

1 **DRAFT Subject to Approval**

2 **Nuclear Decommissioning Citizens Advisory Panel (NDCAP)**

3 **Thursday, September 28, 2017**

4 **Brattleboro Area Middle School – Multipurpose Room- 109 Sunny Acres, Brattleboro, VT**
5 **Meeting Minutes**

6
7 NDCAP Members Present:

- 8 • Mike McKenney, Technical Coordinator, Entergy Nuclear Vermont Yankee (VY)
- 9 • Jack Boyle, Decommissioning Director, Entergy Nuclear Vermont Yankee (VY)
- 10 • Jim Matteau (Westminster), citizen appointee of Senate President Pro Tempore John
11 Campbell
- 12 • Chris Campany, Executive Director of the Windham Regional Commission (WRC)
- 13 • June Tierney, Commissioner of Public Service Department
- 14 • Kate O'Connor (Brattleboro), Chair, Citizen appointee of Governor Shumlin
- 15 • David Andrews, International Brotherhood of Electric Workers (IBEW); representing
16 present & former employees of Vermont Yankee
- 17 • Bill Irwin, Agency of Human Services- Department of Health
- 18 • Stephen Skibniowsky, representing the Town of Vernon
- 19 • Rep. Laura Sibilila, Member of the House Committee on Energy and Technology
20 appointee of House Member Mitzi Johnson
- 21 • David Deen, (Westminster), VT State Representative, citizen appointee of Speaker of the
22 House Mitzi Johnson
- 23 • Derrick Jordan (Putney), citizen appointee of Speaker of the House Shap Smith
- 24 • Martin Langeveld (Vernon), Vice-Chair, citizen appointee of Governor Shumlin
- 25 • VT State Senator Mark MacDonald, member of the Senate Committee on Natural
26 Resources and Energy
- 27 • Lissa Weinmann, (Brattleboro), citizen appointee of VT Senate President Pro Tempore
28 Tim Ashe
- 29 • Chuck Schwer, Agency of Natural Resources (representing Peter Walke)
- 30 • Robert Gustafson, Assistant Chief, Radiological Emergency Preparedness, New
31 Hampshire Emergency Management and Homeland Security, appointee of NH Governor
32 Chris Sununu

33 The following NDCAP members were absent from the meeting:

- 34 • Katie Buckley, Commissioner, Department of Housing and Community Affairs (Agency of
35 Commerce and Community Development)
- 36 • Paul W. Mark, MA State Representative, (Peru, MA), representing the Towns of
37 Bernardston, Colrain, Gill, Greenfield, Leyden, Northfield, and Warwick, Massachusetts

38
39 Meeting called to order at 6:00 pm

40
41
42

1 **INTRODUCTION OF THE PANELISTS AND OVERVIEW OF THE AGENDA:**

2 Kate welcomed new members Laura Sibia and Lissa Weinmann.

3 The Panel introduced themselves.

4 Kate acknowledged Jim Tonkovich's leaving the board. On behalf of the panel, thanked him for
5 three years of volunteer services well done.

6

7 The Chair gave an overview of the agenda.

8

9 **Entergy Update on Decommissioning Activities at VY:** *Joe Lynch, Government Affairs Manager,*
10 *Entergy Vermont Yankee, gave an update on recent activities. (Complete presentation is*
11 *available at www.vydecommissioning.com and www.publicservice.vermont.gov.)* The Dry Fuel
12 Storage project has continued. Two ISFSI pad have been installed and are operational as of
13 August 14th. To date, 25 casks have been completely loaded and stored. The goal is to have all
14 fuel transferred by end of 2018.

15

16 Water Management Update: Intrusion water for turbine building continues to be monitored.
17 Projects continue to minimize in-leakage of ground water. These have been very successful.
18 Current in-leakage is estimated 500 to 600 gal per day. Last year estimated over 2,000 gal per
19 day. About 1 tankard per week of ground water continues to be shipped to EnergySolutions
20 facility in Tennessee. 589,000 gallons have been shipped.

21

22 Reduction of the Site Protected Area: Currently 10.5 acre parcel. Once fuel transfer to second
23 ISFISI pad is complete, the protected area will be reduced to the ISFISI. The area will be smaller
24 and new reinforcements and security will be added to protect the fuel. This will create better
25 access to the area to facilitate decommissioning and lower costs. Public Utility Commission
26 approval was requested on May 8 and granted on Aug 31. Currently, Entergy is getting the 6
27 permits necessary to start the project. NRC needs to approve changes in the security plan for
28 this to go through. The estimated completion date is at the end of 2018.

29

30 Public Utility Commission Proceedings: The PUC issued a revised scheduling order. The PUC
31 will hold a public meeting on January 4, 2018 in Vernon. On January 22nd and 29th the technical
32 hearings with the Public Utility Commission will take place in Montpelier.

33

34 ENVY Nuclear Decommissioning Trust (NDT) Update: On May 31 the balance was at
35 \$571.5million. The current balance at the end of August is \$574.6million. Increase due to
36 positive market performance and offset by reimbursements taken from the trust. In 2017 thus
37 far \$22.8million in qualified withdrawals but received \$37.8million in market gain. \$2 million in
38 funding expenses. The Site Restoration Trust agreed to fund \$25million over 5 payments.
39 Currently contributed \$20million, the fund has grown about \$4.5million, and the final payment
40 will be made at the end of December 2017.

41

42 **STATE OF VERMONT UPDATE ON DECOMMISSIONING ACTIVITIES AT VY:** *Steph Hoffman,*
43 *Special Counsel, VT Department of Public Service, gave an update on recent Public Utility*
44 *Commission activities. The Public Utility Commission will hold a public hearing in Vernon on*

1 January 4, 2018. Currently preparing to receive rebuttal testimony from the petitioners for the
2 middle of October. In the first two weeks of October they will be collecting depositions of all of
3 the witnesses who have filed direct testimony.
4

5 At the June, 2017 NDCAP meeting, a question was asked about whether or not NorthStar will
6 be an LLC corporate structure for management of the plant. NorthStar's ownership structure
7 can be answered by page 15 of Daniel Dane's testimony filed with the Public Utility
8 Commission. The chart indicates yes.
9

10 At the June, 2017 NDCAP meeting, a question was raised about past commitments made by
11 Entergy in the 2013 MOU/Settlement Agreement (Docket 7862). There is a motion pending
12 before the Public Utility Commission about those past commitments and no decision has been
13 made yet.
14

15 The State of Vermont is using three consultants with expertise in finance. Daniel Dane, Warren
16 Brewer and Greg Maret have all submitted testimony to the PUC on Docket 8800 regarding
17 Entergy and NorthStar's financial capacity and the risks associated with the decommissioning
18 plan. Brian Winn's, Director of Finance and Economics at the Department of Public Service,
19 testimony compares the NorthStar proposal to the status quo (what Entergy might do if they go
20 through this process). He identifies some outstanding risks and poses some inquiries, indicating
21 that, at this point, more information is needed.
22

23 **Update presented by Kyle Landis-Marinello, VT Assistant Attorney General, Environmental**
24 **Protection Division.** In June, the Attorney General's Office, Public Service Department with
25 help from Agency of Natural Resources and Health Department filed a request with the NRC for
26 a hearing on the Entergy/NorthStar license transfer application. Entergy and NorthStar have
27 responded and state did a reply filing. The New England Coalition filed as well. We are waiting
28 to see if a hearing will be granted. Once the decision is made, either a hearing will be granted,
29 taking place within 65 days, or, if the hearing is denied, there is an appeal route available to the
30 NRC commissioners.
31

32 **Update on Decommissioning Rulemaking by Tony Leshinskie, Vermont State Nuclear**
33 **Engineer, Decommissioning Coordinator.** Final draft regulatory basis document is anticipated
34 to be issued sometime in mid-November, 2017. The next step will be the proposed rules and
35 draft regulatory guidance, which is expected to come out May 2018. At that time there will be
36 a 75 day comment period for the NRC commissioners and the public. All of this is still
37 supporting a final issuance of NRC rules to the commissioner in the fall 2019. Most likely action
38 will be taken in 2020. More information to come.
39

40 **QUESTIONS AND COMMENTS FROM THE PANEL: On Entergy & State Decommissioning**
41 **Updates**

42 *Question from David Deen for Steph Hoffman: Regarding the motion relative to the MOUs. Who*
43 *made the motion and what is the issue for the motion? Answer from Steph Hoffman: New*
44 *England Coalition (NEC) filed a motion requiring the PUC to issue an order deciding if the*

1 petitioners need to reopen the past dockets in order to see if their request is in line with
2 previously set standards or if it motion can be a separate proceeding.

3
4 *Question from David Deen for the Steph Hoffman: If the decision is yes, does this mean the*
5 *previous docket, where the MOU's is memorialized, is reopened? Answer from Steph Hoffman:*
6 *Yes, that was the request NEC has made. If the request is granted in full, it is possible.*

7
8 *Question from Bill Irwin to Joe Lynch: Regarding the ISFISI only protected area, the artist*
9 *rendering shows the potential need in the future to remove the canisters from their storage*
10 *positions now into something different. Does this area accommodate the potential need for*
11 *transition space? Or the ability to transfer the fuel from these canisters to other canisters?*
12 *Answer from Joe Lynch: The artist renderings are just that. They are not engineering*
13 *renderings. In general, there is room on the pads to shuffle them. Unsure of the final*
14 *configuration, however, it is likely that not all 40 will be on one pad. If there is an effort in the*
15 *future to offload these fuel containers to an interim storage or final federal repository, there*
16 *would have to be a facility constructed to do that. This facility is in concept right now. No*
17 *reason to build it unless we need it.*

18
19 *Question from Bill Irwin for Joe Lynch: Are those costs part of the original and NorthStar site*
20 *specific cost estimate for the post shut down decommissioning activity reports? Answer from*
21 *Joe Lynch: I would have to look those up and provide an answer for Kate O'Connor to provide an*
22 *answer for the entire panel.*

23
24 *Question from Bill Irwin for Joe Lynch: Once the security area is reduced to ISFSI-only, what will*
25 *the security look like for the remaining structures? Answer from Joe Lynch: Exterior fencing and*
26 *barriers will still be in place even though they have a lesser security requirement than the*
27 *nuclear fuel. People will not be allowed on site without the same established access points and*
28 *badging that were previously established. Lesser security but with a little more control. This*
29 *makes it easier for people and equipment to move in and off the site, saving costs.*

30
31 *Additional comment from Jack Boyle: This is in a different part of NRC's regulations (part 37) so*
32 *we can work differently with it.*

33
34 *Additional comment from Scott State: As far as ISFISI pad and the open real-estate there'll be 2*
35 *or 3 canisters of greater than class C waste created. While there may look to be space,*
36 *specifically on the ISFISI pad, there is a requirement for there to be some space specifically for*
37 *that purpose. That material, according to the DOE, is considered high-level waste, though it is*
38 *not actually high level waste. It is their responsibility to dispose of that material. This is why the*
39 *artist rendering may show some space. To address another question, you'd asked if we carry*
40 *loading costs. Yes. That's our expense and it is a non-reimbursable cost from the DOE.*

41
42 **NORTHSTAR PRESENTATION: Proposed Site Restoration Standards:** *Scott E. State, CEO*
43 *NorthStar Group Services. (Complete presentation is available at www.vydecommissioning.com*
44 *and www.publicservice.vermont.gov.) The key elements of site restoration standards are on*

1 page 4 of the slide presentation. We are not proposing a solar site. We expect to clean the site
2 up so that it can be redeveloped and used for other purposes. It should not be impaired or left
3 a Brownfield site. That is the extent of the proposal.
4

5 On page 5 of slide presentation, the transaction is contingent, among other things, on an
6 agreement with the PUC on what the site standards would be. NorthStar is proposing
7 standards that are in compliance with state and federal regulation making note of what the end
8 use of the property might be, expected radiological dose limits and how we model that dose,
9 and also non radiological criteria, and dealing with things in the subsurface.
10

11 NorthStar is proposing the site for industrial use rather than residential use because of fuel
12 residue. We propose cleaning the site to an industrial standard at a 15 mrem per yr exposure
13 rate. This would be achieved by using clean aggregate (rubble) to fill void spaces. The basis fill
14 model, demonstrating the proposition would calculate the exposure of someone living off of
15 the land in every way at the worst place on the site. The standard proposed by the NRC would
16 mean a person living the basis fill model lifestyle would be exposed to 25 mrem radiation per
17 year or less. This proposal is based on the 2012 Vermont Investigation and Redemption of
18 Contaminated Properties Procedure (IROCPP). However, there is a new version recently
19 released. We hope to attain that version and adjust to its standards.
20

21 Would like to remove the foundation of the site to four feet below grade, which is generally
22 below the frost line. This would include the removal of structures below 4 ft if those structures
23 are contaminated. It is not the intention to blend clean rubble with contaminated rubble and
24 create a semi-contaminated aggregate. In addition, there is no financial gain to doing this.
25 However, moving materials on and off site would be expensive and using recycled materials on
26 these sites generally makes sense. Would like to get input from the public, NDCAP, PUC, DPS,
27 ANR and the AG's Office. Believe there is a win-win and look forward to finding it.
28

29 **QUESTIONS AND COMMENTS FROM THE PANEL: On NorthStar Presentation on Site**
30 **Restoration Standards**

31 *Question from Jim Matteau: On page 6 of the presentation it states that the proposal is to have*
32 *the property released for "industrial use." However, on the first slide, I thought I heard you say*
33 *"unrestricted use." These are different. Please clarify. Scott State: I believe the term*
34 *"unrestricted use" is specific to the NRC. Currently, it is leased for unrestricted use as a licensed*
35 *facility under the NRC. It is unrestricted in any way related to its prior radiological status. I*
36 *think it would be unrestricted for residential use but we are not limiting its options at this time.*
37

38 *Jim Matteau: These terms are misleading. Scott State: One could live there but people may not*
39 *want to because of the stigma.*
40

41 *Jim Matteau: The goal was stated as aiming for industrial use so if someone would like to use it*
42 *for residential use, this would need to be cleared up.*
43

1 Question from Jim Matteau: When you mention going four feet below the surface. Did you
2 mention frost line? Scott State: Yes. In many places this would be considered frost line. It is not
3 four feet because of frost line. However frost line could be significantly different. Jim Matteau:
4 Frost line here is much deeper.

5
6 Question from Martin Langeveld for Scott State: Please put the 15 mrem into context. This is in
7 addition to the background radiation, yes? What percent of background radiation is this?
8 Scott State: Background radiation levels tend to vary. Here in Northeast US background
9 radiation is pretty high. It is likely well over 100 mrem per year. 15 mrem a year would likely be
10 10 to 15% of that normal amount in addition to normal background. When considering the
11 model, it is calculated based on someone who lives off the land who is exposed to the most
12 possible amount of radiation in the area.

13
14 Martin Langeveld: So the average industrial worker on that land would be likely get much less
15 than the 15 mrem? Scott State: Yes. Likely close to 0 mrem.

16
17 Martin Langeveld: If the decision is acted upon to bring in clean fill from other places. Where
18 would it be coming from? Scott State: It would be sampled and surveyed to confirm that it is
19 clean within the requirements. It would not be blended with contaminated material. It would
20 be moved from the site by rail that used to be present at site. There is no rail tipper on site so
21 material would not be imported by rail, but by trucked. As long as it is up to the standards of
22 the current agreement, there is no reason to be concerned with the location from which it has
23 come.

24
25 Question from Chris Campany for Scott State: What is the agreement you are referring to?
26 Scott State: The Prior Settlement Agreement, which I thought was being referenced earlier. I
27 understand that the agreement would not allow rubble from the site to be used but imported
28 rubble was not excluded.

29
30 Question from Chris Campany for ANR: Is "unrestricted use" defined legally anywhere, or is that
31 only NRC term? Answer from Chuck Schwer, ANR: It was mentioned that the IROC, a procedure
32 that has now been turned into a rule. In that rule we have standards for soil contamination and
33 non-radiological waste. There is industrial, commercial or residential. I would consider non-
34 restrictive to be residential standards.

35
36 Chris Campany: Let's come up with a lexicon of what the different standards mean in order to
37 be on the same page.

38
39 Kate O'Connor to Scott State: I'd like to clarify-You are talking tonight about the site restoration
40 standards you are proposing to the public utility commission. This is not residential standard
41 that you are talking about tonight. It would be industrial standards?

42 Scott State: Yes.

43

1 *Bill Irwin: To clarify the terms unrestricted and restricted use; these are terms for the NRC for*
2 *radiological purposes. Unrestricted, in this case, means the land could be used for anything*
3 *from any perspective, including from a hazardous waste perspective. So that term should not be*
4 *confused with non-radiological conditions at the site. The NRC does define restricted use.*
5 *Restricted use is to much higher dose limits than unrestricted use. Scott State: I agree.*

6
7 *Question for Scott State: What were the standards in Maine Yankee, when that was cleaned up,*
8 *in relation to what you are proposing? Scott State invited Todd Smith to answer the question.*
9 *Todd Smith, Resident of Maine worked at all three Yankee plants: The standards were referred*
10 *to as 10-4, 10 referring to 10mg clean up material and 4 referring to groundwater. It was put*
11 *into a model similar to that Scott State is using tonight and followed through at Maine Yankee.*
12 *I don't recall the specific clean up criteria for Connecticut Yankee, but I believe it was similar to*
13 *the 15 mrem standard. I can't speak to non radiological.*

14
15 *Question from Laura Sibilia for Scott State: What factors would make it more likely for*
16 *residential use vs industrial? Scott State: There're multiple answers to this. Space is an issue. In*
17 *the near-term beginning by making a remote corner of the site residential or removing spent*
18 *fuel seem workable.*

19
20 *Laura Sibilia: To clarify, the question is industrial vs residential. Are those the only factors that*
21 *go into determining that? Scott State: From a radiologic perspective, the site would be released*
22 *for unrestricted use. From a gross IROC standard, we looked at releasing for an industrial use*
23 *because it seemed like the likely end use. I can't speak to incremental costs if we are releasing*
24 *the site for residential use. I believe we've looked at that but sitting here tonight, I am not*
25 *prepared to speak on that.*

26
27 *Comment from Bill Irwin: Read passage from settlement agreement: "EVY shall not employ*
28 *rubblization at the VY station site (IE demolition of an above grade decontaminated concrete*
29 *structure into rubble that is buried on site.)" I understand that to mean demolition of an above*
30 *grade decontaminated structure into rubble that is buried on site.*

31
32 **QUESTIONS AND COMMENTS FROM THE PUBLIC: On NorthStar Presentation on Site**
33 **Restoration Standards**

34 *Comment from Bob Leach: When Yankee Rowe was decommissioned some unique problems*
35 *arose (specifically an issue with the paint) and they worked very closely with the state of*
36 *Massachusetts. Unsure of the terminology but in the end it was classified as a Brownfield. They*
37 *could not get it to Greenfield standards.*

38
39 *Comment from Schuyler Gould, New England Coalition: Regarding the motion in front of the*
40 *Public Utility Commission (PUC). In Docket 7862 NorthStar proposes changing several terms of*
41 *the agreement. It is New England Coalition's contention that any major changes (including*
42 *rubblization) require the reopening of the entire docket. Also the PUC regulations suggest that*
43 *is necessary with any major changes.*

1 Question from Schuyler Gould for Scott State: Do you know of any decommissioned sites in the
2 country that have been used for industrial use while high level waste is still stored on the site?
3 Scott State: I don't know of any in the US that have been used for any purpose. Most continue
4 to be owned by utilities. A few might have repowered with fossil but unfamiliar with that.

5
6 Schuyler Gould: You mentioned the money that would be saved by rubblization and burying on-
7 site. That money has not been included in your current financial proposal. Scott State: There is
8 not significant savings from rubblizing material because of the work that goes into preparing it.
9 It would be easier to leave it in large pieces and ship it for disposal.

10
11 Schuyler Gould: Why not leave it large pieces to expose less surface area to the elements and
12 slow down release of contamination? Scott State: I'm not qualified to answer that except to say
13 that it is standard industry practice. One of the arguments that has been brought up is that
14 leaving it in large pieces creates significant void spaces that causes settlement issues for the
15 foundation.

16
17 Schuyler Gould: Under what period of time would the suggested 3 to 5 thousand truck loads be
18 moved? Scott State: This will likely take about a year. This would depend on sequencing.

19
20 Schuyler Gould: If this goes forward, are there any legal reasons that it couldn't revert back to
21 the 100 mrem residual radioactivity allowed for industrial sites? Scott State: Yes. The 100
22 mrem is a standard for restricted use. The agreement is for unrestricted use. That would be
23 unintended and is not in the plan. We would be willing to document that in any agreement we
24 might make with the state.

25
26 **PRESENTATION ON THE RUBBLIZATION PROCESS:** Doug Larson, Senior Principal Civil &
27 Environmental Engineer Geosyntec Consultants (Complete presentation is available at
28 www.vydecommissioning.com and www.publicservice.vermont.gov.) Rubblization is the
29 breaking down of concrete into some form of usable product. The material will be evaluated
30 for radiological activity. Anything above the threshold would be separated and moved off site.
31 Anything below the threshold would be crushed up and reused. We use a 25 mrem example,
32 though NorthStar is considering a 15 mrem. Rubblization creates RCA (Recycled Concrete
33 Aggregate) often used as a sub-base for roadways and other foundations. There are two key
34 advantages to RCA. First, it reduces the use of virgin materials from offsite (In turn, reducing
35 truck loads). Second, it reduces landfill overload.

36
37 The process is as follows: Concrete is separated out from the other materials and tested for
38 things that may impact the process such as coatings, leachability, integrity etc. Next,
39 demolition begins. Finally, a segregated debris pile is created and rubblized. When considering
40 material management it is important to size the RCA so it has the properties that you want.
41 Some other considerations are noise and air impact during the rubblization process as well as
42 longer-term considerations such as manageable impacts to storm water and ground water.
43 Sedimentation and erosion controls are typical in construction practice. One must consider and
44 accommodate for RCA coming from multiple places.

1 Worker's safety must also be considered with a health and safety plan, training ahead of time
2 and a site safety officer while the project is ongoing. Reducing truck trips increases safety and
3 reduces energy and carbon foot prints.

4 If it is a good quality concrete, the RCA is very hard and angular creating an interlocking
5 foundation or aggregate skeleton is very stable and unexpected to settle beyond initial
6 implementation.

7
8 Noise thresholds and working hours can be set and air impacts can be reduced with dust
9 suppression equipment.

10

11 **QUESTIONS AND COMMENTS FROM THE PANEL: Presentation on the Rubblization Process**

12 *Question from Chris Campany for Doug Larson: One would want aggregate skeleton to fill in the*
13 *four foot below grade hole on site? Doug Larson: Yes. Some options might be a reverse graded*
14 *fill with courser material deep to finer material and a vegetative layer at the top. One can also*
15 *use a geotec style element to keep long-lasting strength.*

16

17 *Chris Campany: Would this reverse graded fill primarily be done to support a load? Doug Larson:*
18 *Reverse graded fill is not primarily meant to support heavy loads. It is more intended to fill gaps.*

19

20 *Chris Campany: From a site engineering perspective or a geoscience perspective, what would*
21 *that mean for building buildings on that site again? Doug Larson: It would depend on the*
22 *building foundation designs for the building. I expect that one would remove the RCA*
23 *foundation at least to where the building's footers would be placed. Digging through RCA can*
24 *be done though it takes a bit more work than digging through native soil.*

25

26 *Question from Derrik Jordan: Once the concrete is buried, how do you prevent it from traveling*
27 *through the soil and the water? The pits are not lined and it is near a river. Doug Larson: The*
28 *radioactive material would not be buried. What would be buried is the concrete held to the 15*
29 *mrem standard.*

30

31 *Question: In the New Jersey example brought up before, what type of sampling did you do?*
32 *How thorough is it? Do you sample what has already been crushed? How do you insure the*
33 *rubble is indeed clean? Doug Larson: Unsure of the frequency of pre-characterization sampling*
34 *but I can find out. I would look at the variability in results from the pre-characterization and let*
35 *it inform the results of the post-processing.*

36

37 *Question from Bill Irwin: Is your company working with NorthStar or Entergy in any projects*
38 *besides this one? Doug Larson: No, we don't work with either of them on this project. We have*
39 *worked with NorthStar in the past. One that comes to mind is a site in Ohio where NorthStar*
40 *was the demolition contractor.*

41

42 *Question from Bill Irwin: At Maine Yankee there was a contamination of the environment from*
43 *the concrete itself. Are you familiar with this issue? Have you heard of rubble being left on site*
44 *leading to any non-radiological contamination issues that had to be managed after? Doug*

1 *Larson: I'm unfamiliar with that. I did work at a site where concrete was used to make a slurry*
2 *wall and fly ash was used. There were high levels of iron and manganese that over time flushed*
3 *out. Bill Irwin: How do you remove the steel and iron in the rubblization process?*
4 *Doug Larson: As the concrete gets broken into smaller chunks, the rebar is exposed and easier to*
5 *extract. Tightly spaced rebar will create smaller pieces of RCA.*
6
7 *Bill Irwin: What goes into the rigor of the radiological surveillance of RCA before it is put into the*
8 *fill area? Doug Larson: This would be established as part of the work planning process so I*
9 *would not know for a project such as this. You would have some stake holder input on what*
10 *people would want to see for a sampling frequency and factor that into the plan.*
11
12 *Bill Irwin: Concerning concrete that's been scraped off because it is radiologically contaminated,*
13 *is that then considered decontaminated or contaminated? Doug Larson: The parts that have*
14 *been scraped off would be considered contaminated. What happens to what remains would*
15 *have to be established beforehand.*
16
17 *Bill Irwin: You mention that it is lower noise and dust emissions on site as opposed to trucking it*
18 *off. Do you do an analysis to prove this? Doug Larson: It is not so much less dust and noise as it*
19 *is lower carbon footprint. There was a "back of the envelope" calculation that indicated a*
20 *difference of tons of carbon emissions difference but I don't have the analysis here.*
21
22 *Bill Irwin: Are there limits on working hours for the decommissioning for the Vermont Yankee*
23 *site? Doug Larson: I don't know.*
24
25 *David Andrews: Currently, Vernon has a rock crusher that can be heard during the day at*
26 *Vermont Yankee. It does have permits and hours that it may run. There are standards.*
27
28 *Question from Laura Sibilgia: In paying attention to benefits, most of them are cost benefits and I*
29 *presume that the cost benefits roll up toward faster decommissioning. Doug Larson: I suppose*
30 *so. I haven't analyzed that.*
31
32 *Laura Sibilgia: It sounds as if the environmental benefits are coming from containing the material*
33 *on the site. Is there any environmental improvement to the site through this process? Doug*
34 *Larson: The alternative is to bring in foreign soil. Whether that's a break even or a benefit to*
35 *the RCA, I don't know.*
36
37 *Laura Sibilgia: Is there a long term advantage in terms of the reuse of the site by employing this*
38 *process? Doug Larson: The aggregate fill is very stable and I would expect the courser RCA to be*
39 *less prone to settling than a finer grained offsite material.*
40
41 *Question from Jim Matteau for ANR: It says in this presentation that the non-radiological clean*
42 *up criteria would be complying with the industrial standards of the April 2012 rule. However, it*
43 *was adopted or changed this year. Wouldn't we be required to go with the current rule at the*
44 *time they are doing it? Chuck Schwer: Yes. What they reference was a procedure made into a*

1 rule which holds more power. They do need to look at the standards in the rule. The state's
2 position is to go forward with the public utilities commission.

3
4 **QUESTIONS AND COMMENTS FROM THE PUBLIC: Presentation on the Rubblization Process**

5 Question from Clay Turnbull, New England Coalition for Doug Larson: Has your company
6 decommissioned any nuclear power plants? Doug Larson: Not to my knowledge. We have built
7 containment systems for radiological waste here and overseas.

8
9 Clay Turnbull: Are you aware of other situations where nuclear power stations that have
10 rubblized and sent that backfill to be used on construction sites? Is there a big market for it?

11 Doug Larson: I don't know.

12
13 Clay Turnbull: Entergy has made a commitment not to rubblize. Perhaps at a future NDCAP
14 meeting we could hear from Ray Shadis about Maine's firsthand experience.

15
16 Question from Schuyler Gould for Doug Larson: What are the long term implications of
17 leachability in ground water? Doug Larson: After running the leaching tests up front, I don't
18 expect there to be any.

19
20 Schuyler Gould: How can you be sure? Concrete does decay over time. Are there reference
21 materials that could indicate what the long term implications are? Doug Larson: A common
22 quality practice when attempting to keep metals from leaking into the environment is to
23 encapsulate them in concrete. Good quality concrete that passes the test should not change
24 over time.

25
26 Question from Peter Van der Does, West Brattleboro: When the reactor building will be taken
27 down, will NorthStar be using continuous water spray to limit the spread of radioactive dust?
28 Scott State is not in the audience. Does anyone know? Kate O'Connor: No. But we can pose
29 that question to them.

30
31 Howard Shaffer of NH, retired nuclear engineer, former start up engineer at Vermont Yankee:
32 After being start up engineer I spent time working for Yankee Atomic Electric Company nuclear
33 service division in support of Vermont Yankee and Seabrook and others, wrestling with the NRC
34 over licensing. One of the difficulties was with terminology including the phrase "unrestricted
35 use" I recommend changing the term to "radiologically unrestricted use" for clarity's sake.

36
37 **Update on Entergy/NorthStar Request to the Public Utility Commission to Seal Documents**

38 **Under a Protective Order** Steph Hoffman, Special Counsel, VT Department of Public Service.

39 The question before the Public Utility Commission is whether documents that have no
40 redactions, but rely heavily on expert testimony that has been redacted should remain
41 confidential. If the Public Utility Commission rules that the documents are not to remain
42 confidential in the proceeding, then they become public and so will all of the testimony
43 referencing them.

1 Question from Kate O'Connor: Do you know the timing of the decision?
2 Steph Hoffman: It's hard to know. However, there is a lot riding on this decision and its
3 influence will get compounded as we move forward. I anticipate, but can't promise, that the
4 decision will be made before the rebuttal testimony is due on October 17th.
5

6 Question from David Deen: The concern is that what has been asked to be protected is a linchpin
7 in the decision on the part of the PUC, what the department is saying and what other state
8 holders and parties are saying. Now anyone who has signed the protective agreement has
9 access to the information and make internal decisions about it but cannot make it public. Is that
10 where we are right now with this one remaining document?
11

12 Steph Hoffman: All parties to the docket have the right to sign the protective agreement. The
13 second protocol to the highly confidential document doesn't change the ability to review, or
14 internalize the information received by that document. Of the remaining testimony, we have
15 asked NorthStar to review and un-redact as much as had been redacted before the PUC made a
16 decision. Reading the testimony of Mr. Winn, the other department experts and the experts
17 offered by ANR and other parties, it is clear that the rationale behind this decision and the risks
18 and financial uncertainties will be clear regardless of these few confidential documents that still
19 need to be assessed by the PUC and the logic of that assessment is transparent.
20

21 **QUESTIONS AND COMMENTS FROM THE PUBLIC**

22 Howard Shaffer of NH, retired nuclear engineer, former start up engineer at Vermont Yankee:
23 There is a difference in belief of what amounts of radiation is dangerous. A lot is dangerous;
24 some is beneficial and can even give you a vaccination effect. There has been 50 years of
25 research on this. Ramsar, Iran where their normal background is the highest there is in the
26 world at 260,000 mrem a year. This is an example of how are bodies are very resilient. Of
27 course it's too much, but there are no detectable effects on the people there.
28

29 Bob Spencer, Chairman of the Vernon Planning and Economic Development Commission,
30 introduced consultants to the commission Bob Leach and David Carpenter. As of Monday,
31 Vernon Village was designated as a village center.
32

33 Rich Holschuch, Brattleboro; spokesperson for Elnu Abenaki: As indigenous people our primary
34 concern is the Earth. We still don't know what was disturbed originally and what is left
35 undisturbed. We don't want to increase cultural damage. Want to make sure that there is a
36 baseline right now of what happened in the past, what is there right now and what will happen
37 in the future. We would like it to be surveyed before the next set of actions is taken.
38

39 David Deen: Are you asking that what has not been disturbed be surveyed as part of a
40 transactional situation in an attempt to catch up as much as possible? Rich Holschuch: Yes.
41 Where did the original fill go? What are the original contours? We'd like to have a baseline so
42 that when someone says "We are not going to disturb previously undisturbed soil" we can hold
43 them accountable. This is something that will need to be discussed further with NorthStar but I
44 want to put this out there in front of the people tonight.

1 *Peter Van der Dose, Brattleboro: Vernon doesn't want to turn site into a nature preserve;*
2 *instead a company or industry that would provide jobs for the community. An industrial site*
3 *and a site released for any purpose have different levels of radiation. Acceptable level for an*
4 *industrial site is 100 mrem, a release for any purpose allows for only a 25 mrem. The NEC would*
5 *like to decommission to 10 mrem which was achieved at Maine Yankee, Yankee Rowe and*
6 *Connecticut Yankee. State of MA has a regulation to decommission to 10 mrem and Vermont is*
7 *to 25 mrem. NorthStar would like to decommission to 15 mrem. Please don't decontaminate it*
8 *to an industrial use.*

9

10 **UPDATES, WRAP UP AND ADJOURN:**

11 Next meeting: Oct 26, Brattleboro Area Middle School. Tentative date set up for November 16'
12 2017, Brattleboro Area Middle School

13

14 Kate O'Connor reached out to Mass NDCAP (who have just started) in hopes of collaboration.

15

16 Tony Leshinskie, VT State Nuclear Engineer Decommissioning Coordinator: Regarding the MA
17 Citizens Advisory Panel, the concept of citizen advisory panels came up this past week at the
18 NRC state liaison officers meeting, this panel received thank you for its assistance in setting up
19 its NDCAP panel.

20

21 Chris Campany: This panel passed a resolution calling for the NRC and other federal agencies to
22 convene host communities to have a discussion about the rule making. Any chance the NRC
23 state liaisons might support a resolution among themselves?

24 June Tierney: I don't know. This would be something to look into.

25

26 **MEETING ADJOURNED AT 9:00 pm**

27

28 NOTE: Video of meeting will be available at brattleborotv.org. Slides of all presentations are
29 available at vydecommissioning.com or www.publicservice.vermont.gov.

30

31