

NUCLEAR DECOMMISSIONING CITIZENS ADVISORY PANEL (“NDCAP”)

Thursday, June 7, 2018

Plymouth Community Intermediate School (“PCIS”), Little Theatre, 117 Long Pond Road,

Plymouth, MA

Meeting Minutes

Meeting called to order at 6:30 p.m. by acting NDCAP Co-Chair Kevin O’Reilly.

NDCAP MEMBERS PRESENT:

- Pat Ciaramella, Representative of Old Colony Planning Council
- H. Joseph Coughlin, Member from Plymouth Nuclear Matters Committee
- Pine duBois, Speaker of the House Appointee
- Richard Grassie, Minority Leader of the House Appointee (Acting Co-Chair)
- Robert Hayden¹, Department of Public Utilities
- David Johnston², Department of Environmental Protection
- Robert Jones³, Executive Office of Health and Human Services
- Heather Lightner, Representative of the Town of Plymouth
- Charlie McDonald, Representative of Pilgrim Nuclear Power Station
- David C. Nichols, Governor Baker Appointee
- Kevin O’Reilly, Speaker of the House Appointee (Acting Co-Chair)
- Jack Priest, Department of Public Health, Radiological Control Program
- Tony Provenzano, Representative of the Town of Plymouth
- Paul D. Smith⁴, Representative of UWUA Local 369
- Senator Dan Wolf, President of the Senate Appointee

NDCAP MEMBERS NOT PRESENT:

- Jessica Casey, President of the Senate Appointee
- John Chapman, Executive Office of Housing and Economic Development
- John G. Flores, Appointee of Governor Baker
- Joseph Lynch, Representative of Pilgrim Nuclear Power Station
- John T. Mahoney, Representative of the Town of Plymouth
- Sean Mullin, Minority Leader of the Senate Appointee (Co-Chair)
- John Ohrenberger, Representative of Pilgrim Nuclear Power Station
- Kurt Schwartz, Massachusetts Emergency Management Agency (Co-Chair)

INTRODUCTION AND REVIEW AND APPROVAL OF MAY 17 MEETING MINUTES:

Mr. O’Reilly noted that there would be no video recording or active microphones at this meeting as a departure from the usual NDCAP practice. It was moved and seconded to accept Mr. O’Reilly and Mr. Grassie to act as co-chairs for this meeting in the absence of Co-Chairs Mullin and Schwartz.

¹ Designee of Angela O’Connor (DPU)

² Designee of Secretary Beaton (EEA)

³ Designee of Secretary Sudders (Executive Office of Health and Human Services)

⁴ Designee of Richard Sherman (Representative of UWUA Local 369)

DRAFT SUBJECT TO APPROVAL

1 Mr. O'Reilly noted that the May 17 meeting minutes had not been distributed to the group, and could
2 therefore not be reviewed and approved. He therefore deferred discussion of them to the next Panel
3 meeting.

4

5 **REVIEW AND DISCUSSION OF DRAFT NDCAP ANNUAL REPORT:**

6 At the outset of the review of the draft annual report, Mr. O'Reilly suggested that the Panel discuss the
7 report's introduction and executive summary, then the working group chairs could discuss their
8 sections.

9 Senator Wolf stated that he had a process question. He questioned whether the Panel member
10 absences and Open Meeting Law requirements might result in these discussions happening again with
11 enough Panel members present to hold a vote, and that no votes should be taken at this meeting.

12 Mr. O'Reilly stated that he agreed that no votes should be taken, but that the Panel could discuss the
13 report and propose edits to it for discussion at the next Panel meeting.

14 Mr. Grassie noted that the point tonight's meeting is to look at report, and it should state what the
15 Panel's accomplishments are. He stated that the Panel should discuss the report's front section, then
16 the working group sections. He pointed out that this report is more comprehensive than the Vermont
17 NDCAP's because it includes findings and recommendations. He suggested using this meeting to review
18 the report's draft findings and recommendations.

19 Senator Wolf noted that even if the Panel makes edits to the report at this meeting, there might not be
20 a quorum of members that wants to distribute it to the group for further discussion, and he therefore
21 proposed a vote that whatever edits are made at this meeting would be sent to the full Panel
22 afterwards. Senator Wolf also noted that he had not had an opportunity to review the report, and if
23 other Panelists had also not yet reviewed it, discussing it might be a fruitless exercise and premature.

24 Mr. Nichols stated that a discussion at this meeting could provide value in that it might inform
25 discussions at the next meeting.

26 Mr. Grassie noted that the annual report isn't complete yet because some working groups have not yet
27 submitted findings and recommendations for the report. Mr. Hayden suggested that the
28 recommendations would be stronger if they cited to evidence and substance.

29 Mr. O'Reilly suggested that the Panel hear updates from working group chairs and defer substantive
30 discussion to the next meeting.

31 Mr. McDonald asked how far in advance of next meeting the missing working group finding and
32 recommendations would be ready. Mr. Grassie responded that as soon as a working group's section is
33 finalized, it can quickly be inserted into the report.

34 Mr. O'Reilly requested a volunteer from the PSDAR working group to provide an update. Ms. duBois
35 stated that the group has been meeting since last fall. She stated that the decommissioning standard is
36 going to be an important issue, and that the group took position that Entergy should issue the PSDAR
37 early so that the public would have an opportunity to review it. She noted that she hopes an MOU will

1 help the Panel understand what information the PSDAR will include. She stated that the NRC requires a
2 25 millirem limit, but that the Panel would recommend a 10 millirem limit in the PSDAR.

3 Mr. Priest noted that the wording in the recommendation on page 23 should be changed to be the same
4 as that in the letter previously approved by the Panel. He noted that this recommendation is under
5 discussion in two different working groups. Mr. Grassie pointed out that the safety and security working
6 group is also developing a similar recommendation, and that all three should be coordinate. Mr. Priest
7 agreed that the three working groups should coordinate their recommendations. Mr. Nichols pointed
8 out that the government relations working group also addressed it. Mr. Johnston stated that the
9 finance working group also addressed this topic, and that it could instead be included as an overarching
10 recommendation from the entire Panel.

11 Mr. O'Reilly suggested that moving the recommendations from back to front of the report might make
12 them easier to find. Mr. Priest noted that a matrix of all working group recommendations might help to
13 locate duplicates.

14 Mr. Smith stated that this is an area of concern, and asked specifically what action the Panel would be
15 requesting be taken. Mr. Priest responded that the NRC has oversight over this subject matter, but
16 noted that Vermont negotiated a higher dose rate limit. He stated that DEP requested that Entergy
17 participate in a MOU, and designed it so any other licensee would also be constrained by the MOU if
18 Entergy sells the license.

19 Senator Wolf asked whether these recommendations would go to the interagency working group or to
20 the Governor. He noted that the interagency working group should serve as a clearinghouse for
21 recommendations once it is established. Mr. O'Reilly responded that the report must be submitted to
22 the Governor and the legislature. Senator Wolf suggested adding language indicating that once there is
23 an interagency working group, that the report would be sent it to it.

24 *PSDAR Working Group Recommendations Discussion:*

25 Ms. duBois noted that the NRC is reconsidering its regulations including a reduction of the EPZ. She
26 noted that, once fuel ceases to be a risk, it might be appropriate to reduce the EPZ, but not before. She
27 stated that a 10 mile radius of EPZ is appropriate until all fuel stored in dry casks is away from the
28 shoreline. At that point it could be appropriate to reduce the size of the EPZ.

29 Mr. Priest recommended strengthening the language by striking "encourage" and instead stating that
30 the 10 mile radius should remain unchanged. Senator Wolf noted that the Panel would be taking the
31 position that wet storage is less safe than dry storage, which is a position the NRC and Entergy have not
32 endorsed.

33 Mr. Smith questioned the scientific basis for requiring an enhanced EPZ greater than the NRC's
34 requirements, and asked how compliance with the larger EPZ would be funded. Mr. Priest responded
35 that it is beneficial to make a larger request than a more incremental request. Senator Wolf suggested
36 that the interagency working group provide input to prevent waste of funds. He also noted that, at a

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1 hearing at the State House, Entergy and the NRC both stated that wet storage is no less safe than dry
2 storage, and that the interagency group should determine whether it makes the same finding. Mr.
3 Johnston stated that the recommendations will be stronger if they are backed up with assumptions, and
4 if the Panel determines that dry storage is safer than wet storage, that should be included in the
5 recommendation.

6 Ms. duBois noted that the PSDAR working group is assessing on how quickly Entergy should
7 decommission Pilgrim. She noted that the working group's recommendation is that it be
8 decommissioned right away, and that this course would result in movement from wet storage to dry
9 storage. She also noted that, from economic point of view, it is also advantageous to decommission
10 right away. Mr. Hayden noted that it would enhance the recommendation to incorporate evidence and
11 support for these assertions.

12 With regard to oversight, Ms. duBois stated that the recommendation is to develop legislative authority
13 as in other states housing nuclear power plants, and cited Vermont as an example. Mr. Priest noted that
14 Vermont has not successfully developed regulatory authority over VT Yankee, and that this
15 recommendation is therefore ambitious. Ms. duBois noted that this is a subject that the interagency
16 working group could pursue. Mr. Johnston noted that his working group discussed MOUs, and
17 suggested that an MOU might be preferable to legislation. Senator Wolf noted that NRC regulations,
18 the PSDAR, and MOUs are enforceable, and that decommissioning should be done in compliance with
19 those authorities rather than state legislation that might not be enforceable.

20 Mr. Priest noted that the PSDAR is prepared by Entergy and submitted to the NRC. He also stated that
21 the NRC does not evaluate or approve it. Senator Wolf pointed out that, although the NRC does not
22 approve it, the NRC does accept it, and once it is accepted, Entergy is bound to adhere to it and it
23 becomes an instrument of compliance.

24 Ms. duBois next discussed PSDAR submission and public meeting time. She stated that the working
25 group would like to escalate time, and that it would like to see the PSDAR in the fall because Pilgrim is
26 going offline in May. She stated that the public should be able to review the PSDAR before shutdown so
27 that the public can review it and make recommendations. She suggested that Entergy should submit
28 the PSDAR 6 months prior to shutdown, and also give the public two months to review it.

29 With regard to the location of a second ISFSI, Ms. duBois noted that with rising sea levels, it is important
30 that the pad be located higher to increase safety.

31 With regard to financial protection plans, Ms. duBois noted that there are numerous accounts and that
32 the decommissioning trust fund is not the only source of money. Mr. Smith noted that after Pilgrim
33 ceases to operate, the company that owns the land will have custody of the trust fund and that there
34 are no other funds other than decommissioning trust fund. Ms. duBois stated that Massachusetts
35 should require Entergy to have sufficient funds for decommissioning. Mr. Priest noted that the financial
36 and economic working group uncovered potential issues with insurance. He stated that the Panel will
37 need to determine how insurance is funded, which may be beyond scope of the panel. Mr. Smith
38 pointed out that the NRC has a department that performs this function, and that there is no need

1 duplicate it at the state level. Mr. Priest suggested that Massachusetts requirements could be
2 enhancements for Massachusetts beyond what the NRC requires. He stated that the Panel should work
3 with Entergy to get this accomplished.

4 With regard to emergency preparedness, Ms. duBois noted that the NRC is updating its regulations and
5 establishing a four-step process.

6 *Safety and Security Working Group Recommendations Discussion:*

7 Mr. Grassie noted that spent fuel is not as safe in wet storage as in dry storage, and the group
8 recommends removal of waste into dry cask storage as soon as possible. He stated that the group
9 recommends removal at least 6 years after ceasing operations, and that all decommissioning plans and
10 cost estimates should assume that SNF will remain at Pilgrim for an uncertain period of time because
11 there is no indication of where it can go at this time.

12 Mr. Grassie stated that the group also discussed types of Holtec containers. He stated that the Number
13 2 container will be used for dry cask storage, but noted that there is a transportable type of cask that is
14 available. He noted that the fuel at Pilgrim will have to be moved at some later date, at which time the
15 Number 2 canisters would have to be replaced by transportable. Mr. Grassie recommended that a
16 Holtec representative make a presentation for the Panel. Senator Wolf noted that the interagency
17 group will consider at cost versus technology for dry storage, and questions regarding why Entergy
18 would not use the transportable casks at the outset is a topic the interagency group to discuss with
19 Holtec.

20 With regard to decommissioning best practices and standards, Mr. Grassie noted that there are a lot of
21 standards for nuclear decommissioning, and that we can also learn from Fukushima that there is a need
22 for strong safety culture. He stated that the role safety culture will play in decommissioning should
23 include third party professional review. He suggested that the interagency working group could be one.
24 Mr. Nichols asked whether this is not already taking place in the nuclear community. Mr. Grassie
25 responded that he is not aware of it. Senator Wolf noted that safety culture is not an expression of
26 desire or beliefs, but rather safety culture is objective processes or systems in place. He noted that in
27 the airline industry, culture means evolution, and that in nuclear decommissioning, the concern is a lack
28 of experience and feedback mechanisms. He suggested that the interagency working group consider
29 other industries that have good safety outcomes. He stated that relying on nuclear decommissioning,
30 there cannot be a strong safety culture because the number of decommissioned plants is too low. He
31 stated that the report should strike the word "culture," and instead analyze if risk mitigation is as strong
32 as it can be.

33 Mr. Grassie stated that underlying idea with this recommendation is that VT Yankee is being sold to
34 Northstar, which has never decommissioned a nuclear power plant. Moreover, there needs to be strong
35 and informed outside professional review. Mr. Nichols suggested use of the term "third party
36 validation."

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1 Mr. Grassie also noted that the potential loss of Entergy’s institutional knowledge of Pilgrim and its
2 issues if it sells its license to Northstar could be problematic. Senator Wolf noted that, in the airline
3 industry, the FAA has forced systems, and that safety issues are less corporate issues than industry
4 issues. He stated that he would like for the interagency working group to address this potential issue.

5 With respect to decommissioning monitoring and reporting, Mr. Grassie noted that the NRC
6 recommended the creation of the NDCAP. He stated that the working group recommends that that any
7 future licensee be familiar with the site and its characteristics.

8 Mr. Grassie next discussed radiation standards, which he acknowledged would be consolidated with
9 similar recommendations made by other working groups.

10 On environmental monitoring, Mr. Grassie mentioned that this subject generated significant discussion
11 within the working group, particularly with regard to tritium levels in groundwells. He stated that the
12 group’s recommendation, in part, is to continue the radiological and environmental monitoring that
13 MEMA would need during an emergency. Mr. Priest noted that a discussion of this topic on that with
14 the full panel would be important.

15 On sea level rise and its effect on spent fuel storage, Ms. duBois noted that dry cask storage is
16 maintained within a couple hundred feet of shore, and that the working group therefore recommends
17 that the licensee construct storage pads at higher elevations, and in order to protect spent fuel from
18 external threats, and to enable its transfer offsite. She stated that measures should be taken to
19 maintain safety and security while having the flexibility to move waste off by ship.

20 Senator Wolf stated that a risk assessment matrix is needed, because it would inform decisions with
21 regard to resource expenditures. He cautioned that there likely are not adequate resources for all these
22 measure to be taken, and that the matrix would help to determine the most important areas for those
23 resources to be spent.

24 Mr. Grassie asked Entergy to explain risk assessment as required by the NRC. Mr. McDonald responded
25 that there is a probabilistic risk assessment based on worst case scenarios, and that Entergy constantly
26 assesses risk. Senator Wolf suggested that the interagency working group be involved in risk
27 assessment. Mr. Priest suggested adding this subject to the report’s introduction. Mr. Ciaramella noted
28 that risk assessment should include a determination of the most appropriate cask types.

29 Mr. Grassie introduced the recommendation that a hotline be established to receive anonymous info,
30 on which no panelist offered commends.

31 **PUBLIC QUESTION AND ANSWER:**

32 Richard Rothstein stated that he had four subjects that he would address. First he noted that
33 recommendations for radiation standards belong in site restoration and cleanup section of the report.

34 Second, he stated that it would be helpful to review the PSDAR six months prior to submission to the
35 NRC, but noted that the NRC is updating its regulations, and is issuing draft regulations later this year.

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1 He stated that Entergy should issue the PSDAR only after reviewing the revised draft regulations. Third,
2 he asked whether Entergy is taking money from decommissioning fund or from some other source, and
3 noted that the Panel should get understanding of the VT Yankee MOU and how money is dispersed.
4 Fourth, he stated that he takes exception to use of DPH's offsite realtime data. He noted that he
5 formerly worked with the Plymouth Nuclear Matters Committee to develop a basis to have an offsite
6 realtime data collection program because Entergy's radiological tower monitors were insufficient.

7 Chuck Avey disagreed with assertions regarding a relative lack of knowledge and experience in nuclear
8 decommissioning. He noted that, at VT Yankee, Northstar hired Areva, which also participated in
9 decommissioning at Yankee Rowe and Yankee Maine. He stated that there are decommissioning
10 committees that meet regularly and share experience, for example, a decommissioning working group in
11 Eastern Europe and that there are contractors and companies with decommissioning experience.
12 Senator Wolf responded that his concern is that decommissioning is more like a space shuttle launch,
13 which occurs in such limited numbers that experience and data are necessarily limited.

14 **WRAP UP AND ADJOURN:**

15 Mr. O'Reilly stated that the final three working groups could address their recommendations at the June
16 20 meeting.

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18 Mr. O'Reilly called for a motion to adjourn. It was so moved and seconded.

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20 ***Meeting adjourned at approximately 8:45 p.m.***