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10 CFR 50.2

TMI-17-060

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk`
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-50
NRC Docket No. 50-289

Subject: Request for Approval of Certified Fuel Handler Training Program

References:

1. Letter from J. Bradley Fewell (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations for Three Mile Island Nuclear Station, Unit 1," dated June 20, 2017 (NRC Accession No. ML17171A151)

2. Letter from U.S. Nuclear Regulatory Commission to Bryan C. Hanson (Exelon Nuclear), "Oyster Creek Nuclear Generating Station; Clinton Power Station, Unit No.1; and Quad Cities Nuclear Power Station, Units 1 and 2 – Approval of Certified Fuel Handler Training and Retraining Program (CAC NOS. MF8109, MF8138, MF8139, and MF8140)," dated September 6, 2016 (NRC Accession No. ML16222A787)

In References 1, Exelon Generation Company, LLC (Exelon) provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.4(b)(8) and 10 CFR 50.82(a)(1)(i) of Exelon's intention to permanently cease power operations at Three Mile Island Nuclear Station, Unit 1 (TMI-1) by September 30, 2019.

Once the certifications of permanent cessation of power operations and of permanent removal of fuel from the reactor vessel is docketed for TMI-1 in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 licenses will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant operating activities. Instead, approval of a Certified Fuel Handler (CFH) Training and Retraining Program is needed to facilitate activities associated with decommissioning and irradiated fuel handling and management.

Pursuant to 10 CFR 50.2, Exelon hereby requests NRC approval of the Exelon CFH Training and Retraining Program for use at TMI-1. In 10 CFR 50.2, a Certified Fuel Handler is defined as "a non-licensed operator who has qualified in accordance with a fuel handler training program approved by the Commission."

A copy of the proposed Exelon CFH Training and Retraining Program is provided in the Attachment to this submittal. The attached TMI-1 CFH Training and Retraining Program is identical to the program that was previously approved by the NRC for use at Oyster Creek Nuclear Generating Station (OCNGS), Clinton Power Station (CPS), and Quad Cities Nuclear Power Station (QCNPS) Units 1 and 2 (Reference 2).

The Exelon CFH Training and Retraining Program will ensure that the qualifications of personnel are commensurate with the tasks to be performed and the plant conditions requiring response. 10 CFR 50.120, "Training and qualification of nuclear power plant personnel," requires training programs to be established, implemented, maintained, and derived using a Systems Approach to Training (SAT) as defined in 10 CFR 55.4. The requirements of 10 CFR 50.120 applies to holders of operating licenses issued under 10 CFR Part 50. After permanent cessation of operation and certification of fuel removal, the TMI-1 license will no longer authorize operation of the reactor. The Exelon CFH Training and Retraining Program will nonetheless align with the provisions of 10 CFR 50.120. The CFH Training and Retraining Program provides adequate confidence that appropriate SAT based training of personnel who will perform CFH duties is conducted to ensure the facility is maintained in a safe and stable condition.

Exelon is requesting approval of the TMI-1 CFH Training and Retraining Program by January 29, 2018, in order to support future decommissioning efforts and preparations for and the timely transition of TMI-1 to a permanently shutdown and defueled condition.

There are no regulatory commitments contained in this submittal.

If you have any questions regarding this submittal, please contact Mr. Paul Bonnett at (610) 765-5264.

Respectfully,

Michael P. Gallagher
Vice President, License Renewal & Decommissioning
Exelon Generation Company, LLC

Attachment: Exelon Generation Company Certified Fuel Handler Training and Retraining Program

cc: NRC Regional Administrator, Region I
NRC Project Manager, TMI-1
NRC Senior Resident Inspector – TMI-1
Director, Bureau of Radiation Protection - PA Department of Environmental Resources

ATTACHMENT

Exelon Generation Company
Certified Fuel Handler Training and Retraining Program

Exelon Generation
Certified Fuel Handler Training and Retraining Program

1. PURPOSE

1.1 To outline development of a Certified Fuel Handler Training and Retraining Program for an Exelon Generation nuclear facility that is permanently shutdown and permanently defueled.

1.2 This program will apply to the Oyster Creek Nuclear Generating Station, Clinton Power Station, Quad Cities Nuclear Power Station Units 1 & 2, and Three Mile Island Nuclear Station, Unit 1 once the certifications of permanent cessation from operations and removal of fuel from the reactor have been submitted to the U.S. Nuclear Regulatory Commission (NRC).

2. TERMS AND DEFINITIONS

2.1 Certified Fuel Handler – As defined in 10 CFR 50.2, certified fuel handler means, for a nuclear power reactor facility, a non-licensed operator who has qualified in accordance with a fuel handler training program approved by the NRC.

2.2 Non-Licensed Operator – An operator who works in the plant under the direction and supervision of control room and/or operations management personnel in support of plant operations. Non-licensed operators operate, control, and monitor plant equipment outside the control room and may also be assigned auxiliary duties such as fire brigade member, medical response team member, or radiological emergency team member.

2.3 NRC-Licensed Operator – An individual who possesses an NRC-issued operator license or senior reactor operator license pursuant to 10 CFR 55, “Operators’ Licenses” to manipulate the controls of a facility or to direct the licensed activities of licensed operators.

2.4 Systems Approach to Training (SAT) - The SAT process contains the following elements:

1. Systematic analysis of the jobs to be performed.
2. Learning objectives derived from the analyses which describe desired performance after training.
3. Training design and implementation based on the learning objectives.
4. Evaluation of trainee mastery of the objectives during training.
5. Evaluation and revision of the training based on the performance of trained personnel in the job setting.

3. MAIN BODY

3.1 GENERAL GUIDELINES

3.1.1 The Certified Fuel Handler Training and Retraining Program contained herein describes the training program to be implemented by Exelon Generation to ensure the monitoring, handling, storage, and cooling of spent nuclear fuel is performed in a manner consistent with ensuring the

public health and safety for Exelon Generation facilities that have transitioned to a permanently defueled status.

3.1.2 The Certified Fuel Handler Training and Retraining Program describes the personnel to whom the program applies, the areas in which training is provided, what constitutes certification, how certification is maintained, and required qualification (e.g., medical). The program shall comply with the applicable American National Standards Institute (ANSI)/American Nuclear Society (ANS) standard requirements for the qualification and training of plant personnel, as specified in the facility's Technical Specifications (TS) and be consistent with level of hazard at the facility and to ensure the facility is maintained in a safe and stable condition. Based on the permanently defueled status, as committed to under 10 CFR 50.82(a)(1), the Certified Fuel Handlers will not be trained as NRC-licensed operators; however, candidates in the training program will meet minimum operator experience requirements of the applicable ANSI/ANS standards as specified in the facility's TS.

3.1.3 The Certified Fuel Handler Training and Retraining Program will become effective upon:

1. NRC approval of the Certified Fuel Handler Training and Retraining Program; and
2. NRC approval of an amendment to the facility operating license eliminating requirements for NRC Licensed Senior Reactor Operators and Reactor Operators, and the requirement for the associated 10 CFR 55 Training Program.

3.1.4 Training of personnel can be conducted prior to the Certified Fuel Handler Training and Retraining Program being approved by the NRC or prior to the training program effective date.

3.1.5 The Certified Fuel Handler Training and Retraining Program is not accredited with the National Academy for Nuclear Training in accordance with ACAD 02-002, "The Process for Accreditation of Training in the Nuclear Power Industry." Although the program is not accredited, a SAT process will be applied to the Certified Fuel Handler Training and Retraining Program. The program adheres to the guidelines of NUREG-1220, "Training Review Criteria and Procedures," Revision 1.

3.1.6 A SAT process will be applied to the Certified Fuel Handler Training and Retraining Program. The SAT process contains the elements as described in Section 2.4.

3.1.7 Changes to the Certified Fuel Handler Training and Retraining Program may be made without prior NRC approval provided the changes are appropriately evaluated in accordance with the conditions specified in Section 3.6 and the program continues to comply with the specified ANSI/ANS standard requirements as specified in the facility's TS.

3.1.8 The Plant Manager (or designee) may exempt an individual from specific training or retraining requirements as specified in Subsections 3.2.4.6 and 3.3.2.3. The requirement for a medical examination shall not be exempted.

3.1.9 The Certified Fuel Handler Training and Retraining Program consists of an initial training program and a requalification training program.

3.2 INITIAL TRAINING

3.2.1 ELIGIBILITY REQUIREMENTS

3.2.1.1 Candidates for enrollment in the Certified Fuel Handler Initial Training program shall meet the applicable ANSI/ANS standard requirements for the qualification and training of plant personnel, as specified in the facility's TS.

3.2.1.2 Specifically, at the time of appointment to the Certified Fuel Handler position, the candidate shall have:

1. High school diploma or equivalent.
2. A minimum of two years power plant experience, in which one year is nuclear power plant experience. At least 6 months of the nuclear experience shall be at the facility.
3. Possess a high degree of manual dexterity and mature judgment.

3.2.1.3 For the purposes of the Certified Fuel Handler training program the definition of nuclear power plant experience listed in the applicable ANSI/ANS standard, as specified in the facility's TS, is amended to include nuclear power plant experience acquired at a defueled reactor site which has spent nuclear fuel stored in its Spent Fuel Pool (SFP).

3.2.2 FUNDAMENTALS TRAINING

3.2.2.1 The fundamentals training phase of the Certified Fuel Handler Training and Retraining Program consists of lecture, and/or self-study of topics appropriate to the monitoring, handling, storage, and cooling of spent nuclear fuel. The lecture method of instruction is the training of individual topics by classroom presentation. Self-study is training accomplished by the student through the independent study of texts, handouts, and other materials. Selection of topics will be based on a job analysis for the Certified Fuel Handler tasks and functions. The job analysis will be conducted by an incumbent SRO, training Subject Matter Expert and Site Decommissioning Transition Planning Organization Operations Lead, in accordance with the requirements of TQ-AA-221, "Exelon Nuclear Training – Analysis Phase." The procedure outlines a graded approach to evaluating job tasks and includes Difficulty, Importance, and Frequency (DIF) ratings for each new job task. Learning objectives will be derived from the analysis to describe the desired performance after training. Training materials will be designed based on the learning objectives. Depending on an analysis of the candidate's background, self-study may be used for up to 100% of the course material. A comprehensive exam at the end of the course will provide assurance of mastery of the skills, knowledge, and abilities required for successful performance of Certified Fuel Handler job and associated tasks.

3.2.2.2 Fundamental topics will include thermodynamics, heat transfer, fluid mechanics, radiological safety principles and monitoring, electrical theory, mechanical components operation,

facility/system design and function, and facility administrative and safety procedures, as appropriate for the current plant status.

3.2.3 ON-THE-JOB TRAINING (OJT)

3.2.3.1 The on-the-job training phase of the Certified Fuel Handler Training and Retraining Program includes hands-on training of shift operations such as shift turnover, shift record keeping, removal and return of equipment to service, and specified watch standing activities. Watch standing activities include on-the-job training in operation of systems/components used to provide handling, storage, cooling, and monitoring of the fuel; normal, abnormal, and emergency procedures; accident analysis; Emergency Plan; facility license; and the content, bases, and importance of Technical Specifications. On-the-job training will be conducted using a process similar to the Exelon Generation training process defined in TQ-AA-203, "On-The-Job Training and Task Performance Evaluations," which provides the requirements for the development, implementation, and evaluation of, and qualification requirements for, OJT, Task Performance Evaluation (TPE), and Job Performance Measure (JPM) administration.

3.2.3.2 A minimum of 40 hours of on-shift watches under the instruction of a Certified Fuel Handler must be completed as part of the qualification process.

3.2.4 CANDIDATE EVALUATION

3.2.4.1 A comprehensive final examination shall be administered at the end of the initial training program. Areas examined are described in Appendices A and B for the written and operating examinations respectively.

3.2.4.2 The written examination requires a minimum score of 80 percent to pass.

3.2.4.3 The operating examination will consist of JPMs. Passing criteria for an individual JPM is that the examinee successfully completes the assigned task in accordance with the governing procedure without missing any critical steps. Missed or incorrectly performed critical steps are the bases for JPM failure. Critical tasks for a JPM will be pre-identified as defined in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11, or later.

3.2.4.4 Each JPM will be scored on a pass/fail basis. The candidate must pass at least 80 percent of the administered JPMs to successfully pass the operating examination.

3.2.4.5 An individual who fails to pass either the written or operating examination shall not perform Certified Fuel Handler duties until the individual has completed a remedial training program and passes an appropriate re-examination. Only those portions of the original examination that were failed need to be re-examined (i.e., written or operating exam).

3.2.4.6 The Plant Manager (or designee) may exempt an individual from specific training requirements based upon the individual's depth of experience and previous training. Any exemptions granted shall be based on an evaluation of the candidate’s training and/or work history to ensure that the

intent of the exempted training objectives are satisfied. Such exemptions, including the basis, shall be documented using a process similar to the Exelon Generation training exemption process defined in TQ-AA-224, "Exelon Nuclear Training – Implementation Phase." The requirement for a medical examination shall not be exempted.

3.2.4.7 Training of current or previous NRC-licensed Operators at the facility entering a permanently shutdown and permanently defueled condition may be evaluated to determine if they satisfy all of the requirements of this training program, or if they only need to complete portions of this program to qualify as a Certified Fuel Handler. This evaluation will focus on the differences between the requirements of a Certified Fuel Handler and an NRC-licensed Operator to identify any additional training required to become a Certified Fuel Handler. Examples may include an examination on TS, fuel handling, and administrative controls required to perform the Certified Fuel Handler function.

1. The Certified Fuel Handler Training and Retraining Program allows for the evaluation of other facility personnel to determine if portions of the required training have already been completed and therefore may be exempted. The evaluation will concentrate on required areas to determine if the previous training and qualification/examination were equivalent to that required for a Certified Fuel Handler.

3.2.4.8 In general, the training of holders of Senior Reactor Operator licenses who are also qualified as Fuel Handling Supervisors will meet the qualification requirements for a Certified Fuel Handler. However, it is expected that some additional training requirements may arise as the plant transitions to a permanently shutdown and defueled configuration. These additional training requirements may arise from changes to plant systems or procedures associated with SFP operations. Therefore, the training requirements will be specifically identified and enumerated using the SAT process prior to permanent defueling. The training history of each currently licensed Senior Reactor Operator who is identified as a candidate for a Certified Fuel Handler qualification will be separately evaluated to ensure that all the specific training requirements of the Certified Fuel Handler Training and Retraining Program are met.

3.2.4.9 Training to address any identified gaps between the individual's training history and the Certified Fuel Handler Training Program requirements will be completed prior to certification as Certified Fuel Handler.

3.2.4.10 The Plant Manager (or designee) shall approve the basis for evaluations qualifying an individual as a Certified Fuel Handler.

3.2.4.11 Any missed training or examination shall be made up within 90 days of the missed training activity. If required training or evaluation is not completed within the specified makeup period, the Certified Fuel Handler shall be suspended from Certified Fuel Handler duties, pending successful completion of the missed training or evaluation.

3.2.5 QUALIFICATIONS

3.2.5.1 All candidates shall satisfy the following requirements:

1. Complete the Initial Training and Retraining Program or have the requirement exempted per Subsection 3.2.4.6.
2. Score ≥ 80 percent on a written examination.
3. Pass ≥ 80 percent of the administered JPMs on the operating examination.
4. Pass a medical examination by a physician to determine that the candidate's medical condition is not such that it might cause operational errors that could endanger other plant personnel or the public health and safety.

3.3 RETRAINING PROGRAM

3.3.1 COURSE SCHEDULE

3.3.1.1 Candidates for enrollment in the Certified Fuel Handler Retraining Program (aka: requalification training program) shall have successfully completed the initial Certified Fuel Handler Training Program.

3.3.1.2 The retraining phase of the Certified Fuel Handler Training and Retraining Program shall be administered in a biennial training cycle. This cycle includes annual operating examinations and biennial written examination. Biennial and annual are as defined in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11, or later.

3.3.1.3 All Certified Fuel Handlers will participate in the retraining program. The Certified Fuel Handler retraining phase consists of lecture and/or self-study of topics appropriate to the monitoring, handling, storage, and cooling of nuclear fuel. The content of the retraining program will be based upon the tasks selected during program development for the retraining cycle. A retraining plan will be developed and will be approved by the Plant Manager (or designee). The training plan will be developed utilizing the SAT process described in Section 2.4. Retraining will typically include a review of changes associated with the facility and procedures, as well as problem areas associated with the monitoring, handling, storage, and cooling of nuclear fuel, and selected topics from the initial training program.

3.3.1.4 Participants in the Certified Fuel Handler retraining phase of the program must pass a biennial written examination and an annual operating examination to maintain their qualification. Areas examined are described in Appendices A and B for the written and operating examinations, respectively.

3.3.1.5 The written examination requires a minimum score of 80 percent to pass.

3.3.1.6 The operating examination will consist of JPMs and each JPM will be scored on a pass/fail basis.

3.3.1.7 Passing criteria for an individual JPM is that the examinee successfully completes the assigned task in accordance with the governing procedure without missing any critical steps. Missed or incorrectly performed critical steps are the bases for JPM failure. Critical tasks for a JPM should be pre-identified as defined in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11, or later.

3.3.1.8 Each JPM will be scored on a pass/fail basis. The candidate shall pass at least 80 percent of the administered JPMs to successfully pass the operating examination.

3.3.1.9 Periodic written and/or operating exams may be administered during the retraining cycle to assess student knowledge and training effectiveness.

3.3.1.10 An individual who fails to pass either the comprehensive biennial written or annual operating examination shall not perform Certified Fuel Handler duties until a remedial training program is completed and an appropriate re-examination is passed. Only those portions of the examination that were originally failed need to be successfully re-examined prior to restoring qualifications (i.e., written or operating exam).

3.3.2 MAINTENANCE OF CERTIFIED FUEL HANDLER QUALIFICATIONS

3.3.2.1 To maintain the Certified Fuel Handler qualification, the following requirements must be satisfied or they may be exempted per Subsection 3.2.4.6.

1. Complete all required Certified Fuel Handler retraining.
2. Score $\geq$ 80 percent on the biennial written examination.
3. Pass $\geq$ 80 percent of the administered JPMs on the annual operating examination.
4. Pass a biennial medical examination by a physician to determine that the Certified Fuel Handler's medical condition is not such that it might cause operational errors that could endanger other plant personnel or the public health and safety.
5. Stand the designated Certified Fuel Handler watch for a minimum of eight (8) hours per calendar quarter. A Certified Fuel Handler who fails to meet this time requirement can regain qualified status by serving eight (8) hours of watch under the instruction of a qualified Certified Fuel Handler. The time under instruction should include a review of the spent fuel pool cooling system and shift turnover procedures.

3.3.2.2 An individual who fails to meet any of the requirements for maintaining the Certified Fuel Handler qualification shall be removed from all duties associated with that position until such time as the discrepancies can be resolved. Shift Operations shall be notified of the individual's removal and subsequent status.

3.3.2.3 The Plant Manager (or designee) may exempt an individual from a specific retraining requirement. Such exemptions, including the basis, shall be documented using a process similar to the Exelon Generation training exemption process defined in TQ-AA-224. The requirement for a biennial medical examination shall not be exempted. An individual shall not be exempted from the annual operating or biennial written examinations unless that individual

prepared the examination. No individual may be exempted from any two consecutive annual operating exams. No individual may be exempted from any two consecutive biennial written examinations.

3.4 PROGRAM EVALUATION

The training program must be periodically evaluated and revised as appropriate to reflect industry experience as well as changes to the facility, procedures, regulations, and quality assurance requirements. As part of the training process, routine assessments of the effectiveness and accuracy of the training program are conducted by appropriate management personnel at the facility in a permanently defueled condition during and at the end of each two (2) year training cycle. Evaluation results shall be reviewed by a station oversight board as defined in site procedures. The station oversight board will verify the resolution of any discrepancies identified by the evaluation. Any required changes to the program determined by the station oversight board, shall be incorporated into the program.

3.5 RECORD RETENTION

3.5.1 Records associated with the Certified Fuel Handler Training and Retraining Program will be retained in retrievable format until there is no longer a need for a Certified Fuel Handler position at the facility (i.e., all fuel permanently transferred to a dry fuel storage facility).

3.6 EVALUATING CHANGES TO THE CERTIFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM

3.6.1 The Certified Fuel Handler Training and Retraining Program is based on SAT; therefore, Exelon may change elements without NRC approval as long as the following are applicable:

1. suitable proficiency in the performance of the program's activities is maintained; and
2. changes are documented in an accessible manner that will allow the NRC to verify the adequacy of the program in accordance with 10 CFR 50.120.

4. REFERENCES

4.1 10 CFR 50.2, "Definitions"
4.2 10 CFR 50.120, "Training and qualification of nuclear power plant personnel"
4.3 SECY-00-145, "Integrated Rulemaking Plan for Nuclear Power Plant Decommissioning," dated June 28, 2000
4.4 Statements of Consideration for the "Decommissioning of Nuclear Power Reactors," Proposed Rule (60FR37374, dated July 20, 1995) and Final Rule (61FR39278, dated July 29, 1996)
4.5 NUREG-1220, "Training Review Criteria and Procedures"
4.6 NUREG-1021, "Operator Licensing Examination Standards for Power Reactor," Revision 11
4.7 ANSI/ANS 3.1 - (1978) (1981), "Selection and Training of Nuclear Power Plant Personnel"
4.8 ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel"

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4.9 Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants"
4.10 NRC Safety Evaluation, "Crystal River Unit 3 – Review of Certified Fuel Handler Training and Retraining Program," June 26, 2014 (ADAMS Accession No. ML14155A181)
4.11 NRC Safety Evaluation, "Kewaunee Power Station – Approval of Shift Manager/Certified Fuel Handler Training Program," May 12, 2014 (ADAMS Accession No. ML14104A046)
4.12 NRC Safety Evaluation, "San Onofre Nuclear Generating Station, Units 2 and 3 – Approval of Safe Storage Shift Manager/Certified Fuel Handler Training Program," August 1, 2014 (ADAMS Accession No. ML13268A165)
4.13 NRC Safety Evaluation, "Vermont Yankee Nuclear Power Station – Review of Certified Fuel Handler Training and Retraining Program," October 1, 2014 (ADAMS Accession No. ML14162A209)
4.14 NRC Safety Evaluation for Amendment 160 to License DPR-36, Maine Yankee, November 26, 1997 (ADAMS Accession No. 9712040233)
4.15 NRC Safety Evaluation for Certified Fuel Handlers Training and Retraining Program for Zion Nuclear Power Station Units 1 and 2, July 20, 1998 (ADAMS Accession No. 9807240263)
4.16 NRC Safety Evaluation, "Millstone Nuclear Power Station, Unit 1 – Approval of Certified Fuel Handler Training Program," February 11, 1999
4.17 TQ-AA-203, "On-The-Job Training and Task Performance Evaluation"
4.18 TQ-AA-221, "Exelon Nuclear Training – Analysis Phase"
4.19 TQ-AA-222, "Exelon Nuclear Training – Design Phase"
4.20 TQ-AA-223, "Exelon Nuclear Training – Development Phase"
4.21 TQ-AA-224, "Exelon Nuclear Training – Implementation Phase"
4.22 TQ-AA-224-F040, "Training Exemption Form"
4.23 TQ-AA-225, "Exelon Nuclear Training – Evaluation Phase"
4.24 ACAD 02-002, "The Process for Accreditation of Training in the Nuclear Power Industry"
4.25 ACAD 07-001, "Guidelines for the Continuing Training of Licensed Personnel"
4.26 NEI 15-04, Rev. 0, "Guidelines for a Certified Fuel Handler Training and Retraining Program" – (11/3/15)

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APPENDIX A

WRITTEN EXAMINATION AREAS

CERITFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM

The written examination shall include a sample of the following aspects of the Certified Fuel Handler position:

(1) Design, function, and operation of systems used in handling, storage, cooling, monitoring of nuclear fuel, and auxiliary support systems.

(2) Purpose and operation of the radiation monitoring systems.

(3) Radiological safety principles and procedures including radiation hazards that may arise during normal, maintenance, and abnormal activities.

(4) Principles of heat transfer, thermodynamics, and fluid mechanics as they apply to fuel handling, storage, cooling, and monitoring.

(5) Conditions and limitations of facility license, including content, basis and importance of Technical Specifications.

(6) Assessment of facility condition and selection of appropriate procedures during normal, abnormal and emergency situations.

(7) Fuel handling facilities and procedures.

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APPENDIX B

OPERATING EXAMINATION AREAS

CERTIFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM

The operating examination will consist of Job Performance Measures and shall include a sample of the following aspects of the Certified Fuel Handler duties and tasks:

(1) Evaluate annunciators; valve, pump, and breaker status indicators; and instrument readings as necessary to determine/perform appropriate remedial actions.

(2) Evaluate the ability to manipulate the controls required to obtain desired operating results during normal, abnormal, and emergency conditions. This includes the spent fuel pool cooling system and those auxiliary and emergency systems that could affect the release of radioactive material to the environment.

(3) Evaluate radiation monitoring system readings, including alarm conditions, to determine appropriate actions. Such actions may include setting an alarm setpoint to monitor a release or determine appropriate remedial actions for an alarm condition.

(4) Evaluate abnormal or emergency conditions to determine if the emergency plan for the facility should be implemented and, if implemented, evaluate performance of duties as required by the emergency plan.