

RS-24-121

November 4, 2024

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001Three Mile Island Nuclear Station, Unit 1  
Renewed Facility Operating License No. DPR-50  
NRC Docket No. 50-289

Subject: Regulatory Path to Reauthorize Power Operations

On September 20, 2024, Constellation Energy Generation, LLC (CEG) announced our intent to restore Three Mile Island Nuclear Station, Unit 1 (TMI-1) to safe and reliable commercial power operation. In a meeting with the U.S. Nuclear Regulatory Commission (NRC) in Rockville, MD, on October 25, 2024, CEG introduced our technical approach and regulatory activities intended to support NRC reauthorization of the TMI-1 Operating License. This letter and its attachment provide additional detail related to our regulatory path and support activities.

The regulatory path provided in the attachment is consistent with NRC Inspection Manual Chapter 2562, "Light-Water Reactor Inspection Program for Restart of Reactor Facilities Following Permanent Cessation of Power Operations," effective on July 29, 2024, and supports the ability to resume safe operations in conformance with NRC licensing requirements for operating reactors. CEG is providing the NRC with this information ahead of formal licensing submittals to raise awareness and maintain transparent communications.

As part of our restart activities, CEG is renaming TMI-1 to the Crane Clean Energy Center (CCEC) in honor of Chris Crane, who was Chief Executive Officer of Constellation's former parent company and a true titan of the nuclear industry. Crane, who passed away in April 2024, was a leader in America's nuclear power industry and an advocate for the environmental and economic benefits nuclear power delivers to our nation. He was instrumental in both shaping the industry and building public support for nuclear technology.

Before TMI-1 was retired prematurely for economic reasons in 2019, the plant had a generating capacity of 835 megawatts of clean, reliable, carbon-free electricity. In its last year of operation, the plant was operating at a 99 percent capacity factor – well above the industry average. The plant had an annual payroll of about \$60 million and employed more than 600 full-time workers, in addition to the 1,000 highly skilled, mostly union craftspeople that supported the plant's biennial refueling outages. CEG's commitment to restarting the plant will restore to

Pennsylvania and the local community many benefits that were lost when the unit was shut down. The company has a strong relationship with Middletown, PA and the surrounding communities and CEG is committed to making community outreach, engagement and dialogue cornerstones of its restart plan.

We look forward to future interactions with the NRC as we work to obtain reauthorization for power operations.

There are no regulatory commitments contained in this letter.

If you have any questions, please contact Dennis Moore at (779) 231-5605.

Respectfully,

**Gullott, David M.** Digitally signed by Gullott, David  
M.  
Date: 2024.11.04 19:44:11 -06'00'

David M. Gullott  
Vice President, Licensing & Regulated Programs  
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cc: NRC Regional Administrator – Region I  
NRC Project Manager, NMSS – Three Mile Island, Unit 1  
NRC Director, NRR – DORL  
NRC Deputy Director, NRR – DORL  
Director, Bureau of Radiation Protection – Pennsylvania Department of Environmental Protection  
Chairman, Board of County Commissioners of Dauphin County  
Chairman, Board of Supervisors of Londonderry Township

Attachment: CEG Restart Regulatory Path

## **Introduction and Overview**

On September 20, 2024, Constellation Energy Generation, LLC (CEG) announced the intent to restore Three Mile Island Nuclear Station, Unit 1 (TMI-1) to safe and reliable commercial power operation. In a meeting with the U.S. Nuclear Regulatory Commission (NRC) in Rockville, MD, on October 25, 2024, CEG introduced our technical approach and regulatory activities intended to support NRC reauthorization of the TMI-1 Operating License. CEG is providing the NRC with this information ahead of formal licensing submittals to raise awareness and maintain transparent communications.

## **Regulatory Approach**

CEG is implementing its comprehensive restart plan for the Crane Clean Energy Center (CCEC)<sup>1</sup> consistent with NRC Inspection Manual Chapter (IMC) 2562, “Light-Water Reactor Inspection Program for Restart of Reactor Facilities Following Permanent Cessation of Power Operations.” The approach described in IMC 2562 includes a request for exemption from the requirements of 10 CFR § 50.82 to allow placing fuel in the reactor vessel and authorizing operation of the reactor, thus beginning the Restart phase of the reactor facility inspection program.

The overall goal of this regulatory process is to restore CCEC’s operating licensing basis to essentially the state it was in when Unit 1 shutdown in September 2019. Prior to shutdown, that licensing basis enabled CCEC to operate as one of the safest and highest performing plants in the CEG fleet, if not the nation. As such, CEG’s submittals will be carefully tailored with the goal of maintaining that same high level of performance and safety. Preliminary evaluations of key plant equipment have determined that the equipment is in good condition and can be restored without significant modifications, and CEG does not expect to have to replace any significant systems, structures, or components. While it is possible that some items will be identified during the restart process that necessitate changes to the operating license or the Updated Final Safety Analysis Report (UFSAR) beyond those identified in this restart plan, CEG has established processes to identify where such changes might be necessary.

The remainder of this enclosure provides details related to the NRC regulatory activities and submittals necessary to restart CCEC. CEG intends to complete this regulatory approval process to support a restart of CCEC by the end of the 2<sup>nd</sup> Quarter 2027.

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<sup>1</sup> CEG will change the name of the facility from Three Mile Island, Unit 1, to the Crane Clean Energy Center (CCEC) and as such, will use “Crane Clean Energy Center” or “CCEC” throughout this document.

### **Preparations for Plant Restoration**

To prepare for plant power operation, current CEG processes were reviewed to understand how the key regulatory processes would be applied during restoration of the Operating Reactor License Basis (ORLB). Programs such as the Corrective Action Program (CAP), Safety Culture Program, Quality Assurance (QA) Program, and regulatory change processes (e.g., 10 CFR § 50.54, “Conditions of Licenses,” 10 CFR § 50.59, Changes, Tests and Experiments,” and 10 CFR § 50.48, “Fire Protection”) were reviewed.

Upon review of these processes, CEG identified that the use of CAP and the application of Safety Culture have always been an integral part of CCEC; CCEC will continue to adhere to our strong CAP and Safety Culture principles in accordance with CEG expectations and program requirements. However, the review also identified that some of our regulatory change programs needed to be adjusted to meet the needs of a plant returning to the ORLB from decommissioning, a first of a kind endeavor for CEG.

Although CCEC maintained a QA program from the time of shutdown to the current state, CEG determined that the current Decommissioning QA Program (DQAP) would not fully encompass the QA requirements needed for restoration. For operational plants, CEG QA requirements are maintained in the CEG Quality Assurance Topical Report (QATR), which is maintained and approved under 10 CFR § 50.54(a). Nonetheless, CEG identified that a plant undergoing restoration did not need all requirements delineated in the CEG QATR. Therefore, CEG created a Restoration Quality Assurance Program (RQAP) to encompass the relevant aspects of both the QATR and DQAP.

The RQAP establishes controls that maintain the licensing commitments for the Decommissioning plant. In addition, the RQAP establishes quality controls commensurate to those which CEG implements for its operating fleet. These controls were developed from the CEG QATR that was approved for fleet use by the NRC and modified as allowed by evaluation under 10 CFR § 50.54(a)(3). Development of the RQAP requirements started with the version of the CEG QATR that was active just before the unit transitioned to permanently defueled status, as well as the DQAP requirements. From that starting point, requirements were modified to eliminate items specific to other CEG sites, incorporate applicable changes implemented in the QATR in the time between permanent defueling and initiating recovery, and, to eliminate legacy TMI-1 specific exceptions that were no longer required or applicable.

CEG will review changes to the RQAP against CCEC licensing commitments and projected operating licensing basis documents. CEG will implement the QA requirements detailed in the RQAP until transitioning to Operating Technical Specifications and Operating Licensing basis as approved by the NRC, at which time CEG will transition CCEC to the CEG QATR. CEG intends to discuss the RQAP and QATR submittals with the NRC to ensure that each submittal is appropriately characterized, detailed and timed.

Because the requirements of the RQAP have been established to closely reflect the CEG QATR, procedures from the operating fleet management model can be leveraged to implement quality requirements during restoration activities. CEG will modify fleet and/or site procedures to implement restoration-specific and site-specific quality requirements described in the RQAP, as needed.

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In addition to creating the RQAP, CEG determined that a new process needed to be created to ensure ongoing and future compliance with § 50.54 for changes to the security and emergency plans, § 50.59 for changes, tests and experiments, and § 50.48 for fire protection. Traditionally, §§ 50.54, 50.59, and 50.48 reviews are performed against the current licensing basis to determine if prior NRC approval is required to make a change. Therefore, using the traditional process, these reviews would be performed using the decommissioning license basis, which is not appropriate in this situation. Changes to the plant design and regulatory required programs must be compared to the current license basis as well as the projected future state of the licensing basis (i.e., ORLB).

To ensure that modifications and changes made under these change processes are complete and aligned with the ORLB, CEG created a process known as “Expected Plant Requirements for Plant Restoration.”<sup>2</sup> As part of the process, CEG created Restart Expected Plant Requirements (REPRs), which are a projection of future requirements associated with the design and/or licensing basis attributes of CCEC. Key REPRs include, but are not limited to, plant design, UFSAR, Technical Specifications and License Conditions, and fire protection program. The projections allow plant restoration activities to proceed while the changes in the requirements are addressed through formal licensing change processes. It is important to note that REPRs do not affect the plant design, maintenance, or operation requirements for restart; nor do they provide authorization to perform activities; CEG required design change processes still apply. REPRs are a supplement to those processes.

To return to the ORLB, many activities will proceed along parallel timelines. The following items and approximate timing of those activities will be discussed in further detail:

- Plant Restoration
- Licensing actions required to return to an ORLB
- CCEC regulatory required programs restoration
- Aligning the Security Plan to the requirements of an operating plant
- Reestablishing the onsite and offsite emergency response plans (Eplans)

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<sup>2</sup> ER-TM-420-2002, “Expected Plant Requirements for Restoration,” Rev. 0 (CEG confidential information).

## **Plant Restoration**

To facilitate plant restoration, CEG created a process known as “Evaluation Process for Plant System Structure and Component (SSC) Restoration.”<sup>3</sup> The process groups plant SSCs into Restoration System Groups (RSGs) for evaluation. These evaluations ensure a systematic approach is used to identify the activities required to restore plant SSCs from a decommissioning condition to a condition supporting safe and reliable plant operation. The output of the RSG evaluation is a report that identifies the specific work activities required to return the SSC to service. The report is reviewed and approved by the CCEC Restoration Review Panel (RRP), which is chaired by the Plant Manager. Once the RSG Evaluation Report is approved, the specific activities to return the SSC to service are entered into CCEC’s corrective action process to create required actions.

In addition to the creation of the RSG process, CEG has performed material condition reviews of some plant equipment to ensure the feasibility of plant restoration. Equipment such as the natural draft cooling towers, Enhanced Once-Through Steam Generators (EOTSGs), main generator, main transformers, above-ground storage tanks, and the plant simulator have been reviewed. Reviews performed to date have identified that either the material condition of the equipment is satisfactory for restoration, or a suitable equipment replacement plan has been identified.

As an example, CEG reviewed the plant’s EOTSGs using NEI 97-06, “Steam Generator Program Guidelines” to ensure operational readiness and structural integrity. The steam generators were replaced in 2009 with EOTSGs that feature Alloy 690 thermally treated tubes and stainless-steel support plates.<sup>4</sup> In the spring of 2024, CEG performed a comprehensive inspection in compliance with Technical Specifications, EPRI Steam Generator Examination Guidelines, and CEG’s In-Service Inspection program requirements. This included a 100% eddy current inspection of all in-service tubes and visual inspections of primary and secondary surfaces, as well as previously installed tube plugs. No abnormal conditions were identified during the inspection, which was observed by NRC Region I. The primary and secondary sides of the steam generators remain drained and isolated in a dehumidified air layup condition. The Steam Generator Inspection Report is anticipated to be submitted to the NRC in December 2024.

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<sup>3</sup> ER-TM-420-2001, “Evaluation for Process for Plant SSC Restoration,” Rev. 0 (CEG confidential information).

<sup>4</sup> Three Mile Island 1 - Issuance of Amendment 271 Re: Technical Specification Changes to Reflect Steam Generator Replacement (ML092310530), September 15, 2009.

## **Licensing Actions Required to Return to an ORLB**

### **Exemption Request from 10 CFR § 50.82(a)(2)**

CEG's initial licensing action will be to request an exemption from 10 CFR § 50.82(a)(2) to allow for a one-time rescission of the docketed 10 CFR § 50.82(a)(1) certifications submitted on June 20, 2017, and September 26, 2019. This exemption will request the removal of the current restrictions that prohibit operation of the CCEC reactor or emplacement / retention of fuel into the CCEC reactor vessel. The proposed exemption would allow CEG to resume power operations at CCEC after the NRC approves the plant restoration, licensing actions, and programmatic restoration activities necessary to reinstate the CCEC Renewed Facility Operating License (RFOL) ORLB.

### **License Amendment Requests**

During the transition to the decommissioning license basis, CEG submitted several licensing actions designed to reduce the regulatory footprint commensurate with risk of a decommissioning plant. Many of these decommissioning-related licensing actions will need to be reversed or amended through a series of licensing actions as outlined below.

In February 2025, under the requirements of 10 CFR § 50.90, "*Application for amendment of license, construction permit, or early site permit*" CEG expects to submit a License Amendment Request (LAR) to change the name of the facility from Three Mile Island, Unit 1, to Crane Clean Energy Center. The licensed owner and operator will remain Constellation Energy Generation, LLC, and therefore, no transfer of the license will be necessary.

In July 2025, CEG expects to submit a LAR to update the Operating License and Technical Specifications (TS). This LAR will request restoration of the Operating License and Technical Specifications to the previously-approved state at the time of shutdown and in accordance with the findings of the aforementioned REPR process. This LAR will remove any decommissioning-specific references that were added to the TS since shutdown and review and update any changes that have been made to License Conditions and changes made through decommissioning-related LARs. For example, it was identified during the REPR review that this LAR will seek to remove TS 3.11, Handling of Irradiated Fuel, as described in TS Amendment 297; the need for the requirements on the Fuel Handling Building crane have been eliminated by the replacement of the crane with a single failure proof design. Additionally, per the REPR review it was identified that Tech Spec 4.17 "Snubbers" will be removed. 10 CFR § 50.55a, *Codes and Standards*, has a condition that requires plants to transition their snubber surveillances to the ASME OM Code and revise their TS accordingly once their ISI program is beyond the 2006 Addenda of ASME Section XI. CCEC falls into this category and the ISI program update will occur before restart.

During the restart phase, CEG will undertake many key activities to ensure the safe and efficient transition to the ORLB. One of these activities is the updating the UFSAR. A projected UFSAR was created during the preparation phase of the restart project per the REPR process. CEG intends to submit the projected UFSAR to NRC in conjunction with the LAR to update the Operating License and Technical Specifications.

Subsequent to submitting the UFSAR to the NRC, CEG will continue to evaluate for and track any changes to the UFSAR that may be required after the initial submittal. UFSAR updates will



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be provided to ensure that the NRC is using the most up-to-date projection of the licensing and design basis for their LAR reviews. CEG will discuss with the NRC the appropriate periodicity of these updates.

As described in more detail below, CEG will also submit two separate LARs to restore its Physical Security Program (PSP) in accordance with 10 CFR § Part 73 and the CCEC Emergency Preparedness Program in accordance with 10 CFR § 50.47.

During the project, CEG may identify additional conditions in plant equipment or required programs that could necessitate changes to the Operating License or the UFSAR. CEG will evaluate such changes under the applicable regulations, specifically 10 CFR § 50.59 and/or 10 CFR § 50.54, to determine if prior NRC approval is required. If prior NRC approval is required, CEG will follow appropriate regulatory processes to request NRC approval.

### **Existing Exemptions**

As part of CCEC's transition out of decommissioning, CEG will request rescission of NRC-approved decommissioning-related exemptions. This includes the exemptions granted for using the Decommissioning Trust Funds for site restoration and spent fuel management, and recordkeeping. Additionally, because required insurance policy limits for onsite and offsite liability will need to be restored to the appropriate levels, these exemptions will also need to be rescinded. CEG has begun working with the insurers (American Nuclear Insurers and Nuclear Electric Insurance Limited) to establish the process for restoring those policies. CEG will discuss these requests with the NRC to ensure the rescissions are appropriately characterized, detailed, and timed. CEG intends to begin submission of the requests in the 2<sup>nd</sup> Quarter 2025.

### **Actions Related to Decommissioning**

In March 2025, CEG expects to submit a revised Post Shutdown Decommissioning Activities Report (PSDAR) and Irradiated Fuel Management Plan (IFMP) per 10 CFR § 50.82(a)(7) and 10 CFR § 50.54(bb). The revisions will describe the plan, including schedule and cost, to maintain the spent fuel in the Independent Spent Fuel Storage Installation (ISFSI) at CCEC through the transition period, and any changes to the environmental impact. The revision will also describe any required interaction with plant restoration activities, including interactions that may arise due to shared programs and processes. Finally, the PSDAR will describe the transition of the ISFSI security plan to the PSP for the site. CEG anticipates pre-submittal discussions with the NRC sometime in the 1<sup>st</sup> Quarter 2025.

### **Other Regulatory Items**

As part of the CCEC restart and transition to the ORLB, and in conjunction with the previously discussed REPR and RSG processes, CEG will evaluate a suite of other regulatory requirements and obligations to ensure conformance to and compliance with the current standards. For example:

- 10 CFR § 50.155, "Mitigation of beyond-design-basis events." CEG will reconstitute the post-Fukushima "FLEX" strategies, restore the equipment and structures, and conduct the training necessary to comply with this regulation.
- 10 CFR § 50.55a, "Codes and standards." This CFR section describes requirements related to the implementation of American Society of Mechanical Engineers (ASME), Institute of Electrical and Electronics Engineers (IEEE), and Electric Power Research



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Institute (EPRI) codes standards applicable to commercial nuclear power plants. Prior to shutdown, CCEC complied with this regulation consistent with the licensing basis. CEG will ensure that all necessary codes and standards (including 10 CFR § 50.55a(f) and (g) related to ASME in-service testing (IST) and in-service inspection (ISI), respectively) are met or appropriate relief is obtained per the defined regulatory process. Where required, CEG will update applicable programs to the currently-approved and applicable code or standard version/edition.

- Regulatory Commitments. CEG will review all regulatory commitments made to the NRC in effect at the time of shutdown and evaluate for applicability and restoration. CEG will perform changes to regulatory commitments in accordance with CEG procedures and NRC-endorsed industry guidance.
- NRC Orders. CEG will review NRC Orders in effect at the time of CCEC shutdown or issued subsequent to shutdown for applicability. CEG will discuss with the NRC the need for reinstatement or issuance of new orders.

**CCEC Regulatory Required Programs Restoration**

**Environmental**

CEG understands that the NRC will conduct an Environmental Assessment (EA) pursuant to its obligations under the National Environmental Policy Act (NEPA).<sup>5</sup> As noted in IMC 2562, “It is anticipated that the NRC’s review of licensing actions to restore the operating basis of the facility will occur concurrently with any applicable environmental assessments of the resumption of power operations and with the implementation of the Restart of Reactor Facilities Inspection Process.”

To effectuate the NRC’s review, CEG will submit an Environmental Report to the NRC that provides the necessary information for the NRC to complete the EA. CEG expects to file this Environmental Report within nine months after initiating the restart process. CEG anticipates pre-submittal engagement with the NRC on the environmental aspects of this review sometime in the 1<sup>st</sup> Quarter 2025.

In addition to the environmental work associated with the NRC licensing activities, CEG will work with other state and federal agencies to obtain environmental permits and reviews required to restore the unit to power operations. This will include obtaining a National Pollutant Discharge Elimination System (NPDES) permit from the Commonwealth of Pennsylvania and a water use docket from the Susquehanna River Basin Commission.

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<sup>5</sup> Holtec Decommissioning International, LLC, and Holtec Palisades, LLC; Palisades Nuclear Plant; Notice of Intent to Conduct Scoping Process and Prepare an Environmental Assessment, 89 FR 53659 (June 27, 2024).

## **Emergency Preparedness**

In September 2025, CEG expects to submit the CCEC Site Emergency Plan (Eplan), which will include a request for NRC to rescind the exemption from 10 CFR § 50.47, “Emergency plans,” and 10 CFR Part 50, Appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities.” The NRC approved exemptions from specific requirements of 10 CFR § 50.47 and Appendix E on December 1, 2020 (ML20244A292) due to the plant being in a permanently defueled status.

CEG will restore the Eplan to its previously approved state in effect at the time of shutdown with minimal change to align with the restored ORLB. CEG will make any necessary changes to Evacuation Time Estimates (ETEs) to account for geographical and population changes since the shutdown, which will also require updates to the Unified Rascal Interface (URI).

Plant restart will also require the Emergency Response Facilities to be restored to their previous state with necessary updates related to any regulatory or industry standard changes that have occurred since shutdown. The Technical Support Center (TSC) will have communication equipment, dedicated phone lines, computers, EP software, procedures, maps, and assessment boards returned. The Operational Support Center (OSC) will have its phone systems and computers restored and the CCEC Field Monitoring Team (FMT) trucks will be returned to service. Additionally, CEG will update the Coatesville Emergency Operations Facility (EOF) with equipment and procedures to support CCEC.

CEG will restore CCEC’s previously-approved Emergency Plan Implementing Procedures (EPIPs) to the pre-shutdown revisions in accordance with 10 CFR § 50.54(q). Emergency Response Organization (ERO) individuals will be selected with appropriate backgrounds and qualified in accordance with the CEG Fleet EPIPs. Additionally, on-shift staffing, which was reduced in the ISFSI Only Emergency Plan (IOEP), will be restored to the minimum complement as required by the CEG Standard Emergency Plan staffing tables.

CEG will reinstate the ERO training program and all members of the ERO will be trained and qualified in accordance with the CEG fleet ERO training process. In addition to the on-site emergency plan recovery, CEG Corporate Emergency Preparedness (EP) will work closely with FEMA and the Offsite Emergency Management agencies to ensure full recovery and evaluation of the Offsite Response Organizations and their associated Emergency Plans.

## Security

In November 2025, CEG expects to submit the CCEC Physical Security Plan (PSP). The LAR will contain certain portions of a previously-approved PSP, as well as incorporate the addition of the ISFSI and any applicable changes to the defensive strategy. As a result of decommissioning activities, much of the hardened security features have been deactivated since the inception of an ISFSI Security Plan in 2021. Therefore, CEG will reconstitute and restore the PSP and associated security structures and systems to meet the requirements of 10 CFR § 73.55 using current NRC requirements and CEG fleet and industry best practices.

It is anticipated that the reconstituted PSP will include a new Protected Area (PA) footprint and perimeter to account for the continued decommissioning activities of Three Mile Island, Unit 2, by *EnergySolutions*. CEG will evaluate and design the CCEC PSP to minimize the impact on *EnergySolutions*' decommissioning activities while ensuring a robust PSP with state-of-the-art equipment and tactics to protect CCEC.

Reconstitution of the PSP will also include considerations in the areas of enhanced analytics, new generation weapons technology and modern detection equipment for contraband, in addition to evaluating installation of a new, stand-alone security computer system. Design of the defensive strategy program will include recently-adopted industry practices to review targets or target sets to ensure that the CCEC PSP meets all regulatory requirements. CEG anticipates utilizing revisions to NRC Regulatory Guide (RG) 5.76 regarding Reasonable Assurance Protection Time (RAPT) when reviewing and developing defensive strategy tactics.

A key part of the PSP are the Security leaders and officers who execute the defensive strategy. CEG is hiring additional personnel to increase the Security staffing commensurate with an operating commercial nuclear power plant. Personnel hired as Armed Security Officers, Alarm Station Operators, and Shift Supervisors will receive all applicable training to meet the qualification standards set forth in NRC regulations and operating plant procedures. Support staff positions have been identified for implementation to commence training, program and procedure restoration, NRC interface, and oversight of field work. Additionally, CEG has vetted weapons range training facilities to accommodate larger groups and appropriately train new security force members.

## Engineering

CEG has completed a preliminary gap analysis for plant engineering programs in accordance with the previously-discussed REPR process. Plant programs reviewed include, but are not limited to:

- The Fire Protection Program to ensure compliance with 10 CFR § 50.48 and 10 CFR Part 50, Appendix R
- The In-Service Inspection (ISI) Program, RCS Pressure Boundary Integrity Program, Steam Generator Tube Integrity Program, In-Service Testing (IST) program and Containment Leak Rate Test programs to ensure compliance with 10 CFR Part 50 regulations, the latest editions of the ASME Boiler and Pressure Vessel Code (BPVC) and the ASME Operations and Maintenance (OM) Code accepted by 10 CFR § 50.55a, and the latest applicable revisions of industry standards (e.g., NEI, EPRI) and CEG procedures
- The Maintenance Rule Program, Environmental Qualification Program, Aging Management Program and other programs as defined in the CEG engineering program scope to ensure compliance with the applicable regulations, guidance, and CEG procedures and standards

The gap analysis revealed that 29 of the 36 engineering programs were determined to have no expected changes to pre-shutdown design, Preventive Maintenance (PM), or testing requirements when compared to current applicable requirements and standards. For the remaining seven (7) engineering programs, two are expected to have modification changes, two are expected to have inspection scope changes, and three are expected to have components added to the program. These changes support compliance with updates to 10 CFR Part 50 and industry requirements. For example, the initial air-operated valve (AOV) and motor-operated valve (MOV) program gap analyses identified that some components would need to be added to each program to comply with the current 10 CFR § 50.55a regulation, which incorporates later editions of the ASME OM Code. All programs will receive the updates required by 10 CFR Part 50, industry standards, and CEG fleet procedures.

CEG will continue comprehensive review of plant programs and regulatory requirements to ensure programs are restored to the projected ORLB, which includes any changes that have occurred since 2019. CEG will perform required examinations and functional tests to ensure compliance with the current inspection schedules, including outstanding License Renewal commitments.

CCEC and CEG fleet subject matter experts and qualified program engineers will perform the comprehensive reviews and required programmatic updates.

## Training

CCEC, along with CEG Training subject matter experts, have completed a preliminary gap analysis for plant training programs. Training programs reviewed include, but are not limited to, re-implementation of accredited or NRC-approved licensed operator qualifications and training programs, including simulator fidelity; re-implementation of accredited or NRC-approved maintenance and technical training programs (e.g., non-licensed operators, maintenance, health physics, chemistry, etc.). Except for health physics (Radiological Protection), all required 10 CFR § 50.120 “*Training and qualification of nuclear power plant personnel*” programs have been idle since the cessation of power operations.

CEG will recover all training programs in accordance with 10 CFR § 50.120, which specifies the training and qualification requirements for nuclear power plant personnel. Training recovery activities will be coordinated with INPO to recover the fully accredited CCEC Training Program and in compliance with Operator licensing examination standards contained in NUREG 1021, “*Operator Licensing Examination Standards for Power Reactors*” and 10 CFR Part 55, “*Operators’ Licenses*.”

For the Operator Training program, CEG is currently in the process of restaffing the program with certified instructors, who will be pivotal in delivering the training necessary for our licensed and non-licensed operators. Similarly, the restoration of our Maintenance and Technical Training programs is a priority. CEG is actively working to restaff these programs with qualified instructors, ensuring that the maintenance, engineering, chemistry, and radiation protection personnel will receive the highest quality training. Recruitment, training, and qualification efforts are being carefully coordinated to ensure that all Maintenance and Technical personnel will be fully prepared to support the plant's safe and efficient operation as CCEC approaches restart.

Reinstating the Referenced Plant Simulator to its previously certified model is a training program priority. The CCEC simulator was certified as a Referenced Plant Simulator under the Simulator Facility Certification documented in TMI Unit 1 “Plant-Ref Simulator Initial Certification,” dated June 28, 1990 (ADAMS Accession No. ML20055D208). Following shutdown in 2019, the building housing the Referenced Plant Simulator was left vacant with no electrical power or ventilation. The computers and hardware supporting the simulator were removed. As part of a preliminary gap analysis, early in 2024, CEG restored power to the simulator facility. In June 2024, a vendor was hired to assess the simulator infrastructure and make recommendations for full restoration of the simulator to the previously-certified condition. Currently, simulator restoration is in-progress. During the 2<sup>nd</sup> Quarter 2025, it is anticipated that CEG will request NRC to inspect the simulator to provide assurance that the simulation facility was restored back to its certified condition.



**Final Approval**

Upon completion of the scheduled activities for restart, CEG will submit an Operational Readiness Letter to the NRC to verify and document the completion of plant restoration activities. This letter will serve as notice that the facility is ready to load fuel and to recommence commercial operations.

Upon NRC authorization for the placement of fuel into the reactor vessel is received, CCEC will commence activities to ensure a safe reactor refueling outage and subsequent return to power operations.