

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

October 16, 2018, Wiscasset Community Center  
Meeting Minutes

<u>Member</u>	<u>Attendance</u>
Dr. Don Hudson, Chair	Yes
Mr. Dan Thompson, Vice-Chair	Yes
Mr. Wayne Norton	Yes
Mr. Jay Hyland	Yes
The Honorable Chris Johnson	Yes
Mr. Ralph Keyes	Yes
Ms. Misty Parker	Yes
The Honorable Dana Dow	Yes
Ms. Stacy Linehan	No
Mr. Steve Jarrett	No

## Introduction

Chair Don Hudson welcomed CAP members and audience to the CAP meeting which began at 4:00 p.m. CAP members and audience introduced themselves. Audience included: Charlotte Boynton, Lincoln County News reporter; Gina Hamilton, Wiscasset Newspaper reporter; George Richardson, First Selectman Westport Island; Mark Winter, Senator Collins' representative; Pamela Trinward, Congresswoman Pingree's representative; Marge Kilkelly, Senator King's representative who arrived later in the meeting; Pat Dostie, State Nuclear Safety Inspector; Tom and Tracy Joyce, new residents living on Cushman Point; Shoji Teshigawara, a Japanese journalist and visiting scholar at Harvard who arrived part way through the meeting; and the following from Maine Yankee: Larry Doucette, Matt Marston, and John Arnold.

## **CAP Business**

The CAP approved the October 10, 2017 annual meeting minutes. Chair Hudson then noted that as called for in the Charter the CAP needed to discuss its continuation until the 2020 CAP meeting, and if so, to elect a Chair and Vice-Chair for the next two years. He noted that the two-year cycle has repeated numerous times and could be called the wishful thinking cycle, but that one of these cycles the CAP won't have to discuss its continuation because the spent nuclear fuel (SNF) will have been removed by the Department of Energy (DOE). He said that if the CAP chooses to continue for another two years he and Vice-

Chair Dan Thompson are willing to serve if the CAP would like them to do so. The CAP voted to continue until its 2020 meeting and elected Chair Hudson and Vice-Chair Thompson to another two-year term.

Chair Hudson said after this meeting the CAP will again send a letter to the Maine congressional delegation reminding them we are still here and we are watching. Eric Howes will work with Chair Hudson on the draft letter to the congressional delegation.

### **Maine Yankee Independent Spent Fuel Storage Installation Update**

Maine Yankee ISFSI Manager J. Stanley Brown provided the CAP with an update on the ISFSI and other issues related to the Maine Yankee site since the last CAP meeting. Mr. Brown spoke from slides contained in the CAP meeting package.

Mr. Brown said ISFSI operations are normal.

Mr. Brown reported that the biennial Nuclear Regulatory Commission (NRC) Safety and Security Inspections were conducted in spring 2018. No violations were identified in the Safety Inspection Report. Maine Yankee did receive a Non-Cited Violation of NRC requirements in the Security Inspection Report due to ineffective corrective action related to a repeat occurrence. Mr. Brown said Maine Yankee agreed with the ineffective corrective action finding and has since addressed the Non-Cited Violation through its corrective action program.

Mr. Brown said Maine Yankee is very appreciative of the overwhelming off site support received this past year for the fall 2017 emergency planning drill, the spring 2018 fire and medical drill, which had the biggest group yet of mainly volunteer fire fighters and emergency medical responders from Wiscasset and Westport Island, and the fall 2018 biennial emergency planning exercise with approximately 70 people on site including the State Police tactical and crisis negotiation teams.

On September 20 Maine Yankee hosted NRC Commissioner David Wright for a site tour and briefing. Mr. Brown said stand-alone ISFSIs like Maine Yankee are not well understood by the NRC and this was a good opportunity for Maine Yankee and Commissioner Wright to have a dialogue on issues affecting stand-alone ISFSIs. Commissioner Wright's visit was the result of an invitation from Wayne Norton when he met with the Commissioners in July in his role as the Decommissioning Plant Coalition (DPC) Steering Committee Chair.

Mr. Brown noted that the Central Alarm Station upgrade was put into service in June, resulting in improved work space and updated hardware/software.

Based on several security camera issues (non-live or "frozen" image), Mr. Brown said in 2019 Maine Yankee plans to run fiber optic cables to the cameras, allowing digital vs analog output to the video system. Wayne Norton said at all three Yankee sites the companies are phasing in upgrades to systems to address obsolescence. Mr. Norton said this is to be expected considering the ISFSIs have been operating for over ten years.

Chris Johnson asked if Maine Yankee has a way to validate the data stream for security systems. Mr. Brown said yes but that he could not elaborate as it is security related information.

Mr. Brown updated the CAP on changes to Maine Yankee's Resource Conservation Recovery Act Corrective Action Program since the last CAP meeting. He said Maine Yankee recently received the approved amendment to the groundwater Compliance Order by Consent from the Maine Department of Environmental Protection (DEP) that eliminates the requirement for groundwater monitoring and that Maine Yankee is working to finalize remaining documents. Once finalized, the amended Compliance Order and Environmental Covenant will be reduced to existing site use prohibitions including groundwater extraction/use, residential, schools, child care or long-term care facilities. Mr. Brown said Maine Yankee expects to close the groundwater monitoring wells in November.

Mr. Brown said the next quarterly meeting of the Maine Yankee/State of Maine Oversight group was the next day in Augusta. He said the meetings between the state oversight agencies and Maine Yankee continue to be productive and that Radiation Control Program Manager Jay Hyland and State Nuclear Safety Inspector (SNSI) Pat Dostie are participants along with the DEP, State Police, and the Public Advocate's office.

Following Mr. Brown's presentation Vice-Chair Thompson asked if the Maine National Guard participates in Maine Yankee's emergency planning exercises. Mr. Brown said they do not but that National Guard members have been to the site and are familiar with it.

Ralph Keyes asked about the elevation of the base of the ISFSI casks in the context of concerns expressed about sea level rise or a flooding event. Mr. Brown said the difference in elevation above the Back River is roughly 25 feet but that Maine Yankee would verify that and get back to the CAP. Misty Parker said the regional planning commission did a study of sea level rise a few years ago and the ISFSI is not a concern. Chair Hudson said in an informal conversation with State Geologist Bob Marvinney that Mr. Marvinney is not concerned. Mr. Johnson said he is not worried about this either but that the CAP should keep an eye on it. Mr. Norton said Maine Yankee will provide a response to the CAP's questions on this topic and noted the casks have been analyzed for flooding.

Chair Hudson said the discussion reminded him it is time for him to make his biennial inspection of the upland marsh area created during decommissioning. He said he would contact Mr. Brown to make arrangements to do that.

### **Pre-Application Canister Inspection Project**

Canister Relicensing Project Manager Paul Plante briefed the CAP on the status of the relicensing project and the results of the July pre-application canister inspection. Mr. Plante did not have hand outs of his presentation but rather used a projector since most of his slides were photos of the canister inspection. Mr. Plante noted that he last presented to the CAP when he was the project manager for the ISFSI in the early days of the CAP, when Tom Brady had only won his first Super Bowl and the Red Sox last World Series win was in 1918.

Mr. Plante said that Maine Yankee uses the NAC International UMS dry cask storage system which has a NRC issued Certificate of Compliance (CofC) for storage and for transportation. Renewal of the transportation CofC is a separate process from the renewal of the storage CofC. It is renewed every 5 years by NAC. The NAC UMS storage CofC expires in 2020 and a significant effort is underway working with NAC to prepare and submit the NAC UMS storage license renewal application in advance of the expiration date. This lengthy review is customary for the storage CofC because the renewal period in this case is 40 years.

Mr. Plante said during the week of July 23 NAC International conducted a pre-application inspection on a Maine Yankee dry storage system to inform both the UMS and MPC license renewal applications (The NAC UMS canister system is used at Maine Yankee and the NAC MPC system is used at Connecticut Yankee and Yankee Rowe). The purpose of this canister inspection was to provide inspection information to support the storage CofC renewal application, much like the Greater-than-Class C canister inspection demonstration performed in July 2016 at Maine Yankee. This time a SNF canister was inspected using proposed aging management plans for the canister and interior of the Vertical Concrete Cask. The cask lid and the shield plug beneath it were removed to allow for additional inspection of the top of the canister as well as the collection of surface samples for subsequent analysis. Mr. Plante said the robotic inspection identified one indication of unusual coating damage on the steel vertical concrete cask liner with the spent fuel canister and all other components being satisfactory. He said the coating damage is not important to safety and while there was a lot of dust and dirt after 15 years the canister was dry on a hot, humid day and it looked good.

Mr. Plante used photos of the scaffolding, lid lift, shield plug removal, and canister inspection to illustrate his presentation. One photo showed a worker kneeling on top of the transportable storage canister (TSC) performing a visual inspection of the closure weld. Along with the weld inspection, chemical samples

of dust on the top of the TSC were collected. This was the first time the top of canister dust samples have been collected. Some dust samples were sent to Sandia National Laboratory and some were retained by Maine Yankee for testing as well. Wiscasset Newspaper reporter Gina Hamilton asked what the dust samples showed. Mr. Plante said a small amount of chlorides but mostly organics and pollen.

Other photos showed the robot entering a cask outlet vent and then moving down the steel wall of the cask. Mr. Plante said the robot can take video, radiation readings, temperature readings, and surface samples. For example, 7 feet down from the top south vent the temperature was 115 degrees Fahrenheit and 311 R/hour. The temperature outside was 76 degrees. Mr. Johnson asked what the substance was that looks like salt near the top vent of the cask. Mr. Plante said it was left over from the concrete pour when the cask was formed and is commonly seen on concrete surfaces.

Vice-Chair Thompson said he was really pleased with what you have told us. The Achilles heel of nuclear power is metallurgy. The metallurgy looks good as the inspection and your photos demonstrate. Mr. Norton said it's no accident that Mr. Plante was brought back to manage the relicensing project for the three Yankee companies as he is a metallurgist.

Chair Hudson said the decay curve of the SNF temperature seems lower than he would have expected. Mr. Plante said the canister inspected is a low heat load canister, only 4 kilowatts. The NAC UMS system is designed for 23 kilowatts. Maine Yankee's highest heat load canister is just shy of 14 kilowatts.

Mr. Johnson asked if Maine Yankee plans to inspect a high heat load canister. Mr. Plante said no. The models are clear - low heat load canisters are where the concern is for chloride induced stress corrosion cracking. If it's going to happen it will happen on a low heat load canister.

Mr. Johnson said he still remembers that the degradation of the steam generator tubes was an unexpected surprise. Mr. Plante said its always possible to be surprised but industry learns from these canister inspections and shares the knowledge gained. He also noted that Maine Yankee repaired the steam generator tubes.

Mr. Johnson asked if any plant has looked at a high heat load canister. Mr. Plante said Calvert Cliffs has looked at both high and low heat load canisters.

Tom Joyce asked if there has ever been a meaningful failure of a canister. Mr. Plante said he could not think of one.

Chair Hudson noted that prior to Maine Yankee selecting the NAC UMS system that CAP members had traveled to Palisades and Calvert Cliffs to learn firsthand about dry cask storage.

Mr. Richardson asked what would happen if NAC did not apply for renewal of the Maine Yankee canister system license. Would someone else be responsible for the SNF? The government? Mr. Norton said we are going to renew the license.

### **State of Maine Update**

State Nuclear Safety Inspector (SNSI) Pat Dostie, updated the CAP on his oversight activities since the last CAP meeting. Mr. Dostie spoke from slides contained in the CAP meeting package. A list of his activities is contained in the first three slides of his presentation.

Mr. Dostie said he is essentially caught up on monthly reports to the State Legislature. At present he is working on the August 2018 report and expects to finish it this week. Mr. Dostie said he is about three weeks behind schedule due to the office move, a week performing mammography inspections, and delayed vacation time taken after the cask lid lift project. Mr. Dostie said the SNSI's 2017 annual report is behind schedule for similar reasons. He expects the report will be completed by the end of November. Mr. Dostie said the Maine Yankee decommissioning Confirmatory Report has been reviewed by management.

Mr. Dostie said he provided the annual report on receipts and disbursements from the Interim Oversight Fund to the Joint Standing Committee on Utilities, Energy, and Technology. His slides include details of the amount disbursed to each department having oversight of Maine Yankee.

Mr. Dostie also provided his activities report for incorporation into the Radiation Control Program's annual Oversight Activities and Funding Report to the Joint Standing Committee on Utilities, Energy, and Technology.

Mr. Dostie noted the many activities he has been involved with such as: Participating in Maine Yankee's biennial Emergency Planning exercise held in September 2018, Observing Maine Yankee's annual Fire and Medical drill in May 2018; and participating in Maine Yankee's October 2017 emergency planning drill. He also; observed the July canister inspection project, reviewed daily security operations shift turnovers at Maine Yankee; and reviewed Maine Yankee's various reports to the NRC.

Mr. Dostie briefed the CAP on his involvement with the Northeast High-Level Radioactive Waste Transportation Taskforce (NEHLRWT Taskforce) meetings and his participation in the DOE's National Transportation Stakeholder Forum (NTSF) in Omaha, NE last June along with his involvement with the NTSF Rail Routing Working Group.

A concern Mr. Dostie discussed was that early this year the DOE informed the NEHLRWT Taskforce and the other state regional groups and tribes that DOE was no longer going to support planning activities with the states as in the past until the national policy on SNF is clear. Planning activities include meetings and working groups. He said the NEHLRWT Taskforce is concerned about annual funding from DOE and the training of state responders that needs to occur in order to be ready at the point of shipping SNF. Training of state responders is to begin four years in advance of SNF shipments. Mr. Dostie said there is a wealth of knowledge in the states regarding emergency planning that will be lost if DOE does not adequately support the state regional groups and tribes that will be relied on for the safe shipment of SNF. Mr. Dostie was pleased to report that in August DOE informed the state regional groups and tribes that the work of the Rail Routing Working Group will continue and that DOE will resume support of some meetings in 2019. This change of heart may have been the result of letters the state regional groups and tribes as well as the Nuclear Waste Strategy Coalition sent to DOE asking DOE to reconsider its decision to pullback support.

Mr. Dostie updated the CAP on the state's radiological environmental monitoring program and the results of the TLD (thermo luminescent dosimeter) control study for the steel vault at the Health and Environmental Testing Laboratory which has been ongoing since 2014. Mr. Dostie has briefed the CAP on this study the last several CAP meetings. He said it appears the exposure rate in the vault is .054 millirem/day which compares very well with the normal expected dose from storage in lead pigs. Using this information Mr. Dostie said the transit dose when the TLDs are shipped to the vendor to be read is 8.6 millirem. Mr. Dostie said it can now be calculated whether there is any impact from the ISFSI or any similar source.

Mr. Johnson asked Mr. Dostie if he could draw a three-dimensional view diagram of his last slide which is a TLD timeline.

Chair Hudson thanked Mr. Dostie for his presentation and said he is glad Mr. Dostie and Mr. Hyland are involved and paying attention. He said when SNF moves the public will have to be educated and the work you are doing now is laying the groundwork for that.

Chair Hudson said the community wants to know if there is any impact to the public from the ISFSI. From what you are saying and what the plant is saying, there is not. Mr. Dostie said that is correct. Mr. Norton said Maine Yankee does similar calculations regarding ISFSI dose; there is no impact to the public from the ISFSI.

Vice-Chair Thompson said he appreciates Mr. Dostie's monthly reports. The national and international perspective is interesting to read. Your eloquent testimonial tonight is all the more reason for the CAP to continue. The CAP

contains a great deal of institutional knowledge. We are being watched internationally.

### **Spent Nuclear Fuel Removal/Disposal Update**

Maine Yankee Public and Government Affairs Director Eric Howes updated the CAP on the national status of the SNF issue and the DOE litigation. He spoke from slides included with the meeting package.

Mr. Howes said that Maine Yankee continues to work with others advocating for priority removal of SNF from permanently shutdown sites without an operating reactor to a pilot consolidated interim storage (CIS) facility, while at the same time supporting completion of the Yucca Mountain (YM) license application process. A list of the groups Maine Yankee works with is on slide 3. They include: the Maine congressional delegation, the Decommissioning Plant Coalition, the Nuclear Waste Strategy Coalition, New England state policy makers, the Nuclear Energy Institute and others. Mr. Howes thanked Mr. Winter and Ms. Trinward for attending the CAP meeting on behalf of Senator Collins and Congresswoman Pingree. He said the Maine delegation has been very supportive of efforts to initiate a pilot CIS storage program focused on the removal of SNF from shutdown reactor sites like Maine Yankee.

Mr. Howes said the long standing impasse between the House and Senate over comprehensive nuclear waste policy reform continues with no funding for either CIS or YM in the Fiscal Year '19 Energy & Water Development Appropriations bill approved by Congress and signed by the President in September. As in past years the House bill included funding for YM but not CIS, and the Senate bill included a CIS provision but did not mention YM. Mr. Howes said election year politics was again a key factor in the continuing impasse.

He reminded the CAP that when the federal government fulfills its obligation to remove the SNF/HLW from Maine Yankee, the NRC license will be terminated, the ISFSI will be decommissioned and MY will go out of business. When that will be is unknown.

Mr. Howes noted that a provision in the FY '19 Appropriation bill's Conference Committee report directs the DOE Secretary "to submit to the Committees on Appropriations of both Houses of Congress not later than 180 days after the enactment of this Act a study on existing public and private resources and funding for which municipalities where a nuclear power plant is decommissioned, in the process of decommissioning, or plans to shut down within 3 years of enactment of this Act and contains nuclear waste within its boundaries may be eligible."



Mr. Howes said the president's FY '19 budget request again proposed funding for the YM license application process and to establish a CIS capability. Funds were also requested for NRC to support the YM license application review.

Regarding DOE, Mr. Howes said the agency continues to update its evaluation report for removing SNF from shutdown sites and to work on its design for the rail car that will be used to transport SNF.

Mr. Howes said the most significant congressional action this past year on the nuclear waste issue was passage by the House in June of The Nuclear Waste Policy Amendments Act (HR 3053) with strong bipartisan support. This bill recognizes that a repository is a necessary feature of a responsible, integrated waste management program, authorizes the development of a pilot CIS program with priority for nuclear waste stranded at shutdown sites, and authorizes increased resources to states and tribes to prepare for the safe transportation of spent nuclear fuel. The bill was referred to the Senate Environment and Public Works Committee with no further action to date.

Mr. Howes said there has been no action on the bills covered in previous CAP updates such as the STRANDED Act (S. 1903) cosponsored by Senator King that would provide assistance to shutdown site communities; and the Interim Consolidated Storage Act (HR 474) cosponsored by Congresswoman Pingree and Congressman Poliquin that would authorize the DOE to contract with private parties for the development of CIS facilities.

Regarding the Texas proposal to develop a CIS facility Mr. Howes said Orano USA and Waste Control Specialists have formed a joint venture (Interim Storage Partners) and submitted to the NRC a revised CIS license application. Mr. Howes reminded the CAP that the initial application was suspended pending the sale of the company. The revised application was accepted by the NRC for review in August. NRC staff will consider all comments previously received on the scope of the environmental review and has requested additional public comment and an opportunity to request a hearing through October 29th.

Regarding the New Mexico proposal, NRC is reviewing Holtec's CIS License Application docketed in March 2018. NRC staff is also preparing an environmental impact statement for the proposed facility and held public meetings last spring. In July NRC announced an opportunity for the public to request an adjudicatory hearing on Holtec's application. The deadline for requests was Sept. 14<sup>th</sup>. Several entities have petitioned to intervene.

NRC has said its review of the license applications for both facilities could be complete by the summer/fall 2020.

Mr. Howes mentioned a third initiative known as Deep Isolation which is a startup company located in CA. Deep Isolation proposes directional drilling technology

to emplace SNF far below the earth's surface at existing plant sites with the consent of the community. Deep Isolation is promoting their proposal in a variety of ways and including reaching out to communities with spent nuclear fuel storage sites.

He said Deep Isolation was a sponsor at a recent SNF conference in Charlotte, NC that he attended where they presented on their proposal.

Chair Hudson said he was contacted last summer by a representative of Deep Isolation offering to provide information to the CAP. Chair Hudson said he replied that the CAP is focused on the removal of the SNF from the site by the DOE as required by contract and statute.

There were several questions from the CAP regarding Deep Isolation: Ms. Parker asked how the SNF would be monitored; Mr. Johnson asked how it would be emplaced; Vice-Chair Thompson asked about being able to retrieve the SNF for potential reprocessing. Mr. Howes said there is information about the proposed project at [deepisolation.com](http://deepisolation.com).

Mr. Norton said Maine Yankee has a contract with the federal government to remove the SNF/HLW and we expect them to perform as required.

Mr. Richardson said foreign reactor fuel is reprocessed. Why aren't we reprocessing ours?

Chair Hudson noted that reprocessing was discontinued in this country during the Carter Administration. Congress could reauthorize it.

Regarding DOE litigation Mr. Howes said that the Phase IV case was filed in the U.S. Court of Federal Claims in May 2017 and addresses damages for the 2013-2016 timeframe resulting from the federal government's failure to honor its contractual obligations to remove the SNF from Maine Yankee. In the Phase IV case the three Yankee Companies are seeking roughly \$104.4 million dollars in damages. Of that amount Maine Yankee is seeking approximately \$35 million. Because the government is not seriously contesting approximately \$103 million of the damages at this point, the Yankee's filed a motion July 24 for partial summary judgment on the uncontested damages. The government opposes the partial summary judgment motion. Judge Firestone has set aside two days at the end of January 2019 for a trial on the contested amount of damages. Discovery in the Phase IV case is ongoing and the Judge has scheduled a December conference call with the parties to discuss the case.

Mr. Norton said in other recent cases there have been rulings for and against summary judgments, so it's hard to say how Judge Firestone will rule in the Yankee case. Mr. Norton also noted that given the small amount of currently uncontested damages it's reasonable to ask why the Yankees haven't settled

with the DOE when some companies have. Mr. Norton said DOE has one settlement model and it doesn't fit the Yankee Companies' situation as single asset shutdown sites storing SNF.

Following Mr. Howes' presentation Chair Hudson introduced Marge Kilkelly who had asked to speak briefly about Senator King's efforts to identify resources to assist shutdown site communities such as Wiscasset. Ms. Kilkelly noted the language in the FY '19 Appropriations bill Conference Report directing the DOE "to submit to the Committees on Appropriations of both Houses of Congress not later than 180 days after the enactment of this Act a study on existing public and private resources and funding for which municipalities where a nuclear power plant is decommissioned, in the process of decommissioning, or plans to shut down within 3 years of enactment of this Act and contains nuclear waste within its boundaries may be eligible." She said Senator King's office is working with DOE to find out what resources are available and what can be done. As an example, she said funding could help shutdown site communities network with each other to share their experiences.

### **Community Advisory Panel Discussion**

Chair Hudson noted that the CAP had asked a lot of questions prompting good discussion during the meeting. He closed by saying that the CAP will again write to the congressional delegation thanking them for paying attention and for their support and noting the economic impact to the community from the SNF remaining at the Maine Yankee site. He said when things move so slowly on this issue it is hard to bring to the public's attention. It's like watching paint dry. But we keep at it because it's important. Ms. Trinward said Congresswoman Pingree will continue to support the pilot project and interim storage in the year to come.

The CAP meeting adjourned at 6:10.