

1                   **Nuclear Decommissioning Citizen’s Advisory Panel (NDCAP)**

2                                   **Thursday, March 26, 2015**

3                   **Brattleboro Union High School, Multipurpose Room, Brattleboro VT**

4                                   **Meeting Minutes – Approved by Panel**

5 NDCAP Members Present:

- 6       • Christopher Recchia, Commissioner of Public Service, ex officio
- 7       • Chris Campany, Executive Director of the Windham Regional Commission (WRC)
- 8       • David Mears, Commissioner of Environmental Conservation, designee for the Secretary
- 9       of Natural Resources
- 10      • Dr. William Irwin, designee for the Secretary of Human Services
- 11      • Pat Moulton, Secretary of Commerce and Community Development, ex officio
- 12      • Stephen Skibniowsky, representing the Town of Vernon
- 13      • Kate O’Connor (Brattleboro), citizen appointee of Governor Shumlin
- 14      • Martin Langeveld (Vernon), citizen appointee of Governor Shumlin
- 15      • James Matteau (Westminster), citizen appointee of Senate President Pro Tempore John
- 16      Campbell
- 17      • Derrick Jordan (Putney), citizen appointee of Speaker of the House Shap Smith
- 18      • Christopher J. Wamser, Site Vice-President, Entergy Nuclear Vermont Yankee (VY)
- 19      • T. Michael Twomey, Vice-President External Affairs, Entergy Nuclear Vermont Yankee
- 20      • David Andrews, International Brotherhood of Electric Workers (IBEW); representing
- 21      present & former employees of Vermont Yankee
- 22      • James Tonkovich (of Wilder), citizen appointee of Senate President Pro Tempore John
- 23      Campbell
- 24      • MA State Representative Paul W. Mark (Peru, MA), representing the Towns of
- 25      Bernardston, Colrain, Gill, Greenfield, Leyden, Northfield, and Warwick, Massachusetts
- 26      • NH State Senator Molly Kelly (Keene, NH), representing the Towns of Chesterfield,
- 27      Hinsdale, Richmond, Swanzey, and Winchester, New Hampshire. (arrived late).

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29 No NDCAP members were connected to the meeting via teleconference ( GoToMeeting.com)

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31 The following NDCAP members were absent from the meeting:

- 32       • VT State Senator Mark MacDonald, member of the Senate Committee on Natural
- 33       Resources and Energy
- 34       • VT State Representative Michael Hebert, member of the House Committee on Natural
- 35       Resources and Energy
- 36       • VT State Representative David Deen (Westminster), citizen appointee of Speaker of the
- 37       House Shap Smith

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39 **Meeting called to order at 6:01 pm**

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41 ***APPROVE MINUTES FROM FEBRUARY 26, 2015 MEETING***

42 There were no comments or questions.

1 **Motion by Chris Campany to approve the minutes from February 26, 2015. Second by: Pat**  
2 **Moulton. Motion carried 15-0.** (Aye: Christopher Recchia, Chris Campany, David Mears, Dr. William  
3 Irwin, Pat Moulton, Stephen Skibniowsky, Kate O'Connor, Martin Langeveld, James Matteau, Derrik  
4 Jordan, Chris Wamser, T. Michael Twomey, David Andrews, James Tonkovich, Paul Mark. Absent: Molly  
5 Kelly)  
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7 **REVIEW AND APPROVE 2014 ANNUAL REPORT TO THE VERMONT LEGISLATURE**

8 Chair reviewed the changes made to pages 4, 5, 6 and 9 during the February 26, 2015 meeting  
9 and detailed in the previously accepted minutes.

10 Dr. Bill Irwin confirmed that the charter is an attachment to the report and noted two typos for  
11 correction prior to submission. Page 12: Part D, take out the "to". Part G, first bullet should be  
12 "Public Service Department."

13 **Motion by Chris Recchia to approve the 2014 Annual Report to the Legislature. Second by:**  
14 **Steve Skibniowsky. Motion carried 15-0.** (Aye: Christopher Recchia, Chris Campany, David Mears,  
15 Dr. William Irwin, Pat Moulton, Stephen Skibniowsky, Kate O'Connor, Martin Langeveld, James Matteau,  
16 Derrik Jordan, Chris Wamser, T. Michael Twomey, David Andrews, James Tonkovich, Paul Mark. Absent:  
17 Molly Kelly)  
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19 **UPDATE ON FEBRUARY 26, 2015 ACTION ITEMS**

20 Chair gave an update that the Website is forthcoming. The development is following the guidelines of  
21 the State of Vermont. The issues committee met - will give an update. The chair circulated a survey on  
22 possible dates for the next few meetings. The results will be discussed along with the issues committee  
23 update.  
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25 **ISSUES COMMITTEE UPDATE**

26 David Andrews reported that the issues committee met March 6, at noon in the Windham  
27 Regional Commission conference room. The meeting was attended by Chris Campany, Kate  
28 O'Connor, Martin Langeveld and Jim Matteau with Dr. Irwin via teleconference.

29 Roundtable discussion determined that future NDCAP meetings should have a common  
30 repeatable structure containing five key elements (in no particular order): 1- Update by  
31 Entergy; 2- Update by the State of Vermont Officials; 3- Public comment; 4- Educational  
32 segment; 5- Issues based segment. (The educational segment and the issue segment may  
33 overlap.) The committee invited state agencies and panelists to explain their roles,  
34 responsibilities and interests at this meeting. The committee is exploring a possible field trip to  
35 CT Yankee and the Millstone 1 SAFSTOR facility. Issues committee determined educational  
36 segment for the May meeting should be unanticipated decommissioning related issues -  
37 referencing lessons learned during previous decommissionings. The issues segment should be  
38 decommissioning trust fund structure and uses. The issues committee plans to reconvene just  
39 after the May meeting to select the next set of topics based on board input and emergent  
40 issues.

41 Questions and comments: Pat Moulton confirmed that the five elements will be standard  
42 agenda items. Chris Wamser asked about the process of determining who will present each

1 segment. The chair confirmed that once the issues committee sets the topic and suggests a  
2 presenter, the chair will send around notification to the panel so that panelists can weigh in and  
3 be prepared if they are being asked to present. David Mears complimented the issues  
4 committee on their approach. Commissioner Recchia noted that certain issues will require  
5 resources and stated the Department of Public Service is willing to work with the chair and  
6 provide support.

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8 Discussion followed and it was determined that the next two meeting dates will be Thursday,  
9 May 28<sup>th</sup> and Thursday, June 25<sup>th</sup>. There will be no meetings planned for July and August.

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11 ***ENERGY UPDATE ON DECOMMISSIONING ACTIVITIES***

12 *Joe Lynch, Government Affairs Manager, Entergy Vermont Yankee, gave an update on recent*  
13 *activities.* Since the last update power was removed from select buildings, systems drained,  
14 security modified and some buildings removed from the site in preparation for long term  
15 dormancy. Entergy returned answers to the state agencies questions and comments on the  
16 draft PSDAR. The NRC 90 day PSDAR comment period ended. NRC is reviewing state comments  
17 and the Entergy submittal. A map of the site with completed and anticipated changes was  
18 displayed. Building removal is being done with state agency review and permitting. Entergy will  
19 respond to a March 6<sup>th</sup> ANR letter requesting additional information on non-radiological  
20 contamination. Trespassing on the VY site is strictly prohibited. Continuing local outreach  
21 includes coordinating with Rep. Paul Mark for a public meeting in Greenfield in April and  
22 several site tours. NDCAP panelist tours will be set up in April. Updated information available  
23 on [vydecommissioning.com](http://vydecommissioning.com).

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25 Questions and comments: Pat Moulton asked for clarification on the recent trespassing  
26 incidents. Answer: Front gate is no longer manned, but signage has been added and guards  
27 continue to monitor who drives onsite. Driving past the front gate uninvited is trespassing in  
28 the first of four security zones.

29 Chris Recchia asked where the material from the rubblized onsite storage container pad is.  
30 Answer: Onsite, subject to radiological examination and characterization. Entergy will share  
31 with the Department of Public Service the final disposition of that material. Chris Recchia  
32 followed up by asking if the characterization will include any non-radiological contaminants.  
33 Answer: Entergy will follow-up on what the characterization of the concrete includes.

34 Derrick Jordan asked if any of the buildings removed contained any radioactive materials.  
35 Answer: Nothing of consequence. They all went through a characterization to be released as  
36 normal waste.

37 Chris Campany asked if non-radiological materials are going into a landfill. Answer: All material  
38 was removed, re-cycled, or re-purposed by local contractors who have their own waste  
39 streams.

40 Jim Matteau asked if there is a clearer map that could be circulated to the panel. Answer:  
41 Entergy will work with the chair to distribute a map with a legend.

1 Chris Wamser asked if the map was included in the Site Assessment Study. Answer: Yes, there is  
2 a similar map in the SAS with less detail on the timeframes for demolition.

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4 **STATE OF VERMONT UPDATE ON DECOMMISSIONING ACTIVITIES**

5 *Anthony Leshinskie, Vermont State Nuclear Engineer* introduced himself and explained that he  
6 works for the Department of Public Service. His role is to provide and interpret information  
7 from the NRC and Entergy to the Public Service Department, Public Service Board and state  
8 agencies. His office is inside the protected area at Vermont Yankee. He has observed  
9 demolition and separation of materials and notes radiological evaluation of debris has been  
10 done and expects the results will be shared. He stated disposal of rubble material is waiting  
11 final NRC review. He recently reviewed a submittal of technical specification changes,  
12 shadowed an NRC inspection of the spent fuel pool cooling system and participated in an  
13 emergency planning drill preparing for the FEMA graded exercise in May.

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15 **JAY TARZIA PRESENTATION ON DRY CASK STORAGE**

16 *Jay Tarzia, Certified Health Physicists, Principal of Radiation Safety and Control Services and*  
17 *Chairman of the New Hampshire State Radiation Advisory Committee.* Diane Becker, Chief of  
18 Technological Hazards, New Hampshire Emergency Management introduced Mr. Tarzia. Tarzia  
19 gave a general overview of the characteristics of dry fuel storage. Casks became necessary  
20 when the United States stopped fuel re-processing. Fuel remains distributed throughout the  
21 country; no centralized storage facility. Casks were put in service in 1986 - designed to house  
22 used nuclear fuel for long term storage. General characteristics include very thick steel  
23 canisters, encapsulated in a welded system sitting in a sealed outer storage container; radiation  
24 shielding with heat from radioactive decay vented through the outer canister. All casks meet  
25 specific design criteria including resisting tip over, natural disasters, projectiles, temperature  
26 extremes and hostile actions. Casks are initially licensed by the NRC for 20 years, can be  
27 licensed for up to 100 years with all extensions. Multiple cask design options are available from  
28 four companies in the US; different configurations depend on site characteristics. No known  
29 sabotage, no known leaks and regular testing confirms casks function safely.

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31 Full presentation can be found at [http://vydecommissioning.com/wp-](http://vydecommissioning.com/wp-content/uploads/2015/03/2015-0326-VY-DCAP-Dry-Cask-Storage-Tarzia.pdf)  
32 [content/uploads/2015/03/2015-0326-VY-DCAP-Dry-Cask-Storage-Tarzia.pdf](http://vydecommissioning.com/wp-content/uploads/2015/03/2015-0326-VY-DCAP-Dry-Cask-Storage-Tarzia.pdf)

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34 Questions and Comments: Chris Company asked if RSCS is overseeing Connecticut Yankee,  
35 Maine Yankee, Yankee Rowe dry casks. Answer: Yes, RSCS does periodic radiation audits and  
36 surveys for them. Follow up, what kind of buffer zone is required? Buffer zone is dependent on  
37 radiation exposure and security not a consistent value.

38 Pat Moulton asked what type of casks are in Vernon. Answer: Vermont Yankee has the Holtec  
39 Highstorm 100, vertical cask licensed in 2000.

40 Jim Matteau asked about the graph showing radioactivity decreasing to 1% over the first 100  
41 years. Answer: It takes approximately 100 years to decrease to 1%. Graph is from Nuclear  
42 Energy Agency.

1 David Andrews commented that the graph is total radioactivity overtime not decay heat ,  
2 adding that as the short lived fission products decay off and the decay heat drops off, so does  
3 the dose.

4 Dr. Irwin commented that the horizontal line on the graph is not a safe level of radiation. Asked  
5 how many dry cask systems are the bunker or re-enforced concrete type v. open air type that  
6 appear to be less expensive? Answer: Bunker storage is not necessarily less expensive, depends  
7 on the type of canister, fuel, soil and groundwater conditions. No exact numbers, more vertical  
8 than horizontal systems in use. Dr. Irwin asked about high burnup fuel. Answer: Type of fuel  
9 determines the storage system needed. Magnastore systems are designed to handle higher  
10 levels of decay heat. Another solution could be fewer elements of high burnup fuel per cask.

11 Martin Langeveld asked about long distance transportation. Answer: Early designs will have to  
12 be re-packaged since the 1990's licensed system must be transportable.

13 Pat Moulton asked if the NRC is studying/planning for longer term storage. Answer: Yes, using  
14 computer models and metallurgy data from early reactor vessels.

15 Jim Tonkovich asked about expensive model vs. a cheap model of cask. Answer: Pricing goes  
16 out to bid and depends on multiple factors including the site, type and amount of fuel.

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#### 18 **PUBLIC COMMENT AND QUESTIONS ON JAY TARZIA PRESENTATION**

19 *Clay Turnbull questioned that the industry average thickness of the canisters is 3-4 inches.*

20 *Nearest he can find the canisters at Vermont Yankee are 1/2- 5/8" thick. He will submit*  
21 *additional questions and comments via email.*

22 *Howard Shaffer commented there is a facility in Texas that intends to apply for a license to*  
23 *become the national dry fuel storage site.*

24 *Due to limited time for public comment chair explains that by putting your name on the sign in*  
25 *sheet you will get an email inviting you to submit questions and comments to the panel.*

26

#### 27 **PRESENTATION BY STATE OF VERMONT DEPARTMENTS/AGENCIES ROLE IN** 28 **DECOMMISSIONING**

29 David Mears, Commissioner of the VT Department of Environmental Conservation, noted that  
30 the Agency of Commerce and Community Development, Department of Emergency  
31 Management and Homeland Security have been meeting monthly and working with the  
32 Department of Health.

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34 His department focuses on non-radiological contamination such as PCBs lead paint, standard  
35 industrial contaminants, storm water, wastewater permitting and plays a regulatory role in  
36 petroleum storage. Regulatory jurisdiction over "hazardous waste" defined at the federal level  
37 through the Resource Conservation Recovery Act with supervision oversight of the EPA.

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39 Dr. William Irwin, designee for the Secretary of Human Services, explained that the Health  
40 Department has been evaluating the health effects of hosting nuclear power, conducting  
41 radiological and environmental monitoring and a companion emergency response program  
42 funded for 42 years through the Emergency Management budget, submitted through the  
43 legislature. Environmental surveillance by the state should continue until the site is released for

1 unrestricted use. Current radiological emergency preparedness should be maintained until all  
2 fuel is in dry storage - some level beyond basic firefighting and emergency medical response is  
3 necessary until the site is completely decontaminated. No funding will be available after April  
4 2016.

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6 Christopher Recchia, Commissioner of Public Service, emphasized the outstanding coordination  
7 between the Agency of Natural Resources; Department of Health; Attorney General's office;  
8 Department of Emergency Management and Homeland Security with the Public Service  
9 Department taking the lead role as public advocate and designated state nuclear liaison with  
10 the NRC. The Public Service Department was actively involved in negotiating with Entergy,  
11 along with the Governor's office, the agreement that the panel is working under. The  
12 department will review, with the Public Service Board, the second dry cask storage permit. The  
13 department is seeking to coordinate with Entergy on the many filings with the NRC including  
14 emergency planning zone, site fence line, decommissioning trust fund and data feed for  
15 emergency response. The work is funded through the electric generation tax, currently  
16 supporting NDCAP, Tony Leshinskie and other staff.

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18 Questions and Comments: Pat Moulton from the Agency of Commerce and Community  
19 Development commented the agency has no specific role in decommissioning but is focused on  
20 the economic recovery of the area, specifically administering the Windham County Economic  
21 Development Program, the money provided by Entergy through the agreement with the State.  
22 Chair asked the Health Department and Department of Environmental Conservation to clarify  
23 their oversight capacity and when their roles will end. Dr. Irwin answered that the NRC does  
24 not provide regulations or support for what the Department of Health does, therefore, funding  
25 will end April 2016. Commissioner Mears described the ultimate goal is to fully characterize all  
26 the risks and minimize them for the health and safety of the public. It is challenging to exercise  
27 authority without crossing into federal pre-emption. Department of Environmental  
28 Conservation will seek oversight until all contaminants are removed under the authority of  
29 State laws and the Resource Conservation and Recovery Act.

30 Chris Campany commented that the Windham Regional Commission is funded through the  
31 State as the host region for the plant. Feels the federal regulatory process is flawed as the  
32 region must rely on the State's participation in the NRC process and the State must rely on the  
33 NRC to do their job.

34 Dave Andrews asked how other companies asking for a Certificate of Public Good (CPG) in  
35 Vermont are billed. Commissioner Recchia and Commissioner Mears answered normally costs  
36 of the CPG process can be billed back to companies along with costs for outside experts and  
37 ongoing interactions with a CPG holder. Recchia noted that the state is sensitive about Entergy  
38 withdrawing from the decommissioning trust fund to cover these costs. Regulatory costs are  
39 generally covered by fees, tax dollars and/or federal grants. Bill back is used to fill gaps due to  
40 complexity of the process and the unpredictability of the resources required.

41 Chris Wamser questioned the need for additional resources given the expected decreasing  
42 activity at the site. Commissioner Mears answered that this is a challenge because the current  
43 phase of activity is different from the last 42 years.

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**PUBLIC COMMENT AND QUESTIONS ON STATE OF VERMONT PRESENTATION**

*Seeing no questions for the State the chair confirmed that Jay Tarzia could answer more questions from the public.*

*Leslie Sullivan Sachs asked about storing high burnup fuel in other than Magnastor canisters. Jay did not have that information on hand. He circled back to the question asked earlier by Clay Turnbull in order to clarify that some canisters have thinner liners with multiple layers of over pack. Three to four inches is an average thickness, apologized for confusion. Leslie followed up by asking if casks designs and loading processes have changed based on experience/computer models since 1986 and more fuel in pools. Answer: Yes to both. Noted that metal degradation data used to design casks goes back to the 1950s and many fuel pool racks have been re-designed to hold more fuel.*

*Sally Shaw, Gill MA asked about converting the units of measure on the chart in the presentation and encouraged the committee to look into what type of casks were used at Fukushima and challenged the statement that no cask leaks have been documented.*

**NH STATE SENATOR MOLLY KELLY** announced that she cannot continue as the representative from New Hampshire due to her schedule. She has a letter from the Governor of New Hampshire naming Diane Becker, Chief of Technological Hazards, New Hampshire Emergency Management and Homeland Security as her successor.

**WRAP UP AND ADJOURN**

Next meeting: Thursday, May 28, 2015

**MEETING ADJOURNED AT 9:00pm**

Action Items:

Next two meetings are May 28<sup>th</sup> and June 25<sup>th</sup>

May 28<sup>th</sup> Meeting's education and issues segments will be Unanticipated Issues and Decommissioning Trust Fund Structure/Use

Panel will continue setting up a website

The sign in sheet will be used by the chair to collect questions and comments

NOTE: Video of meeting will be available at [brattleborotv.org](http://brattleborotv.org)