# STATE OF VERMONT

#### **PUBLIC UTILITY COMMISSION**

Joint Petition of NorthStar Decommissioning	)	
Holdings, LLC, NorthStar Nuclear	)	
Decommissioning Company, LLC, NorthStar	)	
Group Services, Inc., LVI Parent Corp.,	)	
NorthStar Group Holdings, LLC, Entergy	)	
Nuclear Vermont Investment Company, LLC,	)	<b>D</b> 1 . M . 0000
and Entergy Nuclear Operations, Inc., and any	)	Docket No. 8880
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 REBUTTAL TESTIMONY OF T. MICHAEL TWOMEY

Mr. Twomey's rebuttal testimony addresses the testimony of Department of Public Service witness Daniel S. Dane concerning Entergy Corporation's parent guarantees with respect to decommissioning and site restoration of the VY Station and the relevance of the finances of Entergy Corporation to this proceeding. Mr. Twomey also responds to testimony concerning the commitments of Entergy Nuclear Vermont Yankee, LLC under the 2013 Settlement Agreement.

Mr. Twomey sponsors the following exhibits:

Exhibit JP-TMT-3: Excerpt of the Prefiled Direct Testimony Of Warren K.

Brewer On Behalf Of The Vermont Department Of Public Service filed in Public Service Board Docket 7862, dated

October 22, 2012

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## PREFILED REBUTTAL TESTIMONY OF T. MICHAEL TWOMEY

- 1 Q1. Please state your name for the record.
- 2 A1. T. Michael Twomey.
- 3 Q2. Are you the same T. Michael Twomey who submitted prefiled testimony in this
- 4 Docket on December 16, 2016?
- 5 A2. Yes.
- 6 Q3. Is there any topic that you wish to discuss in response to the opening prefiled
- 7 testimony of any non-petitioner witness?
- 8 A3. Yes. First, in response to Department of Public Service witness Daniel S. Dane's
- 9 testimony (e.g., Dane PFT at 9:21-22<sup>1</sup>) concerning Entergy Corporation's parent
- 10 guarantees with respect to decommissioning and site restoration of the VY Station, I

All citations of the Dane PFT herein use the pagination in the confidential version of that PFT.

1 would like to discuss the value of those guarantees relative to when they are likely to be 2 needed under Entergy's SAFSTOR decommissioning approach. Second, I would like to 3 clarify and then further explain what I understand to be an implicit assumption in Mr. 4 Dane's testimony (at 52:10-11; see also Hill PFT at 10:1-3; Gundersen PFT at 20-22) 5 regarding the relevance of the finances of Entergy Corporation to this Docket. Third, I 6 would like to clarify a few points concerning the date by which Entergy is required to 7 commence decommissioning in the event the proposed transaction does not go forward. 8 9 Present Value Of Entergy Corporation's Parent Guarantees As Compared To NorthStar Group Services, Inc.'s Proposed Parent Support 10 11 O4. Please describe Entergy Corporation's parent guarantees regarding 12 decommissioning and site restoration of the VY Station site. 13 A4. As explained in my opening prefiled testimony (at 8:4-10:6), there are three guarantees, 14 the first and second of which would be eliminated if the transaction is closed. First, Entergy Corporation guaranteed \$20 million for site restoration, which guarantee is 15 16 allowed to be eliminated if the amount in the Site Restoration Trust ("SRT") reaches \$60 17 million. Second, Entergy Corporation committed to the U.S. Nuclear Regulatory 18 Commission ("NRC") in the Post-Shutdown Decommissioning Activities Report for the 19 VY Station to provide in the future a parental guarantee to support decommissioning of 20 up to \$40 million or 10% of the remaining balance in the Nuclear Decommissioning 21 Trust ("NDT"), whichever is smaller, if the NRC were to require additional financial 22 assurance beyond the remaining trust balance for decommissioning or spent fuel

management. Third, Entergy Corporation guarantees the full credit facility of

1		approximately \$145 million used to finance construction of the Independent Spent Fuel
2		Storage Installation ("ISFSI") and to move spent nuclear fuel into the ISFSI area.
3	Q5.	If the transaction is not approved or does not close, does Entergy stand by all those
4		parental guarantees?
5	A5.	Yes. The first and second of the guarantees would be eliminated only if the transaction is
6		approved and does close. The third would remain in place in any event.
7	Q6.	Mr. Dane describes the first and second guarantees as worth a "combined \$60
8		million." Dane PFT at 10:14. Do you agree with that description?
9	A6.	Not entirely. The description omits the fact that Entergy's contingent parent guarantee is
10		to support decommissioning of up to \$40 million or 10% of the remaining balance in the
11		NDT, whichever is less. So even the nominal value of Entergy's combined guarantees
12		could turn out to be less than Mr. Dane's "combined \$60 million."
13		Additionally, however, his description fails to account for how the passage of time affects
14		those guarantees. This is especially apparent when Mr. Dane turns to a comparison of the
15		amount of the Entergy parental guarantees (which again he states as \$60 million) to the
16		amount of the NorthStar Group Services, Inc. parent support agreement (which he states
17		as \$125 million, see Dane PFT at 10:13).
18	Q7.	How does the passage of time affect Entergy's parent guarantees?
19	A7.	For NRC financial assurance demonstration purposes, a licensee may assume 2% real
20		growth in the NDT balance, which typically is represented by assuming 0% cost
21		escalation and 2% growth in the trust fund balance. A licensee also could assume a
22		positive escalation rate in costs and growth in the trust fund balance equal to that

escalation rate plus 2%. In practice, it seems likely that there will be inflation over time in the cost of performing decommissioning and site restoration work at the VY Station. Such inflation is relevant in considering the value of Entergy's contingent parent guarantee of the lesser of \$40 million or 10% of the amount remaining in the nuclear decommissioning trust. The amount of the contingent guarantee does not escalate with inflation even though the likely cost of the decommissioning and site restoration work likely will have escalated by the time such work is expected to be done and the guarantee could be called upon to address a potential funding shortfall. With regard to Entergy's \$20 million parent guarantee supporting the SRT, the passage of time likely will cause the balance of that trust to grow to \$60 million, at which point the guarantee will be cancelled pursuant to the terms of the 2013 Settlement Agreement before site restoration work is undertaken under ENVY's SAFSTOR approach. Let's start with Entergy's contingent parental guarantee to support decommissioning of up to \$40 million or 10% of the remaining balance in the NDT, whichever is smaller, if the NRC were to require that guarantee at any time. How does the value of that guarantee compare to the cost of decommissioning work when that work is likely to be done if ENVY retains ownership of the VY Station? As Mr. Scheurich has testified, ENVY expects that under its SAFSTOR approach, it would likely begin active decommissioning work no earlier than 2053, or approximately 35 years from today. Department of Public Service witness Warren K. Brewer testified in Docket 7862 that decommissioning costs grew at a rate of 5.78% per year over the

period 2002 to 2012. Exhibit JP-TMT-3. At that inflation rate, \$1 of decommissioning

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costs today would be equivalent to approximately \$7.15 in 2053. As a result, assuming the maximum amount of \$40 million, Entergy's contingent parent guarantee—which does not increase with inflation—would be worth only approximately \$5.6 million (i.e., \$40 million/7.15) when compared to the cost of decommissioning work at the earliest date that work is likely to be done under ENVY's SAFSTOR decommissioning approach. At even a more modest 3% cost inflation rate, the \$40 million guarantee would only be worth approximately \$14.2 million (i.e., \$40 million/2.81) when compared to work done in 2053. Of course, to the extent the decommissioning work is done later than 2053, the relative value of the guarantee would be even less in both cases. Because I am not a finance expert, I relied on Entergy Finance to perform these calculations based on the assumptions in this testimony. **Q**9. Let's turn to Entergy's \$20 million guarantee of the SRT. How does the value of that guarantee compare to the cost of site restoration work when that work is likely to be done? A9. Again, ENVY expects that under its SAFSTOR approach, it would likely begin active decommissioning and site restoration work no earlier than 2053, approximately 35 years from today. As of September 30, 2017, the balance of the SRT was approximately \$24.9 million. Pursuant to paragraph 7 of the Docket 7862 MOU, Entergy will deposit an additional \$5 million to the SRT by the end of 2017 so that balance after that deposit would be approximately \$29.9 million. With that starting balance and a 5% growth rate, which is conservative relative to past long-term performance of the NDT, the SRT balance would exceed \$60 million, and Entergy's parent guarantee will be eliminated,

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1 after approximately 15 years (by 2033), which is decades before site restoration work is 2 likely to be performed. In fact, with that starting balance, the SRT balance would exceed \$60 million by 2053 with only a growth rate of approximately 2.1%. Even if the \$20 3 4 million SRT guarantee were assumed not to be eliminated, it would, like the contingent 5 \$40 million guarantee, have considerably reduced value when likely cost escalation under 6 ENVY's SAFSTOR approach is taken in account—\$2.8 million at a 5.78% cost 7 escalation rate and \$7.1 million at a 3% cost escalation rate (assuming the site restoration 8 work were performed in 2053). So Mr. Dane's "combined \$60 million" really is 9 equivalent to approximately \$8.4 million (\$5.6 million plus \$2.8 million, assuming 5.78% 10 cost escalation) to \$21.3 million (\$14.2 million plus \$7.1 million, assuming 3% cost 11 escalation). Again, I relied on Entergy Finance to perform these calculations based on 12 the assumptions in this testimony. Does the passage of time have a greater impact on Entergy's "\$60 million" or 13 O10. NorthStar's "\$125 million"? 14 15 It has a much greater impact on the real value of Entergy's parent guarantees for the basic A10. reason that NorthStar will perform its work in the very near term (approximately 2019 to 16 17 2026), whereas Entergy will perform its work decades in the future (potentially 2050s to 18 2070s). That difference means that Entergy's "combined \$60 million" (to use Mr. 19 Dane's term, assuming the maximum potential guaranteed amount) would potentially be 20 called between 2053 and 2075, whereas NorthStar's parental support of \$125 million 21 would be potentially called between 2019 and 2026.

1	Q11.	Please summarize what this analysis shows concerning Mr. Dane's comparison of
2		NorthStar's \$125 million with Entergy's \$60 million.
3	A11.	It shows that, while Mr. Dane correctly observes that "NorthStar offers financial
4		assurances in a larger absolute dollar amount" (Dane PFT at 10:4), he greatly understates
5		how much larger because he does not consider the value of Entergy's parent guarantees
6		relative to when actual decommissioning and site restoration work is likely to be done.
7		Conversely, he greatly overstates how much in parental guarantees from Entergy
8		Corporation the State would be giving up if the Commission were to approve the
9		proposed transaction and eliminate those Entergy Corporation guarantees.
10	Q12.	Mr. Dane has raised concerns that NorthStar might not be capable of providing the
11		\$125 million if called upon (Dane PFT at 10:4-6: "the financial resources underlying
12		the parental backstops are lower under the Proposed Transaction than under the
13		Status Quo"). Please assume, just for the sake of argument, that Mr. Dane is
14		correct, and explain your view of the trade-off the State of Vermont must make in
15		evaluating the transaction.
16	A12.	Even if I assume Mr. Dane is correct to cast doubt on NorthStar's ability to provide the
17		\$125 million, and thus write off NorthStar's \$125 million to effectively zero, the
18		discounting of <i>Entergy</i> 's parental support (as shown above) still stands. By choosing the
19		proposed transaction over the status quo, Vermont would be losing Entergy's contingent
20		up-to-\$40 million support commitment and its \$20 million parental guarantee of the SRT,
21		but the amount of that commitment and guarantee is smaller than it might first appear
22		when compared to the cost of decommissioning and site restoration work at the time such

work is likely to be performed under ENVY's SAFSTOR approach. Vermont has to decide whether it is willing to forego the very high probability that the site will be decommissioned and restored (except as to the ISFSI and switchyard areas) by NorthStar by as early as 2026, along with all the greater economic and environmental benefits that such earlier work would bring, in order to retain the \$40 million to \$60 million face value of Entergy's parent guarantees, which have much lower value when compared to the costs that ENVY would incur to perform decommissioning and site restoration work decades into the future. I understand that Mr. Dane believes that NorthStar Group Services, Inc. could fund the parent support agreement up to at least \$20 million<sup>2</sup>, all else being equal, which in itself makes NorthStar Group Services, Inc.'s pledged parent support under the proposed transaction roughly equivalent to, if not more valuable than, that of Entergy Corporation under the status quo. As I explained earlier, Entergy's "combined \$60 million" really is equivalent to approximately \$8.4 million to \$21.3 million, assuming 3% to 5.78% cost escalation and the performance of decommissioning and site restoration work in 2053.

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## **Extent of Entergy Corporation's Liability Under Status Quo**

Q13. Is Entergy Corporation's liability broader than just the specific parent guarantees it has made? For instance, is Entergy Corporation generally liable regardless of amount for decommissioning and site restoration of the VY Station?

<sup>&</sup>lt;sup>2</sup> Dane Tr. 95:5-15.

2 12): "As the Board recognized in the Docket 6545 Order, ordinary rules of limited 3 corporate liability mean that only ENVY as an LLC entity—and not its parents or 4 affiliates—has responsibility for the VY Station. See Docket 6545, Order dated June 13, 5 2002, ¶ 131 ('An LLC is similar to a traditional corporation in that they both limit the 6 legal liability of the owners of the entity.')." 7 What was the context for the recognition of this rule in Docket 6545? Q14. 8 A14. Docket 6545 concerned whether the Public Utility Commission (then known as the 9 Public Service Board) would approve the sale of the VY Station from its prior owner, 10 Vermont Yankee Nuclear Power Corporation, and its rate-regulated utility sponsors to 11 ENVY as a merchant generator. The Commission's findings show that it understood that 12 the prospective new owner, ENVY, was a limited liability company and that only it, not other entities (apart from some specific limited obligations at issue in Docket 6545 that 13 14 have now expired), would be subject to liability concerning the VY Station. These 15 findings also show that the Commission understood that Entergy Nuclear Operations, Inc. 16 ("ENOI")—the entity authorized to operate the VY Station under its NRC license and the 17 Docket 6545 CPG, which also operates the other Northeast nuclear plants owned by 18 Entergy's subsidiaries under their NRC licenses—was a separate subsidiary of Entergy 19 Corporation. As the operator of nuclear plants, ENOI employs personnel, but does not 20 own any significant assets to fund the decommissioning of the VY Station. The 21 Commission apparently reasoned that the ownership of the VY Station by ENVY and its 22 operation by ENOI, with "Entergy Corporation ... providing the financial safeguards

No as to both of these questions. As I stated in my opening prefiled testimony (at 8:8-

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1		enumerated in the MOU" (Docket 6545, Order dated June 13, 2002, p. 113) was
2		acceptable because, inter alia, ENVY would be receiving as part of the transaction "the
3		decommissioning fund which is designed to cover the costs of fully-closing and
4		dismantling the plant" (id. at p. 121).
5	Q15.	Nonetheless, can a parent corporation like Entergy Corporation expressly agree to
6		circumscribed commitments relating to its subsidiary?
7	A15.	Yes, and Entergy Corporation has done so, as explained in my opening prefiled testimony
8		(at 8:19-9:17). For example, Entergy Corporation has a parent guarantee in place to
9		support the credit facilities that are being used to fund the approximately \$145 million
10		required to transfer spent fuel to dry cask storage, and that parent guarantee will remain
11		in place until the borrowings are repaid, whether or not the transaction is completed.
12	Q16.	Do you understand Mr. Dane to agree with these principles?
13	A16.	Yes. While Mr. Dane does not expressly speak to or endorse the general principle of
14		limited corporate liability, the only respects in which he suggests that Entergy
15		Corporation could be liable concern the specific financial assurances to which it has
16		agreed. See Dane PFT at 52:8-11 ("Q. ARE THE FINANCIAL CAPABILITIES OF
17		ENTERGY RELEVANT TO THIS PROCEEDING? A. Yes, because Entergy has
18		provided certain financial assurances regarding decommissioning and site restoration at
19		VY.").
20	Q17.	Beyond the specific financial assurances to which Entergy Corporation has agreed,
21		would reputational concerns lead Entergy Corporation voluntarily to make any
22		additional commitments in the event that ENVY runs out of funding to complete

1		radiological decommissioning and/or site restoration? In other words, would the
2		possibility of an incompletely decommissioned or restored VY Station reflect poorly
3		on Entergy Corporation and lead it voluntarily to offer more funding?
4	A17.	Entergy Corporation has limitations on its ability to offer more funding voluntarily. The
5		Entergy Corporation balance sheet shows significant assets, but it is a consolidated
6		balance sheet, and thus the assets in fact belong to Entergy Corporation's subsidiaries.
7		Those subsidiaries generally fall into two categories: The first category is rate-regulated
8		utilities in Arkansas, Louisiana, Mississippi, and Texas. Entergy is prohibited by federal
9		regulations and state regulatory commission orders from shifting the costs of an
10		unregulated Entergy affiliate such as ENVY to its regulated utilities and their customers.
11		The second category is other merchant (primarily nuclear) generators in northeastern
12		states. Those entities own decommissioning trust funds and illiquid assets (in the form of
13		hard assets at the site), which again are not available to help fund decommissioning by
14		ENVY. Therefore, in the unlikely event that ENVY required more funding to complete
15		decommissioning, other options, such as seeking authorization from the NRC to extend
16		the period for completing decommissioning beyond 60 years (10 C.F.R. § 50.82(a)(3)) to
17		allow the NDT to grow, would be considered.
18	Q18.	Would Entergy Corporation use the retail-regulator approved returns from its
19		regulated utility operations to help fund decommissioning by ENVY, just as it used
20		such returns to acquire the plants and other assets that became its unregulated
21		business?

1 No, because of obligations Entergy Corporation owes to its retail regulators and to its 2 shareholders. Entergy Corporation's management has used the returns from its regulated 3 utility operations to fund some prudent non-utility investments that it expected to yield 4 reasonable economic returns for shareholders and not to impair Entergy Corporation's 5 creditworthiness or otherwise impose costs on its regulated utilities. By contrast, funding 6 ENVY's decommissioning would not yield any economic returns for Entergy's 7 shareholders, and committing to provide financial support for the VY Station's 8 decommissioning could create investor expectations that Entergy Corporation will have 9 the burden of funding the decommissioning of all of its other merchant plants, which 10 could lead to a downgrade in its credit rating and thereby increase costs for its regulated 11 utility companies. In contrast, when Entergy Corporation originally purchased merchant 12 generators, it had a reasonable expectation that such ownership would yield positive 13 returns in the future.

# The 2013 Settlement Agreement

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- Q19. In his prefiled testimony, Chuck Schwer of the Agency of Natural Resources
   maintains that certain site restoration standards already have been determined for
   the VY Station. Schwer PFT at 8:9-9:5. What is your response?
  A19. Mr. Schwer is incorrect. The Docket 7682 Settlement Agreement and MOU left to later
- 19 A19. Mr. Schwer is incorrect. The Docket 7682 Settlement Agreement and MOU left to later 20 negotiations and a proceeding before the Commission the determination of release and 21 site restoration standards for the VY Station.

1	Q20	Several Department witnesses (e.g., Winn PF1 at 3 n.1) address ENVY's and
2		ENOI's commitment in the 2013 Settlement Agreement concerning when they must
3		begin decommissioning. Have you reviewed that testimony?
4	A20.	Yes. The testimony discusses the need "to make appropriate filings with the NRC to
5		begin decommissioning earlier [than 2068] if sufficient funds are present in the NDT."
6		Winn PFT at 3 n.1. One problem is that this testimony is imprecise as to who makes that
7		determination.
8	Q21.	Please explain who makes that determination.
9	A21.	The Settlement Agreement is clear on this point. ENVY and ENOI (which are
10		collectively described in the Settlement Agreement as "Entergy VY") have the right to
11		make that determination so long as it is a "reasonable" one. Specifically, the Settlement
12		Agreement provides: "Entergy VY shall make appropriate filings with the NRC to obtain
13		authority to begin radiological decommissioning within one hundred twenty (120) days
14		after it has made a reasonable determination that the funds in the NDT are adequate to
15		complete decommissioning and remaining SNF management activities that the federal
16		government has not yet agreed (or been ordered) to reimburse." Exhibit JP-TMT-2 $\P$ 7.
17	Q22.	The Department's witnesses have suggested (Exhibit DPS-WKB/GAM-2 at 8-9) that
18		Entergy could simply change the assumptions that underlie its decommissioning
19		cost estimate to match NorthStar's assumptions, and then Entergy would have
20		basically the same costs as NorthStar. Please assume for the sake of argument that
21		they are correct, and explain whether that would mean that the "reasonable
22		determination" described above would be triggered.

Initially, while I defer to my colleague Mr. Scheurich's rebuttal testimony, I disagree that A22. Entergy can simply adopt NorthStar's assumptions and proceed with the project as if Entergy were NorthStar. Entergy is not a decommissioning company like NorthStar. Further, as Mr. Scheurich stated in his prefiled testimony, NorthStar made clear that it was not interested in decommissioning the VY Station under a decommissioning operations contract (Scheurich PFT at 7:3-10) and I am not aware of any other entity that has proposed to decommission the VY Station on the same terms as NorthStar. But even accepting arguendo the Department witnesses' assertion, it would not dictate that Entergy make the determination to commence decommissioning. That is because the provision in the Settlement Agreement is that the NDT must contain sufficient funding not just for decommissioning but also for "remaining SNF management activities that the federal government has not yet agreed (or been ordered) to reimburse." By contrast, subject to the NRC's determination that NorthStar has provided adequate financial assurances to support a license transfer, NorthStar first assumes a \$20 million cap on the use of NDT funds for spent fuel management, unlike ENVY (which has no such commitment), and then assumes regular recovery of such costs. Accordingly, even if Entergy could simply step into NorthStar's shoes and adopt NorthStar's cost model, Entergy would not be compelled to commence decommissioning because the fund would not have sufficient funds to cover both the cost of decommissioning and the cost of spent fuel management. Is there a reason why Entergy cannot assume recovery from DOE of spent fuel O23. management costs for purposes of determining whether there are sufficient NDT funds to allow decommissioning to begin?

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- 1 A23. Yes. As Mr. Scheurich explains in his prefiled rebuttal testimony (at 4:13-5:8), the NRC 2 previously rejected ENVY's proposal to include expected recoveries from litigation with 3 the U.S. Department of Energy ("DOE") of spent fuel management costs as part of 4 ENVY's funding plan for spent fuel management activities. NorthStar, which could 5 settle with the DOE as the owner of only a single plant, would not face the same obstacle 6 that Entergy faces as the owner of a fleet of plants. 7 Does that complete your rebuttal testimony? Q24.
- 8 A24. Yes, at this time.