued in this proceeding should contain the following conditions:

Petitioners shall promptly initiate decommissioning no later than cessation of commercial operations in 2032. Site restoration may be deferred if necessary to accommodate non-nuclear commercial or industrial purposes following cessation

\textsuperscript{25} The Board has already accepted a two feet below grade standard as reasonable. See, Docket 7156, Petition of UPC Vermont Wind, LLC, for a Certificate of Public Good, pursuant to 30 V.S.A. §248, authorizing the construction and operation of a 52 MW wind electric generation facility, consisting of 26 wind turbines, and associated transmission and interconnection facilities, in Sheffield and Sutton, Vermont, Order of Aug. 8, 2007 at Finding 334.
of commercial operations. Petitioners may obtain a waiver of the prompt decommissioning requirement if they can demonstrate to the Board that a waiver is necessary to accommodate a non-nuclear commercial or industrial purpose and that such waiver will not unduly interfere with the orderly development of the region. A shortfall in the decommissioning trust fund balance shall not be advanced in support of a waiver request.

At the time of decommissioning, all structures shall be removed to a minimum of three feet below grade. Rubbilization shall not be used. There shall be an enhanced cleanup level of 10 mrem per year through all pathways, including within that 4 mrem per year through the groundwater pathway. If the site is not to be used as a new commercial or industrial site in keeping with the orderly development of the region, the land should be regraded and reseeded with no visible structure other than necessary for dry fuel storage. Specifically, the following shall be adhered to by Petitioners in site restoration:
A. Definitions. Unless the context otherwise indicates, the following terms have the following meanings.

i. “Average member of the critical group” means a member of the critical group who is subjected to the most likely exposure situation based on prudently conservative exposure assumptions and parameter values within the model calculations.

ii. “Critical group” means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

iii. “Total effective dose equivalent” has the same meaning as in Title 10 Code of Federal Regulations, Section 20.1003, as in effect on January 1, 2000.

B. Radiation dose standard. The site at which the decommissioning of the Vermont Yankee Nuclear Power Station has been completed must meet the following standards:

i. The residual radioactivity distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group of not more than 10 millirems, or 0.10 millisievert, per year, including that from groundwater sources of drinking water; and

ii. The residual radioactivity distinguishable from background radiation in groundwater sources of drinking water results in a total effective dose equivalent of not more than 4 millirems, or 0.04 millisievert, per year to the average member of the critical group.

C. Rubbilization. The practice known as “Rubbilization” where demolition concrete is used to back fill excavations and foundations shall not be permitted. Demolition concrete will be removed from the site and shipped to an appropriate disposal facility.

30 V.S.A. § 248(b)(2) Need for Present and Future Demand for Service

Findings

96. Continued operation of VY will meet a need for present and future demand for service