Final Draft

Maine Yankee Community Advisory Panel on Spent Nuclear Fuel Storage and Removal

May 24, 2022, Montsweag Restaurant, Woolwich Annual Meeting Minutes

<u>Attendance</u>
Yes
No
No
No

Introduction

Chair Don Hudson welcomed everyone to the CAP meeting which began at 4:00 p.m. noting this was the first annual CAP meeting since October 2019 due to the Covid-19 pandemic. CAP members introduced themselves.

Chair Hudson then asked members of the audience to introduce themselves. Among those In attendance were Wiscasset Town Manager Dennis Simmons, Wiscasset Selectman Dusty Jones, Westport First Selectman George Richardson, Senator Collins' representative Ellie Espling, Senator King's representative Scott Wilkinson, Rep Pingree's representative Pam Trinward, Former Maine Yankee CAP Chair Marge Kilkelly, Mary Ellen Barnes, Lincoln County Regional Planning Commission, Charlotte Boynton, Lincoln County News, Catherine Perham, Maine Radiation Control Program, Wiscasset residents Marty Fox and Larry Flowers, Evan Goodkowsky, Independent candidate for House District 47, 3 Yankee Companies staff Matt Marston, Shae Hemingway, Dan Laing, Scott Miller, John Arnold, Sue Arnold, and Eric Howes.

CAP Business

The CAP approved the minutes of the October 15, 2019, CAP annual meeting.

Chair Hudson said as stipulated in its Charter the CAP next had to decide whether to continue its work for another two years and if so to elect a Chair and Vice-Chair for that time period. Vice-Chair Dan Thompson said he favored the CAP's continuation as the CAP is the only interface between the public and

Maine Yankee and through Maine Yankee to our congressional delegation in Washington.

Ralph Keyes said he favored continuing the CAP's work saying in his experience as a former high school science teacher students and adults are unaware there used to be a nuclear power plant in Wiscasset. He said it is important to once a year call attention to the fact there is still spent nuclear fuel (SNF) stored at the site.

The CAP voted unanimously to continue its work until the annual meeting in 2024.

Mr. Keyes then nominated Chair Hudson and Vice-Chair Thompson to another two-year term. Misty Parker seconded the nomination. There being no further nominations the CAP voted unanimously for Chair Hudson and Vice Chair Thompson to serve another two years in their respective positions.

Maine Yankee Independent Spent Fuel Storage Installation Update

Maine Yankee President and CAP member Wayne Norton introduced ISFSI Manager Dan Laing who succeeded J. Stanley Brown in January 2021 following Mr. Brown's retirement. Mr. Norton said Mr. Laing has an extensive background in nuclear energy, broad leadership experience and is a fantastic addition to the team.

Mr. Laing provided the CAP with an update on the ISFSI and other issues related to the Maine Yankee site. Mr. Laing spoke from slides contained in the CAP meeting package.

Mr. Laing said that during the Covid-19 surge earlier this year there were a few Covid cases among the security force, but none were traced back to having originated at the site. He said Maine Yankee has strict Covid protocols in place and that currently masks are required inside buildings.

Regarding site projects, Mr. Laing said the installation of additional Owner Controlled Area cameras and a public address system is complete. He said the new Owner Controlled Area cameras are very effective. Additionally, the installation of fiber optic upgrades to regulatory cameras is complete and the regulatory cameras are scheduled to be replaced with new cameras in June. Also, the ISFSI Security Operations Building HVAC units are being replaced with work scheduled for September

Mr. Norton noted that Maine Yankee has been a stand-alone ISFSI site long enough that the site is up against obsolescence for various systems and as a result needs to update hardware and software periodically.

Mr. Laing said Maine Yankee is also planning to build a Central Alarm Station training simulator on the second floor of the Security Operations Building. Work on the training simulator is progressing with the construction date to be determined.

In the emergency planning area Mr. Laing said the Emergency Plan Fire/Medical Drill was successfully completed in December 2021 with limited on-site participation due to the locally high COVID-19 infection rates. The 2022 Emergency Plan Radiological Exercise is scheduled for June 29th and the annual Fire/Medical Exercise is scheduled for August 31st. Mr. Laing noted that the on-site annual Local Law Enforcement Training session is being held tomorrow, May 25th.

Mr. Laing said in Maine Yankee's effort to achieve excellence in all areas of ISFSI operations he is implementing his "Road to Excellence" initiative which is focused on improving human performance using case studies, human performance training, and the implementation of an enhanced comprehensive drill program. Mr. Laing said the "Road to Excellence" is derived from his background at operating nuclear power plants. He said among other aspects it challenges security force members with a variety of realistic drills and scenarios.

Regarding NRC inspections, Mr. Laing said the next NRC Security Inspection is scheduled for the week of September 12. He noted that the last NRC Operation/Safety Inspection was successfully completed in September 2021 with no issues, recommendations, or violations. He said the inspector commented favorably on the "Road to Excellence" saying it teaches security force members the "why" and not just the "what". The September 2021 Inspection Report is posted on the Maine Yankee website.

Mr. Laing updated the CAP on the multi-year effort with Maine Yankee's vendor NAC to renew the ISFSI storage Certificate of Compliance (CofC) for up to 40 years. The renewal application was accepted by the NRC for review in March 2021 and the review and approval process is expected to take approximately two years. Mr. Laing said the Aging Management program has been drafted and is in the review process. He said the next canister inspection at Maine Yankee is scheduled for 2026. Mr. Laing said air monitoring is ongoing at Maine Yankee focused on chlorides which he said are at low levels given the brackish river water, unlike sites closer to the ocean which have much greater levels of chlorides in the air. Stainless-steel coupons in cask inlet vents are also being monitored. Sandia National Lab personnel periodically analyze the coupons and to date have not observed any unusual results. The data collected from the coupon analysis and atmospheric monitoring will inform aging management at Maine Yankee and elsewhere in the industry.

Following Mr. Laing's update CAP member Chris Johnson said kudos for implementing the training program. Mr. Laing noted that security officers critique themselves and the drill controllers critique the officers. Mr. Johnson asked if the drills evolve and become more challenging? Mr. Laing said they do. Mr. Norton said there are many layers to drills and that Dan has upped the ante with the expertise he brings from the operating reactor world.

CAP Vice-Chair Dan Thompson said his concern is the SNF may not be transportable when the time comes to ship it if it remains stored at the ISFSI for an indefinite length of time.

Mr. Laing said Maine Yankee is very fortunate to have Cask Relicensing Project Manager Paul Plante and Aging Canister Program Manager Neil Fales overseeing the Storage CofC renewal process and the aging management program respectively as both are very knowledgeable and well respected in the industry for their expertise. He noted that Maine Yankee was one of the first sites in the country to perform a canister inspection. Mr. Norton added that Mr. Plante and Mr. Fales are very involved with national initiatives involving aging management and canister repair techniques should that ever be necessary.

Salt Marsh Update

CAP Chair Don Hudson then gave a presentation on the progress of the former Maine Yankee forebay area developing into a salt marsh which he said he was pleased to report is becoming well established. He interpreted photos he took in April 2022 which are included with the meeting package. Chair Hudson said he is a botanist by training and that in the 2002-2003 timeframe he suggested to Maine Yankee that the company try to establish a salt marsh in the former forebay area after radiological remediation. He said at the time he had just come from Massachusetts where friends were attempting to create a salt marsh. He said other salt marsh projects had failed because new plants get ripped out of the ground when the seedlings are frozen in ice and the ice moves with the tidal action. He said he proposed that boulders be placed where the river flows into the former forebay area where the dike was removed. The boulders allow the tide to go up and down but not sideways which is the motion that damages young plants. It worked! Chair Hudson said the coast as we know it was created 5,000 years ago. We don't have to wait that long. Salt marsh meadow hay is now growing there. Nothing was planted. Seeds are carried in by the tide. Chair Hudson said he thanks mother nature and skeptical Maine Yankee engineers who placed the boulders. He said it speaks to the quality of the decommissioning that the engineers listened to the botanist.

Vice-Chair Thompson asked if this knowledge has been shared. Chair Hudson said it has.

State of Maine Update

State Nuclear Safety Inspector (SNSI) and CAP member Jay Hyland then updated the panel on his activities. Mr. Hyland's presentation is included with the meeting package. Mr. Hyland said The Maine Radiation Control Program Manager is still a vacant position which he continues to partially occupy. He said the State continues to advertise the position and there is some intention to reclassify the position, so it doesn't require a professional engineering license. To date the State has not received any qualified applicants.

Mr. Hyland said during the last two years his office has had two emergency response exercises one with New Brunswick's Point Lepreau Nuclear Generating Station and one with Seabrook. The Point Lepreau exercise was virtual, and the Seabrook exercise was graded by FEMA. Mr. Hyland said Maine participates in the Point Lepreau exercises as after the 2011 Fukushima event the Point Lepreau emergency planning zone was extended to 50 miles which moved it across the border into Maine.

Mr. Hyland said his office has been monitoring the International Atomic Energy Agency (IAEA) updates on Ukraine since the invasion by Russia on February 24. To date there have been 77 IAEA updates on Ukraine. He said the IAEA has remote data capabilities with all 4 operating reactor sites in Ukraine as well as Chernobyl. There are 15 reactors at the 4 sites in Ukraine and 8 are presently operating and connected to the grid. There are presently some wildfires in the exclusion zone around Chernobyl, as is typical this time of year. He said these may increase airborne radioactive materials, but Ukraine and the IAEA Director General agree that this is not expected to cause a significant radiological concern.

Mr. Hyland reported that the Maine Yankee Oversight Group has continued to meet quarterly (virtually) throughout the pandemic and that the next meeting is on July 12th. He said the Oversight Group is comprised of the Radiation Control Program, the Office of the Public Advocate, the Department of Public Safety, the State Nuclear Safety Inspector, and Maine Yankee. The Department of Environmental Protection is also included on paper; however, since the closeout of the groundwater monitoring wells at Maine Yankee they have not attended meetings but remain on call.

Regarding upcoming activities, Mr. Hyland said he will be attending the May 25 off site law enforcement training session at Maine Yankee that Mr. Laing spoke about. His office is also developing a contract that will be sent out to bid to remove the pole monitors on Westport Island. Mr. Hyland noted that the number

of ThermoLuminescent Dosimeters (TLDs) in the State's Maine Yankee radiological environmental monitoring program were increased during the evaluations former State Nuclear Safety Inspector Pat Dostie completed in 2018. Mr. Hyland said he kept the increased numbers because some devices were moved but that he now has enough data to be statistically accurate and this summer will be going back to the original number of TLDs. Additionally, he said he is still getting caught up on the back log of reports and there will be one catchup report for the monthly reports. Mr. Hyland said he also continues his involvement with the Nuclear Waste Strategy Coalition (NWSC) and the Council of State Governments. He concluded his report saying an awful lot has happened but not much has changed.

Referring to the potential change in the Radiation Control Program Manager position to eliminate the licensed professional engineer requirement, Vice-Chair Thompson asked Mr. Hyland who at the State makes the decision on job requirements? Mr. Hyland said it depends on the position. For example the requirements for the SNSI are contained in statute so in that case it is the legislature. He said the Radiation Control Program Manager position is not defined in statute. Mr. Hyland said the decision would be made within the Department of Health and Human Services but said he didn't know the specifics. Mr. Hyland added there is some resistance from management to eliminate the licensed professional engineer requirement. Vice-Chair Thompson suggested checking with other states with decommissioning plants to find out how they have addressed similar situations.

Spent Nuclear Fuel Removal/Disposal Update

Maine Yankee Public and Government Affairs Director Eric Howes then updated the CAP on the national status of the SNF issue and the Department of Energy litigation. He spoke from slides included in the meeting package. Mr. Howes noted that the May 18, 2022, Maine Yankee Report to the CAP that is in the meeting package and also as a hand out for the public goes into more detail than time permits for his 20 minute presentation and contains more information than usual on NRC topics as there is a lot going on in that area.

Regarding the Biden Administration and the DOE, he said DOE continues research on the storage & transport of SNF, work on reports from shutdown site visits where information was gathered for the eventual transport of SNF, and development of two SNF rail car designs. In the FY '23 budget DOE is requesting \$53 million to support the implementation of a consent-based siting process for a federal consolidated interim storage (CIS) facility.

Mr. Howes said in February President Biden nominated Dr. Kathryn Huff to be Assistant Secretary of Energy for Nuclear Energy and that at Maine Yankee's

request Senator King submitted a Question for the Record asking Dr. Huff's view of the 2012 Blue Ribbon Commission on America's Nuclear Future report recommendations and whether DOE is looking at them with a view to developing comprehensive amendments to the Nuclear Waste Policy Act (NWPA) for congressional consideration. Mr. Howes thanked Scott Wilkinson, Senator King's regional representative in the Augusta office, for his assistance with this request. Following a favorable committee vote the full Senate confirmed Dr. Huff by a vote of 88-11 on May 5.

Mr. Howes said the DOE received approximately 220 responses to its Request for Information issued in December 2021 on considerations for a consent-based siting process focused on a federal CIS initiative for SNF. Maine Yankee was involved with comments provided by the Nuclear Energy Institute (NEI), the National Association of Regulated Utility Commissioners (NARUC), and the Decommissioning Plant Coalition (DPC) that were all supportive of the initiative, but also provided comments and suggestions on the process. He noted the DPC response to the DOE's RFI is contained in the handouts and was sent to the CAP previously. The DOE team is analyzing the responses and will publish a report of their findings. DOE is expected to issue a Funding Opportunity Announcement for entities that want to learn more about the process later this year.

Regarding FY '22 and FY '23 congressional appropriations for nuclear waste management, Mr. Howes reported that in early March Congress passed an Omnibus bill to fund the federal government for the remainder of FY '22. \$27.5 million was appropriated for nuclear waste management in FY '22 as was the case in FY '21.

Mr. Howes said a couple of House congressional committee hearings have been held this spring on DOE's FY '23 budget request and that the NWSC plans to submit testimony. He said the Senate has not scheduled a subcommittee appropriations hearing on DOE's FY '23 budget request. However, written testimony will be accepted by the Senate Energy & Water Development Appropriations Subcommittee and is due June 24th. The NWSC plans to submit testimony.

Mr. Howes noted that on April 29th Rep Matsui (D-CA) and other Members with shutdown sites in their districts including Rep Pingree sent what's become an annual letter to House E&WD Appropriations Subcommittee leadership urging them to appropriate \$53 million for SNF storage and disposal in FY '23, with an initial focus on accepting SNF from shutdown reactor sites. The \$53 million request mirrors the DOE's FY 23 budget request. Mr. Howes thanked Pam Trinward of Rep Pingree's staff for her assistance and for Rep Pingree's continued leadership on the spent nuclear fuel issue.

Regarding authorizing legislation, Mr. Howes said that on March 2nd Senators Heinrich (D-N.M.) and Cruz (R-Texas) and Reps Leger Fernández (D-N.M.) and

Plfuger (R-Texas) introduced legislation that prohibits the use of federal funds to carry out activities that would lead to the development of a CIS facility owned or operated by a private company and requires the prohibition to remain in place until a permanent repository is available to accept SNF. The bill was not included in the FY '22 Omnibus funding bill although an effort was made to do so, and it is likely the bill sponsors will try again with other legislative vehicles. Mr. Howes said this legislation is an example of the ongoing state and congressional opposition to the proposed private CIS facilities in Texas and New Mexico.

Mr. Howes also reported that Rep Mike Levin (D-CA) and Darrell Issa (D-CA) reintroduced the Spent Fuel Prioritization Act on February 2nd. He said the bill would prioritize SNF removal from decommissioned nuclear sites in areas with high populations, seismic hazards, or national security risks and noted that the San Onofre Nuclear Generating Station is in Rep Levin's district

Mr. Howes reminded the CAP that in July 2021 Rep Levin and Rep Davis (R-IL) formed the bipartisan Spent Nuclear Fuel Solutions Caucus which currently has about 20 members. He noted that Rep Pingree is a member of the Caucus whose purpose is to address challenges associated with stranded SNF and serve as a forum where House members can come together to make headway on the issue, regardless of whether or not they have a preferred solution.

Mr. Howes said notable NRC related issues Maine Yankee is monitoring, reviewing and commenting on as a company and through the DPC and NEI are ISFSI Security Rulemaking and Decommissioning Rulemaking. In January the Commission issued a staff requirements memo that disapproved of the Staff's October 2019 recommendation to discontinue the ISFSI security requirements rulemaking and directed the staff to prepare an options paper for the Commission. Mr. Howes reported that today NRC staff held an unclassified public meeting to gain stake holder input for the options paper. Mr. Howes said the staff proposed Decommissioning Rulemaking was approved by the Commissioners last November and was published for public comment in the Federal Register March 3rd. The staff released four rulemaking related draft guidance documents in late February. The deadline for comments is August 30th. The NRC has held a number of public hearings to present the proposed rule and receive public comments. NEI's Decommissioning Working Group has formed 11 issue area subcommittees to review and develop comments on the rule and guidance documents. The 3 Yankee companies have participants on all the NEI subcommittees.

Mr. Howes noted that in January he sent the CAP the NRC's December 2021 document "Regulatory Readiness for Oversight of Large-Scale Commercial Transportation of Spent Nuclear Fuel" document which largely found the NRC prepared to support SNF transportation with some enhancements including

increased public involvement. Similarly, Mr. Howes said in January he sent the CAP NEI's "Spent Fuel Transportation Planning and Implementation Guidance" for stakeholder reference that provides the industry perspective regarding SNF transportation campaigns focused on private shipments of SNF as opposed to DOE shipments. Mr. Howes said the impetus for these two documents is the possibility that SNF could be shipped earlier than anticipated if the private CIS proposed projects in Texas and New Mexico come to fruition.

Regarding the Texas and New Mexico proposed private CIS facilities, Mr. Howes reminded the CAP that in September 2021 the NRC issued a license to Interim Storage Partners for its proposed CIS facility in Texas and that Texas filed suit in federal court last September asking that the NRC license be vacated because it violates the Texas law making it illegal to transport or store SNF in Texas except where it is already stored and which prohibits state agencies from issuing permits for a CIS facility. Mr. Howes said in February Texas Governor Abbott joined the State's petition. Mr. Howes said the Holtec New Mexico project expects a decision on its license application at the end of the second quarter 2022 and anticipates late filed contentions on the Environmental Impact Statement by the intervenors. Oral arguments were held January 20th on the New Mexico lawsuit filed last March against the NRC and the US to stop the Holtec & ISP CISs.

Mr. Howes said litigation is expected to continue for both sites until the end of 2022 at least.

Chair Hudson asked how far the litigation is likely to go. Would it go to the Supreme Court? Mr. Howes said he didn't know. Chair Hudson said the opposition to the two projects speaks to the difficulty of obtaining stakeholder consent.

Mr. Howes closed his presentation with an update on the Phase V DOE litigation reporting the cases were filed by the 3 Yankee Companies in the U.S. Court of Federal Claims in March 2021 seeking recovery of monetary damages resulting from the federal government's ongoing failure to fulfill its contractual obligations to remove the SNF and Greater than Class C waste from the three Yankee sites for the years 2017-2020. Judge Stephen Schwartz scheduled the discovery/deposition phase to run until the end of July 2022 and set a trial date of July 25, 2023. The Phase V damage claims for MY are approximately \$40 million. Mr. Howes said the cases originally assigned to Judge Stephen Schwartz were reassigned February 28 to Judge Carolyn Lerner. He said this reassignment is not expected to impact the existing schedule established by Judge Schwartz.

Community Advisory Panel Discussion

Chair Hudson said he is very appreciative of the leadership Senators Collins,

King, and Representative Pingree have consistently demonstrated in trying to resolve the decades long policy impasse on the SNF issue. He thanked their representatives for attending and participating in the annual CAP meeting. Chair Hudson said he recommended sending a formal letter of thanks to the congressional delegation letting them know we are very grateful for their efforts. Chris Johnson said he supported doing that and suggested highlighting that CIS would improve the safety posture of the SNF. Vice-Chair Thompson agreed with sending a letter to the delegation and noted that the CAP has something to contribute to the discussion having participated in one of the first major plant decommissioning in the United States. He said a few years ago a delegation from Russia came to the area to learn about Maine Yankee's decommissioning and SNF storage and met with a few of us. Vice-Chair Thompson said we are the institutional memory of this process. Ralph Keyes agreed with sending a letter to the delegation and noted that climate change and sea level rise are an additional reason to consolidate SNF in a more suitable location away from the coast. Mr. Howes will draft a letter to the congressional delegation for review and Chair Hudson's signature on behalf of the CAP.

Public Comment

Wiscasset resident Marty Fox said his main concern is site security, in particular the vulnerability of the ISFSI casks to an attack from an aircraft. He said he is also concerned about the potential for the stainless-steel canisters to be susceptible over time to stress corrosion from chlorides in the air and seawater.

Mr. Laing responded that the ISFSI casks can withstand a large aircraft striking a cask without breaching the interior canister due to their design and engineering. Mr. Laing explained that the vertical concrete cask is a hardened structure with 2 feet of concrete lined with 2.5 inches of steel and that the interior canister is 5/8-inch-thick stainless steel. While an aircraft strike and fuel burn are a Beyond Design Basis Event, Sandia National Laboratory conducted a full-scale test to simulate a 747 traveling at 500 mph hitting a vertical concrete cask. Mr. Laing said the 747 engine rotor is the hardest component on the jet and the impact of the rotor did not penetrate the interior canister. He said the impact and fire resulted in a peak temperature below the 800-degree Fahrenheit Accident Temperature Limit.

Chair Hudson noted that it would be difficult to find this dot of a facility from the air and very hard to hit so small a target.

Regarding the potential for the stainless-steel canisters to be susceptible to chloride induced stress corrosion cracking, Mr. Laing said Maine Yankee began chloride testing in 2012. He said chlorides in the air at Maine Yankee are several

orders of magnitude lower than similar sites on the east coast mostly due to being 12 miles from the ocean and the brackish water around the site. He said two robotic canister inspections have been performed at Maine Yankee and no chloride stress corrosion was found. He said Maine Yankee is scheduled to perform another canister inspection for the aging management program in 2026. Mr. Laing said the Maine Yankee site has extremely low levels of chlorides in the air, thus the chance of chloride induced stress cracking is very low and that inspections will be performed periodically to ensure this does not change.

Mr. Keyes said cask relicensing and aging management are important to the process as it is unknown how long the canisters will be stored at the ISFSI.

Mr. Norton added the environmental risk is low and a lot of data will be collected in the coming decades to maintain the integrity of the canisters through aging management and periodic inspections.

Chair Hudson said from what he has learned about the design life of the canisters, the materials in question are likely to be free of defects for 300 years or so. Careful monitoring is important. Sadly, we are going to get a lot of experience as it appears the canisters will be stored at Maine Yankee for many years to come.

Mr. Keyes asked if Maine Yankee monitors climate change including sea level rise in the local area. Matt Marston, 3 Yankee Companies Director of Operations, responded that the Yankee Companies track shared nationwide data on climate change and sea level rise. He said every time the National Oceanic Atmospheric Administration's US Global Climate Change Research Program issues a report the 3 Yankee Companies do an assessment of our sites in light of the report.

Mr. Norton added that the ISFSI casks have been analyzed for flooding.

Evan Goodkowsky asked if the two proposed CIS facilities in Texas and New Mexico are located on private or public land? Mr. Howes responded that both sites are on private land owned by the entities seeking to develop the CIS facilities.

Another member of the public asked why not leave the SNF where it is? Why consolidate it in one spot?

Mr. Norton responded that the federal government has the responsibility to remove this material from the site and when that occurs Maine Yankee will go out of business.

Chair Hudson added there are economic reasons to consolidate the SNF as the cost to manage the SNF drops if many sites are consolidated.

Vice-Chair Thompson said when a geologic repository is established at Yucca Mountain or elsewhere for the long-term disposal of the SNF it should be designed so the SNF is retrievable for reprocessing.

Mr. Johnson noted that SNF canisters have to be replaced periodically so an economic factor to consider is how soon long-term storage will be available.

Chair Hudson said we need to close the fuel cycle. It's a promise we made to ourselves in the early 1950's.

The CAP and Maine Yankee then recognized and thanked John Arnold for his many years assisting at CAP meetings. Mr. Arnold is retiring from the 3 Yankee Companies at the end of the year after decades of service. Mr. Howes expressed his thanks and presented Mr. Arnold with a card and gift from the CAP and Maine Yankee. Mr. Arnold thanked everyone and said he has greatly enjoyed helping out at CAP meetings and getting to know all the members.

The meeting adjourned at 6:00 p.m.