

STATE OF VERMONT
PUBLIC SERVICE BOARD

Joint Petition of NorthStar Decommissioning)
Holdings, LLC, NorthStar Nuclear)
Decommissioning Company, LLC, NorthStar)
Group Services, Inc., LVI Parent Corp., NorthStar) Docket No. []
Group Holdings, LLC, Entergy Nuclear Vermont)
Investment Company, LLC, Entergy Nuclear)
Operations, Inc., and any other necessary)
affiliated entities to transfer ownership of Entergy)
Nuclear Vermont Yankee, LLC, and for certain)
ancillary approvals, pursuant to 30 V.S.A. §§ 107,)
231, and 232)

SUMMARY OF PREFILED TESTIMONY OF TODD D. SMITH

Mr. Smith, who has direct experience working on the decommissioning of the Maine Yankee, Connecticut Yankee, and Yankee Rowe nuclear power plants, will discuss the advantages and disadvantages of a plant owner hiring a decommissioning operations contractor rather than self-managing the project. Mr. Smith will further explain why it is preferable, in the case of self-management, for the plant owner to be an entity that has core competence in decommissioning as opposed to operating an electricity-generating plant.

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PREFILED TESTIMONY OF TODD D. SMITH

1 Q1. **Please state your name and business address.**

2 A1. Todd D. Smith, 79 Aviator Place, Oakland, ME 04963.

3 Q2. **What is your occupation?**

4 A2. I am the President of TSSD Services, Inc.

5 Q3. **What is your educational and professional background?**

6 A3. I have a B.A. in accounting (1992) and an M.B.A. (1999), both from Thomas College. I
7 have worked in the heavy construction and commercial decommissioning industry for 25
8 years. I worked as a project cost engineer at Cianbro Corporation from 1992 to 1997,
9 where, among other things, I supported physical decommissioning of the Yankee Rowe
10 plant in its early stages after decommissioning commenced in 1992. I was at Maine
11 Yankee from 1998 to 2004, during which time I worked my way up to the senior
12 management team for Maine Yankee. I was there from the beginning of
13 decommissioning work until the work was approximately 70% complete. I served as part

1 of the Maine Yankee senior management team at the time Maine Yankee terminated its
2 contract with Stone & Webster, the decommissioning operations contractor (“DOC”), at
3 which point Maine Yankee self-managed the remaining decommissioning work by
4 assuming the DOC role itself. In April 2004, I was transferred to Connecticut Yankee
5 while it was in the process of decommissioning, shortly after it had terminated its
6 contract with the DOC for that plant. Shortly thereafter, I was also assigned to Yankee
7 Rowe in Massachusetts as the Executive Director of Business Operations, which was also
8 in the process of self-managing decommissioning but struggling to complete the project.
9 I served as a member of Yankee Rowe senior management simultaneously with my
10 duties as Executive Director of Business Operations at Connecticut Yankee. Since 2007,
11 I have been the Business Manager and Director of Operations of Dry Fuel Storage for
12 Maine Yankee, Connecticut Yankee, and Yankee Rowe. More recently, I have worked
13 with NorthStar on the preparation of its site-specific decommissioning cost estimate
14 (“DCE”) and with Entergy Nuclear Vermont Yankee, LLC on the development of its
15 DCE and organizational planning since 2014.

16 **Q4. What is the purpose of your testimony in this proceeding?**

17 A4. I have been retained by the petitioners to discuss my experience with the
18 decommissioning of Maine Yankee, Connecticut Yankee, and Yankee Rowe, and to
19 explain the two models of decommissioning implemented there: (1) the DOC model, in
20 which a plant owner hires a DOC to oversee the decommissioning work, and (2) the self-
21 management model, in which the utility owner performs the DOC role (rather than hire a
22 DOC) and oversees the decommissioning work itself. I will discuss the challenges we

1 encountered with the DOC model and with the self-management model when done by a
2 utility. My testimony will further explain why the self-management model makes sense
3 when the owner is a decommissioning-focused company, like NorthStar, as opposed to a
4 company with a focus on running a utility business (*i.e.*, generating and selling
5 electricity) like Entergy.

6 **Q5. Please explain the DOC model.**

7 A5. To date, most nuclear plant decommissioning projects have used the DOC model, in
8 which the company that owned and operated the plant while it was generating electricity
9 continues to be the licensed operator of the plant after shutdown and hires a DOC to
10 manage and perform decommissioning of the plant. This typically involves a “turnkey
11 contract,” which is a type of contract in which the owner engages a contractor with the
12 intent to achieve an agreed end-state for a fixed cost. Under this approach, the contractor
13 generally has the discretion to select the means and methods used to perform the work
14 (including the hiring of subcontractors) to achieve that end-state and also bears some of
15 the risks of doing so.

16 **Q6. What are the benefits of the DOC model?**

17 A6. From the utility owner’s perspective, the DOC model is appealing in principle. The
18 owner contracts with a DOC, which brings the relevant expertise to the project, to
19 manage and perform the work for a fixed price. The DOC is in charge of hiring
20 subcontractors, setting a schedule, and otherwise dealing with the sorts of
21 decommissioning issues that are its core competency. The owner, meanwhile, expects

1 that the work will be performed at a fixed price for the scope of work defined in the
2 contract between the parties. The DOC bears the risk of execution, inclusive of any cost
3 overruns within the agreed-upon scope.

4 **Q7. What are the drawbacks of the DOC model?**

5 A7. Although appealing in principle, to date the DOC model has not worked particularly well
6 in practice.

7 *First*, the process of selecting a DOC can be an expensive and time-consuming
8 one. For example, the San Onofre Nuclear Generating Station (“SONGS”) near San
9 Clemente, California shut down in 2012. Its licensed operator, Southern California
10 Edison, initially estimated that the DOC selection process would begin in April 2014,
11 finish by June 30, 2015, and cost \$817,000.¹ Southern California Edison recently stated
12 that it plans to award a DOC contract at the end of 2016² and now estimates that the
13 selection process will consume approximately 20,000 man-hours at a cost of \$18
14 million.³ This cost is funded from the nuclear decommissioning trust (“NDT”) and thus
15 reduces the funds available to pay for actual decommissioning activities. Meanwhile,
16 SONGS continues to expend millions of dollars a month from its NDT in operations and
17 maintenance costs while the site remains in a holding pattern, with no physical

¹ 2014 *Decommissioning Cost Analysis of the San Onofre Nuclear Generating Station Units 2 & 3*,
ENERGYSOLUTIONS, at pdf p. 49, line 100 & pdf p. 57, line 2.22 (Sept. 5, 2014),
<http://pbadupws.nrc.gov/docs/ML1426/ML14269A034.pdf> .

² James Madigan, *Decommissioning Update & Progress 2014 to Date*, S. CAL. EDISON, at pdf p. 23 (Nov. 10,
2016), https://www.songscommunity.com/docs/111016_DecommissioningUpdate.pdf.

³ *Testimony and Final Report of Southern California Edison Company Regarding 2014 Expenses for San Onofre
Nuclear Generating Station (SONGS) Unit Nos. 2 & 3*, S. CAL. EDISON, at pdf p. 27 n.39 (Apr. 1, 2015),
[http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/F38EF068C9B25DC788257E1A008382C1/\\$FILE/A.15-01-014%20SONGS%20Costs%20-%20SCE-01A%20Testimony%20and%20Final%20Report%20re%202014%20Expenses%20for%20SONGS%20Unit%20Nos.%202%20and%203.pdf](http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/F38EF068C9B25DC788257E1A008382C1/$FILE/A.15-01-014%20SONGS%20Costs%20-%20SCE-01A%20Testimony%20and%20Final%20Report%20re%202014%20Expenses%20for%20SONGS%20Unit%20Nos.%202%20and%203.pdf) .

1 decommissioning work being performed, while the process of selecting a DOC continues
2 to play out.

3 *Second*, because the DOC model generally involves a turnkey contract that shifts
4 risk to the DOC, disputes over whether unexpected tasks that arise during the
5 decommissioning process are within the scope of the contract have proven inevitable, as
6 is often the case with large construction projects and as was specifically the case at both
7 Maine Yankee and Connecticut Yankee. During the decommissioning process at each
8 plant, the licensee and DOC disagreed over the scope of the contract and whether
9 particular work fell within the fixed-price scope or required change orders that provided
10 additional compensation to the DOC, resulting in delays in the completion of
11 decommissioning work and increased costs. When a DOC and owner have disputes over
12 the scope of work under the contract, such disputes divert valuable management time and
13 attention that could otherwise be focused on managing the work effort, create schedule
14 delays while the disputes are being resolved, and add significant labor costs (so-called
15 “hotel costs”) as hundreds of workers are paid to be available. The plant also incurs
16 additional costs while work is suspended or done out-of-sequence, including indirect
17 costs associated with housing and maintaining a workforce of several hundred people,
18 heavy equipment rentals, waste shipping container rentals, and legal fees. These and
19 other costs continue to accumulate while the DOC and owner negotiate and resolve the
20 parties’ contractual responsibilities.

21 *Third*, the DOC’s relationship with the state and federal regulators is indirect
22 (separated by the owner, which has the direct relationship), and also lasts only as long as

1 physical decommissioning work is underway. The owner, by contrast, will maintain its
2 relationship with these regulators until the U.S. Department of Energy removes the spent
3 fuel from the site and the dry fuel storage facility is decommissioned. A DOC
4 consequently has no incentive to establish and maintain an open and cooperative
5 relationship with these regulators beyond the plant's physical decommissioning process.

6 **Q8. Please explain the self-management model.**

7 A8. In the self-management model, the NRC-licensed owner has its own team of employees
8 that manages the decommissioning work instead of hiring a DOC to manage the work
9 like a general contractor would manage an ordinary construction project. At both Maine
10 Yankee and Connecticut Yankee, the owner ended up self-managing decommissioning
11 following the termination of contracts with the DOCs. The owner hired the DOC's
12 subcontractors where it made sense and undertook the management tasks for which the
13 DOC had responsibility prior to termination. By the time Maine Yankee and Connecticut
14 Yankee assumed self-management, they had developed in-house organizations with
15 project management expertise to supervise all aspects of the decommissioning work, and
16 the decommissioning oversight organizations put the owners in a position where they
17 could assume the self-management role.

18 **Q9. What are the benefits of the self-management model?**

19 A9. *First*, when the licensee is the same entity that is in charge of decommissioning work, it
20 eliminates a layer of management and oversight that the plant owner otherwise would put
21 in place to monitor the DOC's decommissioning work. At Maine Yankee and

1 Connecticut Yankee, for example, the owner had an organization of approximately 100
2 people to oversee the DOC in every aspect of its project. As the license holder and the
3 entity ultimately responsible to the regulator, the owner needed this organization to fulfill
4 both its fiduciary and regulatory responsibilities. This decommissioning oversight group
5 reviewed and approved the decommissioning means and methods that the DOC
6 submitted to the owner and regulatory agencies where appropriate. The group also had
7 oversight responsibility for project controls, quality assurance protocols, licensing,
8 regulatory affairs, public relations, legal, waste transport and disposal protocols,
9 radiological protection, construction, demolition, and any other aspects of the project to
10 ensure that the DOC performed its work in accordance with the contract and all
11 applicable regulatory requirements. At both plants, the owner provided oversight of the
12 DOC, which in turn hired specialty subcontractors that it oversaw. When the owner-
13 licensee self-manages the decommissioning work, it has the responsibility to perform
14 these tasks directly, removing this extra organizational layer and providing an
15 opportunity for increased efficiencies that ultimately can lead to reductions in the overall
16 decommissioning costs.

17 *Second*, the owner's interests and the interests of the companies actually doing the
18 decommissioning work are more closely aligned when they are in the same family of
19 companies (as in NorthStar's case) or are dealing directly with one another (as in the
20 teaming partners NorthStar intends to hire), as opposed to having a DOC in the middle
21 with an additional layer of commercial contracts to navigate. Unlike in the DOC
22 approach, the self-managing owner is directly responsible for all work completion.

1 Disputes over the fixed-price scope of work under the DOC contract become a non-issue.
2 The self-management approach also provides better clarity to the overall goal to complete
3 the decommissioning project and transition into long-term dry fuel storage operations
4 within the prescribed cost, and schedule.

5 *Third*, self-management tends to promote a more collegial approach between the
6 owner and its regulators. Unlike the DOC approach, in which the DOC faces little to no
7 residual consequences from the regulators after its work on the project is complete, the
8 self-managing owner maintains a longer-term relationship with the regulators until the
9 spent fuel is removed from the site, the ISFSI is decommissioned, and the facility's
10 license ultimately terminated. In my experience, the need for such a longer-term
11 relationship generally results in a more open and cooperative relationship with the
12 regulators.

13 *Fourth*, and related to the last point, self-management ensures a smooth transition
14 from decommissioning and partial site restoration (*i.e.*, aside from the ISFSI area) to dry
15 fuel storage because the owner maintains control throughout the entire decommissioning
16 and site restoration process, while in the DOC model, the DOC's involvement ends with
17 decommissioning (and possibly site restoration) work.

18 Q10. **What are the drawbacks of the self-management model?**

19 A10. The primary potential drawback of self-management of nuclear plant decommissioning
20 work would be the failure to recognize that the experience and skills necessary to operate
21 nuclear power plants are very different from the experience and skills necessary to
22 manage the demolition and remediation of these plants. Self-management of a nuclear

1 plant decommissioning will be most successful when conducted by companies that are
2 experts in executing large demolition and remediation projects with time, budget, and
3 regulatory constraints while being supported, as necessary, by personnel with nuclear
4 operations experience. These construction companies tend to perform much of the work
5 themselves (hiring subcontractors or teaming partners to do certain specialized tasks, like
6 waste disposal or reactor vessel segmentation), and possess considerable experience in
7 decommissioning project management. The nuclear operations resources will assume a
8 secondary role in supporting the project in areas such as radiological protection,
9 licensing, regulatory affairs, and spent fuel pool operations. A nuclear operating
10 company develops and maintains resources with expertise in nuclear operations. While it
11 makes sense for such a company to lead a nuclear plant when the reactor is operating to
12 generate electricity, a construction company with project management expertise
13 specializing in demolition and remediation is better suited to serve as the leader of the
14 plant for purposes of decommissioning and transition in long term dry fuel storage
15 operations.

16 **Q11. Were Maine Yankee and Connecticut Yankee decommissioned successfully with**
17 **self-management?**

18 **A11.** Yes. The Yankee companies no longer had any other business to run (unlike Entergy,
19 whose business focus will remain on its utility operations and the operation of its other
20 nuclear plants). By the time the owner at each plant assumed the self-management role
21 from the former DOC at the plant, each had built up an organization over several years
22 with the necessary expertise to supervise all aspects of the DOC's work. That

1 organization had acquired the decommissioning experience with the project needed for
2 self-management and was able to take over managing subcontractors left in place when
3 the DOC contract was terminated.

4 **Q12. Does that conclude your testimony?**

5 **A12. Yes, at this time.**

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