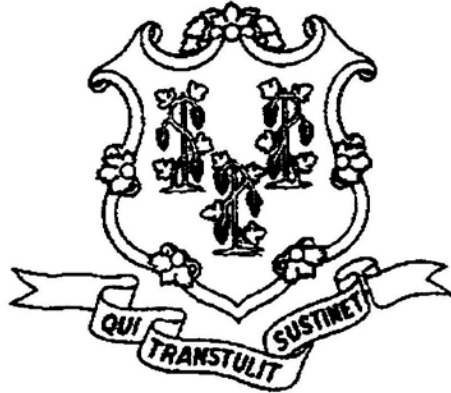


STATE OF CONNECTICUT



THE NUCLEAR ENERGY ADVISORY COUNCIL REPORT

2020

Established Pursuant to Public Act 96-245

Rep. Kevin Ryan, Chairperson

Nuclear Energy Advisory Council 2020 Report

Contents

Charge to the Council	1
Council Members	1
Executive Summary.....	2
Council Recommended Actions	2
State:	2
The Council:	2
Highlighted Findings	3
Millstone Operations	3
NRC Assessment of Performance.....	3
Unplanned Shutdowns	3
Council Assessment.....	4
Emergency Events	5
Environmental Events.....	5
COVID-19 Public Health Emergency Response	5
Connecticut Yankee.....	5
CY Site Update:.....	5
New CY ISFSI Manager:.....	6
2020 Emergency Plan Exercise:	6
NRC Inspections.....	6
Decommissioning:	6
High Level Nuclear Waste:	7
Department of Energy.....	7
Congress	7
Nuclear Regulatory Commission.....	8
Council Activities in 2020.....	9
Recommendations	10
State	10
The Council	10
Conclusions	10
Appendix 1 Nuclear Energy Advisory Council Membership.....	I
Appendix 2 Nuclear Energy Advisory Council Meeting Minutes.....	II

Charge to the Council

While recognizing the regulatory authority of the U. S. Nuclear Regulatory Commission (NRC) over commercial nuclear power facilities, the State of Connecticut maintains a very serious interest in matters that could affect the health and safety of the public and the natural resources of the state. As such, section 17 of Public Act 96-245 (now CGS16-11a, as amended) authorizes the creation of a Nuclear Energy Advisory Council (the Council) and requires the Council to:

1. Hold regular public meetings to discuss issues relating to the safety and operations of nuclear power plants and to advise the governor, legislature, and municipalities within a five-mile radius of the plants on these issues;
2. Work with federal, state, and local agencies and the companies operating such plants to ensure public health and safety;
3. Discuss proposed changes in, or problems arising from, the operation of the plants;
4. Communicate, through reports and presentations, with the plants' operators about safety or operational concerns at the plants, and
5. Review the current status of the plants with the Nuclear Regulatory Commission.

Council Members

The Council consists of fourteen (14) members appointed by the Governor, legislative leadership, and the executive bodies in the towns in or near which the state's nuclear power plants are located. There were seven active members at the end of 2020. The Council has several candidates to fill vacancies and urges the appointing authorities to work with the Council Chair to appoint new members. (Appendix 1).

Executive Summary

This is the twenty-sixth annual report presented by the Nuclear Energy Advisory Council (the Council). During calendar year (CY) 2020, the NEAC met four times and received reports from representatives of the U. S. Nuclear Regulatory Commission (NRC) and Dominion Energy Nuclear Connecticut as well as a written status report from Connecticut Yankee Independent Spent Fuel Storage Installation (ISFSI). The Council received and reviewed Routine and Special NRC inspection reports on the safety and operation of Millstone Power Station (MPS) as well as other documents related to MPS and NRC activities. These documents are publically available and listed in the meeting minutes (Appendix 2).

The Council continues to examine issues relating to the safety and operations of nuclear power plants and advise the governor, legislature, municipalities, and residents within a five-mile radius of the plants on these issues.

The Council concurs with the NRC that during 2020, Dominion safely operated the nuclear plants at Millstone Power Station. Spent nuclear fuel continues to be safely stored and monitored in wet storage and ISFSI at Millstone Power Station and in ISFSI at Connecticut Yankee. NRC and DEEP oversight provides effective oversight of activities.

Council Recommended Actions

State:

- Facilitate and encourage the Division of Emergency Management and Homeland Security (DEMHS)/DEEP nuclear emergency preparedness collaboration and continue executing current responsibilities and duties in kind.
- The Governor/General Assembly/DEEP should endorse a nuclear waste strategy that includes consent based consolidated interim storage.
- Elected officials responsible for appointing Council members should work with the Council Chair to identify and appoint new members to fill existing vacancies.

The Council:

- The Council will continue to discharge its duties as specified by Section 17 of Public Act 96-245 (now CGS16-11a as amended).
- The Council has identified and will monitor the following trends to ensure safe operations of Millstone Power Station
 - o Increased number of operational events (unplanned automatic and manual shutdowns and power changes)
 - o Impact of staff reductions and loss of organizational knowledge associated with the voluntary retirement program
 - o Increased number of vendor quality and performance issues.
 - o Increased number of regulatory actions (license changes, exemptions, etc) many of which are relaxing requirements – should be evaluated for aggregate impact on performance
- The Council believes that Dominion Energy responded appropriately to the COVID-19 Public Health Emergency (PHE) to protect critical workers required to safely operate the plants, provide security and respond to emergencies.
 - o The Council recommends that vaccine distribution planning for critical infrastructure workers coordinate with Dominion and NRC inspectors to ensure those personnel required to ensure nuclear safety and security are appropriately prioritized to receive the vaccine.

Highlighted Findings

Millstone Operations

Based upon presentations of Millstone Power Station (Millstone) in Waterford, CT performance made to the Nuclear Energy Advisory Council (the Council) by the U.S. Nuclear Regulatory Commission (NRC) and Dominion Nuclear Energy, Inc. (Dominion) in conjunction with the Council's review of NRC and Dominion correspondence and reports, the Council:

- Did not identify any safety or operational concerns with the plants.
- Concludes the NRC continues to provide effective regulatory oversight
- Identified the following trends in performance
 - Increased number of operational events (unplanned automatic and manual shutdowns and power changes)
 - Impact of staff reductions and loss of organizational knowledge associated with the voluntary retirement program
 - Increased number of vendor quality and performance issues
 - Increased number of regulatory actions

NRC Assessment of Performance

The NRC briefed the Council on its annual assessment of performance at Millstone. This assessment was informed by the observations, reports, and inspections conducted by NRC Resident Inspectors and supplemented with regional and headquarters inspectors in areas such as security, cybersecurity, health physics and engineering design basis. The NRC concluded that Dominion Nuclear Energy continues to operate Millstone Power Station safely, protect public health and safety, and protect the environment. Millstone Units 2 and 3 both remain in the Licensee Response column of the Regulatory Response Matrix (the highest level of performance) and will therefore remain under baseline inspection. Since the last Council report



- Operations at Millstone Unit 2 included one unplanned manual shutdown and two unplanned power reductions
- Operations at Millstone Unit 3 included two automatic shutdowns, one unplanned manual shutdown, and two unplanned power reductions
- The station declared one emergency event – an Unusual Event
- The NRC identified six inspection findings - all were determined to be of very low safety significance (Green).

Unplanned Shutdowns

Dominion briefed the Council on its internal assessment of performance including four unplanned shutdowns:

- December 17, 2019 Millstone Unit No. 3 manual plant shutdown due to failure of an emergency diesel generator (EDG) to pass performance testing following modifications.
- December 27, 2019 Millstone Unit No. 2 manual reactor shutdown due to failure of coupling on a turbine driven main feedwater pump.
- April 1, 2020 Millstone Unit 3 automatic reactor shutdown due a ground fault on the main electrical generator output

- April 3, 2020 Millstone Unit 3 automatic reactor shutdown due to a loss of main condenser backpressure resulting from marine fouling of main condenser due to a storm.

Council Assessment

Based upon the information presented and detailed in the minutes, the Council did not identify any safety or operational concerns associated with these shutdowns and noted operator performance in response to the events was strong. However, the Council notes the number of unplanned operational transients has increased since the last Council report. In its review of these transients, the Council identified potential trends in the causes and contributors to these events. The Council will continue to monitor performance at Millstone with respect to these trends:

- The Council continues to see issues resulting from quality and performance issues associated with vendor products, guidance and performance.
 - The unplanned manual reactor shutdown of Millstone Unit 3 on 12/17/2019 resulted when an Emergency Diesel Generator (EDG) failed to meet required parameters during post modification performance testing. The vendor had installed a modification to the exhaust system.
 - The unplanned manual reactor shutdown of Millstone Unit 2 on 12/27/2019 resulted from a failure in a steam driven main feedwater pump coupling. Dominion determined the vendor had failed to notify them of a change in alignment procedures for this coupling.
 - The unplanned automatic shutdown of Millstone Unit 3 on 4/1/2020 resulted from water accumulation in the isolated bus duct cooling system. Dominion concluded that the ductwork installed by a vendor was not properly sealed nor provided a water drain resulting in water buildup generating a ground fault in the main generator output.
- The Council has noted a large turnover in station personnel including an approximately 10% staff reduction implemented through a voluntary retirement program (VRP). The council noted that some operational occurrences may have been impacted by loss of experienced:
 - The unplanned automatic reactor shutdown of Millstone Unit 3 on 4/13/2020 occurred when ocean debris fowled cooling water intake to the main condenser resulting in a degraded backpressure automatic reactor shutdown. The Council noted that power had not been reduced sufficiently to provide margin to the automatic setting. Dominion determined that procedure guidance did not account for the loss of more than one main circulating water pumps. The Council noted that Millstone had reduced power further in anticipation of adverse weather in past years and this had included loss of multiple circulating water pumps. The Council also noted that operators should have initiated a manual reactor shutdown to preclude automatic action. The Council will monitor performance to identify if any other events may be impacted by a loss of organizational knowledge
 - The increased reliance on vendors with reduced staffing may leave the station vulnerable to vendor performance and quality issues.
- The Council noted that they reviewed 46 items of NRC correspondence in 2020 including inspection reports, licensing actions, exemptions, and informational notices. This is more than a threefold increase from 2019 (14) and a 50% increase from 2018 (31). The Council notes that this increase does not appear to be related to an increase in the number of inspections, but, rather, are related to providing exemptions from specific NRC requirements (some, but not all, of these appear to be due to COVID19) and to approving “risk informed” changes (notably reduction in requirements) to Dominion’s operating licenses for Millstone. The Council notes that while each of these actions individually appears to be properly evaluated, it is recommended that Dominion management and the NRC monitor performance to ensure that aggregate impact does not adversely affect safety or security.

Emergency Events

Dominion declared one emergency event at Millstone in 2020. On November 8, 2020, operators at Millstone declared an Unusual Event (the lowest of four NRC emergency classification levels) due to low level seismic activity felt on site. Unit 2 remained at 100% power. Unit 3 remained in a planned shut down for refueling and remained in Mode 3. The seismic monitor did not trigger; so the level of seismic activity was below the design basis of the plant. Engineers and operators completed detailed walk downs of plant structures and components. No damage was identified. There was no impact to the spent fuel pools, and no release of radiation. Personnel from the Department of Energy and Environmental Protection (DEEP) reviewed radiation monitors, both Dominion and state, and verified no release of radiation.

Environmental Events

There were no environmental impact events at Millstone in 2020.

COVID-19 Public Health Emergency Response

Dominion also briefed the Council on its response to the COVID-19 Public Health emergency (PHE). Dominion stated that staffing in operations, security, health physics, and emergency response remained above minimum required levels. Dominion implemented enhanced public health measures at the site to contain the spread of the virus. These included temperature monitoring required for site access, maximized social distancing, required face coverings, remote telework where possible, testing of over 900 station personnel, and enhanced screening of vendors from other states. Dominion has increased test access for all station personnel. Dominion did request and received exemptions from the NRC to defer large scale emergency response and security drills to minimize potential for transmission related to the additional personnel involved in integrated exercises. The Council reviewed these exemptions and found them prudent with sufficient information to provide reasonable assurance that emergency response and security capabilities were not adversely impacted. The Council will monitor to ensure that these exercises are conducted when prudent with respect the PHE. The Council also notes that Dominion has been involved in the vaccine distribution planning for critical workers and recommends that key station personnel to ensure security and safety at Millstone be appropriately prioritized.

Connecticut Yankee

The Connecticut Yankee Atomic Power Company (CY) plant began commercial operation in 1968 and produced more than 110 billion kilowatt-hours of electricity during its 28-year operating history. In 1996, the CY Board of Directors voted to permanently close and decommission the power plant. After two years of planning and preparation, actual decommissioning began in 1998 and was completed in 2007. CY has operated the NRC licensed Independent Spent Fuel Storage Installation (ISFSI) at the Haddam Neck site since 2004. The spent nuclear fuel and GTCC waste at the ISFSI facility is stored in 43 dry casks containing dual purpose canisters licensed by the NRC for both storage and transportation. The generic storage license for the dry cask storage system expires in 2020 and CY submitted to the US NRC a timely license renewal request to extend the license for another 40 years. The U.S. Department of Energy remains obligated under the Nuclear Waste Policy Act and by contract with CY to remove and dispose of the spent nuclear fuel and high-level radioactive waste.

CY Site Update:

There were no ISFSI lost time accidents, OSHA recordable injuries, or first aid cases in 2020.

CY implemented COVID-19 Pandemic related response actions that included health screening prior to site access, social distancing practices, enhanced cleaning/disinfection schedules, modified shift schedules, reduced on-site staffing and remote work where possible. CY also established the mandatory use of face coverings in accordance with State of Connecticut guidelines for all employers. On-site access was limited to only essential vendors which significantly impacted 2020 scheduled site related projects and most scheduled projects were delayed to 2021.

ISFSI Pad Repair work was originally scheduled to start in the spring; however, due to COVID-19, the project was delayed to the fall. This year's work scope encompassed an area several times larger than the 2018 & 2019 repair areas and combined them into one large harmonious repair area. The work began on September 14th and was completed on October 28th ahead of schedule and on budget with no industrial safety incidents. In addition to this work, ISFSI pad evaluation efforts continued in 2020 including work by an independent engineering firm. They performed analysis of core bores from the pad at that firm's laboratory to update the evaluation they performed on the original core bores removed in 2004. Their findings concluded that the pad was sound at depth and not subject to degradation mechanisms other than the surface delamination associated with improper finishing of the pad at construction. The results will be incorporated into an update to the pad Functionality Assessment.

New CY ISFSI Manager:

On March 23rd, Jim Lenois (the original CY ISFSI Manager) replaced Shae Hemingway as CY ISFSI Manager when Shae was promoted to Assistant Director of Operations for the 3 Yankees (Maine Yankee, Connecticut Yankee, Yankee Rowe). Jim continues as the Security Manager for the 3 Yankee sites.

2020 Emergency Plan Exercise:

Due to COVID-19, the decision was made to combine CY's emergency plan exercise scheduled for the fall of 2020 into a common 3 Yankee ISFSI site drill/exercise scenario. The CY exercise was successfully held on December 2nd with limited offsite organization participation.

NRC Inspections

The NRC safety inspection was deferred from the spring of 2020 due to the COVID-19 pandemic to 2021.

The NRC security inspection occurred during the week of September 14th. A set of COVID-19 protocols were mutually agreed to by the NRC and CY prior to the inspectors arriving onsite. In the future, NRC security inspections will be conducted on a triennial basis; however, due to scheduling considerations, the next CY inspection may occur in two years, followed by a three-year periodicity. During the inspection, the NRC evaluated a 2019 site safeguards information condition report and during the October 26th NRC inspection review meeting informed CY that this issue was considered a Severity Level 4 non-cited violation with no further response or action required.

Decommissioning:

Millstone - No significant decommissioning activities were conducted at the unit during 2020.

Connecticut Yankee – Normal operations, two regulatory findings were identified:

- Concrete repair restriction of cooling ducts
- Security related finding

High Level Nuclear Waste:

Department of Energy

Using previously appropriated funds, DOE is performing research on the storage and transport of high burn up fuel and working on reports from shutdown site visits in 2019 where site specific information was gathered regarding infrastructure for the eventual transport of spent nuclear fuel (SNF).

Congress

FY 2021 Funding Bills

The House Appropriations Committee approved the FY 2021 Energy and Water Development Appropriations bill on July 13. The Committee appropriated \$20 for consolidated interim storage (CIS) and \$7.5 million for Nuclear Waste Fund oversight activities. The Energy and Water Development bill was included in a House minibus bill (H.R.7617) that passed the House on July 31st and would fund DOE and other federal departments included in the omnibus from October 1, 2020 to September 30, 2021.

The Appropriations Commerce, Justice, Science, and Related Agencies Subcommittee Report provided the U.S. Economic Development Administration within the Department of Commerce \$18,000,000 to assist communities “impacted by recent or scheduled nuclear power plant closures” ... “for competitive economic adjustment assistance...which shall include, but not be limited to, public works investments and economic diversification initiatives...” This is a continuation of efforts begun in FY 2020 to assist shutdown site communities. The Nuclear Decommissioning Collaborative issued its report on the Socioeconomic Impacts From Nuclear Power Plant Closure and Decommissioning. This report was funded by a grant from the Economic Development Administration within the Department of Commerce.

The biggest obstacle to private CIS is the opposition from the State of New Mexico to Holtec’s proposed facility. Governor Michelle Lujan Grisham (NM) wrote a July letter in opposition to President Trump and supported by the New Mexico congressional delegation. Governor Greg Abbot of Texas also sent a letter in September to President Trump opposing the proposed CIS facilities in Texas and New Mexico, but that Governor Abbott’s letter left a small opening noting that such facilities should require the support of the governor. Unlike New Mexico, the Texas congressional delegation has not come out in opposition to the proposed Interim Storage Partners (ISP) CIS facility.

Spent Fuel Authorization Legislation

The Spent Nuclear Fuel Solutions Research and Development Act (H.R. 8258) introduced 9/15 by Rep Mike Levin (D-CA) was included in the comprehensive energy bill the *Clean Economy Jobs and Innovation Act that passed the House on 9/24*. Rep Levin’s legislation would largely fund a spent fuel research and development program within DOE regarding dry cask storage, CIS, deep geological storage and disposal, and SNF transportation. It does not propose a solution to the SNF management problem.

The Senate’s comprehensive clean energy bill, “The American Energy Innovation Act” was introduced in February by Senator Lisa Murkowski (R-AK), Chair of the Senate Energy & Natural Resources Committee and Ranking Member Manchin (D-WV). It was brought to the floor last spring but was not acted on due to issues that have since been resolved.

The Senate Democrats’ Special Committee on the Climate Crisis issued its report on August 26, “The Case for Climate Action Building a Clean Economy for the American People.” Regarding SNF

management the report states, "The United States still lacks a comprehensive strategy on how to store nuclear waste, and some communities where nuclear power is generated, or waste is stored have expressed safety and security concerns. Congress should pursue a consent-based siting process when addressing the disposal of our nation's nuclear waste and provide support to communities that are currently grappling with stranded nuclear waste."

The "Nuclear Plant Decommissioning Act of 2020", H.R. 8277, was introduced in the House by Rep Welch (D-VT) on September 16. House cosponsors are Rep Engel (D-NY) and Rep Kim (D-NJ). There is a companion Senate bill that doesn't yet have a bill number which is sponsored by Senators Sanders (I-VT) and Leahy (D-VT) and cosponsored by Senators King (I-ME), Warren (D-MA), Markey (D-MA), Duckworth (D-IL), Durbin (D-IL), and Gillibrand (D-NY). The bill is similar to measures introduced in recent years. The bill would give states a greater role in the decommissioning process including post shutdown decommissioning activity reports, community advisory boards, and license transfers. Funding would also be provided to shutdown site communities.

Nuclear Regulatory Commission

The NRC Commissioners recently approved a recommendation by staff to use \$164,000 in previously appropriated monies from the Nuclear Waste Fund to produce a knowledge management "roadmap" for the suspended Yucca Mountain license review. The roadmap would serve to guide future NRC staff should the Yucca Mountain license review process resume at some point. Many of the NRC staff who worked on the Yucca Mountain Safety Evaluation Report have either retired or are nearing retirement.

Private Consolidated Interim Storage (CIS) License Applications

The NRC public comment period on the Holtec Draft Environmental Impact Statement (DEIS) ended September 22 following several virtual NRC public comment webinars. Most of the comments during the NRC webinars were in opposition to the proposed CIS projects. Oral and or written comment in favor of the proposed CIS projects or the concept of CIS were submitted by the Nuclear Energy Institute, the Nuclear Waste Strategy Coalition, and the American Nuclear Society. The NRC recently issued letters to both Holtec and ISP that revise the publication date of the final EIS for both projects from May to July 2021 due to delays caused by Covid-19, while the date for the NRC to issue the final Safety Evaluation Report for both remains May 2021. It is expected that the NRC will approve both projects in the second quarter of 2021 and be licensed sometime in the third quarter of next year unless the applicant(s) withdraw the license application. If licensed, both projects will have to weigh economic/political factors regarding whether to move forward with CIS facility construction.

Decommissioning Rulemaking

The Draft Rulemaking continues to have no set timetable for the Commissioners to act. NRC staff's long stated goal is to publish the final rule by mid-2021.

Council Activities in 2020

As required by CGS16-11a (PA 96-245) as amended, the Council held four public meetings. The purpose of these meetings was to provide a venue for discussion of issues relating to the safe operation of the state's nuclear power plants. Three of the meetings were held virtually due to public health restrictions imposed in response to the COVID-19 PHE. These virtual meetings remained open to the public. Detailed meeting minutes are included in Appendix 2.

- March 5, 2020 (Waterford Public Library): The Council reviewed and approved 2018 and 2019 annual reports.
- April 21, 2020 (via Webex): This was a joint meeting with the NRC Region I staff and focused on the Annual Assessment Report of Millstone Power Station Units 2 and 3 for the four quarters of CY2019. It was reported that overall both units were operated in a manner that preserved public health and safety and fully met NRC cornerstone objectives.
- September 24, 2020 (via Zoom): Dominion Nuclear Connecticut representatives provided an update of activities at Millstone Power Station.
- December 17, 2020 (via MS Teams): The Council discussed trends and observations for preparing the 2020 annual report.

Millstone 1 Decommissioning Advisory Committee (M1DAC): Since Millstone 1 remains in Safe Storage (SAFSTORE) and no significant activities were conducted at the Unit during the past calendar year, M1DAC did not meet in CY2020.

FSAC Meeting:

The CY Fuel Storage Advisory Committee meeting to be held in May 2020 was postponed to 2021 due to the PHE. The next FSAC meeting is scheduled to be held in Haddam on May 18, 2021.

Recommendations

State

1. DEMHS and DEEP should continue to address any emergency preparedness issues at Connecticut's nuclear sites.
2. DEEP, in conjunction with Connecticut State Police should continue to address any security issues at Connecticut's nuclear sites.
3. DEEP should continue radiological and environmental monitoring of Connecticut's nuclear sites.
4. The Governor, General Assembly, DEEP, and the Council should continue to insist that the NRC continue vigilant oversight of Connecticut Yankee and Millstone Power Station sites for as long as high-level nuclear waste remains on site.
5. The Governor, General Assembly, and DEEP should encourage the federal government to develop a solution to the spent fuel storage. Specifically, The Governor, General Assembly and DEEP should endorse a nuclear waste strategy that includes consent based consolidated interim storage that gives priority to removal of waste from permanently shutdown reactor.
6. Elected officials should work with the Council to make appointments necessary to fill vacant Council positions.

The Council

1. Continue to monitor the stability of the Employee Concern Program and Safety Conscious Work Environment and Corrective Action Program at Millstone Power Station.
2. Continue to monitor operations and activities at Millstone Power Station and Connecticut Yankee Site, including the dry cask storage programs.
3. Continue to encourage the development of a solution to the problem of Spent Nuclear Fuel, High Level Waste and Greater Than Class C Low-Level Radioactive Waste and the safe transfer of this nuclear waste from Connecticut. Including the establishment of a consent based consolidated interim storage that gives priority to removal of SNF and GTCC waste from permanently shutdown reactor sites and transfers title of SNF to DOE upon receipt.
4. The Council has identified and will monitor the following trends to ensure safe operations of Millstone Power Station
 - a. Increased number of operational events (unplanned automatic and manual shutdowns and power changes)
 - b. Impact of staff reductions and loss of organizational knowledge associated with the voluntary retirement program
 - c. Increased number of vendor quality and performance issues.
 - d. Increased number of regulatory actions (license changes, exemptions, etc) many of which are relaxing requirements – should be evaluated for aggregate impact on performance
5. The Council believes that Dominion Energy responded appropriately to the COVID-19 Public Health Emergency (PHE) to protect critical workers required to safely operate the plant, provide security and respond to emergencies.
 - a. The Council recommends that vaccine distribution planning for critical infrastructure workers coordinate with Dominion and NRC inspectors to ensure those personnel required to ensure nuclear safety and security are appropriately prioritized to receive the vaccine.

Conclusions

Dominion continues to safely operate the nuclear plants at Millstone Power Station. Spent nuclear fuel is safely stored and monitored in wet storage and ISFSI at Millstone Power Station and in ISFSI at

Connecticut Yankee. NRC and DEEP oversight provides effective oversight of activities. All oversight entities and stakeholders must continue vigilant oversight of Connecticut Yankee and Millstone Power Station sites for as long as high-level nuclear waste remains on site. Each must encourage the federal government to develop a consolidated interim storage solution to the spent fuel storage problem that prioritizes removal of Spent Nuclear Fuel (SNF) and Greater Than Class C (GTCC) waste from permanently shut down reactor sites and includes transfer of the SNF title to DOE upon receipt.

Appendix 1 Nuclear Energy Advisory Council Membership

Rep. Kevin Ryan Oakdale: OD, Pennsylvania College of Optometry. Legislator, Adjunct Faculty, University of New Haven.

John W. (Bill) Sheehan Waterford: BS, Naval Science, US Naval Academy; MBA, Rensselaer Polytechnic Institute; former Commanding Officer, Nuclear powered submarine.; retired Navy Captain

Arnold “Skip” Jordan. (Noank) BSME, Maine Maritime Academy; MBA, Boston University. Retired, Vice President Dominion Support Services former Site Vice President Millstone Station. Former Reactor Operator at Millstone Unit 2.

Raymond D. Woolrich Waterford: BS, Nuclear Science, US Naval Academy; MS Computer Systems and Financial Management, US Naval Postgraduate School; former Commanding Officer, Nuclear Powered Submarine; retired Navy Captain; Naval Analyst, Sonalysts, Inc.

Craig Salonia Haddam: BS in Medical Technology from Northeastern University. Account manager and trainer for GE Health care Life Sciences division.

James Sherrard Mystic: PhD Nuc. & Mech Eng. MIT/UCONN. Chairman, Nuclear Engineering Technology Department, TRCTC.

Mr. Jeffrey Semancik Groton: BS Physics, US Naval Academy. MS, Electrical Engineering. Former qualified engineer, nuclear powered aircraft carrier. Former Senior Reactor Operator at Millstone Unit 3. Director, Radiation Division, Department of Energy and Environmental Protection.

Appendix 2 Nuclear Energy Advisory Council Meeting Minutes

NUCLEAR ENERGY ADVISORY COUNCIL
March 5, 2020 6:30 PM
Waterford Town Hall
Leigh Appleby Room
Waterford, CT

MINUTES

Members Present

Rep Kevin Ryan, Chair

Alternate Chair Mr. Jeffrey Semancik representing DEEP Commissioner Dykes

Mr. Craig Salonia Mr. James Sherrard

Members not present:

Mr. R. Woolrich Mr. A. Jordan Mr. Bill Sheehan

1. Call to Order of Meeting

NEAC Chair Rep. Ryan called the meeting to order at 6:36 PM at Waterford Town Hall in Waterford, CT.

2. Approval of Minutes of the September 17, 2019 NEAC meeting.

A motion was made to approve the minutes by Mr. Sherrard and seconded by Mr. Salonia. Minutes were approved with two editorial corrections and no objections.

3. Program – Review of annual NEAC Reports.

- a. Chairman Ryan presented the 2018 Annual NEAC report to the General Assembly.
 - i. A motion was made to approve the 2018 Annual NEAC Report by Mr. Sherrard and seconded by Mr. Salonia. Minutes were approved without any corrections or objections.
- b. Chairman Ryan presented the 2019 Annual NEAC report to the General Assembly.
 - i. Chairman Ryan asked that the explanation of the second quarter 2019 meeting with respect to Council member Participation at the Connecticut Yankee Fuel Storage Advisory Committee be relocated in the report.
 - ii. A motion was made to approve the 2019 Annual NEAC Report (as amended) by Mr. Sherrard and seconded by Mr. Salonia. Minutes were approved without objections.

4. NEAC Business

- a. **NRC Correspondence Reviewed since past meeting.**

The list of NRC Correspondence was reviewed. One comment from NEAC was related to NRC environmental qualification inspection.

 - i. Notice of Request for Comment and Public Meetings: Nuclear Energy Innovation and Modernization Act Local Community Advisory Board Best Practices (STC-19-066) dated October 4, 2019

1. NEAC Response to NRC NEIMA Local Community Advisory Board Questionnaire dated October 29, 2019.
 - ii. Millstone Power Station, Units 2 and 3-Supplement to Staff Assessment of Response to 10 CFR 50.54(f) Information Request - Flood-Causing Mechanism Reevaluation (EPID NOS. 000495\05000336\L-2015-JLD-0011 and 000495\05000423\L-2015-JLD-0012)) dated October 7, 2019.
 - iii. Millstone Power Station, Units 2 and 3 - Summary Report for the Audit of the Response to 10 CFR 50.54(f) Information Request - Flood-Causing Mechanism Reevaluation (EPID NOS. L-2015-JLD-0011 AND L-2015-JLD-0012) dated October 7, 2019.
 - iv. Millstone Power Station, Unit No. 2 Supplemental Information Needed for Acceptance of Requested Licensing Action Re: Extension of Technical Specification 3.8.1.1, "A.C. Sources - Operating," Allowed Outage Time (EPID L-2019-LLA-0177) dated October 7, 2019.
 - v. Millstone Power Station, Unit 3 – Initial Operator Licensing Examination Report 05000423/2019301 dated October 28, 2019.
 - vi. Millstone Power Station Unit No. 3 – Relief Request IR-3-39, Proposed Alternative to ASME Code Weld Preheat Requirements (EPID L-2019-LLR-0014) dated December 13, 2019
 - vii. Millstone Power Station, Units 2 and 3 – Integrated Inspection Report 05000336/2019004 AND 05000423/2019004 dated February 10, 2020.
- b. **Other material reviewed** – NEAC reviewed the following information related to nuclear industry and trends.
 - i. Comments Concerning Recommendations for Enhancing the Reactor Oversight Process (ROP) – Docket ID NRC-2019-0155 dated October 4, 2019.
 - ii. Millstone Unit 2 Non-Emergency Report Form 20190036, Manual Reactor Trip due to loss of the 'A' Main Feed Pump dated December 27, 2019.
- c. **Discussion of Council vacancies.** The Council discussed the status open positions. Council reviewed vacancies in the statutorily required positions.
 - i. Council reaffirmed Rep. Ryan as Council Chair.
 - ii. Chair Ryan noted he had drafted appointment letters and continues to engage appointing authorities to fill vacancies.
- d. **Upcoming Meetings**
 - i. Chair Ryan noted the US NRC Annual Millstone Performance Assessment Meeting will be April 21, 2020 from 6 to 8 PM at Waterford Public Library.
 - ii. Mr. Semancik presented a list of requested topics.

1. Mr. Salonia requested NRC discuss observations of the effects of the Voluntary Retirement Program

5. **Public Comment**

- a. No members of the public were in attendance.

6. **Adjournment**

Motion was made by Mr. Sherrard and seconded by Mr. Salonia to adjourn; no objections; unanimous vote in favor; meeting adjourned at 7:07 PM.

NUCLEAR ENERGY ADVISORY COUNCIL
April 21, 2020 4 PM
Webex Meeting

MINUTES

Members Present

Rep Kevin Ryan, Chair

Alternate Chair Mr. Jeffrey Semancik representing DEEP Commissioner Dykes

Mr. Craig Salonia Mr. James Sherrard

Mr. A. Jordan Mr. R. Woolrich

Mr. Bill Sheehan

Members not present:

None

1. Call to Order of Meeting

NEAC Chair Rep. Ryan called the meeting to order at 4:06 PM via webinar/telephone conference.

2. Program – Briefing on Millstone Power Station Annual Assessment by US Nuclear Regulatory Commission (NRC): D. Schroeder, Chief, Projects Branch 2, Division of Reactor Projects; K. Kavanagh, Chief, Quality Assurance, Vendor Inspection; J. Fuller, Senior Resident Inspector; R. Guzman, Project Manager, Plant Licensing Branch I; D. Rudland, Senior Technical Advisor; J. Ortega-Luciano, Reactor Operations Engineer; L. Grimes, Project Engineer, Region 1 Division of Reactor Projects; C. Highly, Resident Inspector; and, E. Allen, Resident Inspector. (Council's Requested Topics, NRC Notice of Public Meeting, and Meeting Presentation attached)

- a. Mr. Schroeder indicated that the Council had, in part, requested an update on Spent Nuclear Fuel (SNF) dry storage container (DSC) closure welds. He indicated that current assessment is that NRC has no information that the visual indications on the welds adversely indicate the quality of the welds or their abilities to perform as designed. The NRC will be conducting a follow-up inspection on this issue and will issue a public inspection report. As the inspection is still pending, the NRC will not be further addressing this topic tonight.
- b. Mr. Schroeder introduced himself and discussed his 25 years of experience. He noted that the NRC has three fulltime resident inspectors (RIs) assigned that conduct the baseline inspections and supplements them with technical specialists from the Region 1 office in King of Prussia, PA. He noted that NRC inspections were modified in response to the COVID-19 pandemic in order to minimize spread of the virus.
- c. Mr. Schroeder briefed the Council on overall NRC assessment of performance related to Dominion Energy's operation of Millstone. Mr. Schroeder stated that Millstone continues to operate safely, protect public health and safety, and protect the environment. Millstone Units 2 and 3 are both in the Licensee Response Column of the Regulatory Response Matrix (the highest level of performance) and will therefore remain under baseline inspection. All NRC performance indicators (PIs) are Green. One performance indicator related to Unit 3 Alternating Current (AC) Emergency Power

Systems is near the white threshold and will be discussed later. The NRC has not identified any cross-cutting issues. The NRC identified nine inspection findings, - five by RIs and four by technical specialists, - all nine findings were of very low safety significance (green).

- d. Mr. Schroeder state the NRC has no Safety Conscious Work Environment (SCWE) concerns for 2019. The NRC assesses safety culture as part of Problem Identification and Resolution (PI&R) inspections. During the last PI&R inspection (Sep 27, 2018) the NRC inspection team determined Dominion's corrective action (CA) process was effective and that there were no challenges to SCWE with Millstone staff willing to raise concerns. There were two allegations in 2019: the same as in 2018, down from previous years, and below the industry average. The next PI&R inspection is scheduled for November 2020.
- e. Mr. Fuller introduced himself and his RI staff. He has 18 years of experience with the NRC and became the Senior Resident Inspector (SRI) at Millstone in 2017. Mr. Highly has over 30 years nuclear experience and has been at Millstone for 4.5 years. Mr. Allen has 17 years nuclear experience and has been assigned to Millstone in summer 2019.
- f. Mr. Fuller discussed the power history of Millstone Units 2 and 3. He noted that the RIs always conduct independent evaluation of plant operations and reviews for startup. NRC RIs did not identify any issues related to plant operations.
 - i. Millstone Unit 2
 - 1. Secondary Steam related issues resulted in power reductions on April 22 and July 25.
 - 2. December 17 – manual plant trip (rapid shutdown) due to the loss of the A turbine driven feedwater pump (TDFP). Dominion submitted a Licensee Evener Report (LER) and the NRC evaluation was documented in their inspection report.
 - ii. Millstone Unit 3
 - 1. April 11 planned refueling shutdown.
 - 2. December 12 – manual shutdown after the A emergency diesel generator (EDG) could not be restored following a planned maintenance outage. During the maintenance outage a new more efficient exhaust system was installed but could not pass the rigorous post maintenance test (PMT) criteria within the allowed outage time (AOT). The unit was restarted and returned to service following restoring the old exhaust system.
- g. Mr. Fuller noted that the NRC identified 3 findings in 2019 related to Unit 3 EDG performance and that the PI has little margin to the white threshold.
 - i. Cooling water leak was a degradation of a previous leak identified in 2017. There was no finding in 2017 because it was determined to not be in licensee control and construction to specification. However, in 2019 the degradation was determined to meet criterion 16 for CA and resulted in a notice of violation (NOV).
 - ii. Failure of the Unit 3 A EDG engine speed component resulted from not implementing the vendor's recommended PMT.
 - iii. Fuel oil calculation errors resulted in less available oil that required. However, NRC determined there was a robust supply of fuel oil on site.

- iv. The Maintenance System Performance Indicator (MSPI), a quantitative measure of performance, showed several failures to run for 1 hour in 2019. However, when re-calculated in the 4th quarter of 2019, several of these failures were no longer included in the MSPI (became excluded from rolling average) and additional margin was gained to the white threshold.
- h. Mr. Fuller discussed the results of the triennial fire protection inspection. This is a detailed, risk-informed design basis inspection. The NRC employs a defense-in-depth philosophy including administrative controls to preclude fires (includes training), automatic systems to detect and suppress fires, and procedures, and plant equipment so Operations personnel can safely shutdown the reactor. The NRC identified two findings during the 2019 triennial fire protection inspection.
 - i. Failure to control transient combustibles – NRC inspectors noted two 55-gallon drums of lube oil left without a permit in the EDG room. Maintenance personnel were preparing to add oil during dayshift but didn't complete the activity. They did not get the proper permit to leave the oil in the room during shift turnover. The amount of oil was bounded by fire loading calculations. Dominion promptly removed and conducted an extent of condition review. Mr. Fuller noted this finding has had a positive impact in that Dominion management has reinforced expectations for transient combustible requirements throughout the station.
 - ii. One procedure to shut down the reactor in the event of a fire did not provide specific action to de-energize the atmospheric dump (steam relief) valves within the time of the analysis. Dominion put temporary controls (hourly fire rove and limits on amounts of combustibles) in place until the procedure was corrected.
- i. Mr. Guzman introduced himself and provided his background of 25 years of nuclear experience in the US Navy and NRC. He discussed three specific licensing actions as requested by the Council:
 - i. A license amendment request (LAR) to reduce the Unit 2 Technical Specification (TS) primary and secondary coolant radioactivity limits by 50% based on Dominion's calculations of radiation dose to control room personnel for Main Steam Line Break and Steam Generator Tube Rupture accidents. The reduction is necessary to meet the Control Room dose regulatory limits. Until the licensing amendment is approved, Dominion has put administrative limits on these values. Approval is expected by December 2020.
 - ii. Unit 2 LAR for AC offsite power sources to allow a TS option to extend the AOT from 72 hours to 10 days for one offsite circuit and a one-time AOT of 35 days to replace the Unit 3 Reserve Station Services Transformer (RSST) which is nearing the end of its service life. The NRC expects to complete its review of the full LAR in fall 2023.
 - iii. NRC approved an LAR in December 2019 to revise the current Emergency Action Levels (EALs) based on Nuclear Energy Institute (NEI) 99-01 Rev 6 guidance (endorsed by NRC in March 2016 for generic use).
- j. Dr. Rudland introduced himself – 27 years nuclear experience with a Ph.D. in nuclear materials. He discussed potential issues with the Unit 2 pressurizer girth weld. He also introduced Mr. Ortega.
 - i. Mr. Ortega provided background that in 2019 the manufacturer (Framatome) identified deviations in temperature control during post weld heat treatment

(PWHT) of several large components including the Unit 2 pressurizer. They reported this to the NRC and industry as a potential defect which could cause a safety hazard pursuant to 10 CFR part 21. The deviations resulted from temperature control outside the range of The American Society of Mechanical Engineers (ASME) code requirements referenced in 10 CFR 55.a. This involved two specific issues: (1) more deviation than defect; (2) still under review by NRC but not a safety concern.

- ii. Additional multi-national inspections of Framatome led by the French regulatory authority have been conducted. A root cause evaluation from previous PWHT issues has resulted in corrective actions being implemented.
- k. Mr. Grimes discussed NRC response to current public health emergency. COVID-19 remains a focus for NRC for the health and safety of its employees. This includes mostly working remotely, social distancing, inspections performed remotely when possible, and periodic on-site presence for RIs. He discussed the Regulatory Issue Summary that requests specific licensee information requested by the NRC related to the pandemic. The NRC is regularly conducting meetings with the power plant operators. With respect to licensee staffing, site specific manning requirements have been met. Licensees could consider requesting temporary relief for some requirements such as work hours if necessary. Dominion has taken actions consistent with its pandemic plan including delaying the start of the refueling outage by one week and reducing scope of work to reduce the number of contractors coming from out of state.
- l. Mr. Grimes discussed NRC transformation process based on specific comments received from the industry. Based upon review of the Reactor Oversight Process (ROP), NRC staff recommended enhancements to continue risk informed optimization and focus on the most safety significant activities. In 2016, the review recommended a four year inspection cycles. The near-term recommendations from June 2019 review include:
 - i. Eliminating greater than green findings older than four quarter if CA's and supplemental inspections complete
 - ii. Reducing inspection samples to 200 each year
 - iii. Revising the emergency preparedness significance determination process (SDP)
 - iv. Revising fire protection and motor operated valve inspection procedures.
- m. NRC will continue to solicit feedback via public meeting on its transformation efforts. Longer term, the NRC is reviewing normal management and work practices to include SDP tool, performance improvement program, and emergency preparedness ROP. The NRC proposal to align its inspections with industry self-assessments is no longer being considered.
- n. Mr. Fuller discussed the impact of Dominion Voluntary Retirement Program (VRP) on plant safety. The VRP occurred in several phases in spring and summer of 2019. The RIs have not observed any adverse impact and have been impressed with staff that filled positions.

3. Questions from the Council

- a. Mr. Semancik about the licensee's time critical operators' action (TCOA) program and if it had the fire response strategy actions included. If they were included, why was this not self-identified by the licensee?
 - i. Mr. Fuller responded that the goal of the TCOA program is to verify the operators can actually perform the action in the assumed time. The action for

the fire in the area of concern is bounded by (assumes it takes more time than) the same action for a fire in the adjacent control room. The control room fire response procedure had the action in the correct place. The time critical action for the control room fire scenario is in the TCOA program and has been validated.

- b. Mr. Semancik asked how the state would be made aware of any exemptions granted by the NRC related to the pandemic.
 - i. Mr. Guzman responded that the process does not include state consultation prior to NRC approval; however, the NRC does provide a courtesy notification to the Governor's State Liaison Officer upon receipt of an application and when exemptions are granted.
- c. Mr. Semancik noted that there was a previous issue with the Unit 2 pressurizer fabrication related to Framatome's controls of the material cooling process during fabrication. He requested more information on whether these were related to an overall concern with Framatome quality assurance and control (QA/QC) and the extent of condition.
 - i. Mr. Rudland responded that additional inspections related to fabrication of large components by Framatome resulted from a change of requirements by French regulators that increased the monitoring of QA/QC processes for components used in French nuclear power plants. Inspections are on-going and the NRC expects there may be other potential issues identified. The NRC is involved with the French regulator. In general, the issues are related to tracking and documentation of QA/QC during processes that were modified by Framatome to be more stringent. Regulators are reviewing corrective actions and change management of these processes. NRC regulations incorporate ASME Code requirements that the NRC believe are sufficient and have not incorporated the new QA/QC requirements as the French regulatory agency.
- d. Mr. Jordan asked about Unit 3 EDG performance issues and the NRC assessment of licensee actions to prevent recurrence and improve performance.
 - i. Mr. Fuller responded that the licensee is taking corrective actions. They have formed a multi-disciplinary diesel excellence team to work together to improve performance. The licensee is taking the issue seriously with senior management involvement. The NRC continues to monitor performance, - three out of eight of the recent PI&R inspections were associated with EDG performance. Mr. Fuller offered two examples:
 1. Following one run failure in July 2019 that resulted from a speed control circuit failure during a surveillance run, the licensee compared the PMT to that recommended by the EDG Owners' Group. They identified several differences and update their PMT guidance.
 2. After a cooling water leak, the licensee took out all the impacted piping and fabricated new components.
 - ii. Mr. Jordan asked if there was a EDG Excellence Team prior to the recent issues. Mr. Fuller stated the team was put in place in July 2019.
- e. Mr. Sherrard requested more information on the response of Millstone to the COVID-19 pandemic. He stated he assumed that this would continue going forward for some time and could affect training and potentially burnout of operators. He asked if Millstone was hiring any additional staff as a contingency.

- i. Mr. Fuller stated both Millstone and the NRC took timely action in response to the public health emergency. Dominion ordered 500 tests to be administered in preparation for their refueling outage including all operating crews as well as critical contractors. They have a large portion of their staff teleworking and have not seen spread of COVID-19 on site.
 - f. Mr. Woolrich asked about the LAR for AC Offsite Sources and what the basis for the proposed 35 day allowed outage time was. Will the plant be operating? How does the NRC pick the allowed outage time limit given all the problems with the EDGs?
 - i. Mr. Guzman responded that the LAR was for replacement of the Unit 3 RSST. It limits the time based upon compensatory actions put in place before conducting the evolution. The application is publically available and is still in review. The review considers operating history, insights from probabilistic risk assessment, and the overall justification including proposed compensatory actions.
 - ii. Mr. Fuller added that the current reliability of the unit 2 EDGs has not had the same issues. They are tested quarterly; so, they have lots of data points.
 - g. Mr. Woolrich asked, with respect to time, when you pick a longer time are you driven more by maintenance requirements or safety requirements? How do you say this [35 day allowed outage time] is okay?
 - i. Mr. Guzman responded that the NRC looks at past maintenance as provided by the licensee as well as PRA insights.
 - ii. Mr. Grimes added that the NRC reviews integrated risk by updating the PRA to include compensatory measures and balances the risk with maintenance needs.
 - iii. Mr. Fuller noted that the RI's also inspect and monitor implementation of the compensatory actions.
- 4. **Public Comment.** Mr. Schroeder asked if any members had any questions or comments. There were not public comments or questions.
- 5. **NEAC Business**
 - a. **Approval of Minutes of the March 5, 2020 NEAC meeting.**

A motion was made to approve the minutes with one editorial correction by Mr. Sherrard and seconded by Mr. Jordan. Minutes were approved with on corrections with no objections.
 - b. **NRC Correspondence Reviewed since past meeting.**

The list of NRC Correspondence was reviewed. One comment from NEAC was related to NRC environmental qualification inspection.

 - i. Millstone Power Station Units 1, 2, and 3); North Anna Power Station, Units 1 and 2; Surry Power Station Units 1 And 2 Issuance of Amendments Re: Adoption of Emergency Action Level Schemes Pursuant to NEI 99-01, Rev. 6 (EPID L-2019-LLA-0003) dated December 31, 2019.
 - ii. Millstone Power Station, Unit No. 2 - Issuance of Amendment No. 337 Re: Adoption of 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components Of Nuclear Power Reactors" (EPID L-2019-LLA-0008) dated January 30, 2020.

- iii. Millstone Power Station, Unit No. 3 - Issuance of Amendment No. 275 Regarding Adoption of TSTF-522, Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 Hours per Month," Using the Consolidated Line Item Improvement Process (EPID L-2019-LLA-0077) dated March 26, 2020.
 - iv. Millstone Power Station, Unit No. 2 – Alternative Request RR-05-03 for the Fifth 10-Year Inservice Inspection Interval (EPID L-2019-LLR-0095) dated March 24, 2020.
- c. **Other material reviewed** – NEAC reviewed the following information related to nuclear industry and trends.
- i. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 2 Supplement to Proposed License Amendment Request to Revise TS 3.8.1.1, "A. C. Sources - Operating," to Support Maintenance and Replacement of the Millstone Unit 3 'A' Reserve Station Service Transformer And 345 KV South Bus Switchyard Components (Serial No 19-282B) dated October 22, 2019.
 - ii. Dominion Nuclear Connecticut, Inc. Millstone Power Station Unit 3 Licensee Event Report 2019-001-00 Plant Shutdown Required by Technical Specifications, Emergency Diesel Generator Exceeded Allowable Outage Time (Serial No. 20-002) dated February 13, 2020.
 - iii. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 2 Licensee Event Report 2019-001-00 Manual Reactor Trip Due to Loss of the 'A' Steam Generator Feed Pump" (Serial No.: 20-003) Dated February 19, 2020.
 - iv. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 3 Licensee Event Report 2020-001-00 Technical Specification Allowed Outage Time Exceeded by Accident Monitoring Instrument (Serial No. 20-072) dated March 5, 2020.

6. **Adjournment**

Motion was made by Mr. Sherrard and seconded by Mr. Salonia to adjourn; no objections; unanimous vote in favor; meeting adjourned at 5:42 PM.

Sec. 16-11a. Nuclear Energy Advisory Council; composition; duties. (a) There is established a Nuclear Energy Advisory Council which shall (1) hold regular public meetings for the purpose of discussing issues relating to the safety and operation of the nuclear power generating facilities located in this state and to advise the Governor, the General Assembly and municipalities within a five-mile radius of any nuclear power generating facility in this state of such issues, (2) work in conjunction with agencies of the federal, state and local governments and with any electric company operating a nuclear power generating facility to ensure the public health and safety, (3) discuss proposed changes in or problems arising from the operation of a nuclear power generating facility, (4) communicate with any electric company operating a nuclear power generating facility about safety or operational concerns at the facility, which communications may include, but not be limited to, receipt of written reports and presentations to the council, and (5) review the current status of facilities with the Nuclear Regulatory Commission.

NEAC requests that the NRC's presentation focus on the safety, security, and operation of the facility referenced in the statute by discussing the following items over the period since the last NEAC presentation:

- Issues relating to the safety and operation of the nuclear power generating facilities
 - ROP Performance
 - Summary of significant NRC Findings
 - EDG Performance Issues
 - Including MP3 shutdown due to exceeding AOT
 - Other regulatory actions
 - NRC performance indicators (PIs)
 - Assessment of Safety Culture including number of allegations submitted in the past year
- Discuss proposed changes in or problems arising from the operation of a nuclear power generating facility
 - Significant license changes
 - Millstone 2 Primary/Secondary Coolant Activity limits
 - AC Offsite Source (permanent and one time changes)
 - Offsite Emergency Plan
 - Emergency Action Level (EAL) Changes
 - NRC Assessment of Licensee response to declared emergency events
 - None
- Other
 - Resident Inspector Staff changes
 - Spent Fuel Cask dry storage container weld discoloration
 - MP2 Pressurizer girth weld issues from inadequate post-weld heat treatment temperature
 - MP2 Trip on loss of main feedwater pump
 - Pandemic (COVID-19) Risk Mitigation and Response Plan for nuclear facilities
 - NRC Observations on the effects of Dominion's Voluntary Retirement Program
 - What is the driver behind reduced NRC oversight of nuclear power plants, specifically how will it be implemented at Millstone and how will that implementation enhance nuclear safety?
 - What is the NRC doing to assist power plants in securing high quality, reasonably priced spare and replacement components, given the diminishing demands of a shrinking industry on the competitive supplier base?

U.S. NUCLEAR REGULATORY COMMISSION
REGION I
NOTICE OF PUBLIC MEETING

April 8, 2020

Licensee: Dominion Energy Nuclear Connecticut, Inc.

Facility: Millstone Power Station

Docket Nos: 50-336 and 50-423

Date/ Time: Tuesday, April 21, 2020
4:00 p.m. to 6:00 p.m.

Location: Webinar (advance registration required)

Purpose: The U.S. Nuclear Regulatory Commission (NRC) will host a webinar to meet with the Connecticut Nuclear Energy Advisory Council (NEAC) to discuss NRC's assessment of safety performance at the Millstone Power Station for 2019, as described in the annual assessment letter dated March 3, 2020. The NRC will respond to questions from NEAC members and then the public on specific performance issues at the plant and our role in ensuring safe plant operations.

NRC Attendees: D. Schroeder, Chief, Projects Branch 2, Division of Reactor Projects
K. Kavanagh, Chief, Quality Assurance, Vendor Inspection
J. Fuller, Senior Resident Inspector
R. Guzman, Project Manager, Plant Licensing Branch I
D. Rudland, Senior Technical Advisor
J. Ortega-Luciano, Reactor Operations Engineer

NEAC Attendees: NEAC Committee Membership

Public Participation: This is a Category 3 Meeting. Public attendance at NEAC meetings is permitted and encouraged in accordance with its charter. The webinar will begin with a presentation by NRC staff on the NRC's assessment of performance for Millstone during 2019. During the presentation, members of NEAC will have the opportunity to ask questions. Then, following the presentation and NEAC member questions, members of the public will have the opportunity to ask questions specific to the safety performance of Millstone and the NRC's role in ensuring safe plant operations. Those wishing to submit questions can do so in writing or

verbally during the webinar. The NRC staff will provide guidance during the webinar on the methods available to ask a question. Alternatively, questions may be submitted in advance to Daniel.Schroeder@nrc.gov.

Interested members of the public should register at the internet address below. After registering, a confirmation email will be sent with details for joining the webinar. This is a virtual public meeting where participants will be able to see the presentation on a computer screen. Presenters will be heard via a phone call-in number. Attendees must register to obtain the phone call-in number.

In order to participate, please register for the webinar no later than one business day prior to the April 21, 2020, meeting at:
<https://usnrc.webex.com/usnrc/onstage/g.php?MTID=e6c7e6cedafb2ff87c87480db44e795fb>

System Requirements for Attendees for the webinar:
<https://help.webex.com/en-us/nki3xrq/Webex-Meetings-Suite-System-Requirements>

If you have any questions or should need assistance concerning registration for the meeting, please call or email the meeting contact.

Meeting Contact: Mark S. Draxton, Projects Branch 2
(610) 337-5375
E-mail: Mark.Draxton@nrc.gov

The NRC's annual assessment letter regarding Millstone Power Station performance during 2019 can be found in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession Number ML20059M272. ADAMS is accessible from the NRC's website at: www.nrc.gov/reading-rm/adams.html.

Additional information relative to the NRC's annual assessment process and the safety performance of Millstone can be found on the NRC's website at:
<https://www.nrc.gov/reactors/operating/oversight.html>.

The NRC's Policy Statement, "Enhancing Public Participation in NRC Meetings," effective May 28, 2002, applies to this meeting. The policy statement may be found on the NRC website, <http://www.nrc.gov/reading-rm/doc-collections/commission/policy/67fr36920.html>.

The NRC provides reasonable accommodation to individuals with disabilities where appropriate. If you need a reasonable accommodation to participate in this webinar, or need the meeting notice or other information from the meeting in another format (e.g., Braille, large print), please notify the NRC's meeting contact. Determinations on requests for reasonable accommodation will be made on a case-by-case basis. Persons requiring assistance to attend the webinar shall make their requests known to the NRC meeting contact no later than two business days prior to the April 21, 2020, meeting.

Meetings are sometimes canceled or rescheduled as a result of unforeseen circumstances. Please confirm the meeting schedule on the NRC website (www.NRC.gov) under public meetings.

Approved by:

X /RA/

Signed by: Daniel L. Schroeder
Daniel L. Schroeder, Chief
Projects Branch 2
Division of Reactor Projects

cc: Distribution via ListServ

Region I Notice of Public Meeting for Millstone Power Station (MN 20-001) dated April 8, 2020

DISTRIBUTION:

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Deputy Executive Director for Reactor Programs, OEDO	(RIDSEDOMAILCENTER)
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RidsNrrPMMillstone Resource	

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ADAMS ACCESSION NUMBER: ML20099B073

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OFFICE	RI/DRP	RI/DRP	RI/ORA	RI/DRP	
NAME	JFuller	MDraxton	DTift	DSchroeder	
DATE	4/3/20	4/3/20	4/3/20	4/8/20	

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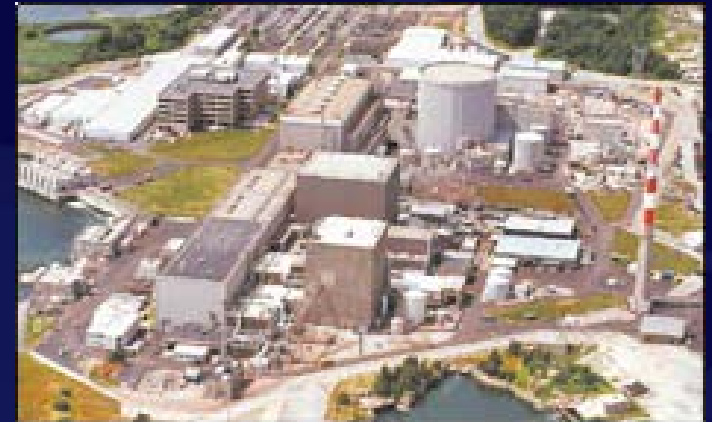
Millstone Annual Assessment Meeting

Reactor Oversight Process – 2019

Nuclear Regulatory Commission - Region I

King of Prussia, PA

April 21, 2020





Agenda

- **Opening Remarks – Dan Schroeder**
- **2019 Millstone ROP Assessment Summary – Dan Schroeder**
- **Millstone Senior Resident Inspector Summary – Justin Fuller**
- **Millstone Significant License Changes – Rich Guzman**
- **MSP2 Pressurizer Weld Issues – David Rudland & Jonathan Ortega-Luciano**
- **COVID – 19 Response – Dan Schroeder**
- **ROP Enhancement – Dan Schroeder**
- **NEAC Member Question and Answer – Dan Schroeder**
- **Public Question and Answer – Dan Schroeder**



How To Ask a Question



- You can type in your question at any time using the WebEx app. Questions will be addressed during the Question-and-Answer session at the end, - or –



- You can wait until the Question-and-Answer session at the end and ask your question by verbally asking it or typing in your question





Opening Remarks



Daniel Schroeder
Branch Chief
Division of Reactor Projects



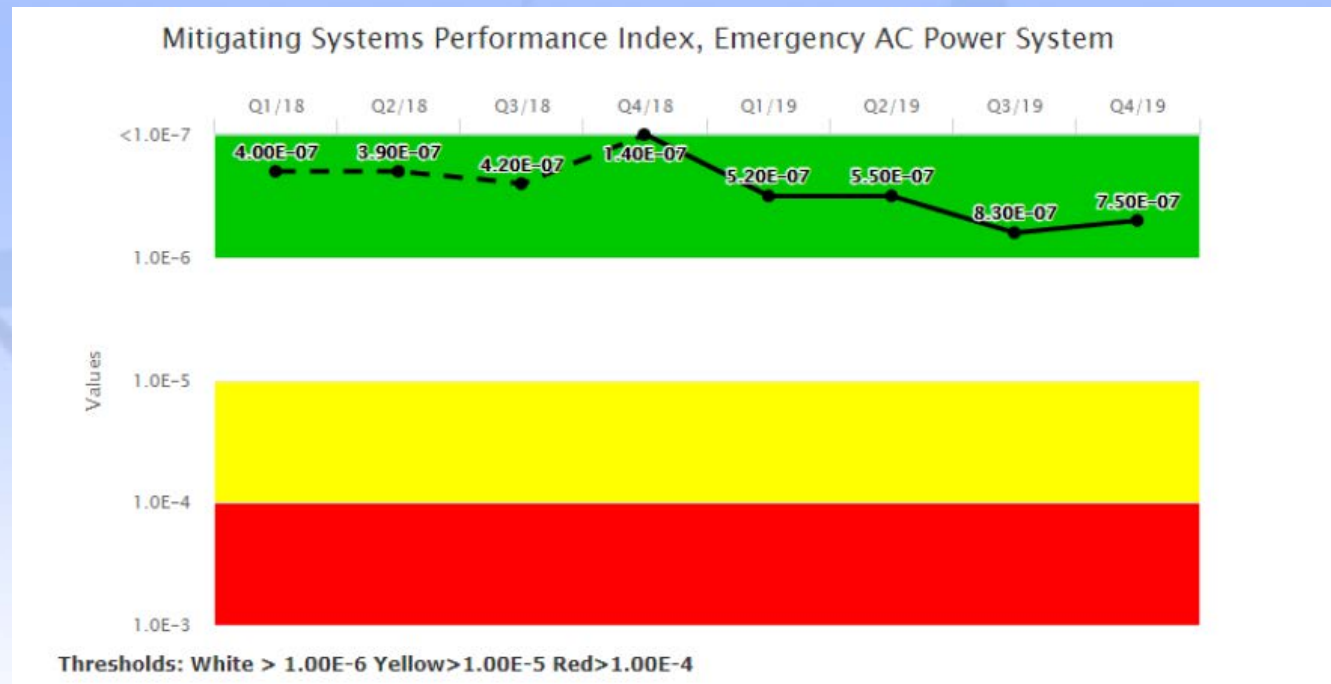
Millstone 2019 Assessment Summary

- **Millstone Units 2 & 3 operated safely and in a manner that preserved the public health and safety and protected the environment**
- **Millstone Units 2 & 3 remained in the Licensee Response column of the Action Matrix**
- **8,777 hours of inspection and related activities**
- **9 Green Non-Cited Violations (NCVs)**



Millstone 2019 Assessment Summary (Con't)

- 2 Allegations in 2019
- All Green Performance Indicators
- Unit 3 Emergency AC Power MSPI – Close to Threshold





Millstone Senior Resident Inspector Summary



Justin Fuller
Senior Resident Inspector





Millstone Resident Staff

Chris Highley

Resident Inspector



Eben Allen

Resident Inspector



Amanda Rancourt

Program Assistant





Millstone 2019 Power History

Unit 2

- April 22, 2019 – Power Reduction
- July 25, 2019 – Power Reduction
- December 27, 2019 – Manual Reactor Trip

Unit 3

- April 11, 2019 – Scheduled Refueling Outage
- December 17, 2019 – Technical Specification Required Reactor Shutdown





Emergency Diesel Generator (EDG) Issues (2019)

- **Unit 3: Cooling water leak**
([ML19224B324](#))
- **Unit 3: Run Failure** ([ML19312A324](#))
- **Unit 2: Fuel Oil Calculation**
([ML20044C873](#))
- **Mitigating Systems Performance Index (MSPI) Emergency AC Power**





Triennial Fire Protection Inspection

Inspection Report 2019010

(ML19261A879)

- Control of Transient Combustibles
- Inadequate Alternative Shutdown Procedure





Millstone Significant License Changes



Richard Guzman
NRC Project Manager
Office of Nuclear Reactor
Regulation



Millstone Significant License Changes

- **Millstone Unit 2 Primary/Secondary Coolant Activity Limits**
- **Millstone Unit 2 AC Offsite Source (permanent and one-time allowed outage time changes)**
- **Emergency Action Level (EAL) Changes**



MP2 Pressurizer Weld Issues

Kerri Kavanagh

Chief, Quality
Assurance and Vendor
Inspection Branch



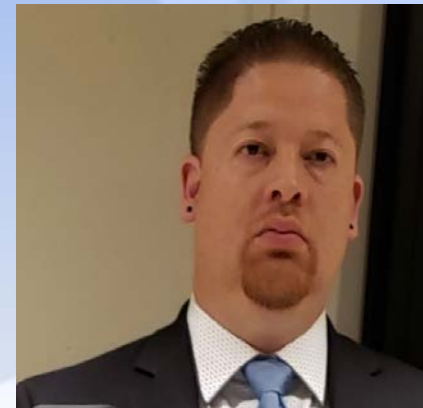
David Rudland

Senior Technical
Advisor for
Materials, NRR



**Jonathan Ortega-
Luciano**

Reactor Ops Engineer





MP2 Pressurizer Weld Issues

- **In Sept 2019 and Jan 2020, Framatome identified deviations in the post weld heat treatment of welds in certain large components**
- **These deviations pertain to the control of temperature within the ranges specified in the ASME code**
- **The Millstone pressurizer was mentioned in both Part 21 discussions**



MP2 Pressurizer Weld Issues

- **NRC staff reviewed Framatome's Part 21 evaluation for the first issue and determined there is no immediate safety concern for those basic components supplied to U.S. reactors**
- **A meeting to discuss the second PWHT issue is scheduled for May 19, 2020**
- **NRC staff will participate in a vendor inspection of Framatome Saint-Marcel site in September 2020**



NRC Actions in Response to COVID-19

- **Monitoring plant activities through inspections and oversight.**
- **Maintaining emergency response capabilities within Regional IRCs and HQ.**
- **Risk-informing “eyes-on” inspections through residents and regional inspections.**



NRC Requirements Related to COVID-19

- **2010 Regulatory Issue Summary (RIS)**
 - <https://www.nrc.gov/docs/ML1005/ML100539611.pdf>
- **Minimum Shift Staffing**
 - Operators
 - Security
 - Emergency Response Organization
- **NRC Coronavirus Website**
<https://www.nrc.gov/reading-rm/doc-collections/faq/coronavirus.html>



Millstone Response to COVID-19

- **Asked staff to follow CDC prevention guidelines**
- **Implemented social distancing guidelines and encouraged telework for many employees**
- **Asked employees to stay home if they have symptoms**



ROP Enhancement

Overall goal – further improve the risk-informed and performance-based aspects of the ROP taking into account NRC Principles of Good Regulation

Protecting Public Health and Safety

Focus	Agility	Policy
		
<p>The NRC needs to direct its limited resources effectively. The ROP Enhancement effort focuses resources in areas of greater safety significance.</p>	<p>NRC inspectors' time is best spent in areas more important to safety. The ROP Enhancement effort covers these areas through refining the baseline inspection program and inspectors' ability to quickly address emerging issues.</p>	<p>The ROP Enhancement effort is reviewing agency policies to see where the NRC can increase nuclear plant operators' incentive to promptly resolve inspection findings.</p>



ROP Enhancement (Con't.)

Phase 1 completed June 2019 (SECY-19-0067/ML19070A036)

- Key impact on inspectors is modest reduction in baseline inspection samples





ROP Enhancement (Con't.)

- **Decision made Feb 2020 to discontinue project and return to normal work management practices**
- **Other nearer term work (formerly Phase 2) underway – expect to complete in 2020**
 - **Focuses on ISFSI inspections, Cross-cutting issues Program and PI&R Inspection Program**
 - **RP inspection procedures already completed**
- **Longer term work such as reviewing certain aspects of the PI Program and improving SDP tools will continue as priorities permit**
- **Web page below being retired when a more general “Current Activities” web page is developed**

<https://www.nrc.gov/reactors/operating/oversight/rop-enhancement.html>



How to contact the NRC (www.nrc.gov)



Mailing Address

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

1-800-368-5642, 301-415-7000
TTD: 301-415-5575



Report a Concern

24-Hour Ops Ctr for Emergencies
301-816-5100

NRC Waste, Fraud or Abuse
1-800-233-3497 (OIG hotline)

Safety or Security Concern
1-800-695-7403

FAR Contractor Reporting Form

Get General Help or Information

Human Resources*
301-415-7400

Public Document Room *
1-800-397-4209
Fax: 301-415-3548

NRC Forms*
Web Site Questions or Concerns*



Provide Comments or Views

[Documents for Comment](#)

[Index of All Contact Pages](#)



Diane Screnci

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610-337-5330



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610-337-5331





NRC Social Media Channels



- **Blog:** <http://public-blog.nrc-gateway.gov/>
- **Flickr:** <http://www.flickr.com/photos/nrcgov/>
- **Twitter:** <https://twitter.com/nrcgov>
- **YouTube:** <http://www.youtube.com/user/NRCgov>
- **RSS:** <http://www.nrc.gov/public-involve/listserver.html#rss>



Annual Assessment Meeting Feedback

1. Mail in NRC feedback form that will be emailed to all attendees

- OR -

2. Scan QR Code on back of form with smart device



- OR -

3. Through any computer by going to the Public Meeting Schedule and pressing the “Meeting Feedback” link for this meeting, or pressing the “[...more]” link for this meeting and then pressing the “Meeting Feedback” link on the “Meeting Details” page.

NRC FORM 635 U.S. NUCLEAR REGULATORY COMMISSION APPROVED BY OMB NO. 3150-0217 EXPIRES: 03/31/2021

NRC PUBLIC MEETING FEEDBACK

Meeting Date: 04/21/2020 Meeting Title: Millstone 2020 Annual Assessment Meeting

Thank you for attending this public meeting hosted by the NRC. In order to help us understand your views about this meeting and improve future meetings, please take a couple minutes to answer the questions below.

There are several ways you can provide your feedback:

- 1) Scanning the Quick Response (QR) Code on the back of this form with your smartphone to link directly to our feedback page. If you do not have a QR reader on your mobile device, you can use your App store to access available QR scanning applications suitable for your device.
- 2) Through any computer by going to the [Public Meeting Schedule](#) and pressing the “Meeting Feedback” link for the specific meeting, or pressing the “[...more]” link for a specific meeting and then pressing the “Meeting Feedback” link on the “Meeting Details” page.
- 3) By filling out this hard copy of our “Public Meeting Feedback Form” and providing it to an NRC staff member or mailing it in.

Please fold on the dotted lines with Business Reply side out, tape the bottom, and mail back to the NRC.

Note: You have up to 30 days after the meeting has ended to submit feedback on the public meeting that you've attended. Thank you again for your participation.

Please address the following statements in terms of your experience at the meeting. 1 is “strongly disagree” and 5 is “strongly agree.”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The meeting achieved its stated purpose.	1	2	3	4	5
2. This meeting helped me to understand the topics discussed.	1	2	3	4	5
3. The meeting location, format, starting time, and duration were reasonably convenient.	1	2	3	4	5
4. The meeting facility, room set up, microphones, and visuals used contributed to the success of the meeting.	1	2	3	4	5
5. Attendees, including those participating remotely, were given sufficient opportunity to ask questions or express their views.	1	2	3	4	5
6. Attendees were listened to and understood by NRC staff.	1	2	3	4	5
7. The presentations and explanations given by the NRC staff were understandable, fair, and balanced.	1	2	3	4	5
8. I am satisfied overall with the NRC staff who participated in the meeting.	1	2	3	4	5

OPTIONAL:
Name: _____ Organization: _____
Telephone No: _____ E-Mail: _____ Check here if you would like a member of NRC staff to contact you.



Question & Answers with members of the Connecticut Nuclear Energy Advisory Council

NUCLEAR ENERGY ADVISORY COUNCIL
September 24, 2020 6:00 PM
Via Zoom

MINUTES

Members Present

Rep Kevin Ryan, Chair

Alternate Chair Mr. Jeffrey Semancik representing DEEP Commissioner Dykes

Mr. Craig Salonia

Mr. R. Woolrich

Mr. Bill Sheehan

Mr. James Sherrard

Members not present: Mr. A. Jordan

1. Call to Order of Meeting

NEAC Chair Rep. Ryan called the meeting to order at 6:03 PM on Zoom.

2. Approval of Minutes of the April 21, 2020 NEAC meeting.

A motion was made to approve the minutes by Mr. Sheehan and seconded by Mr. Sherrard.

Minutes were approved without any corrections or objections.

3. Program - Presentation by Dominion Nuclear Energy Inc. _ Ms. Lori Armstrong, Director of Nuclear Safety and Licensing (DNSL) and Mr. Craig Olsen, Plant Manager, supported by Mr. Ken Holt, Manager of Communications and Ms. Mary Nuara, State Policy Director (presentation attached).

- a. Safety – Ms. Armstrong emphasized that safety, including nuclear, radiological, industrial and environmental safety are the top priorities for Dominion. Ms. Armstrong highlighted the following station achievements and credited first line supervisor intrusiveness and standards to the success at the station :
 - i. No Occupational Safety and Health Administration (OSHA) recordable injuries in over 1064 days and only 3 first aid cases year to date.
 - ii. No significant human performance errors for 1253 days
- b. COVID19 response – Ms. Armstrong discussed station response to the COVID19 public health emergency (PHE) on going since March 2020.
 - i. Station protocols include
 1. temperature monitoring for all personnel accessing site via automatic scanner
 2. social distancing > 6 feet when possible
 3. frequent cleaning especially high touch points such as hand geometry scanners, door knobs, stair rails, shared computer. Four full-time cleaners around the clock. Sanitizing fogging of inprocessing every night
 4. Plexiglass shield installed for security at access points and for admin staff at inprocessing.
 5. Additional temporary trailers and spaces to spread out contract staff during maintenance outage.
 6. Press and seal thin film used in portal radiation monitors to prevent (benchmarked from Canada)

- ii. Noted that the station has used
 - 1. > 184 gal and > 3000 bottles of hand sanitizer
 - 2. > 900 containers of disinfecting wipes
 - 3. > 500 bottle of disinfecting spray
 - 4. > 28,000 surgical masks
 - iii. Dominion has tested over 900 critical personnel in April including all operators.
 - iv. Personnel coming from high transmission states are required to test negative within 72 hrs per state of CT travel restrictions.
 - v. Mr. Semancik asked if they had received any high temperature alarms. Ms. Armstrong said they had a few but were determined not to be fever but due to sunburn and outside summer air temperatures. Since then they have instituted a longer indoor pathway before recording temperature to assure that skin temperature was acclimated to a/c before measuring.
 - vi. Mr. Ryan asked if it was HIPAA complaint for medical condition to not be confidential since others nearby would know if someone alarmed the temperature monitor. Ms. Armstrong stated Dominion believes they are HIPAA compliant but would double check.
 - vii. Mr. Sherrard asked how many staff were working from home. Ms. Armstrong said that less than fifty at this point. However, some single point vulnerabilities such as the site VP and outage schedulers were working from home.
 - viii. Mr. Sheehan asked if any control room modifications had been made for the PHE. Ms. Armstrong stated no control room modifications were made. However, control room access is restricted to necessary personnel, all control room staff wear masks 24/7, practice continuous cleaning, and shift managers participate in all meetings virtually.
- c. Millstone Leadership Changes.
- i. Mr. Mike O'Connor is assigned temporarily as DNSL at North Anna Power Station (VA) for professional development.
 - ii. Mr. Scott Smith was promoted to Engineering Director per the succession plan.
 - iii. Mr. Guy Blackburn was appointed as Manager of Work Planning and Outage Management
 - iv. Mr. Roger Beal was promoted to Manager of Nuclear Maintenance
 - v. Noted that Dominion focus is operations focus in management with 11 managers at Millstone previously senior reactor operator licensed Shift Managers at Millstone and 4 previously senior reactor operators at other sites.
 - vi. Both Unit 2 and 3 have active license classes in progress. Non-licensed operator classes are conducted every year.
- d. Millstone Unit status - Mr. Craig Olsen discussed the power history curves for both Millstone Units 2 and 3 and noted that there were more power changes than usual. He discussed the following specific operational occurrences:
- i. Millstone Unit No. 3 manual shutdown due to expiration of limiting condition for operation (LCO) action statement during Emergency Diesel Generator (EDG) maintenance (12/17/2019). During scheduled maintenance on the 3A EDG, the engine did not perform well following a modification on the exhaust system. This modification was successfully installed on the redundant (3B) EDG previously. Dominion maintenance along with the vendor worked on the issues for 8 days, but were not successful. The unit was shutdown as required by the license and the old

exhaust system was re-installed. The 3A was then tested and worked well. The forced shutdown was five days.

- ii. Millstone Unit No. 2 manual reactor trip due to loss of feedwater to the steam generators (12/27/2019). This resulted from a coupling ligament failure on one of two turbine driven steam generator feed pumps. The coupling was in service since 2015 and was most recently inspected in 2017. Investigation determined the vendor had changed alignment guidance but had not made the guidance public yet. The coupling was replaced and realigned (< 0.004") with the vendor onsite. The coupling and alignment on the other pump were also inspected and the unit restarted.
 1. Mr. Woolrich asked what the failure mode was and what the industry failure rate was. Mr. Olsen stated it was high cycle fatigue. Ms. Armstrong said no other failures were identified in an industry search.
 2. Mr. Semancik asked if the same coupling was installed on Unit 3 feedwater pumps or any safety related pumps. Mr. Olsen said the U3 pumps used a different coupling. Ms. Armstrong said she would confirm which safety related pumps used a similar coupling, but knows they were all inspected.
 3. Mr. Salonia stated he was concerned that the vendor changed guidance and didn't notify anyone. Mr. Olsen agreed and stated the best plan was to improve alignment.
- iii. Millstone Unit No. 3 automatic reactor trip due to electrical ground on the main generator (04/01/2020). Electrical ground resulted from water intrusion into the isolated phase (IsoPhase) bus duct colling system in a section installed about 1 year ago with replacement of the normal station services transformer (NSST). During a rain storm, water leaked into an access cover. The water could not drain because a diaphragm installed to control air flow blocked the draining of accumulated water with no drain installed in that section. All access plates were inspected for proper sealing and a drain was installed in the area.
 1. Mr. Woolrich asked why ductwork for cables requires sealing. Mr. Olsen stated that the duct work provides air cooling to uninsulated bus bars that carry high amperage (> 10,000 amps).
 2. Mr. Woolrich asked how the ducts are inspected. Mr. Olsen that they are inspected with the unit shutdown using crawlers and now drones.
 3. Mr. Woolrich asked how close the drains are. Mr. Olsen estimated about every 100 yards.
- iv. Millstone Unit No. 3 automatic reactor trip due to loss of main condenser vacuum (04/13/2020). During a significant storm, seaweed created fouling of the cooling water intakes to the main condenser at unit 3. This resulted in both screenwash pump strainers being clogged and the loss of the B and E main circulating water pumps. The operating crew had briefed to perform a manual reactor trip at 6" mercury absolute backpressure in the condenser per their training. However, with reduced flow of circulating water pumps during winter flounder season, back pressure degraded faster than anticipated resulting in an automatic turbine and reactor trip at 7.5" mercury back pressure.
 1. Mr. Semancik asked if the foul weather procedure has limits for condenser backpressure or power level. Ms. Armstrong stated they had proactively

- reduced power, but the limits did not account for reduced flow or two circulating water pumps out of service.
2. Mr. Woolrich noted that Unit 2 operated during the same storm but wasn't affected. Mr. Olsen stated that the intakes have different design; specifically, they face different directions so that wind direction has a significant effect.
 3. Mr. Woolrich if it was procedurally required to reduce power for a storm. Mr. Olsen said the severity of this storm was not predicted.
- v. Mr. Olsen noted that in all of the shutdowns there were no operator errors and none were caused by human performance issues.
 - vi. Mr. Semancik asked for an update on the incore instrumentation (ICI) detectors that were reported on in 2019. Ms. Armstrong stated all of the remaining susceptible detectors have been replaced and there have been no further failures from same cause.
- e. Nuclear Regulatory Commission (NRC) Findings – Six Green (very low safety significance) Non-cited Violations (NCVs) were identified compared to seven in 2019
 - i. Ms. Armstrong brief the Council that all 30 corrective actions that Dominion committed to complete in its confirmatory order with the NRC related to security issues have been completed and satisfactorily inspected by the NRC.
 - f. Ms. Armstrong reviewed the current license amendment requests pending with the NRC. All NRC correspondence related to license amendments is reviewed by the Council as noted in section 4.
 - i. Mr. Semancik noted that there were more license amendments than usual and asked if there was a reason. He noted that many seemed to be related to reducing inspection frequencies. Ms. Armstrong noted that one station focus area was competitive generation and that changes have a risk informed bases. She said she would bring back the comment to station management.
 - g. All NRC performance indicators (PIs) for Millstone are Green.
 - h. Ms. Armstrong stated there were no Environmental Impact events requiring reporting.
 - i. Dominion's assessment of Safety Culture. Ms. Armstrong noted there have been recent internal and external reviews of safety culture and all have determined the statio has high standards for safety culture.
 - i. Mr. Semancik noted there were previous issues with contract security force safety culture and asked about the current status. Ms. Armstrong stated it was healthy based upon an assessment done by an outside company. Dominion ocntnues to pay attention to this area.
 - ii. Mr. Sheehan asked how many allegations in 2020. Ms. Armstrong stated two allegations to outside agencies.
 - j. Summary of Dominion's Internal Oversight assessment of performance and findings. Ms. Armstrong stated that corporate oversight was not currently tracking any issues of

significance.

- k. Mr. Sheehan noted that the last license extension had procedures for periodic replacement of components and asked if that was being done. Mr Olsen stated these are all factored into periodic maintenance procedures and that a Plant Health Committee reviews status of plan systems and maintenance.
 - i. Mr. Sheehan asked if Dominion would be asking for another license extension. Mr. Olsen stated that Dominion is requesting life extension to 80 years at it units in Virginia. He said he could not state whether Dominion would pursue a similar extension for Millstone but noted that they were making a > \$100M investment to replace the main generator at Unit 3 to accommodate a margin uncertainty recovery uprate of 12 MWe in 2022. He said they would certainly expect a return on this investment.
 - 1. Mr. Woolrich noted that reactor pressure vessel neutron embrittlement would probably be the long term technical limit to further life extensions.
 - l. Mr. Woolrich expressed concern with the quality of vendor work and products based upon the events briefed. He expressed concern with the ability of Dominion to inspect and with the broader quality assurance (QA) program. Mr. Olsen said they have internalized the vendor quality issues and looking at corrective actions at the corporate level

4. NRC Correspondence Reviewed since past meeting.

The list of NRC Correspondence was reviewed. One comment from NEAC was related to NRC environmental qualification inspection.

- a. March 4, 2020, NRC Generic Fundamentals Examination Results for Millstone Power Station, Unit 3 (Cover Letter Publicly Available, Enclosures Withheld from Public) dated April 14, 2020.
- b. Enforcement Guidance Memorandum 20-002, Dispositioning Violations of NRC Requirements during Coronavirus Disease 2019 (COVID-19) date April 15, 2020.
- c. Confirmation of Completion of Actions Taken by Dominion Energy, Inc. as Set Forth in NRC Confirmatory Order Dated November 21, 2017 dated April 29, 2020.
- d. Millstone Power Station, Units 2 and 3 – Integrated Inspection Report 05000336/2020001 AND 05000423/2020001 dated May 7, 2020.
- e. Presubmittal Teleconference with Dominion Energy Nuclear Connecticut, Inc. on a Proposed Alternative Request for Millstone Power Station, Unit No. 2, Regarding Extension of Examination Interval for Steam Generator Welds dated May 14, 2020.
- f. Millstone Power Station, Unit No. 3 - Acceptance Review Determination Re: Proposed Technical Specification Change to Battery Surveillance Requirements (EPID L-2020-LLA-0094) dated May 21, 2020.
- g. Millstone Power Station, Units 2 and 3 – Request for Information to Support Triennial Baseline Design-Basis Capability of Power-Operated Valves Inspection; Inspection Report 05000336/2020013 and 05000423/2020013 dated June 8, 2020.
- h. Nuclear Procurement Issues Corporation Strategic Alliance for Flex Emergency Response Commitment to NRC Order EA-12-049 dated June 12, 2020.

- i. Millstone Power Station, Units 1, 2, and 3 – Temporary Exemption from Certain Requirements of 10 CFR Part 73, Appendix B, “General Criteria for Security Personnel,” Section VI (EPID L-2020-LLE-0092 [COVID-19]) dated June 12, 2020.
- j. Presubmittal Teleconference with Dominion Energy Nuclear Connecticut, Inc. Re: Proposed License Amendment Request for Millstone Power Station, Unit No. 3, Re: Measurement Uncertainty Recapture Power Uprate dated June 16, 2020.
- k. Millstone Power Station, Unit No. 2 - Issuance of Amendment No. 339 Re: Extension of Technical Specification 3.8.1.1, “A.C. Sources – Operating,” Allowed Outage Time (EPID L-2019-LLA-0177) dated June 24, 2020.
- l. Summary of May 26, 2020, Pre-Submittal Teleconference with Dominion Energy Nuclear Connecticut, Inc. Re: Proposed Alternative Request Related to Steam Generator Retaining Welds and Full Penetration Welded Nozzle Examinations (EPID L-2020-LRM-0040) dated June 29, 2020.
- m. Millstone Power Station, Unit No. 3 - Issuance of Amendment No. 276 Regarding Revision to the Integrated Leak Rate Type A and Type C Test Intervals (EPID L-2019-LLA-0165) dated July 15, 2020.
- n. Millstone Power Station Unit No. 3 – Relief Request IR-4-03, Concerning Non-Code Methodology to Demonstrate Structural Integrity of Class 3 Moderate-Energy Piping (EPID L-2020-LLR-0038) dated July 16, 2020.
- o. Millstone Unit No. 3 - Acceptance Review Determination: ASME Section XI Inservice Inspection Program Relief Requests for Limited Coverage Examinations [EPID: L-2020-LLR-0081 to LLR-0088] dated July 16, 2020.
- p. U.S. Nuclear Regulatory Commission’s Nuclear Energy Innovation and Modernization Act Report on Best Practices for Community Advisory Boards for Decommissioning Nuclear Power Reactors (STC-20-052) dated July 16, 2020.
 - i. Enclosure: NRC Report, “Best Practices for Establishment and Operation of Local Community Advisory Boards Associated with Decommissioning Activities at Nuclear Power Plants,” A Report for the Senate Committee on Environment and Public Works and the House Committee on Energy and Commerce by the U. S. Nuclear Regulatory Commission.
- q. Notice of Extension to Public Comment Period: Proposed Rule for Emergency Preparedness for Small Modular Reactors and Other New Technologies (STC-20-056) dated July 25, 2020.
 - i. Federal Register Vol. 85, No. 140 Tuesday, July 21, 2020, Emergency Preparedness for Small Modular Reactors and Other New Technologies [NRC–2015–0225].
- r. Summary of June 29, 2020, Pre-Submittal Teleconference with Dominion Energy Nuclear Connecticut, Inc. Re: Proposed License Amendment Request Related to a Measurement Uncertainty Recapture Power Uprate (EPID L-2020-LRM-0050) dated August 5, 2020.
- s. Millstone Power Station, Unit No. 2 - Issuance of Amendment No. 340 Re: Revised Technical Specification Limits for Primary and Secondary Coolant Activity (EPID L-2019-LLA-0164) dated August 7, 2020.

- t. Millstone Power Station, Units 2 and 3 – Integrated Inspection Report 05000336/2020002 and 05000423/2020002 dated August 12, 2020.
- u. Millstone Power Station, Units 2 and 3 – Staff Assessment of Flood Hazard Focused Evaluation and Integrated Assessment (EPID NO. L-2020-JLD-0000) dated August 13, 2020.
- v. Millstone Power Station, Unit No. 2 - Correction to Amendment No. 340 Issued August 7, 2020, Re: Revised Technical Specification Limits for Primary and Secondary Coolant Activity (EPID L-2019-LLA-0164) dated August 25, 2020.
- w. Millstone Power Station, Units 2 and 3 – Design Basis Assurance Inspection (Programs) Inspection Report 05000336/2020013 and 05000423/2020013 dated August 26, 2020.
- x. Millstone Unit 3 - REQUEST FOR ADDITIONAL INFORMATION re: License Amendment Request to Revise Battery Surveillance Requirements (EPID: L-2020-LLA-0094) dated August 31, 2020.
- y. Updated Inspection Plan for Millstone Power Station, Units 2 and 3 (INSPECTION REPORT 05000336/2020005 and 05000423/2020005) dated August 31, 2020.
- z. Millstone Power Station, Unit 2 – Requalification Program Inspection dated August 31, 2020.
- aa. Millstone Power Station, Unit 2 – Initial Operator Licensing Operating Test Approval dated September 14, 2020.
- bb. Dominion Energy Fleet - Millstone Power Station Units 2 and 3; North Anna Power Station Units 1 and 2, Surry Power Station Units 1 and 2, and Virgil C. Summer Station Unit 1 – Request to Use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID L-2020-LLR-0121) dated September 15, 2020.
- cc. Millstone Power Station Unit 1 – Safe Storage Inspection Report No. 05000245/2020001 dated September 23, 2020

5. Other material reviewed

NEAC reviewed the following information:

- a. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 3 Licensee Event Report 2020-002-00 Automatic Reactor Trip Due to Main Generator Ground Fault (Serial 20-169) dated May 28, 2020.
- b. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 3 Licensee Event Report 2020-003-00 Reactor Trip Due to Turbine Trip on Low Condenser Vacuum (Serial 20-170) dated June 12, 2020.
- c. a. Dominion Energy Nuclear Connecticut, Inc. Millstone Power Station Unit 3 Licensee Event Report 2020-001-00 Failure Of Two Main Steam Safety Valves To Lift Within The Technical Specification Acceptance Criteria dated August 11, 2020.

6. Public Comment

- a. No members of the public were in attendance. There were no questions from the public.

7. Adjournment

Motion was made by Mr. Sheehan and seconded by Mr. Sherrard to adjourn; no objections; unanimous vote in favor; meeting adjourned at 7:40 PM.

Sec. 16-11a. Nuclear Energy Advisory Council; composition; duties. (a) There is established a Nuclear Energy Advisory Council which shall (1) hold regular public meetings for the purpose of discussing issues relating to the safety and operation of the nuclear power generating facilities located in this state and to advise the Governor, the General Assembly and municipalities within a five-mile radius of any nuclear power generating facility in this state of such issues, (2) work in conjunction with agencies of the federal, state and local governments and with any electric company operating a nuclear power generating facility to ensure the public health and safety, (3) discuss proposed changes in or problems arising from the operation of a nuclear power generating facility, (4) communicate with any electric company operating a nuclear power generating facility about safety or operational concerns at the facility, which communications may include, but not be limited to, receipt of written reports and presentations to the council, and (5) review the current status of facilities with the Nuclear Regulatory Commission.

Dominion's presentation should focus on the safety and operation of the facility referenced in the statute by discussing the following items over the period since the last NEAC presentation:

- Issues relating to the safety and operation of the nuclear power generating facilities
 - NRC Findings – based upon the number of findings
 - NRC performance indicators (PIs) and Dominion response to non-green PIs
 - Summary of Dominion's Internal Oversight assessment of performance and findings
 - Dominion's assessment of Safety Culture
 - Radioactive Effluents Report summary/trend (PA 08-20) – liquid and gaseous
 - Discuss any unplanned releases – consequence and corrective actions
 - Key issues
 - Dominion response to COVID-19 public health emergency (PHE) including discussion on numbers of positive cases/trends, organizational distribution of cases/trends, actions to mitigate, outage impact, and testing.
- Discuss proposed changes in or problems arising from the operation of a nuclear power generating facility
 - Significant license changes
 - COVID19 PHE exemptions
 - AC Sources LAR and RSST Replacement Project
 - Significant changes in Offsite Emergency Plan
 - Update on effects of Voluntary Retirement Program (VRP) on EP Readiness
 - New Emergency Action Levels (EALs) table
 - Significant Management/Work force changes
 - Declared emergency events – causes and lessons learned
 - Automatic & unplanned shutdowns – causes and lessons learned
 - U2 Main Steam Safety Valve LER and corrective actions
 - Other environmental impacts
 - NPDES permit exceedences trend and summary

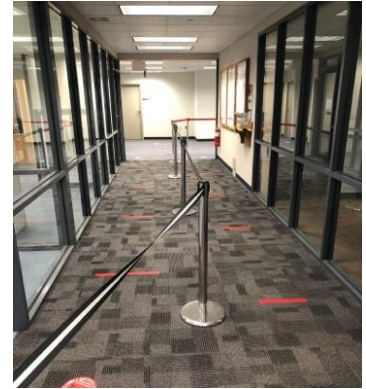
Millstone Power Station NEAC Presentation

Safety

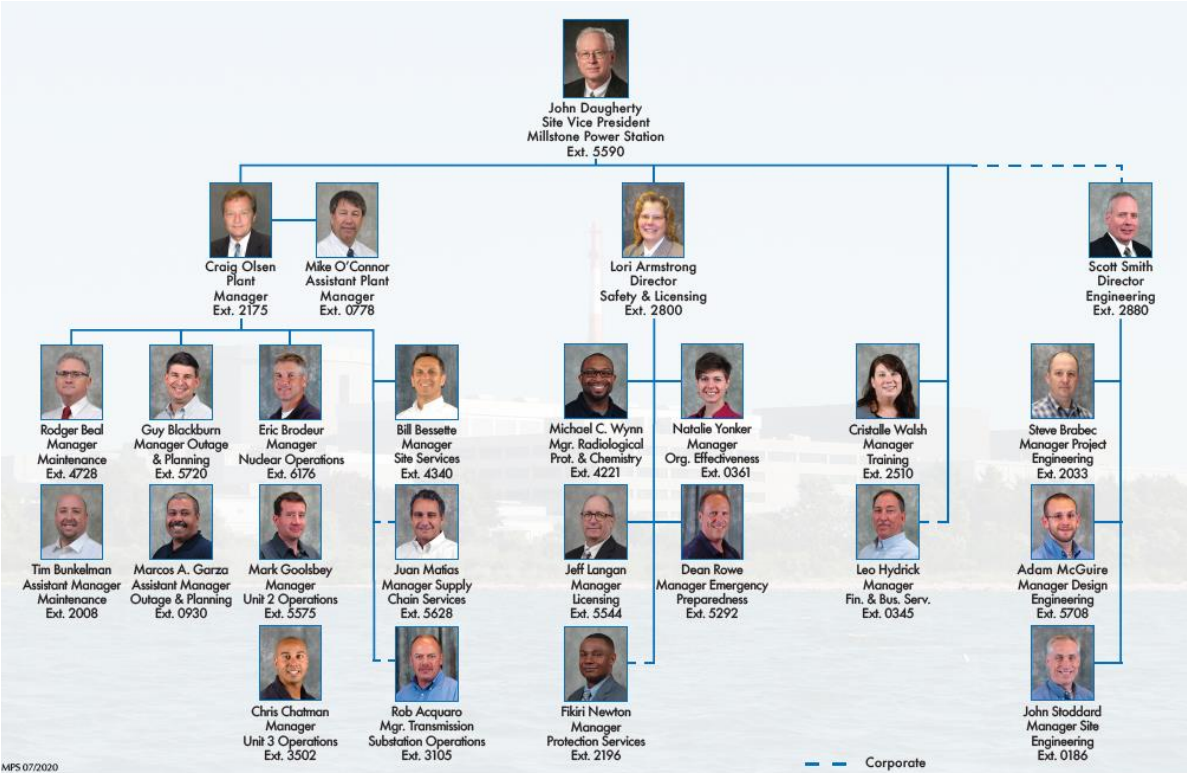
- **Safety is our first priority**
- **Commitment to protect the health and safety of the public**

Strong Coronavirus Response

- Temperature monitoring
- Social distancing
- Frequent cleaning
- Masks required
- Plexiglass screens
- Testing



MPS Leadership Team



- Staffing levels
- Hiring effort
- Ops Pipeline

MPS 07/2020

Millstone Current Status

Millstone Unit 2

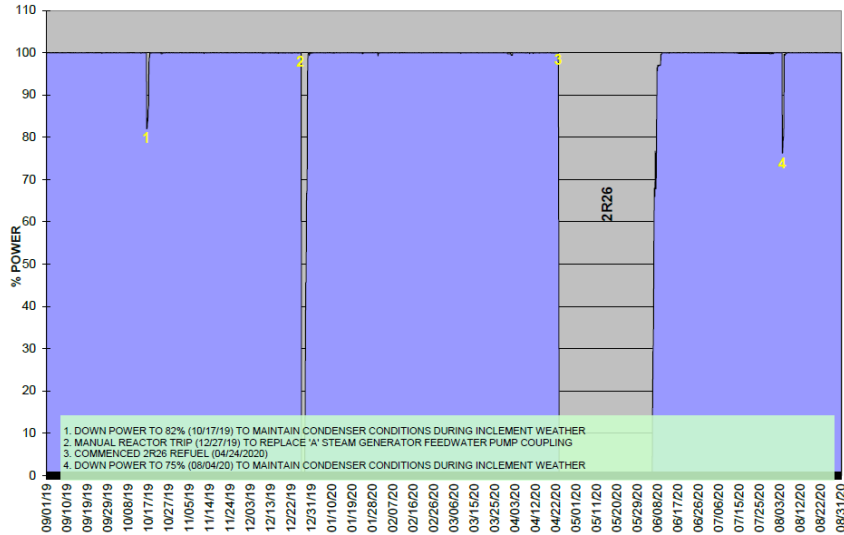
- **112 days online**
- **78.98% Capacity Factor YTD**

Millstone Unit 3

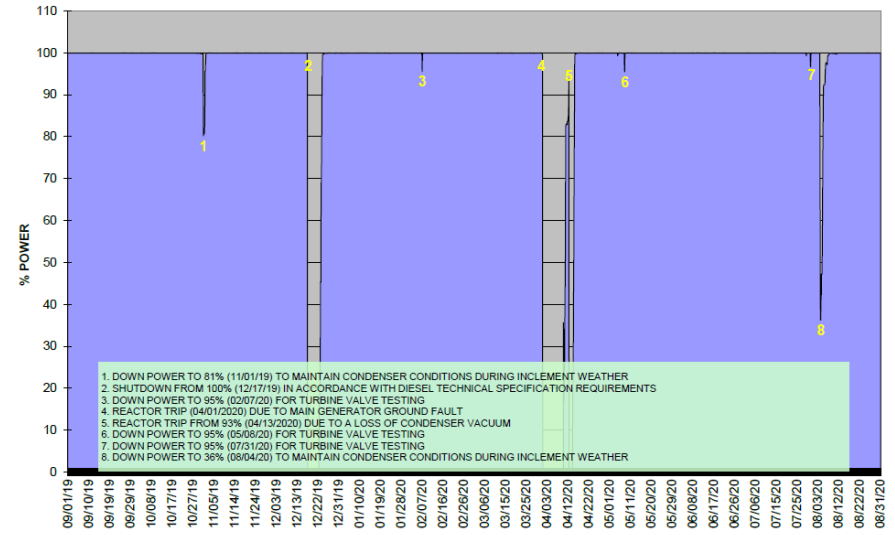
- **162 days online**
- **95.19% Capacity Factor YTD**

Operations History

Unit 2

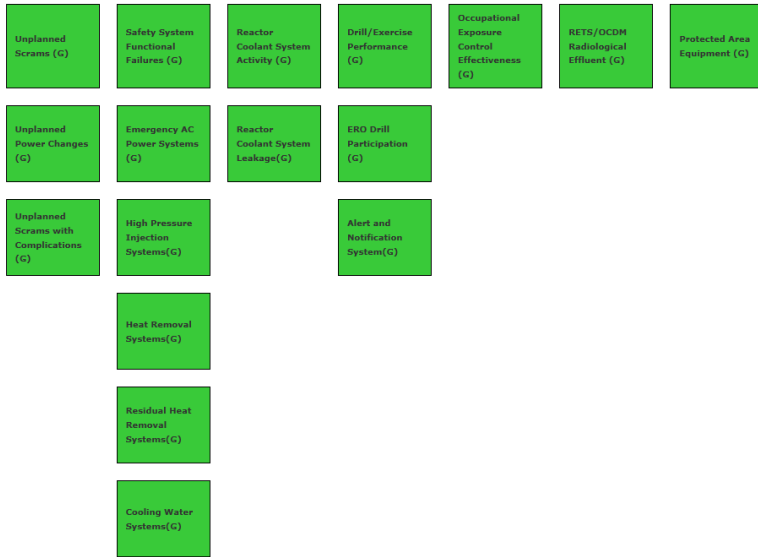


Unit 3



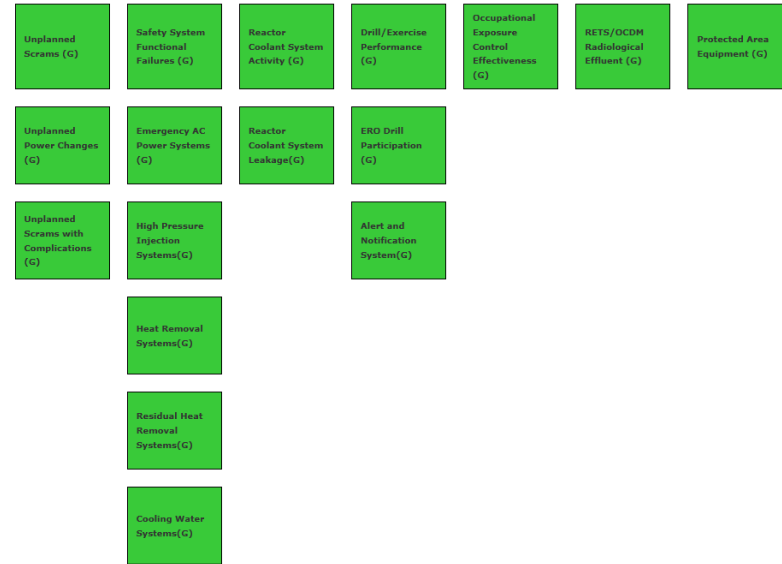
Millstone NRC Performance Indicators

Performance Indicators



Unit 2 Second Quarter 2020 NRC Performance Indicators

Performance Indicators



Unit 3 Second Quarter 2020 NRC Performance Indicators

NRC Findings

Station is in the Licensee Response column

6 GREEN Non-cited Violations Identified since last meeting

All are of very low risk significance

All are in our corrective action system

Millstone Response to NRC Security Confirmatory Order Complete

- **Millstone has completed 30 of 30 corrective actions**
 - **All have been inspected satisfactorily by NRC**
 - **NRC has closed confirmatory order**

License Amendment Requests

Significant License Amendment Requests Approved by the NRC

- **Unit 2 - LAR to revise TS 3.8.1.1 for MPS3 'A' RSST Inoperable and 13T-2 closed – Approved June 24, 2020**
- **Units 1, 2, 3 - Revised EALs per NEI 99-01, Rev. 6 - Approved December 31, 2019**
- **Unit 2 - Adoption Of 10 CFR 50.69, "Risk-Informed Categorization and Treatment Of Structures, Systems And Components Of Nuclear Power Reactors" – Approved January 30, 2020**
- **Unit 2, 3 - TSTF-522 LAR to revise ventilation flow testing from 10 hours every 30 days to 15 minutes every 30 days – Approved March 26, 2020**
- **Unit 3 - LAR to Extend ILRT Interval from 10 years to 15 years – Approved July 15, 2020**
- **Unit 2 – Revised Technical Specification limits for primary and secondary coolant activity – Approved August 7, 2020**

License Amendment Requests

Significant License Amendment Requests Pending Approval by the NRC

- **Unit 2 - Alternative Request to Extend SG Weld Examination Interval from 10 Years to 30 Years (DENC Letter 20-167)**
- **Unit 3 - One-Time Deferral of Fall 2020 Steam Generator Tube Inspections (DENC Letter 20-272)**

Millstone Oversight Summary

- Performance

Millstone Safety Culture

- **Millstone continues to have a strong safety culture**

Environmental Impacts

- **No permit exceedances**

Millstone Radioactive Effluents

- **No unplanned releases**

Emergency Plan Event Declaration

- **No Emergency Plan Event Declarations**

Offsite Emergency Plan Updates/Changes

- Fully staffed following the voluntary retirement program
- Biennial exercise postponed from this year to next due to PHE
- Implementing NEI Revision 6 EALs, expected to be done by end of year
- Transitioning ERO and offsite notification system from ARCOS to Everbridge

We Continue Making Improvements Increasing Safety and Reliability

- **Unit 3 Fall Refueling Outage Scope Examples**
 - **Feedwater heater replacements**
 - **Reserve station service transformer replacements**

Contact Information

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NUCLEAR ENERGY ADVISORY COUNCIL
December 17, 2020 6:30 PM
Via MS Teams

MINUTES

Members Present

Rep Kevin Ryan, Chair

Alternate Chair Mr. Jeffrey Semancik representing DEEP Commissioner Dykes

Mr. Craig Salonia

Mr. R. Woolrich

Mr. James Sherrard

Members not present:

Mr. Bill Sheehan

Mr. A. Jordan

1. Call to Order of Meeting

NEAC Chair Rep. Ryan called the meeting to order at 6:30 PM on Teams.

2. Approval of Minutes of the September 24, 2020 NEAC meeting.

A motion was made to approve the minutes by Mr. Sherrard and seconded by Mr. Woolrich. Minutes were approved without any corrections or objections.

3. Public Comment

There were no members of the public present.

4. NRC Correspondence Reviewed since past meeting.

The list of U. S. Nuclear Regulatory Commission (NRC) Correspondence was reviewed.

- a. Millstone Power Station, Unit No. 2 - Issuance of Amendment No. 341 Re: Revision to Technical Specification 6.25, "Pre-Stressed Concrete Containment Tendon Surveillance Program" (EPID L-2019-LLA-0288) dated September 29, 2020.
- b. Millstone Power Station, Unit No. 3 - Issuance of Amendment No. 277 to Revise Technical Specification 6.8.4.G to Allow a One-Time Deferral of the Steam Generator Inspections (EPID L-2020-LLA-0178) dated October 14, 2020.
- c. Millstone Power Station, Unit No. 2 – Proposed Alternative RR-05-05 to the Requirements of the ASME Code Re: Containment Unbonded Post-Tensioning System Inservice Inspection Requirements (EPID L-2019-LLR-0120) dated October 20, 2020.
- d. Millstone Power Station, Units 2 and 3 – Integrated Inspection Report 05000336/2020003 and 05000423/2020003 and Independent Spent Fuel Storage Installation Inspection Report 07200047/2020001 dated November 2, 2020.
- e. Millstone Power Station, Unit 2 – Initial Operator Licensing Examination Report 5000336/2020301 dated November 12, 2020.
- f. Millstone Power Station, Unit Nos. 1, 2, and 3 – Temporary Exemption from the Exercise Frequency Requirements of 10 CFR PART 50, Appendix E, Sections IV.F.2.B and IV.F.2.C (EPID L-2020-LLE-0145 [COVID-19]) dated November 24, 2020.

- g. Millstone Power Station, Units 1, 2, and 3 – Exemption from Annual Force-On Force Exercise Requirement of 10 CFR Part 73, Appendix B, “General Criteria for Security Personnel,” Subsection VI.C.3(I)(1) (EPID L-2020-LLE-0227 [COVID-19]) dated December 16, 2020.

5. Other material reviewed

NEAC reviewed the following information:

- a. New England Radiological Health Compact (NERHC) Incident Notification 2020-001: Millstone Unusual Event due to Seismic Activity, dated November 9, 2020.
- b. Federal Emergency Management Agency (FEMA) Memorandum, Approval of the Request for Relief from the Biennial Radiological Emergency Preparedness Program Exercise Frequency Requirement – State of Connecticut dated November 8, 2020.
 - i. Connecticut Division of Emergency Management and Homeland Security (DEMHS) letter to FEMA, Proposed Alternative Approach for Demonstration of Connecticut Response Plans and Capabilities for a Nuclear Power Plant-Related Incident for Compliance with the Evaluation Criteria of 44 CFR 350 and the Guidelines of NUREG 0654/FEMA-REP-1 dated September 9, 2020.

6. CY 2020 Annual Report Discussion

The Council discussed their observations of trends in safety and performance of Millstone Station during 2020. Agreed to highlight these in the annual report.

- a. Mr. Salonia noted that operational incidents (shutdowns, trips) have increased this last year. Council discussed potential trends to observe
 - i. Effect of the voluntary retirement plan and station staff reductions including loss of organizational knowledge.
 - ii. Vendor performance and quality of vendor products
- b. Council discussed Millstone’s COVID response
 - i. Council agreed that response has been adequate to protect critical station staff such as operators and emergency response organization.
 - ii. NRC has granted prudent exemptions to conducting emergency response and security drills during the public health emergency (PHE). Mr. Woolrich noted that the Council should follow-up next year to ensure that Dominion conduct security drills as soon as prudent due to ever evolving nature of security threats.
 - iii. Mr. Sherrard asked whether Millstone personnel are included in the vaccine distribution planning. Mr. Semancik stated that Dominion has been included in the vaccination planning from critical infrastructure workers. The Council supports inclusion of key station personnel into planning for COVID vaccinations as critical workers.
- c. Mr. Semancik noted that the Council reviewed more licensing actions than in past years. The Council agreed to monitor this trend.
- d. Mr. Woolrich noted that the Council continues to have numerous vacancies.

7. CY 2020 Annual Report Approval

The Council agreed to review and approve the annual report by email to ensure it is available prior

to the 2021 session of the CT General Assembly. The email approval will be ratified at the March 18, 2021 public meeting.

8. Approval of Regular Meeting Schedule for CY 2021

The Council set the following dates and topics for their regular 2021 public meetings

- a. March 18, 2021 – Millstone Annual Performance Meeting (US NRC Presentation)
- b. June 17, 2021 – Advanced New Reactors
 - i. Mr. Woolrich requested a presentation on small modular and other new advanced reactors
 - ii. Mr. Semancik agreed to arrange a speaker. He noted he a member of the National Academies of Science, Engineering and Medicine (NAS) committee on “Merits and Viability of Different Nuclear Fuel Cycles and Technology Options and the Waste Aspects of Advanced Nuclear Reactors;” however, he cannot comment until their report is published.
 - iii. Mr. Semancik and Mr. Sherrard offered information related to public webinars on the topics. Mr. Semancik agreed to forward links to the members.
- c. September 16, 2021 – Millstone Operations Update (Dominion Presentation)
- d. December 9, 2021 – Annual Report Writing Meeting

9. Adjournment

Motion was made to adjourn by Mr. Salonia and seconded by Mr. Woolrich; no objections; unanimous vote in favor; meeting adjourned at 7:08 PM.