



**NUCLEAR DECOMMISSIONING CITIZENS ADVISORY PANEL
PUBLIC SERVICE DEPARTMENT**

**Nuclear Decommissioning
Citizens Advisory Panel
Annual Report to the Governor
and the Vermont Legislature**

2023

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- Nuclear Decommissioning Citizens Advisory Panel -
2023 Annual Report to the Governor of Vermont and the
Energy Committees of the General Assembly
(House Environment & Energy,
House Commerce & Economic Development,
and
Senate Natural Resources & Energy Committees)

I. Statutory Authority and Duties

The nineteen-member Vermont Nuclear Decommissioning Citizens Advisory Panel (“NDCAP” or the “Panel”) was established during the 2014 Legislative Session as part of Act 179 (Section E.233; pages 141 through 148 of the Act). Details on the original membership and duties of NDCAP were outlined in this Act., which is available online at:

<https://legislature.vermont.gov/Documents/2014/Docs/ACTS/ACT179/ACT179%20As%20Enacted.pdf>

Current Membership and duties of NDCAP were established during the 2021 legislative session as part of Act 54, (Section 13, pages 11 through 16 of the Act). Details on the current membership and duties of NDCAP are available online at:

<https://legislature.vermont.gov/statutes/fullchapter/18/034>.

The list of current members of the Nuclear Decommissioning Citizens Advisory Panel may be found at <http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap> (aka, the NDCAP website). Changes in Panel membership during 2023 may be discerned by reviewing the meeting minutes and meeting recordings available at the NDCAP website. As of November 1, four of the Panel’s nineteen positions are vacant. The Panel’s second citizen-appointee by the Governor of Vermont is vacant due to the untimely passing of Stephen Skibniowsky, the Panel’s elected Chair for 2023, on September 28. The Panel’s second citizen-appointee by the Vermont Senate President Pro Tempore became vacant with the expiration of Emily Davis’s appointment on October 31. The two optional Panel representatives for Massachusetts and New Hampshire towns near the Vermont Yankee site were vacant throughout 2022 and 2023.

Note that the NDCAP website was migrated to a new location in late 2022:

<http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap>

The NDCAP website was previously available at:

<http://publicservice.vermont.gov/electric/ndcap>. In instances where Panel documents, including previous Annual Reports, reference this older website, the newer

42 [http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap)
43 [ndcap](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap) website should be accessed instead.

44

45 **II. Charter**

46

47 The NDCAP Charter was adopted on February 25, 2015 and was amended on May 26, 2016. The
48 current Charter is available at: [NDCAP Charter as of 2016.05.26](#). The Charter is also available on
49 the NDCAP website Main Page at:

50 [http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap)
51 [panel-vt-ndcap](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap)

52

53 No changes to the NDCAP Charter were made during 2023. However, changes to the NDCAP
54 Charter may be necessary due to the changes in Panel membership and duties implemented in
55 [ACT 54 of the 2021 Legislative Session](#). Where any discrepancies between Act 54 language and
56 NDCAP Charter exist, the Act 54 language takes precedence.

57

58 NDCAP's Federal Nuclear Waste Policy (FNWP) Committee studies federal policy options for
59 nuclear waste and considers how Vermont Yankee is situated within the national landscape. By
60 methodically procuring input from Vermont's federal delegation, industry experts and other
61 stakeholders, the Committee accordingly advances the learning goals of NDCAP. Should the
62 Committee arrive at an any affirmative policy position, the Committee will recommend that
63 NDCAP adopt the advisory opinion, pursuant to the Panel's stated purpose, where: "NDCAP shall
64 advise the Governor, General Assembly, the agencies of the state, and the public on issues related
65 to decommissioning."

66

67 **III. Meeting Highlights**

68

69 The NDCAP held three Full Panel meetings in 2023; meetings were held in May, September, and
70 December. Additionally, the NDCAP FNWP Committee held five meetings in 2023. FNWP
71 Committee meetings were held in March, June, September, and December, with two meetings held
72 in June. All Full Panel and FNWP Committee meetings were open to the public and opportunities
73 for public comments were provided. Because of continuing COVID- 19 pandemic concerns, all
74 2023 NDCAP meetings were conducted entirely as webcasts, as was permitted by [ACT 1 of the](#)
75 [2023 Legislative Session](#). Full Panel webcasts were conducted via Zoom using services provided
76 by Brattleboro Community Television. FNWP Committee webcasts were conducted using
77 Microsoft Teams.

78

79 While the May Full Panel meeting was chaired by Steve Skibniowsky, the September and
80 December meetings were chaired by Panel Vice-Chair Lissa Weinmann. Mr. Skibniowsky was
81 unavailable for the September meeting due to a serious health issue. Ms. Weinmann continued as
82 Acting Chair of the Panel after Mr. Skibniowsky's passing in late September. All FNWP Committee
83 meetings held in 2023 were also chaired by Ms. Weinmann since she was also the FNWP
84 Committee Chair for 2023.

85
86 The May, September, and December Full Panel meetings included updates on recent VY
87 decommissioning activities by both NorthStar and the State of Vermont. Educational and issue-
88 specific topics were also discussed at these meetings. Opportunities for discussion and comments
89 from Panelists and the public on all covered topics were provided during each meeting. A
90 summary of each Full Panel meeting is presented below.

91
92 The minutes of each meeting can be found on the NDCAP website (a dedicated section of the
93 Public Service Department’s recently upgraded website) at
94 <http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap>. A complete video or
95 webcast recording for each meeting can be found at:
96 <https://www.brattleborotv.org/vt-nuclear-decommissioning-citizens-advisory-panel>.

97
98 Links to these video recordings are also available through the NDCAP website. Additional
99 information regarding VY’s active decommissioning is available at the Public Service
100 Department’s “VY Decommissioning” website at: [http://publicservice.vermont.gov/vermont-](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap)
101 [nuclear-decommissioning-citizens-advisory-panel-vt-ndcap](http://publicservice.vermont.gov/vermont-nuclear-decommissioning-citizens-advisory-panel-vt-ndcap).

102
103 Further details and meeting summaries of the FNWP Committee meetings held in 2023 are
104 available in Section XI.B of this report.

105
106
107 **May 8, 2023**

108
109 The Panel’s first regular meeting of the year occurred on May 8. At this meeting, NorthStar and
110 several State Agencies summarized VY decommissioning activities that occurred since the Panel’s
111 December 12, 2022 meeting.

- 112
113 • **NorthStar Update on VY Site Decommissioning Activities:**
114 Panelist Corey Daniels, VY’s Senior Spent Fuel Storage Manager, summarized decommissioning
115 activities completed since December 2022. (Slides for this presentation are available from the
116 Panel’s website.) NorthStar has worked well over 1.4 million hours without an OSHA Recordable
117 Lost Time Accident since starting VT Yankee’s active decommissioning in January 2019. The
118 Nuclear Regulatory Commission (NRC) has issued no cited violations during this time. The project
119 remains ahead of schedule. Progress on dismantling the Reactor Building (RB) components and
120 preparations for Turbine Building (TB) demolition was described. Downsizing and removal of the
121 RB Torus structure continues. The site’s former Emergency Diesel Generators have been
122 segmented and shipped for offsite disposal. The last piece of the Turbine, the Turbine Stator, has
123 been segmented to allow lifting with the TB Crane. The Stator will be moved outside for further
124 downsizing. The Start-Up Transformers have been dismantled and removed. Clearing of below-
125 grade piping in the Advanced Off-Gas Building Courtyard was also discussed.

127 NorthStar continues to average 3 to 4 radioactive waste shipments per week. As of April 20, 65
128 radioactive waste shipments have occurred this year; 602 shipments have occurred since the start
129 of decommissioning (in January 2019).

130
131 In response to Panelist questions Corey Daniels noted that roughly 100 workers work at VY on a
132 given workday. VY's contaminated water monitoring is typical for decommissioning power plant
133 sites. The VY piping that were identified as containing Tritium (circa 2011) were near the
134 Advanced Off-Gas (AOG) Building Courtyard. Work to remove the AOG Courtyard piping is
135 ongoing.

136
137 • **Department of Environmental Conservation (DEC) Update:**
138 Graham Bradley, Hazardous Sites Manager in DEC's Waste Management and Prevention Division
139 outlined the Agency of Natural Resources (ANR) / DEC's recent interactions with VY. (Slides for
140 this presentation are available from the Panel's website.) Regular status calls (usually on a
141 biweekly basis), draft permit and corrective action plan reviews continue. Sampling programs for
142 non-radiological contaminants continue to show no significant contamination issues at the VY site.
143 No unexpected site contaminations have been identified thus far. ANR/DEC continues to work
144 closely with NorthStar's remediation contractor, Haley & Aldrich, and DEC's consultant, Atlas, on
145 plans for addressing potential contaminant issues in VT Yankee site's previously identified Areas
146 of Concern (AOCs). Due to ongoing structure demolitions onsite, DEC's groundwater monitoring
147 program was suspended to avoid inadvertently destroying sampling wells. The monitoring
148 program has collected over three years of data without identifying new causes for concern. DEC
149 continues to work with NorthStar on developing a post-demolition groundwater monitoring plan.

150
151 Corrective Action Plans for addressing contaminations in onsite AOC #5 and AOC #7 have been
152 approved. Post demolition surveys for AOC #6 (Chemistry Lab Drains) and AOC #8 (Transformer
153 Pads) were also discussed. Changes in several non-radiological waste monitoring programs were
154 described. These changes were made due to work completed to date at VY. A stream alteration
155 permit in preparation for removal of the River Intake and River Discharge structures was issued
156 on May 2. Mr. Bradley also noted that he had recently visited VY to observe onsite work first-
157 hand.

158
159 • **Public Service Department (PSD) Update:**
160 PSD Special Counsel Eric Guzman outlined PSD's fiscal oversight of the VY Decommissioning
161 project required by the Memorandum of Understanding (MOU) in effect as part of NorthStar's
162 purchase of VY. Nick Capik of Four Points Group (FPG), PSD's consultants for overseeing the
163 project, were also present to provide additional information, as needed. (Slides for this
164 presentation are available from the Panel's website.)

165
166 PSD's financial and technical oversight role was outlined, which includes receiving updates on
167 work completed versus work remaining and project expenditures versus funds remaining. PSD
168 coordinates with other State Agencies and FPG to assess project status and whether

169 decommissioning trust fund reimbursement requests are consistent with the work completed.
170 PSD also meets with NorthStar regularly to conduct any follow-up necessary on NorthStar's self-
171 reporting. Regular site visits by FPG are conducted to observe completed work. The most recent
172 visits occurred in February and April. The site visits continue to show that project progress is
173 consistent with that described in NorthStar's status reports.

174

175 NorthStar's required project Annual Financial Disclosures were received by their March 31
176 deadline and remain under PSD review. As of March 31, the projected cost to complete VY
177 Decommissioning and License Termination is \$168 million, but the current value of the Nuclear
178 Decommissioning Trust (NDT) is \$162.5 Million. The NDT is invested in US Treasury Bonds. The
179 NDT value reflects the current worth of these bonds. If the bonds are held to maturity, as
180 expected, their value will be sufficient to cover the current cost of decommissioning. PSD
181 continues to monitor NDT values. Reviews of the Annual Disclosure and NorthStar's monthly
182 reports thus far have not raised any causes for concern for completing the VY decommissioning
183 project on schedule and within available funding.

184

185 • **In Response to Panel Questions on VY Hazmat:** Graham Bradley agreed to find out to
186 what extent DEC reports on VY are publicly available. He will make VY reports available to the
187 Panel in a manner consistent with previous practices. He also reported that, in general, Vermont
188 hazmat standards are lower than Federal (EPA) standards. Vermont typically uses standards
189 (concentration limits) determined for drinking water. Vermont's current standard for PFAS is 20
190 parts per trillion, which is below the current EPA standard of 70 parts per trillion. The EPA is
191 working to reduce its standard. DEC would work through its groundwater monitoring /
192 protection program to revise its standards if realignment with a new EPA standard were to
193 become necessary.

194

195 In response to questions on the volume of non-radiological waste shipped from VY, Corey Daniels
196 committed to include details on non-radiological waste disposal in future NorthStar updates to
197 the Panel. Currently most waste from VT Yankee is shipped as either radiological waste or as
198 mixed waste (which must be sent to Nuclear Regulatory Commission-approved facility).

199

200 No questions on the NorthStar or State Agency presentations were received during the Public
201 Questions period. No public comments were received during the Early Public Comment Period.

202

203 • **Discussion of Federal Nuclear Waste Policy (FNWP) Committee Activities:**
204 Lissa Weinmann, Chair of the Panel's Federal Nuclear Waste Policy Committee, briefly described
205 the Committee's most recent activities. provided a verbal summary of recent Committee
206 activities. The Committee continues to examine aspects of current and potential Federal nuclear
207 wastes policies. To that end, the Committee hosted a meeting on March 6 in which two recognized
208 subject experts, Jay Silberg and Diane Curran, provided perspectives on the 1982 Nuclear Waste
209 Policy Act and the 1986 Amendments to this Act. The two experts discussed potential paths

210 forward; how the current Acts could be changed to move forward with nuclear waste policies. A
211 recording of this meeting is available on the FNWP Committee webpage.

212
213 The Committee will meet on June 12 and June 19 to discuss spent nuclear fuel reprocessing /
214 recycling options. Dr. Sven Bader of Orano will be the featured speaker at the June 12 meeting.
215 Dr. Edwin Lyman of the Union of Concerned Scientists will be the featured speaker on June 19.

216
217 State Nuclear Engineer Tony Leshinskie added that, in response to Committee member discussion
218 at the March 6 meeting, he compiled a list of spent nuclear fuel, nuclear decommissioning and
219 nuclear power-related bills that have been introduced in recent Congressional sessions. (Details
220 on this summary are available in Section X of this Annual Report.)

221
222 Near the end of the FNWP Committee report, Lissa Weinmann asked whether the Committee
223 could offer an honorarium (nominal payment) to speakers invited to present at its meetings, and
224 whether a vote could be taken on this subject this evening. She also asked whether the Per Diem
225 for eligible Panel members could be increased to \$100.

226
227 Panel Chair Steve Skibniowsky indicated that while he was open to discussing honorariums and
228 Panel expenses, this was new Panel business. After additional discussion, it was realized that
229 these topics should have been brought up when the Agenda was reviewed shortly after the
230 meeting's start. As such, he suggested that a vote on honorariums be a topic for the Panel's
231 September meeting.

232
233 Public Service Commissioner June Tierney noted that honorarium and Per Diem questions were
234 really a budget allocation issue. She suggested that the Panel create a budget for discussion at the
235 September meeting. Panelists deserve a say in how Panel funds are to be used. She also
236 suggested that the legislation that created the Panel (which includes discussion on Per Diems and
237 the Panel's funding sources) be reviewed. (This Legislation is available from the Panel website at:
238 [https://publicservice.vermont.gov/document/2021-vt-legislation-revising-ndcap-composition-](https://publicservice.vermont.gov/document/2021-vt-legislation-revising-ndcap-composition-duties-and-funding)
239 [duties-and-funding.](https://publicservice.vermont.gov/document/2021-vt-legislation-revising-ndcap-composition-duties-and-funding))

240
241 The Panel agreed to discuss its budget at the September meeting. Steve Skibniowsky added that
242 since he's received several requests to improve the Panel's outreach, he'd like to discuss this at the
243 September meeting as well. He also asked that "New Panelist Orientation" materials be discussed
244 too.

245
246 • **Report of Spent Fuel Policies Principles Working Group:**

247 State Nuclear Engineer Tony Leshinskie reported on several meetings he recently attended
248 organized by several spent fuel policy stakeholders attempting to move Federal Spent Nuclear
249 Fuel Policies forward. The group is mostly led by the San Onofre Decommissioning Citizens
250 Engagement Panel, but it also includes several southern California local government officials, as
251 well as several other local government officials, tribal representatives, and advocacy groups, such

252 as the Nuclear Waste Strategy Coalition, from across the US. Panelists from several other Citizen
253 Advisory Panels (e.g., Pilgrim, Zion, Diablo Canyon) also attended the meetings. The initial
254 meeting was a “one on one” with San Onofre Panel representatives that Panelists Steve
255 Skibniowsky and Lissa Weinmann attended. Subsequent meetings were with the larger group.
256 The formal name of the group is “Communities Seeking Solutions to the Spent Fuel Crisis.”
257

258 The San Onofre Panel has started this push because the decommissioning San Onofre plant is
259 located on land rented from the Camp Pendleton US Marine Corp Base. The Marines (and the
260 Navy) have indicated that San Onofre’s spent fuel cannot remain at the base once the remainder of
261 the plant is decommissioned, meaning that the fuel will need to be moved somewhere. The San
262 Onofre Panel leadership believes that reaching out to similar decommissioning panels across the
263 US and other interested stakeholders is the best way to get movement on Federal spent fuel
264 policies and siting a centralized spent fuel repository. Having multiple stakeholders from around
265 the country calling for spent fuel policy actions will get more notice from Congress than one Panel
266 from California will.
267

268 The Communities Group is developing a set of policy positions that it hopes that panels such as VT
269 NDCAP will consider endorsing and presenting to their respective Congressional Delegations for
270 action. While no policy positions have been publicly issued yet, the Group hopes to provide
271 positions that call for:
272

- 273 • An autonomous organization for national spent fuel management
 - 274 • Reliable and adequate funding for interim spent nuclear fuel storage
 - 275 • Pursuit of multiple permanent repository sites
 - 276 • Active engagement with state, local, and tribal governments on spent fuel policy issues
- 277

278 Two potentially divergent issues that the Communities Group hopes to publish policy positions on
279 include:
280

- 281 • Including privately stored fuel in Federal ownership of spent nuclear fuel (i.e., Department
282 of Energy takes title to fuel stored in private interim facilities and not just federal interim
283 facilities)
 - 284 • Clarification or redefinition of the linkage between interim and permanent spent fuel
285 storage (i.e., can interim storage exist without a clear permanent disposal plan)
- 286

287 Mr. Leshinskie emphasized that the purpose of this summary was to give VT NDCAP a heads-up
288 that these policy positions will likely become available soon. The Panel, or more likely its FNWP
289 Committee, should review these positions, once available, for potential Panel endorsement.
290

- 291 • **General Public Comments:** None were received during the Public Comment Period.
- 292
293

294 **September 19, 2023**

295

296 Similar to the Panel’s May 8 meeting, the September 19 meeting largely consisted of reports from
297 NorthStar and several State Agencies on recent VY decommissioning activities. Several Panel
298 administrative items were also discussed.

299

300 • **Panel Chair Status Discussion:**

301 Due to the absence of Panel Chair Steve Skibniowsky, Panel Vice-Chair Lissa Weinmann chaired
302 this meeting. It was noted that Steve Skibniowsky was undergoing treatment for a recently
303 diagnosed cancerous tumor. While Mr. Skibniowsky hopes to continue to serve on the Panel, he
304 needs to step down as Panel Chair. (It was noted that Mr. Skibniowsky has given permission to
305 publicly discuss his health status.) State Nuclear Engineer Tony Leshinskie noted that under the
306 legislation establishing the Panel and the Panel’s Charter, Lissa Weinmann could serve as Acting
307 Panel Chair for the remainder of the current Chair’s term, which ends in December. Alternatively,
308 the Panel could opt to hold an election for a new Chair this evening. Lissa Weinmann indicated
309 that she was willing to continue as Acting Panel Chair for the remainder of the year but was also
310 willing to have Steve Skibniowsky chair the Panel’s December meeting if he was feeling up to it at
311 the time.

312

313 After additional discussion, the Panel agreed to have Lissa Weinmann continue as Acting Chair for
314 the remainder of the year. Elections for Panel Chair and Vice-Chair will be held at the December
315 meeting, as originally planned.

316

317 • **NorthStar Update on VY Site Decommissioning Activities:**

318 NorthStar Panelist Corey Daniels summarized decommissioning activities completed since May
319 2023. (Slides for this presentation are available from the Panel’s website.) It was noted that
320 NorthStar has worked well over 1.6 million hours without an OSHA Recordable Lost Time
321 Accident since starting VT Yankee’s active decommissioning in January 2019. The NRC has issued
322 no cited violations during this time. Additionally, the NRC completed a site security inspection
323 during the week of September 11.

324

325 The project remains ahead of schedule. Progress on dismantling Reactor Building (RB)
326 components and the active demolition of the Turbine Building (TB) was described. Components
327 clearing in the RB to TB Steam Tunnel is underway; components clearing at the River Discharge
328 Structure has completed. The downsizing and removal of the RB Torus structure are complete, as
329 is removal of the concrete pads for the Condensate Storage Tank and the site’s Spare Transformer.
330 Clearing of below-grade piping between the Advanced Off-Gas Building Courtyard and the former
331 Effluent Stack, as well as backfilling of the former Cooling Tower Basin were also described.

332

333 NorthStar is currently averaging 4 to 5 radioactive waste shipments per week. As of August 31,
334 148 radioactive waste shipments have occurred this year; 685 shipments have occurred since the

335 start of decommissioning. NorthStar continues to meet with State Agencies on a regular basis to
336 discuss project status.

337

338 • **Department of Environmental Conservation (DEC) Update:**

339 Graham Bradley, Hazardous Sites Manager in DEC's Waste Management and Prevention Division
340 outlined the ANR / DEC's recent interactions with VY. (Slides for this presentation are available
341 from the Panel's website.) Regular status calls, draft permit and corrective action plan reviews
342 continue. Sampling programs for non-radiological contaminants continue to show no significant
343 contamination issues at the VY site. No unexpected site contaminations have been identified thus
344 far. ANR/DEC continues to work closely with NorthStar's remediation contractor, Haley &
345 Aldrich, and DEC's consultant, Atlas, on plans for addressing potential contaminant issues at VY's
346 previously identified Areas of Concern (AOCs). DEC's groundwater monitoring program remains
347 suspended to avoid inadvertently destroying sampling wells during ongoing structure
348 demolitions onsite. Groundwater monitoring will resume once onsite demolitions are complete.
349 DEC continues to monitor onsite PFAS contaminations. PFAS levels of up to 57 parts per trillion
350 have been observed onsite, which exceeds DEC's 20 parts per trillion limit. The observed PFAS
351 level is similar to those seen at other industrial sites within Vermont.

352

353 Additionally, DEC recently completed reviews of VY's stormwater discharge program and VY plans
354 for River Discharge Structure demolition.

355

356 • **Public Service Department (PSD) Update:**

357

358 PSD Special Counsel Eric Guzman outlined PSD's fiscal oversight of the VY Decommissioning
359 project required by the MOU in effect as part of NorthStar's purchase of VY. Nick Capik of Four
360 Points Group (FPG), PSD's consultants for overseeing the project, was also present to provide
361 additional information, as needed. (Slides for this presentation are available from the Panel's
362 website.) PSD's oversight includes receiving updates on work completed versus work remaining
363 and project expenditures versus funds remaining. PSD coordinates with other State Agencies and
364 FPG to assess project status and whether Nuclear Decommissioning Trust (NDT) reimbursement
365 requests are consistent with the work completed. PSD also meets with NorthStar regularly to
366 conduct any follow-up necessary on NorthStar's self-reporting. Regular site visits by FPG are
367 conducted to observe completed work. The most recent visit was on June 26. Like previous site
368 visits, the observed project progress was consistent with that described in NorthStar's status
369 reports. An additional FPG site visit will occur in the upcoming weeks.

370

371 Updates on the Decommissioning and Site Restoration Trust Funds were provided. As of August
372 31, the projected cost to complete Decommissioning and License Termination is \$138.4 million,
373 but the current value of the NDT is \$132.8 Million. The NDT is invested in US Treasury Bonds.
374 The NDT value reflects the current worth of these bonds. If the bonds are held to maturity, as
375 expected, their value will be sufficient to cover the current cost of decommissioning. PSD
376 continues to monitor the fund values. Based on NorthStar's most recent monthly reports,

377 NorthStar continues to remain on track to complete the project on schedule and within available
378 funding.

379

380 • **Additional Agency Reports:**

381 At the request of the Panel Vice-Chair, Panelist Dr. Bill Irwin, Vermont Radiological and Toxicology
382 Sciences Chief, provided a verbal summary of current Department of Health oversight at Vermont
383 Yankee. VT Health continues to meet NorthStar and other State Agencies on a regular basis to
384 review progress on VT Yankee’s decommissioning. Additionally, VT Health reviews all radioactive
385 waste shipment notifications and the NRC’s monitoring of onsite radiological conditions. VT
386 Health continues to be pleased with the decommissioning work completed to date at VT Yankee

387

388 • **During Panel Questions:** Panelist David Eastman noted that he recently toured the VT
389 Yankee site and thanked Panelist Corey Daniels for his assistance during this visit.

390

391 Acting Chair Lissa Weinmann had several follow-up questions on Bill Irwin’s report VT
392 Department of Health activities, including whether there was more onsite scrutiny in areas where
393 tritium had been detected in 2010. She also asked about the status of Health’s online VT Yankee
394 surveillance reports, which do not appear to have been updated since 2019. No answers were
395 provided to these questions since Bill Irwin had to drop off the webcast to attend a different
396 meeting. Lissa said she would discuss these questions with Bill Irwin after the meeting.

397

398 • **Public Questions on NorthStar and State Agencies Reports:**

399 With prior consent from the Acting Chair (Lissa Weinmann), Paul Blanch, a nuclear energy
400 consultant from West Hartford, CT, made a brief presentation to the Panel. The slides for this
401 presentation are available at on the Panel website in the “Meeting of September 18, 2023” section.
402 The presentation provided details on several questions that Mr. Blanch has asked at meetings of
403 the San Onofre Decommissioning Citizens Engagement Panel regarding long-term onsite spent
404 nuclear fuel storage. Mr. Blanch’s comments regarding VT NDCAP’s functioning were
405 complimentary (“running a good show”). His primary concerns from San Onofre observations
406 include whether the spent fuel is being maintained in a retrievable condition and whether
407 monitoring of the fuel is adequate. He also noted that some of these concerns are exacerbated by
408 local conditions at San Onofre that are of much less concern at VT Yankee (e.g., the risk for
409 flooding or chloride-induced corrosion and the lack of monitoring instrumentation on some of the
410 canisters).

411

412 A discussion of spent fuel storage requirements ensued between Mr. Blanch and Panelist Corey
413 Daniels. Corey Daniels noted several points where he disagreed with Mr. Blanch’s interpretations
414 of spent fuel storage regulations.

415

416 Additional discussion on the spent fuel monitoring capabilities at VT Yankee ensued, which
417 resulted in Vice-Chair Lissa Weinmann asking what measures were in place at VT Yankee to
418 detect spent fuel cask leakage. Corey Daniels noted that the spent fuel monitoring partly relies on

419 leak checks that were conducted when the spent fuel cannisters were loaded. The cannisters are
420 double sealed via welding. A breach in a double sealed cannister is regarded as a non-credible
421 accident; to date, there is no known breach of any such sealed spent fuel cannister. Nonetheless,
422 VT Yankee's spent fuel cannisters include temperature monitoring systems that are checked daily
423 and are subjected to routine radiological monitoring. In response to an additional question from
424 Paul Blanch, Corey Daniels indicated that this radiological monitoring includes occasional surveys
425 of the dry cask vents.

426
427 In response to several questions from Ann Darling (Citizens Awareness Network), noted the
428 following additional details regarding VY's decommissioning:

- 429
- 430 - VY's demolition concrete is sent to Waste Control Specialists (WCS) facilities in Andrews, TX
431 since it has minor radiological contamination.
 - 432 - Under agreement with the State of Vermont, the only VY concrete that will be used as onsite
433 fill is from demolitions of the Cooling Towers and the River Discharge Structure.
 - 434 - VY is not subject to the NRC's post-Fukushima probable maximum precipitation guidance
435 since it ceased power generation prior to the publication of the guidance. VY works with Great
436 River Hydro (owner of the several hydroelectric dams along the Connecticut River) to track
437 expected river levels from flooding events. Historically, the worst observed flooding during VY's
438 operation was from Hurricane Irene (August 2011). There was still about a 30-foot margin to
439 onsite flooding at that time. It should be noted that access to VY could be impacted by area
440 flooding if travel conditions near the site are impacted.

441

442 • **Early General Public Comments:**

443 Rebecca Ellis from US Senator Peter Welch's (D-VT) Office introduced herself to the Panel and
444 noted that she would be following nuclear decommissioning-related issues for the Senator. She
445 briefly described her previous experience, noting that she had once served as a Deputy
446 Commissioner for the VT Department of Environmental Conservation. She invited Panelists and
447 members of the public to reach out to her if they have questions concerning Vermont Yankee's
448 decommissioning.

449

450 Acting Chair Lissa Weinmann asked whether Senator Welch intended to reintroduce any of the
451 several decommissioning policy-related bills that had been proposed in recent Congresses. Ms.
452 Ellis indicated that she would check and get back to the Panel. Acting Chair Weinmann also
453 reported that Congresswoman Becca Balint (D, VT-AT) has joined the US Congressional Spent
454 Nuclear Fuel Solutions Caucus.

455

456 Panelist Chris Campany noted that the Statute establishing the Panel will need to be revisited once
457 active decommissioning is complete. State Nuclear Engineer Tony Leshinskie added that the
458 Yankee Rowe Spent Fuel Storage Facility's Community Advisory Panel could serve as a model for
459 VT NDCAP once VY's active decommissioning is complete.

460

461 • **Discussion of Federal Nuclear Waste Policy (FNWP) Committee Activities:**
462 Lissa Weinmann, Chair of the Panel’s Federal Nuclear Waste Policy Committee, briefly described
463 the Committee’s most recent activities. The Committee continues to examine aspects of current
464 and potential Federal nuclear wastes policies. To that end, the Committee hosted two meetings in
465 June that discussed potential spent nuclear fuel reprocessing policies. Dr. Sven Bader of Orano
466 spoke at a June 12 meeting outlining potential reprocessing technologies. Dr. Edwin Lyman from
467 the Union of Concerned Scientists spoke at a June 19 meeting outlining policy issues that
468 reprocessing potentially raises. Recordings of these meetings are available on the FNWP
469 Committee webpage.

470
471 The Committee will hold its next meeting (webcast) on September 25 at which several US
472 Department of Energy officials will discuss the status of spent fuel transportation planning.

473
474 • **Potential Panel Budget Expenditures:**

475 State Nuclear Engineer Tony Leshinskie briefly outlined a preliminary budget he compiled for
476 Panel expenditures, up to a \$35,000 cap, in the current fiscal year. (A copy of this budget is
477 available from the Panel’s website in the “Meeting of September 18, 2023 section.”)

478
479 The preliminary budget includes estimates for meeting logistics items such as BCTV recording and
480 webcast hosting expenses, per diems for eligible panelists, and potential physical meeting space
481 rentals. Line items for several previously proposed Panel expenses such as a dedicated Panel staff
482 member (a contractor) and a potential website refresh by an outside consultant are also included.
483 Several allocations for potential “Panel Education” expenses are also included.

484
485 After a brief discussion, the Panel agreed to eliminate budget items for meeting space rentals and
486 meeting space infrastructure since Panel meetings through June 2024 will likely remain virtual.
487 The “Panel Education” line items generated significant discussion.

488
489 Panelists June Tierney and Lissa Weinmann related a budgetary decision from early June. Lissa
490 requested Panel funding to register for and attend the National Radioactive Waste Summit in
491 Nevada later that month. The decision on this request was hampered by the fact that the Panel
492 does not have an established procedure for approving such expenses. Ultimately, the request was
493 approved (since sufficient budget remained available) under the condition that Lissa would report
494 back to the Panel on what she had learned at the Summit. It was also noted that due to a last-
495 minute conflict, Lissa was unable to attend the Summit. Her paid registration fee has been applied
496 to registering for the 2024 Summit.

497
498 Commissioner Tierney urged the Panel to develop a policy for approving Panel expenditure
499 requests. Currently she has no guidance on what constitutes reasonable Panel expenses,
500 particularly for potential Panel travel. She suggested that such guidance encourage online
501 attendance for conferences whenever possible. Budget funds can be exhausted quickly by travel.

502 She also suggested that the Panel guidance / policy require that the attending Panelist provide a
503 report to the Panel on what was learned.

504
505 Panelist Emily Davis provided insights on the several previously proposed expenditures since she
506 developed earlier Panel budget drafts. Determining what constituted appropriate Panel
507 Education expenses generated significant discussion previously, but no decisions were made at
508 the time. An approval process for such Panel expenses is needed. Perhaps this could simply be
509 several bullet points to outline a policy?

510
511 Commissioner Tierney suggested that the Panel think about policy bullets for self-governance –
512 what is the Panel comfortable with for policies? Should Panel Education and similar expenses
513 require approval from a committee or the whole Panel?

514
515 After additional discussion, Lissa Weinmann stated that she would make the email thread
516 between Commissioner Tierney and her for the Radwaste Summit approval available to Panelists
517 as an example of a potential expense approval process. A consensus was reached that the draft
518 budget should be reexamined to eliminate items that are no longer a priority and flesh out
519 expenditure categories for the current budget. Panelists Emily Davis and David Eastman
520 volunteered to help reexamine the budget and to make a first attempt at several expense approval
521 policy points.

522
523 Ann Darling (Citizens Awareness Network, Easthampton, MA) commented that she was
524 disappointed that the Panel's budget discussion did not include funding for enhancing the Panel's
525 public outreach. Several Panel members asked for clarification on what enhanced outreach
526 meant. Ms. Darling noted that if the Panel website is going to be the Panel's primary outreach tool,
527 more needs to be done to promote public awareness of the website. She also suggested that the
528 Panel consider holding public forums.

529
530 Lissa Weinmann indicated that as Acting Chair, she would participate in the policy drafting and
531 budget examination process. She will follow up Emily, David, and Tony Leshinskie to work on
532 these items, with the intent of having a revised budget draft and policy guidance items available
533 for Panel approval at the December 11 meeting.

534
535 • **Potential Future Panel Meeting Topics:**
536 State Nuclear Engineer Tony Leshinskie explained that this discussion item was specifically
537 requested by Panel Chair Steve Skibniowsky. Panelist Bob Leach recently asked Steve whether
538 the Panel could discuss Small Modular Reactors as a potential repurposing of the VT Yankee site.
539 Steve was open to such a discussion provided some other Panel members were also interested.
540 Tony's suggestion to Steve was to ask the Panel whether there were specific topics that they
541 wanted discussed at future meetings, either as part of a regular meeting agenda or a meeting
542 dedicated to a specific topic.

543

544 Several suggestions were made including a discussion outlining do's and don'ts in webcasts under
545 Vermont Open Meeting Law. A similar topic on handling offline communications with respect to
546 Open Meeting Law was also suggested. Commissioner Tierney suggested a meeting exploring
547 what improved public outreach meant. Lissa Weinmann requested that additional meeting topics
548 could be emailed to her. Suggestions from the public could be sent to the Panel's email address
549 (PSD.NDCAP@vermont.gov).

550
551 • **General Public Comments:** The Panel was thanked for tonight's discussions on improving
552 public outreach.

553
554

555 **December 11, 2023**

556

557 In addition to receiving reports from NorthStar, DEC and PSD on recent VY decommissioning
558 activities, the Panel received reports from Vermont Department of Health and the US NRC on
559 radiological monitoring programs at VY. The Panel's 2024 Budget and Educational Expense
560 Protocol were finalized and adopted. The Panel's Annual Report was also finalized. Elections of
561 Officers for the 2024 Calendar Year were conducted. With 11 Panelists in attendance at the start
562 of the meeting, a quorum (9 Panelists required) was present throughout the meeting.

563

564 • **VT Department of Health Radiological Monitoring Program at VY:**

565 Dr. Bill Irwin (Ph.D), Radiological & Toxicological Sciences Program Chief at the Vermont
566 Department of Health, provided an overview presentation of the Health Department's Radiological
567 Monitoring Program in the area surrounding the VT Yankee site. (Slides for this presentation are
568 available from the Panel's website.)

569

570 VT Health's monitoring program has collected radiological dose information from areas
571 surrounding VT Yankee for five decades. Health's reporting on this monitoring was suspended
572 between March 2020 and October 2022 because the Monitoring Program staff was diverted to
573 COVID-19 response during this time. The Monitoring Program and its reports have identified
574 radiological findings in the past. Subsequent investigations resolved these issues through
575 cooperation with VT Yankee Staff. No significant radiological doses are expected from these
576 past findings. Overall, limited pollution has been identified from these findings.

577

578 While several programs such as sediment and fish sampling ceased once VT Yankee ceased
579 power generation, most monitoring programs have continued throughout VT Yankee's
580 decommissioning. Gamma dose monitoring is one such example.

581

582 Some of VT Health's monitoring program requirements pre-date similar NRC monitoring
583 requirements. Potential radiological dose pathways from VT Yankee were discussed. Of the
584 current pathways still relevant to VT Yankee's decommissioning, a radiological site boundary
585 dose rate of 15 millirem per year remains applicable at VT Yankee. This limit will remain

586 in effect after VT Yankee's decommissioning is complete. The actual site boundary
587 dose rates are typically around 6.7 millirem per year.

588

589 Dr. Irwin noted that the next two years remain important regarding VT Yankee's
590 radiological clean-up. It is usually about this point in active decommissioning projects
591 (once most of the known contaminants have been addressed) that previously unknown
592 contaminants are found. While this is not expected at VT Yankee, nonetheless, the
593 Monitoring Program will continue to guard against this.

594

595 • **Nuclear Regulatory Commission Overview of Radiological Monitoring at VY:**

596 Anthony Dimitriadis, NRC Region 1 Branch Chief for Reactor Decommissioning, Spent Fuel Storage
597 Facilities and Radiation Health Physics and Steve Hammann, NRC Region 1 Senior Health Physicist
598 & Lead Decommissioning Inspector, discussed NRC Oversight and Inspections that are conducted
599 during VT Yankee's decommissioning, with an emphasis on NRC radiological monitoring oversight
600 at VT Yankee. Mr. Dimitriadis has roughly 30 years of experience in decommissioning regulation.
601 Mr. Hammann noted that he has conducted decommissioning-related inspections at VT Yankee for
602 the past 5 years. (Slides for this presentation are available from the Panel's website.)

603

604 Mr. Dimitriadis highlighted the NRC's overall decommissioning regulation program, including
605 the transition from the Reactor Oversight Program used for operating power plants, the
606 regulation in place for spent fuel management and the typical regulatory activities during an
607 active plant decommissioning. Throughout these decommissioning phases and activities,
608 emphasis is focused on Spent Fuel Pool maintenance (until fuel is moved to dry cask storage),
609 the maintenance of site Environmental Monitoring and Fire Protection programs, as well as
610 radiological protections for site workers. The various methods for NRC oversight were
611 outlined. These frequently include onsite walkdowns, random worker interviews, and review
612 of documents and protection program records. Specialist inspectors are brought in as
613 necessary.

614

615 It was noted that NRC Region 1 currently includes 6 actively decommissioning power plant
616 sites, the most anywhere in the world.

617

618 Mr. Hamman then outlined specific inspections he typically conducts during site visits to VT
619 Yankee. In particular, he looks to assure that an appropriate safety culture exists onsite, that
620 the worker radiological protection programs are rigorously followed, that environmental
621 monitoring and fire protection remain robust and appropriately followed. The key is to assure
622 that all staff, particularly those who may be new to working at a nuclear power facility, are
623 fully aware of the risks associated with decommissioning tasks.

624

625 It was noted that most violations that occur at a decommissioning plant become public record.
626 The exceptions to this are issues involving medical records and security-related violations.

627

628 Most NRC radiological monitoring consists of confirming that the programs implemented by
629 licensees meet regulatory requirements and are properly followed at a given site. However,

630 decommissioning inspectors, such as Mr. Hamman, will occasionally perform confirmatory
631 radiological surveys on site areas that the licensee has determined to be radiologically clean.
632

633 • **During Questions and Answers for the NRC and VT Health Presentations:**

634 It was noted that the tritium leak detected in 2011 quickly dissipated. No other isotopes were
635 detected in follow-up monitoring. Quarterly monitoring well surveillance has continued to detect
636 no subsequent tritium leaks or other isotopes. In subsequent discussion it was also noted that
637 there are no additional radiological monitoring requirements in place at VT Yankee due to the
638 location of an elementary school immediately across the street.
639

640 Panelist Brett Long asked whether VT Yankee can be redeveloped while the spent fuel dry casks
641 remain onsite. Anthony Dimitriadis responded that the removal of spent fuel from nuclear
642 power plant sites was the responsibility of the US Department of Energy once a site has been
643 released from its NRC license. The NRC is not responsible for the spent fuel issue. However, Mr.
644 Dimitriadis noted that there has been no significant redevelopment of former nuclear plant sites
645 in the US.
646

647 Acting Chair Lissa Weinmann asked whether any NRC violations have occurred at VT Yankee.
648 Steve Hammann replied that no worker safety violations have occurred. Overall, NorthStar is
649 doing a very good job with VT Yankee's decommissioning. Anthony Dimitriadis added that VT
650 Yankee's decommissioning is regarded as the best executed active decommissioning project in
651 NRC Region 1; it is possibly the best on-going decommissioning project in the world.
652

653 • **NorthStar Update on VY Site Decommissioning Activities:**

654 NorthStar Panelist Corey Daniels summarized decommissioning activities completed since
655 September 2023. (Slides for this presentation are available from the Panel's website.) It was
656 noted that NorthStar has worked over 1.8 million hours without an OSHA Recordable Lost Time
657 Accident since starting VT Yankee's active decommissioning in January 2019. The NRC has
658 issued no cited violations during this time. Progress on dismantling the remaining Reactor
659 Building (RB) components and the Turbine Building (TB) demolition was described. Demolition
660 of above ground portions of the TB is complete. Clearing of TB debris and its structural steel
661 scrap continues. Components removal from the RB Torus area is nearly complete. Final
662 draining of the Spent Fuel Pool (SFP) has completed; final decontamination of the SFP is
663 underway. Some interior RB walls have been partially demolished to facilitate components
664 removals. Demolition of the RB itself is expected to start in early 2024.
665

666 Backfilling and re-grading at the former Cooling Towers site is complete. As part of
667 preparations for demolishing the River Discharge Structure, the onsite storm water discharge
668 has been rerouted away from the structure.
669

670 NorthStar continues to average 4 to 5 radioactive waste shipments per week. As of December 5,
671 230 radioactive waste shipments have occurred this year; 767 shipments have occurred since the
672 start of decommissioning. NorthStar continues to meet regularly with State Agencies to discuss
673 project status.

674

675 • **Department of Environmental Conservation (DEC) Update:**

676 Graham Bradley, Hazardous Sites Manager in DEC's Waste Management and Prevention Division
677 outlined the Agency of Natural Resources (ANR) / DEC's recent interactions with VY. (Slides for
678 this presentation are available from the Panel's website.) Regular status calls, draft permit and
679 corrective action plan reviews continue. Sampling programs for non-radiological contaminants
680 continue to show no significant contamination issues at the VY site. No unexpected site
681 contaminations have been identified thus far. It is anticipated that some petroleum contamination
682 onsite will need to be addressed. DEC's groundwater monitoring program remains suspended to
683 avoid inadvertently destroying sampling wells during structure demolitions onsite. Groundwater
684 monitoring will resume once the onsite demolitions are complete. DEC expects that it will have
685 more issues to discuss at future Panel meetings.

686

687 • **Public Service Department (PSD) Update:**

688 Eric Guzman, PSD Special Counsel outlined PSD's fiscal oversight of the VY Decommissioning
689 project required by the Memorandum of Understanding (MOU) in effect as part of NorthStar's
690 purchase of VY. Nick Capik of Four Points Group (FPG), PSD's consultants for overseeing the
691 project, was present to provide additional information, as needed. (Slides for this presentation
692 are available from the Panel's website.) PSD's financial and technical oversight role was outlined
693 similarly to the reports provided at the May and September Panel meetings. Regular site visits by
694 FPG are conducted to observe completed work. The most recent visit was on December 6. The
695 observed project progress was consistent with that described in NorthStar's most recent status
696 reports.

697

698 Updates on the Decommissioning and Site Restoration Trust Funds were provided. As of
699 November 30, the projected cost to complete Decommissioning and License Termination is \$123.6
700 million, but the current value of the Nuclear Decommissioning Trust (NDT) is \$116.2 Million; the
701 Site Restoration Trust (SRT) value is \$49.3 Million. The NDT and SRT are invested in US
702 Treasury Bonds. The NDT and SRT values reflect the current worth of these bonds. If the bonds
703 are held to maturity, as expected, their value will be sufficient to cover the current cost of
704 decommissioning. PSD will continue to monitor the fund values. Overall, NorthStar remains on
705 track to complete the project on schedule with the currently available funding.

706

707 • **During Panel Questions:** Corey Daniels indicated that water accumulating within the
708 Turbine Building footprint is not being pumped onto or into the ground. Such water is still being
709 collected, stored, and eventually shipped offsite. Corey added that this water, while slightly
710 contaminated, remains well within drinking water standards for radiological contamination.
711 Graham Bradley added that this water is also being monitored for non-radiological contaminants
712 and remains in compliance with relevant standards.

713

714 • **During Public Questions on the NorthStar and State Agencies Reports:** The Panel was
715 asked what role it would play during the Vermont Yankee License Termination Process (LTP).

716 Public Service Commissioner June Tierney noted that the Panel has no formal role since the LTP is
717 an NRC responsibility. The State’s role in VY’s decommissioning was defined in the NorthStar
718 Purchase Memorandum of Understanding (Vermont PUC Docket 8880). State Nuclear Engineer
719 Tony Leshinskie added that he will review LTP documentation and will provide comments to the
720 NRC as necessary. Panelist Chris Campany noted that the NorthStar Purchase MOU established
721 the site release criteria being used for the Vermont Yankee LTP.

722
723 • **In the Early General Public Comments:** The Panel was asked to continue work on
724 improving its public outreach. It was also suggested that that the Panel discuss its activities
725 directly with the Vermont Legislature (rather than only submitting its Annual Report to the
726 Legislature).

727
728 • **Panel 2024 Budget and Educational Expense Protocol:**
729 Continuing a discussion from the September 11 Panel meeting, an educational expense
730 authorization procedure was considered. Subsequent to the September 11 meeting,
731 several Panelists created a procedure draft, which is available at:
732 [https://publicservice.vermont.gov/document/vt-ndcap-proposed-process-panel-](https://publicservice.vermont.gov/document/vt-ndcap-proposed-process-panel-expense-approvals)
733 [expense-approvals.](https://publicservice.vermont.gov/document/vt-ndcap-proposed-process-panel-expense-approvals)

734
735 After discussing the approval procedure draft, one change was made: in Item 2a of the
736 approval procedure, “The Chair will either approve the expense,” was changed to “The
737 Chair will either recommend approval of the expense,” since final expense approvals
738 must be made through the Public Service Commissioner’s Office. The Panel approved
739 the amended expense approval procedure by a 9-0 vote with 2 abstentions.

740
741 The Panel then reopened discussion on its preliminary budget that was previously
742 discussed at the September Full Panel meeting. (This budget is available at:
743 [https://publicservice.vermont.gov/document/potential-vt-ndcap-budget-allocations-](https://publicservice.vermont.gov/document/potential-vt-ndcap-budget-allocations-fy2024-rev-1.)
744 [fy2024-rev-1.](https://publicservice.vermont.gov/document/potential-vt-ndcap-budget-allocations-fy2024-rev-1.))

745
746 In ensuing discussion, it was noted that the just approved educational expense protocol
747 would not necessarily be applied to all potential Panel expenses. For example, meeting
748 logistics expenses would not require this approval process. The intent of the proposed
749 budget is to identify categories for potential expenses and provide some guidelines for
750 expenses in those categories. Ultimately, individual expenses would still be approved
751 through the Public Service Commissioner’s Office. The Panel approved the proposed
752 budget by a 9-0 vote with 2 abstentions.

753
754 • **Draft Annual Report for 2023:**
755 The current draft of the Panel’s 2023 Annual Report to the Legislature, authored by State Nuclear
756 Engineer Tony Leshinskie, was reviewed. Actions for finalizing the report by its January 15, 2024
757 due date were determined. The report was unanimously approved, subject to implementing the
758 authorized changes. Acting Chair Lissa Weinmann indicated that she was working to arrange a

759 meeting with the Legislature’s Energy Committee’s to discuss the Panel’s 2023 activities in more
760 detail. This meeting date will be announced to Panelists once it is known.

761

762 • **Election of New Panel Officers:** In separate votes, Chris Campany was elected Panel Chair
763 and Lissa Weinmann was re-elected Panel Vice-Chair for terms of 1 year. Several Panelist thanked
764 Lissa Weinmann for her service as Acting Panel Chair for the latter half of 2023. Several Panelists
765 thanked the Panel as a whole and the members of the public in attendance for conducting Panel
766 business with civility throughout the year.

767

768

769 **IV. Major Milestones and Activities at the Vermont Yankee Site**

770

771 • 1/3 Site Decommissioning Activities resume following Holiday Break

772 • 1/3 Draining & decontamination of Spent Fuel Pool (SFP) resumes; components clearing in
773 RB Corner Rooms dismantling & Torus structure demolition resume; Turbine Building
774 (TB) piping and equipment removals resume; TB Chemistry Lab hazmat remediation
775 resumes; Piping removals from Advanced Off-Gas (AOG) Building courtyard resume;
776 Radioactive waste shipments via railcars resume

777 • 1/9 Clearing of abandoned Refueling Floor systems components begins; TB Chemistry
778 Lab hazmat remediation completed; Two TB 280 kV transformers sold for reuse at
779 another site; Demolition of Security Gatehouse #3 (near River Discharge Structure)
780 completed; Onsite asbestos abatement underway, where practical

781 • 1/16 Cutting for a new RB equipment and personnel access point in the RB High -Pressure
782 Coolant Injection (northeast) Corner Room begins; Asbestos abatement in the TB to
783 AOG Building tunnel begins; Debris clearing from Gatehouse #3 demolition completed

784 • 1/30 Final draining of Spent Fuel Pool suspended to prioritize other decommission tasks

785 • 1/30 TB Chemistry Lab piping removals begin

786 • 2/6 Construction of new Radiation Protection (RP) Checkpoint (personnel access point)
787 in RB High-Pressure Coolant Injection (northeast) Corner Room begins; Radiological
788 surveys in prep for TB demolition begin; TB Chemistry Lab piping removals completed

789 • 2/6 Service Water and Circulating Water Pump Motors downsized for offsite disposal

790 • 2/13 TB epoxy flooring removals begin; TB basement drain pipes removal begins;
791 Service Water and Circulating Water Pump Motors downsizing completed

792 • 2/13 First Nuclear Regulatory Commission (NRC) onsite inspection of the year occurs
793 (2/13 through 2/16)

794 • 2/20 TB epoxy flooring removals completed; Radiological surveys for TB demolition
795 completed; Emergency Diesel Generators demolition begins; Turbine Rotor downsizing
796 begins

797 • 2/22 NRC Second Half 2022 Inspection Exit Meeting – no reported issues, findings,
798 or violations

799 • 2/27 Turbine Deck Shielding (Block) Walls removal begins; TB Steam Pipe Raceway
800 decontamination begins; Removal of external TB green metal wall panels begins

- 801 • 3/3 TB Steam Pipe Raceway decontamination complete
- 802 • 3/17 Asbestos abatement on the RB 318-foot level complete
- 803 • 3/22 Construction of new Radiation Protection (RP) Checkpoint (personnel access point)
- 804 in RB High-Pressure Coolant Injection (northeast) Corner Room complete; New RP
- 805 Checkpoint activated
- 806 • 3/25 New NRC Project Managers for VY Decommissioning announced
- 807 • 3/27 Start-Up Transformers demolition begins
- 808 • 3/30 NorthStar files required Annual VY Decommissioning Trust Fund & Spent Fuel
- 809 Management Fund reports
- 810 • 4/3 Turbine Stator downsizing begins; TB roofing material removal begins;
- 811 Start-Up Transformers demolition complete; Asbestos abatement in AOG Building
- 812 courtyard trenches complete
- 813 • 4/3 Second NRC onsite inspection of the year occurs (4/3 through 4/6)
- 814 • 4/4 New NRC Project Managers for VY Decommissioning visit site
- 815 • 4/10 Removal of external TB green metal wall panels complete; Removal of underlying TB
- 816 gray metal wall panels begins
- 817 • 4/14 Turbine Deck Shielding (Block) Walls removal complete
- 818 • 5/8 Annual site roadway assessment completed (required by Town of Vernon)
- 819 • 5/8 RB to TB Steam Tunnel electrical components removal begins; TB gray wall panel
- 820 radiological surveys begin; Initial Turbine Stator downsizing complete
- 821 • 5/15 Turbine Stator moved to TB Loading Bay for additional downsizing; Removal of below
- 822 grade components near former Effluent Stack site begins; soil stabilization & grass
- 823 seeding at Interim Off-Gas (IOG) System site begins
- 824 • 5/21 Radwaste packaging activities in TB moved to adjacent "Big Top" structure
- 825 (TB demolition prep)
- 826 • 5/26 TB wall panel radiological surveys complete; removal of remaining wall panels
- 827 from TB superstructure begins; Radiological surveys at River Discharge Structure
- 828 begin
- 829 • 6/5 Third NRC onsite inspection of the year occurs (6/5 through 6/8)
- 830 • 6/12 Resealing of RB wall cut for former Materials Transfer "monorail" (between RB & TB
- 831 lower levels), for RB Ventilation System integrity, begins
- 832 • 6/19 TB roofing material removal complete; Removal of all remaining components from
- 833 TB Roof begins
- 834 • 6/22 Third-Party Quality Assurance Audit of VY Procedures completed; no significant
- 835 issues identified
- 836 • 6/26 Removal of components on TB Roof completed; Demolition of TB Roof begins;
- 837 Scrapping of TB Crane begins; Downsizing of Turbine Stator complete
- 838 • 6/29 Torus structure demolition complete; Torus piping removals begin
- 839 • 6/29 1.6 million working hours without an OSHA recordable injury at VY celebrated
- 840 • 7/5 Effluent Stack piping removals begin
- 841 • 7/6 Emergency Diesel Generators demolition complete;
- 842

- 843 • 7/10 TB Crane removed from TB; Crane components segmentation begins; Dismantling of
- 844 High Pressure Coolant Injection (HPCI) and Residual Heat Removal (RHR) Systems
- 845 underway; RB to TB Steam Tunnel mechanical components removal begins; TB lube oil
- 846 tank demolition begins; TB steel superstructure demolition begins
- 847 • 7/14 TB Crane components segmentation complete; TB lube oil tank demolition complete
- 848 • 7/24 Radiological surveys along Effluent Stack piping route begins
- 849 • 7/27 TB roof and steel superstructure demolitions complete
- 850 • 8/2 NRC First Half 2023 Inspection Exit Meeting – no reported issues, findings, or
- 851 violations identified
- 852 • 8/7 Rerouting stormwater discharge (away from River Discharge Structure) begins
- 853 • 8/14 Fourth NRC onsite inspection of the year occurs (8/14 through 8/17)
- 854 • 8/22 Demolition of concrete portion of TB begins
- 855 • 8/25 Effluent Stack piping removals complete
- 856 • 9/5 River Intake Structure Components removal underway
- 857 • 9/8 Radiological surveys along Effluent Stack piping route complete
- 858 • 9/22 River Intake Structure Components removal complete
- 859 • 9/26 Onsite Radiological Emergency Drill conducted
- 860 • 10/5 Demolition of concrete portion of TB complete
- 861 • 10/10 NorthStar conducts Media Day at VY Site
- 862 • 10/10 Fifth NRC onsite inspection of the year occurs (10/10 through 10/12)
- 863 • 10/12 Demolition of last onsite 115-kV transmission tower complete
- 864 • 10/13 VT Yankee Reactor License Termination Plan (LTP) submitted to NRC
- 865 • 10/16 Draining of remaining Spent Fuel Pool water resumes; Demolition of SFP-related
- 866 systems begins
- 867 • 10/27 Spent Fuel Pool drained; Last SFP water shipment leaves VY site; Residual Heat
- 868 Removal (RHR) System demolition complete
- 869 • 10/30 Radiological surveys in Off-Gas Systems trenches complete
- 870 • 11/3 Rerouting stormwater discharge away from River Discharge Structure complete
- 871 • 11/20 Construction of RB exterior ramp (to facilitate RB demolition) using TB concrete
- 872 rubble begins
- 873 • 11/20 AOG Building Foundation demolition begins
- 874 • 12/1 Spent Fuel Pool Cooling System components removed from site
- 875 • 12/11 Sixth NRC onsite inspection of the year occurs (12/11 through 12/14)
- 876 • 12/13 Regrading at former Cool Towers site complete
- 877 • 12/21 Downsizing of concrete from above-grade portions of the TB completed
- 878 • 12/21 Onsite demolition and decommissioning activities suspended for the remainder of
- 879 the year
- 880
- 881
- 882

883 **V. Nuclear Decommissioning Trust (NDT) and Site Restoration Trust (SRT) Fund Updates**
884 *(Based on latest available data for 2023).*

885	NDT	SRT
887	\$180.2 M Balance on December 31, 2022	\$51.2 M Balance on December 31, 2022
888	\$162.5 M Balance on March 31, 2023	\$51.3 M Balance on March 31, 2023
889	\$138.2 M Balance on June 30, 2023	\$50.6 M Balance on June 30, 2023
890	\$126.5 M Balance on September 30, 2023	\$50.4 M Balance on September 30, 2023
891	\$115.4 M Balance on October 31, 2023	\$50.5 M Balance on October 31, 2023
892	\$112.8 M Balance on December 31, 2023	\$49.4 M Balance on December 31, 2023

893
894 Monthly balances for the NDT and SRT are available at:

895 [https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/trust-](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/trust-balances)
896 [balances.](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/trust-balances)

897
898 Summaries of monthly expenditures for the Vermont Yankee Decommissioning Project are
899 available: [https://publicservice.vermont.gov/public-advocacy/vermont-yankee-](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/public-reports)
900 [decommissioning/public-reports](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/public-reports)

901
902 The NDT and SRT are invested in US Treasury Bonds. The NDT and SRT values provided here
903 reflect the worth of these bonds on the listed dates. If the bonds are held to maturity, as expected,
904 their value will be greater than the values reported here. Several NDT and SRT values at bond
905 maturity were reported to the Panel at its December 11 meeting. These values are available in the
906 following presentation:

907
908 [https://publicservice.vermont.gov/document/vt-public-service-department-december-2023-](https://publicservice.vermont.gov/document/vt-public-service-department-december-2023-decommissioning-update)
909 [decommissioning-update](https://publicservice.vermont.gov/document/vt-public-service-department-december-2023-decommissioning-update)

910
911 As of December 31, 2023, the NDT value would be \$114.8 Million and the STT value would be
912 \$50.8 Million if both funds were held to maturity.

913
914
915 **VI. Spent Nuclear Fuel Status at Vermont Yankee**

916 The last of VY's spent fuel inventory was transferred to dry cask storage on August 1, 2018. The
917 VY Independent Spent Fuel Storage Installation (ISFSI) consists of a total of 3,880 spent fuel
918 assemblies (used over the course of VY's 42 years of power generation) contained in 58 dry
919 casks. No changes in the configuration of VY's dry casks have occurred since the placement of
920 the last spent fuel dry case in 2018. However, on October 19, 2022, an additional (59th) dry cask
921 containing VY's Greater-Than-Class C (GTCC) low level radioactive waste was added to the ISFSI.
922 (This GTCC waste consists of several highly contaminated VY Reactor Vessel internal
923 components which had been stored temporarily in VY's Spent Fuel Pool following their removal
924 from the RV.) With this move, all VY GTCC waste resides at the VY ISFSI. VY's spent fuel will
925 remain at the VY ISFSI until the US Department of Energy fulfills its obligation to provide a

926 national spent nuclear fuel repository. VY's GTCC waste will remain at the VY ISFSI until a US
927 radioactive waste disposal facility is licensed to accept GTCC waste.

928
929 A total of 6 vacant cask spaces remain on VY's ISFSI pads. Four of these are required should the
930 arrangement of the dry casks on the two ISFSI pads need to be changed for any reason. The
931 remaining two spaces were designated for storing additional VY GTCC Low Level Radioactive
932 Waste. Early (circa 2014) GTCC volume estimates suggested that VY could require as many as
933 three GTCC waste casks. More refined estimates (circa 2018 and later) determined that only one
934 GTCC waste cask would be necessary.

935
936

937 **VII. Significant Vermont Yankee Site Changes**

938 Monitoring of the Vermont Yankee Spent Nuclear Fuel is controlled from the site's Central Alarm
939 Station (CAS) Building, which became operational on August 23, 2018. No significant changes to
940 Vermont Yankee's spent fuel monitoring programs occurred during 2023. All Vermont Yankee
941 site changes occurring in 2023 resulted from the continuation of decommissioning activities
942 which commenced on January 11, 2019.

943

944 The following onsite structures were demolished during 2023:

- 945 • Above grade portions of the Turbine Building
- 946 • Below grade portions of the Interim Off-Gas and Advanced Off-Gas Systems
- 947 • River Intake & Discharge Structure major components (structures themselves remain)
- 948 • Abandoned security structures & barricades (none of which impact the VY ISFSI)
- 949 • Last onsite 115-kV Transmission Tower

950

951 Segmentation and removal of the Reactor Vessel was completed in October 2022. RB demolition
952 efforts continue to remove the remaining abandoned reactor systems components, piping,
953 conduit, and non-loadbearing walls within its interior. Similar component removals will
954 continue into the first half of 2024. Demolition of the RB itself is expected to begin in mid-2024.

955

956 The demolition of the above grade portions of the Turbine Building has resulted in another
957 significant change in onsite building access. Personnel access into the Reactor Building is now
958 through a new doorway cut into the northeast corner of the Reactor Building. Radiation
959 Protection Checkpoint functions are performed in Gatehouse #2 (as was implemented in 2022)
960 and in a recently placed Sea-Land container adjacent to the new RB doorway.

961

962 The concrete pad for the previously demolished Shipping and Receiving Warehouse remains in
963 place. Removal of the Advanced Off-Gas (AOG) Building concrete foundation commenced in mid-
964 November.

965

966 No significant onsite road repairs were required this year. Maintenance for the onsite rail spur
967 occurred on an as needed basis but did not impact radioactive waste and debris shipments to
968 offsite facilities.

969
970

971 **VIII. Vermont Yankee Water Management Program**

972 • Rainfall at the VY site during 2023 resembled the higher rainfall totals observed in 2021. As
973 a result, the rate of groundwater entering the Reactor Building and the Turbine Building
974 footprint significantly increased during 2023. However, because wholesale Reactor
975 Building internal components removal occurred while the Turbine Building was being
976 demolished during 2023, in-leakage rates were no longer reported.

- 977 • Roughly 1,149,000 gallons of in-leakage water shipped in 2023
- 978 ○ Approximately 53% of VT Yankee water shipments, 604,954 gallons in total, were
979 sent to Waste Control Specialists' (WCS) NRC-licensed disposal site in Andrews
980 County, Texas during 2023.
 - 981 ○ The remaining 543,571 gallons of in-leakage water was shipped to US Ecology's
982 hazardous waste disposal facility in Grandview, Idaho. Vermont Yankee previously
983 received NRC approval in 2021 to ship up to 2,000,000 gallons of contaminated
984 water to this facility. (2023 is the first year that Vermont Yankee has used this
985 shipment approval.) Vermont Yankee was previously allowed to ship a total
986 200,000 gallons of contaminated water to this facility during 2019 and 2020.
 - 987 ○ 53 in-leakage water shipments occurred in 2023; all shipments made were via
988 tanker rail cars.
 - 989 ○ Each in-leakage water shipment typically contained less than 0.004 Curies of
990 radioactive materials.
 - 991 ○ In-leakage (groundwater) shipments to WCS and US Ecology Idaho facilities will
992 continue "as-needed" in 2024.

- 993 • A total of 3,292,000 gallons of in-leakage water have been shipped to date.
- 994 • The system of water diversion wells installed in 2020 along the Turbine Building periphery
995 to mitigate future water shipments was taken out of service in 2023.
- 996 • During 2023, VY also shipped its remaining Process Water inventory that had been stored
997 in the Spent Fuel Pool to WCS.
 - 998 ○ ~21,500 gallons per shipment
 - 999 ○ 5 shipments (~107,637 gallons) shipped in 2023
 - 1000 ○ Each Process Water shipment typically contained less than 0.1 Curies of radioactive
1001 materials.

1002
1003

1004 **IX. Decommissioning Waste Shipments Summary**

1005

1006 A summary of radiological and hazardous waste shipments made from the Vermont Yankee site
1007 during 2023 follows.

1008 **IX.A Radioactive Waste Shipments Summary**

1009
1010 An annual summary of Vermont Yankee’s radioactive waste shipments is published in mid-May
1011 of the following calendar year as part of the “Radioactive Effluent Release Report” filed with the
1012 US Nuclear Regulatory Commission and the Vermont Public Service Department. Preliminary
1013 radioactive waste volume data available as of January 4, 2024 indicates that approximately
1014 1,028,009 cubic feet of radioactive waste was shipped from the Vermont Yankee site during
1015 2023 (significantly more than the ~294,000 cubic feet shipped in 2022). The total weight of the
1016 waste shipped in 2023 exceeds 34,420,000 pounds (>17,210 tons).

1017
1018 The total radiological activity of the shipped waste is 42.3 Curies. From the data below, this
1019 activity is significantly lower than those shipped in previous years:

1020

<u>Year</u>	<u>Total Shipped Activity (in Curies)</u>
2023	42.3
2022	7,500
2021	27,460
2020	522.8
2019	126.8

1021
1022 All radioactive waste shipments in 2023 were sent to Waste Control Specialists’ (WCS) disposal
1023 facility Andrews County, Texas. 231 radioactive waste shipments were made in 2023; 224 of
1024 which were made via railcar. The remaining 7 shipments were made by truck. Over 760
1025 radioactive waste shipments have occurred since the start of VY’s active decommissioning in
1026 2019.

1027
1028 Based on data provided by NorthStar in response to Panel questions in April 2021, the total
1029 activity of radioactive waste stored at the VT Yankee site is estimated as follows:

1030

- 1031 • Total activity stored at the VY Independent Spent Fuel Storage Installation (ISFSI), consisting
1032 of 3880 spent fuel bundles stored in 58 spent fuel cannisters: 117,176,000 Curies (roughly
1033 2,054,000 Curies per cannister)
- 1034 • The Greater Than Class C radioactive waste cask stored on the VY ISFSI since October 2022
1035 contains approximately 175,000 Curies.
1036

1037

1038 **IX.B Hazardous Waste Shipments Summary**

1039
1040 As of January 12, 2024, NorthStar Staff is still compiling its 2023 Hazardous Waste Shipments
1041 summary. Final shipment values are expected to be similar to those reported in 2022, namely:

1042

- 1043 • ~1,600,310 pounds of ferrous and non-ferrous scrap metal was shipped primarily to
1044 Mattuchio Scrap Metal (Everett, MA) facilities for recycling.
- 1045 • While some asbestos waste was shipped in 2023, its volume is expected to be well below the
1046 107 cubic yards shipped in 2022.

1047

1048 **X. Vermont Congressional Delegation**

1049

1050 While Vermont Congressional Delegation Staff did not make formal presentations at any NDCAP
1051 Full Panel or NDCAP Federal Nuclear Waste Policy Committee meetings during 2023, Staff from
1052 Senator Bernie Sanders’ and Senator Peter Welch’s Offices have kept Panel Leadership apprised
1053 of DOE and NRC activities and publications of potential interest to the Panel. Most of these
1054 communications came from Ms. Rebecca Ellis of Senator Welch’s Office, with Ms. Haley Pero of
1055 Senator Sanders’ Office providing several additional communications.

1056

1057 At the Panel’s September 18 meeting, Ms. Ellis invited Panelists and members of the public to
1058 reach out to her if they have questions concerning Vermont Yankee’s decommissioning.

1059

1060 Congresswoman Becca Balint’s Office remained in contact with Panel Leadership (particularly
1061 Vice-Chair Weinmann) throughout 2023. In early 2023, Congresswoman Balint joined the
1062 Congressional Spent Nuclear Fuel Solutions Caucus, which NDCAP’s FNWP Committee
1063 previously discussed at its October 3, 2022 meeting.

1064

1065 In response to discussion at the March 6 FNWP Committee meeting, State Nuclear Engineer Tony
1066 Leshinskie compiled a list of spent nuclear, nuclear decommissioning and nuclear power-related
1067 bills that have been introduced in recent Congressional sessions. This compilation is available
1068 at:

1069 [https://publicservice.vermont.gov/document/status-decommissioning-spent-fuel-policy-bills-](https://publicservice.vermont.gov/document/status-decommissioning-spent-fuel-policy-bills-congress)
1070 [congress](https://publicservice.vermont.gov/document/status-decommissioning-spent-fuel-policy-bills-congress)

1071

1072 Several bills introduced in previous Congresses (many of which were sponsored by Vermont’s
1073 Congressional Delegation) that NDCAP had previously discussed at length have yet to be
1074 reintroduced into the current (118th) Congress, even though they had been introduced in the
1075 past several (e.g., the 116th and 117th) Congresses. Nuclear power industry-related bills
1076 introduced thus far in the 118th Congress are primarily focused on prohibiting the use of Russian
1077 Uranium as part of the US domestic nuclear fuel supply and limiting Russian access to US nuclear
1078 industry technology. However, the Nuclear Waste Informed Consent Act has been introduced to
1079 both the US House and Senate. This bill would require the Department of Energy to obtain
1080 consent from host local and state governments before Nuclear Waste Fund expenditures for
1081 constructing a nuclear waste repository could begin.

1082

1083

1084

1085 **XI. Current NDCAP Committees**

1086

1087 **XI.A NDCAP Issues Committee**

1088

1089 The Issues Committee, formed in 2015 and reconstituted in 2019, is intended to provide
1090 recommendations for topics to be discussed at meetings of the Full Panel. The Issues Committee
1091 did not meet during 2023. For 2023, the Issues Committee’s function (selection of meeting
1092 topics) was performed by the Full Panel at its regular meetings, with additional interactions
1093 between the Panel Chair, the Panel Vice-Chair, and the State Nuclear Engineer as needed.

1094

1095 **XI.B NDCAP Federal Nuclear Waste Policy Committee**

1096

1097 NDCAP created the Federal Nuclear Waste Policy Committee in December 2020 as a means for
1098 the Panel to learn more about US national spent nuclear fuel storage and disposal issues. The
1099 Committee is developing recommendations on US nuclear waste policies for the Full Panel to
1100 consider as potential Advisory Opinions on these subjects. The Committee consists of the
1101 following Panel members: Lissa Weinmann (Committee Chair), Corey Daniels, Maddy Arms,
1102 Marvin Resnikoff, and David Eastman. The Committee is administered by State Nuclear Engineer
1103 Tony Leshinskie.

1104

1105 The Committee met 5 times in 2023, all via Teams webcast, to learn more about current US
1106 national spent nuclear fuel storage and disposal policies. Most of the Committee’s 2023
1107 meetings included guest speakers from individual nuclear waste policy stakeholders. Brief
1108 summaries for each meeting are included below. The Committee continued to compile a reading
1109 list of relevant materials. This list is available at the Committee’s webpage at:

1110 [https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/vt-
1111 ndcap-federal-nuclear-waste-policy](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/vt-ndcap-federal-nuclear-waste-policy)

1112

1113 This webpage also includes recordings of the individual Committee meetings.

1114

1115 Through the course of 2023, the Committee built on its prior work in 2021 and 2022. A
1116 summary of this earlier work is available from the Committee archive webpages at:

1117

1118 **2021 Archive:**

1119 [https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/vt-
1120 ndcap-federal-nuclear-waste-policy/2021-fnwp](https://publicservice.vermont.gov/public-advocacy/vermont-yankee-decommissioning/vt-ndcap-federal-nuclear-waste-policy/2021-fnwp)

1121

1122 **2022 Archive:**

1123 <https://publicservice.vermont.gov/2022-fnwp-committee-meeting-archives>

1124

1125 Additional summaries of the Committee’s prior work are available in 2021 and 2022 Panel
1126 Annual Reports.

1127 **March 6, 2023 Committee Meeting**

1128

1129 At this meeting, the Committee heard *two perspectives on Amending the 1982 & 1986 Nuclear*
1130 *Waste Policy Acts (NWPAs)*. These perspectives were provided by **Jay E. Silberg**, a Partner at
1131 Pillsbury, Winthrop, Shaw, Pittman, LLP and **Diane Curran**, a Partner at Harmon, Curran,
1132 Spielberg and Eisenberg, LLP, both of whom have worked on US nuclear policy issues
1133 throughout their careers. Speaker biographies (see links with the speakers' names above) and
1134 background information for this discussion may be found in the "March 6, 2023" materials
1135 section on the Committee webpage. A recording of these presentations is available at:
1136 <https://youtu.be/6vrNhv1kQJM>.

1137

1138 Mr. Silberg noted that virtually all the proposed solutions for nuclear waste disposal have been
1139 around since the 1970s. It was his hope that passage of the Nuclear Waste Policy Act (NWPA)
1140 would move one of these proposals forward, but instead policies have remained on a "merry-go-
1141 round" with policies favored by one Administration becoming more likely options only to have
1142 the preferred policies change once a new Administration takes charge. As early as the late
1143 1950s, expert organizations such as the National Academy of Sciences recognized that the most
1144 viable long-term solution to nuclear waste disposal was a deep geologic repository. Regardless,
1145 this did not result in an established national repository. The Energy Reorganization Act of 1974,
1146 which created the NRC, turned nuclear waste disposal attention to Interim Storage (which was
1147 called "Away from Reactor Storage" at the time). Focus returned to creating a national
1148 repository when the NWPA was passed in 1982. However, none of the programs established by
1149 the NWPA are up and running (even though they were supposed to be). A key point that Mr.
1150 Silberg made was that a firm direction that cannot be changed by a subsequent Administration,
1151 with well-defined schedules and funding mechanisms, must be established for there to be any
1152 significant progress on a National Nuclear Waste Policy and a disposal facility.

1153

1154 Mr. Silberg added that, currently, DOE's Consent-Based Siting Program is the only Federal
1155 nuclear waste-related policy moving forward. Additional policy direction is needed simply
1156 because nuclear power technology is not going away. Energy policy changes in response to
1157 Climate Change all point to increased reliance on nuclear power both internationally and within
1158 the United States.

1159

1160 Diane Curran (who is currently litigating against the NRC's recently granted license for Holtec to
1161 operate a Consolidated Interims Spent Fuel Storage Facility in New Mexico) identified several
1162 legal concerns related to the NWPA, environmental justice, and legal equality issues that nuclear
1163 waste policy proposals present. Ms. Curran explained why the recently licensed Interim Storage
1164 Partners and Holtec interim spent fuel storage facilities are inconsistent with the NWPA and
1165 undermine the Act's purpose of ensuring that spent fuel will be disposed of permanently in a
1166 repository. She noted the creation of the Congressional Spent Nuclear Fuel Solutions Caucus in
1167 2022 and that she is following the Caucus' efforts to determine an equitable solution to spent
1168 fuel disposal.

1169

1170 Ms. Curran indicated that one of the major issues with some nuclear waste policy proposals that
1171 have been put forward is inequality. In selecting isolated communities that often have minimal
1172 political pull, the NRC and DOE are essentially “picking winners and losers” in the NWPA debate.
1173 The proposed host communities and those along spent fuel transportation corridors will be
1174 living with long-term hazardous waste while frequently not benefiting from the electricity that
1175 this waste once produced.

1176
1177 Ms. Curran added that Spent Fuel Interim Storage brings additional concerns in that more
1178 communities are potential waste storage hosts (rather than the several identified in the deep
1179 geologic repository selection process). Interim Storage will mean more transportation for the
1180 waste, increasing the likelihood of a transportation accident involving nuclear waste. Use of
1181 Interim Storage also makes spent fuel reprocessing more likely, which also increases the need
1182 for waste transportation, with little foreseeable economic benefit.

1183
1184 Ms. Curran provided a fact sheet describing several reasons for opposing Consolidated Interim
1185 Storage of Spent Nuclear Fuel. Many of these reasons question the legality of opening an interim
1186 storage facility in the absence of a permanent disposal facility. This fact sheet is available from
1187 the “March 6, 2023” materials section on the Committee webpage via the following link:

1188
1189 [https://archive.beyondnuclear.org/centralized-storage/2021/9/11/new-beyond-nuclear-fact-](https://archive.beyondnuclear.org/centralized-storage/2021/9/11/new-beyond-nuclear-fact-sheets-opposing-consolidated-interim.html)
1190 [sheets-opposing-consolidated-interim.html](https://archive.beyondnuclear.org/centralized-storage/2021/9/11/new-beyond-nuclear-fact-sheets-opposing-consolidated-interim.html)

1191
1192 Ms. Curran concurred with Mr. Silberg that a firm and congressionally established direction that
1193 cannot be changed by a subsequent Administration, with well-defined schedules and funding
1194 mechanisms, must be established for there to be any significant progress on a National Nuclear
1195 Waste Policy and a disposal facility.

1196
1197

1198 **June 12 and June 19, 2023 Committee Meetings**

1199
1200 At its June 12 and June 19 meetings, the Committee discussed potential recycling and
1201 reprocessing options for spent nuclear fuel. Both meetings featured a presentation by a
1202 recognized expert regarding nuclear fuel reprocessing and recycling. The US Department of
1203 Energy is reconsidering reprocessing (recycling) nuclear fuel, a practice essentially prohibited in
1204 the US for several decades, to limit reliance on foreign uranium sources. Some existing light
1205 water reactors can use reprocessed fuel, while several proposed new reactor designs, if
1206 implemented, may require it.

1207
1208 At the June 12 meeting, [Dr. Sven Bader](#), Technical Consultant at Orano Federal Services,
1209 provided a general description of spent fuel reprocessing and outlined several reprocessing and
1210 recycling options. Dr. Bader’s presentation slides for this discussion, along with some additional
1211 background material, is available in the “June 12, 2023” materials section on the Committee

1212 webpage. A recording of this meeting is available at: <https://youtu.be/4UmhYxv9sLo>.

1213

1214 Dr. Bader noted that current US nuclear fuel policies focus on “once through” uses nuclear fuel;
1215 “fresh” fuel assemblies are loaded into a reactor core and are used to produce power until
1216 structural integrity considerations require their replacement. At this point, the fuel is destined
1217 for disposal as radioactive waste, even though the fuel is potentially reusable. Reprocessing or
1218 recycling of the fuel would allow additional energy production from a resource that is currently
1219 considered as waste. Recycling nuclear fuel would reduce, but not replace, the need for a deep
1220 geologic waste repository. This is particularly true if several proposed advanced reactor designs
1221 that use recycled Uranium are actually built. Current research into transitioning to a recycled
1222 fuel policy program was outlined, along with the benefits of using recycled fuel (e.g., reduced
1223 need for Uranium mining, the benefits reducing the total Plutonium inventory worldwide) were
1224 also highlighted.

1225

1226 At the June 19 meeting, **Dr. Edwin Lyman**, Director of Nuclear Power Safety at the Union of
1227 Concerned Scientists, provided a presentation on the potential hazards and obstacles in current
1228 spent nuclear fuel reprocessing and recycling proposals. Dr. Lyman’s presentation slides for this
1229 discussion, along with some additional background material, is available in the “June 19, 2023”
1230 materials section on the Committee webpage. A recording of this meeting is available at:

1231 <https://youtu.be/8GxdfXj04>

1232

1233 Dr. Lyman’s primary concerns are that recycling spent nuclear fuel is essentially ineffective and
1234 potentially dangerous. Extracting usable Uranium or Plutonium from spent fuel still leaves a
1235 significant amount of radioactive waste that will still require a geologic repository. While some
1236 waste volume is reduced, the remaining volume is still substantial and is still very hazardous.
1237 Reprocessing can result in multiple radioactive waste streams that could require multiple
1238 repositories to safely manage. Moreover, the extracted Uranium and Plutonium is potential
1239 weapons material, requiring significant protection from theft by terrorist groups during the
1240 recycling process. Additionally, reprocessing methods will produce low-level radioactive waste
1241 while fuel is being reprocessed. This could result in a significantly increased need for low level
1242 radioactive waste disposal facilities. Lastly, recycling spent nuclear fuel is an expensive process.
1243 The overall cost of managing spent nuclear fuel would increase significantly when factoring in
1244 reprocessing costs.

1245

1246

1247 **September 25, 2023 Committee Meeting**

1248

1249 At this meeting, Dr. Sara Hogan, Transportation Program Manager for the US Department of
1250 Energy (DOE) Office of Integrated Waste Management (IWM) provided a presentation on US
1251 DOE's De-Inventory Reports. These reports assess the available Origin Site Infrastructure (i.e.,
1252 Spent Nuclear Fuel transportation capabilities from present storage sites, such as VY), the likely
1253 support activities, and potential transportation routes necessary for removing Spent Nuclear

1254 Fuel from a former or currently operating commercial nuclear power plant site. The
1255 presentation slides for this discussion are available from the “September 25, 2023” materials
1256 section on the Committee webpage. A recording of this meeting is available at:
1257 <https://youtu.be/Mzs6d8CJFTc>.

1258
1259 Joining Dr. Hogan for this presentation were Dr. Steve Maheras, a Nuclear Fuels Transportation
1260 Planning Expert from DOE's Pacific Northwest National Laboratory, and Gerold Jackson, a DOE
1261 Nuclear Fuels Transportation Security Expert, both of whom provided additional details in
1262 response to Committee Member and Public questions about the presentation.

1263
1264 Dr. Hogan noted that since there currently is not a specific destination for US Spent Nuclear Fuel
1265 disposal, the De-Inventory Reports evaluate activities necessary to transport the fuel to the
1266 Geographic Center of the United States (GCUS). By investigating spent fuel moves to the GCUS,
1267 logistics and activities necessary to transport fuel to anywhere within the contiguous United
1268 States are identified.

1269
1270 While the DOE presentation discussed the general scope of the De-Inventory Reports Program,
1271 several preliminary items that will likely appear in the Vermont Yankee De-Inventory Report
1272 were noted. 5 potential travel routes from Vermont Yankee to the GCUS have been identified; 3
1273 of these routes would use rail transportation exclusively. 2 of these routes would use heavy haul
1274 truck to nearby transload locations with transfer to rail for the remaining travel to the GCUS.
1275 Further details on the Vermont Yankee De-Inventory Report are currently unavailable since the
1276 report is still in development. The initial draft of the report is expected to become available
1277 during the early 2024 Federal Fiscal Year (i.e., either by the end of the 2023 Calendar Year or in
1278 very early 2024).

1279
1280 Near the conclusion of the meeting, the Committee discussed meeting on December 4 to discuss
1281 its summary of activities that will be incorporated into the Panel's Annual Report to the Vermont
1282 Legislature. This meeting date was later confirmed by a Committee members polling on
1283 availability on that date.

1284
1285

1286 **December 4, 2023 Committee Meeting**

1287
1288 At its December 4 meeting (recording available at: <https://youtu.be/w0dqTd4aZl0>), the
1289 Committee reviewed its 2023 activities. Written summaries for previous 2023 Committee
1290 meetings included in the (11/29/2023 version of the) VT NDCAP 2023 draft Annual Report were
1291 reviewed. Recommended changes and additions to these summaries were provided by
1292 Committee members and several members of the public attending this meeting. Specifically,
1293 several Committee members requested that the summaries emphasize whether a stated point
1294 was made by a meeting's guest speaker or by Committee members. Several items in the draft
1295 summaries stated significant points, but it was unclear which meeting speaker made them.

1296 (There were multiple guest speakers at some Committee meetings this year.) Without these
1297 clarifications, it could appear that the stated points were opinions of the Committee rather those
1298 of the invited speakers.

1299
1300 Much of the Committee discussion about the several meeting summaries focused on a point
1301 made in the Committee’s March 6 meeting, namely that both of that meeting’s two invited
1302 speakers agreed that National Nuclear Waste Policy requires a firm direction that cannot be
1303 changed by a subsequent Administration, with well-defined schedules and funding mechanisms.
1304 Otherwise, there will not be any significant progress on National Nuclear Waste Policy and
1305 locating a national spent nuclear fuel disposal facility. The Committee believes this to be a
1306 significant point since both speakers for the March 6 meeting, **Jay Silberg**, and **Diane Curran**,
1307 agreed on this point.

1308
1309 The Committee also discussed whether transcripts of meeting recordings could be made
1310 available to facilitate retrieving key discussion points and statements made during meeting
1311 presentations. State Nuclear Engineer Tony Leshinskie noted that the Microsoft Teams platform
1312 used for broadcasting and recording FNWP Committee meeting also generates a transcript.
1313 However, the transcript quality is frequently poor. Wording in the transcript is sometimes
1314 incorrect and can require reviewing the meeting recording to understand what was actually said.
1315 He also reminded the Committee that Full Panel meetings use a Zoom platform provided by
1316 BCTV, who records Full Panel meetings. He’s uncertain whether BCTV’s Zoom account can
1317 generate a transcript. Getting an accurate transcript for VT NDCAP Full Panel and Committee
1318 meetings may be a significant effort. Additionally, Tony will need to check whether there are any
1319 Vermont State regulations or restrictions regarding meeting transcripts. Nonetheless, Tony
1320 agreed to look into this request further. He also agreed to provide a copy of the raw transcript
1321 from today’s FNWP Committee to Committee members so they can have a better idea of the
1322 quality of the transcripts currently available.

1323
1324 In response to a public question on wording that appeared in the Annual Report draft as part of
1325 the December 11, 2023 meeting summary (which had yet to occur at the time of this question) it
1326 was clarified that there were currently no national legislative efforts underway that would allow
1327 the disposal of GTCC waste at an established radioactive waste disposal site. The wording in
1328 question (a remnant from a draft of the 2022 Annual Report) inadvertently stated that there
1329 were no legislative efforts underway that would allow transportation of GTCC waste.

1330
1331 The Committee also identified potential discussion topics during 2024. Topics that the
1332 Committee intends to explore in 2024 (some of which carried over from 2023) include:

- 1333
- 1334 • DOE’s Next Steps in Developing a Consent-Based Siting Process
 - 1335 • A presentation by Waste Control Specialists (WCS) on its Radwaste Disposal Operations
 - 1336 • Continued Learning on Low-Level Radioactive Waste Disposal in General
 - 1337 • Use of the US Justice Department’s Judgement Fund for Spent Fuel Storage Expenses

- 1338 • Issuing a Statement Emphasizing the Need to Resolve Nuclear Waste Issues
- 1339 • Issuing a Statement Calling for an Independent Agency to Manage the US Nuclear Waste
- 1340 Inventory (rather than DOE)
- 1341 • Inviting a member of the 2012 Blue Ribbon Commission (BRC) on America’s Nuclear
- 1342 Future to speak on the intent of the BRC’s recommendations
- 1343 • Hear presentations from other Nuclear Decommissioning Advisory Panels (such as
- 1344 the San Onofre Nuclear Generating Station Citizens Engagement Panel)

1345
1346 Several members of the public attending the meeting suggested that the Committee meet
1347 directly with Vermont political leadership, including Vermont Governor Phil Scott, to discuss
1348 Nuclear Waste Policy concerns. Several members of the public also urged that the Panel’s two
1349 vacant Massachusetts and New Hampshire towns representatives be filled as soon as possible.

1350
1351 Committee meeting dates for 2024 were also discussed. The Committee agreed to continue
1352 meeting on a quarterly basis, with the following tentative 2024 meeting dates chosen:

- 1353
- 1354 • March 4
- 1355 • June 17
- 1356 • September 9
- 1357 • December 2

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1359 Additional Committee meeting dates will be considered in 2024 as necessary.

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1361 For its March 4 meeting, the Committee will invite representatives from Vermont’s
1362 Congressional Delegation to hear Committee concerns on current spent nuclear fuel policies.
1363 The Committee will also invite Oliver Edelson, Legislative Assistant to California Congressman
1364 Mike Levin, to attend this meeting. Congressman Levin co-chairs the Congressional Spent
1365 Nuclear Fuel Solutions Caucus, which Mr. Edelson administers. (Mr. Edelson previously spoke to
1366 the FNWP Committee in October 2022.)

1367
1368 Committee meetings will continue to nominally run from 12 noon to 1:00 PM and will be
1369 conducted primarily as webcasts. However, unless the Vermont Legislature opts to extend
1370 ACT 1 of the 2023 Vermont Legislature, physical meeting spaces will be required for meetings
1371 occurring after July 1, 2024. By Committee consensus, Lissa Weinmann will continue as FNWP
1372 Committee Chair during 2024.

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1378 **XII. Meeting Schedule and Priorities for 2024**

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1380 During the Panel’s December 11 meeting, the Panel reached consensus on the following meeting
1381 dates for 2024:

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1383 • May 13: Regular meeting discussing and assessing the Decommissioning Project Annual
1384 Status Reports (required by PUC Case 8880); additional agenda items to be determined
1385 as needed.

1386 • September 23: Regular meeting; agenda items to be determined

1387 • December 9: Regular meeting; agenda items to be determined

1388

1389 Panel meetings will continue to be conducted primarily as webcasts. However, unless the
1390 Vermont Legislature opts to extend ACT 1 of the 2023 Vermont Legislature, physical meeting
1391 spaces will be required for meetings occurring after July 1, 2024.

1392

1393 The Panel’s main priority for 2024 will be to continue its work as outlined in the Panel Charter
1394 and required by the Legislation that established the Panel’s composition and duties. The Panel
1395 will also continue to consider improvements in its public outreach. Any changes to these
1396 priorities will be communicated to the Legislature and the Governor’s Office once they are
1397 known.

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1400 **XIII. Panel Composition and Duties Change Recommendations**

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1402 As part of the Panel Duties outlined in Part II of the Panel Charter (see Section II of this Report),
1403 the Panel “shall assess further changes to the Panel’s membership or duties as appropriate.” The
1404 most recent changes in Panel composition and duties are those approved by the 2021
1405 Legislature in Act 54. The Panel currently has no additional change recommendations for its
1406 composition or duties.

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1409 **Appendix A: Panel Advisory Opinions Approved in 2023**

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1411 No Advisory Opinions were approved in 2023.

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1413 **Appendix B: List of Acronyms Used in this Report**

ANR	Vermont Agency of Natural Resources
AOC	Area of Concern (potential hazardous materials contamination location)
AOG	Advanced Off-Gas (system)
BCTV	Brattleboro Community Television
CAS	Central Alarm Station
CISF	Consolidated Interim Storage Facility
DEC	Vermont Department of Environmental Conservation (part of Agency of Natural Resources)
DOE	United States Department of Energy
DSP	Dryer / Separator Pit
EPA	United States Environmental Protection Agency
FNWP	Federal Nuclear Waste Policy (an active VT NDCAP Committee)
FPG	Four Points Group (a PSD consultant for VT Yankee’s decommissioning)
GCUS	Geographic Center of the United States
GTCC	Greater than Class C (a type of low-level Radioactive Waste)
HEPA	High-Efficiency Particulate Air
IOG	Interim Off-Gas (system)
ISFSI	Interim Spent Fuel Storage Installation
LTP	License Termination Plan
MOU	Memorandum of Understanding
NDCAP	Vermont Nuclear Decommissioning Citizens Advisory Panel (VT NDCAP also used)
NDT	Nuclear Decommissioning Trust (fund)
NRC	United States Nuclear Regulatory Commission
NWPA	Nuclear Waste Policy Act
ORISE	Oak Ridge Institute for Science and Education
OSHA	United States Occupational Safety and Hazards Administration
PCBs	Polychlorinated Biphenyl substances
PFAS	Per-Fluoroalkyl and Polyfluoroalkyl Substances
PSD	Vermont Public Service Department
PSDAR	Post-Shutdown Decommissioning Activities Report
RB	Reactor Building
RFI	Request for Information
RV	Reactor Vessel
RWCU	Radioactive Waste Clean-Up (system)
RWS	Recirculating Water System
SFP	Spent Fuel Pool
SRT	Site Restoration Trust (Fund)

Appendix B: List of Acronyms Used in this Report *(continued)*

- TB Turbine Building
- VOCs Volatile Organic Compounds
- VY Vermont Yankee
- WCS Waste Control Specialists (a sister company to NorthStar)

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