Attachment A

ZION STATION

CERTIFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM

ZION STATION
CERTIFIED FUEL HANDLER
TRAINING AND RETRAINING PROGRAM

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1.0 INTRODUCTION

The Certified Fuel Handler (CFH) Training and Retraining Program contained herein describes the training program to be implemented by Commonwealth Edison Company's (ComEd) Zion Station to ensure the monitoring, handling, storage, and cooling of nuclear fuel is performed in a manner consistent with ensuring the health and safety of the public.

The 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 qualifications (e.g., medical). The program shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971, consistent with level of hazard at the facility and to ensure the facility is maintained in a safe and stable condition. Changes to this program may be made without prior Nuclear Regulatory Commission (NRC) approval provided the program continues to comply with ANSI N18.1-1971.

The Certified Fuel Handler Training and Retraining Program becomes effective upon:

(1) Approval of the Certified Fuel Handler Training and Retraining Program by the NRC, and

(2) Amendment of the facility licenses for the Zion Nuclear Station to eliminate the requirements for the Nuclear Regulatory Commission (NRC) licensed Senior Reactor Operators and Reactor Operators, and the requirement for the associated 10 CFR 55 Training Program. (Zion Nuclear Station Technical Specifications 6.1.3, 6.2.1.i, 6.2.4.B, and Figure 6.1-1.)

Training of personnel can be conducted prior to the Certified Fuel Handler Training and Retraining programs being approved by the NRC.

The Decommissioning Plant Manager (or delegate) may exempt an individual from a specific training requirement based upon the individual's depth of experience and previous training. Such exemptions, including the basis, shall be documented.

2.0 INITIAL TRAINING PROGRAM

2.1 Fundamentals Training

The fundamentals training phase of the Certified Fuel Handler Training Program consists of lecture and/or self-study of topics appropriate to the monitoring, handling, storage, and cooling of 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 function. Depending on an analysis of the candidates background, self-study may be up to 100% of the course material with instructor guidance available. A comprehensive exam at the end of the course will provide assurance that the material was properly learned.

Typically the fundamental topics include thermodynamics, heat transfer, fluid mechanics, radiological safety principles and monitoring, electrical theory, valve and pump operation, facility/system design and function, and facility administrative and safety procedures, as appropriate for the current plant status.

A systems approach to training (SAT) process will be used for the Certified Fuel Handler Training Program. The Program adheres to the guidelines of NUREG-1220, Revision 1, "Training Review Criteria and Procedures." The SAT process contains the following elements:

(1) Analysis of job performance requirements and training needs

(2) Derivation of learning objectives based upon the preceding analysis

(3) Design and implementation of the training program based upon learning objectives

(4) Trainee evaluation

(5) Program evaluation and revisions

The Training and Operating Departments will be involved in the development of the initial training program elements described above.

2.2 On-the-Job Training (OJT)

The on-the-job training phase of the Certified Fuel Handler Training Program includes hands-on training of shift operations such as shift turnover, shift record keeping, removal and return of equipment to service, and watch standing. Watch standing includes 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 content, bases, and importance of Technical Specifications. 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.

2.3 Candidate Evaluation

2.3.1 Examination

A comprehensive final examination shall be administered at the end of the program. The comprehensive examination shall include a written examination and an operating examination. Areas examined are described in Appendices A and B for the written and operating examinations, respectively. The written examination requires a minimum score of 80 percent to pass. The operating examination will consist of Job Performance Measures (JPMs). In order to pass a JPM the examinee will be required to perform the task per the procedure. Missed steps or incorrectly performed steps are bases for failure. Each JPM will be scored on a pass/fail basis. The candidate must pass 80 percent of the JPMs administered to successfully pass the operating examination.

2.3.2 Examination Failures

An individual who fails to pass either the written or operating examination shall not perform Certified Fuel Handler duties until he/she has completed a remedial training program and passed an appropriate examination.

2.3.3 Exemption of Training Requirements

The Decommissioning Plant Manager (or delegate) may exempt an individual from a specific training requirement based upon the individual's depth of experience and previous training. Any exemption(s) 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's objectives are satisfied. Such exemptions, however, do not exempt the candidate from evaluation criteria. The candidate will be required to participate in an examination process that covers all objectives of the program, including objectives for all training that has been exempted. Any candidate for exemption with fuel handling experience and previously licensed at a similar facility shall adhere to the requirements described above. Such exemptions, including the basis, shall be documented. The requirement for a medical examination shall not be exempted.

Training of current Licensed Operators (individuals who hold a current NRC issued Operator License as a Reactor Operator) for Zion Station may be evaluated to determine if they satisfy the requirements of this program or if only portions of this program are needed to qualify any of these individuals as a Certified Fuel Handler. This evaluation will include a concentration on differences between the requirements of a Certified Fuel Handler and a Licensed Operator to identify any additional training required to become a Certified Fuel Handler. Examples may include training and examination on Technical Specifications, fuel handling, and administrative controls required to perform the Certified Fuel Handler function. The Certified Fuel Handler Training Program allows for the evaluation of other Zion Station personnel to determine if portions of the required training have already been completed and may be exempted. The evaluation will concentrate on areas that determine if the level of training and examination were the same as that required for a Certified Fuel Handler.

The training of current holders of NRC Senior Reactor Operator or Limited Senior Reactor Operator licenses suffices for qualification as a Certified Fuel Handler.

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

2.4 Qualification

All candidates shall satisfy the following requirements:

(1) Complete the Certified Fuel Handler Training Program or have the requirement exempted per Section 2.3.3

(2) Score at least 80 percent on a written examination

(3) Pass at least 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 as might cause operational errors that could endanger other in-plant personnel or the public health and safety.

3.0 RETRAINING PROGRAM

3.1 Retraining

The Certified Fuel Handler Retraining Program 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 on the tasks selected during program development for the retraining cycle. A retraining plan will be developed by the training department and will be approved by the Decommissioning Plant Manger (or delegate). The training plan will be developed utilizing the SAT process described in Section 2.1. 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.

3.2 Schedule

3.2.1 Course Schedule

The Certified Fuel Handler Retraining Program shall be a biennial cycle. This cycle includes annual operating examinations and biennial written examination. Biennial and annual are as defined in NUREG-1021 (Rev.8).

3.2.2 Missed Training

Any missed material or examinations must be made up within 90 days of the training. If required training is not completed within the make-up period, the Certified Fuel Handler shall be suspended from Certified Fuel Handler duty, pending completion of retraining.

3.3 Retraining Evaluation

3.3.1 Examinations

A comprehensive final examination shall be administered. The comprehensive examination shall include a biennial written examination and an annual operating examination. Areas examined are described in Appendices A and B for the written and operating examinations, respectively. The written examination requires a minimum score of 80 percent to pass. The operating examination will consist of Job Performance Measures (JPMs). Each JPM will be scored on a pass/fail basis. In order to pass a JPM the examinee will be required to perform the task per the procedure. Missed steps or incorrectly performed steps are bases for failure. The candidate must pass 80 percent of the JPMs administered to successfully pass the operating examination.

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

3.3.2 Examination Failures

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 examination is passed.

3.4 Maintenance of Certified Fuel Handler Qualifications

3.4.1 Requirements to Maintain Qualification

To maintain Certified Fuel Handler qualification, the following requirements must be satisfied or exempted per Section 3.4.2:

(1) Complete the Certified Fuel Handler Retraining Program

(2) Score at least 80 percent on the biennial written examination

(3) Pass at least 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 as might cause operational errors that could endanger other in-plant personnel or the public health and safety

(5) Stand the 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.

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

3.4.2 Exemption of Maintenance of Qualification Requirements

The Decommissioning Plant Manager (or delegate) may exempt an individual from a specific retraining requirement. Such exemptions, including the basis, shall be documented. 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 two consecutive annual operating or biennial written examinations.

4.0 PROGRAM EVALUATION

As part of the training process, routine assessments of the effectiveness and accuracy of training are made by appropriate Zion Station management personnel during and at the end of each two (2) year training cycle. Evaluation results shall be reviewed by the program's Training Advisory Committee (TAC). The TAC is a committee made up of Senior Operating Management and representatives from the Training and Operating departments. The TAC will determine the resolution of any discrepancies identified by the evaluation. Any required changes to the program determined by the TAC, shall be incorporated into the program.

5.0 RECORD RETENTION

Records associated with the Certified Fuel Handler Training and Retraining Program will be retained in retrievable format for the duration of the plant license.

APPENDIX A

WRITTEN EXAMINATION AREAS
CERTIFIED 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 the handling, storage, cooling, and monitoring of nuclear fuel

(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

APPENDIX B

OPERATING EXAMINATION AREAS
CERTIFIED FUEL HANDLER
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The operating examination will consist of Job Performance Measures (JPMs) and shall include a sample of the following aspects of the Certified Fuel Handler position:

(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.

ATTACHMENT B

Salient Differences Between Zion Station's and Maine Yankee's
Certified Fuel Handler (CFH) Training and Retraining Programs

The salient differences in Zion's proposed CFH program from the Maine Yankee submittal are summarized as follows:

The title of Decommissioning Plant Manager has replaced the title of Maine Yankee Plant Manager, throughout the program document.

ABSTRACT: An abstract has not been included because it does not provide any information that is not addressed within the program.

Section 1.0: A provision has been added to the program to allow revisions to be made without prior NRC approval. This type of allowance has been previously approved for Trojan Station (Reference 6). In the Safety Evaluation Report (SER) approving this allowance for Trojan, the NRC stated that their approval was based on Trojan's program being in accordance with ANSI N18.1-1971. Additional wording has been added to reflect that Zion's program will also be in accordance with ANSI N18.1-1971.

In the paragraph addressing the requirement for the submittal of the Certification of Permanent Cessation of Operation and the Certification of Permanent Fuel Removal prior to implementation of the CFH Training Program, reference to either of these letters have not been included as they have already been submitted by ComEd to the NRC in References 1 and 2, respectively.

References to the appropriate Zion Technical Specification has been made.

Section 2.1: Additional wording has been added to clarify the various methods of training as used by Zion Station.

Additional wording has been provided to address the information that will be contained in the fundamental portion of the initial training. In addition, information addressing the use of the systems approach to training (SAT) has been included. This information is provided to address the concerns identified in Question II.2 of the NRC Request for Additional Information to Maine Yankee (Reference 5).

Section 2.2: Replaced the terminology of "white tagging" with the more descriptive terminology of "removal and return of equipment to service."

In lieu of the five (5) eight (8) hour shifts for the on-the-job training watch standing addressed in the Maine Yankee program, Zion will require forty (40) hours to allow flexibility in scheduling and shift duration.

Section 2.3.1: The operational portion of the exams are specified to be based on passing 80% of the JPMs administered instead of the 80% criteria used by Maine Yankee. Each JPM will be individually evaluated as pass/fail. In order to pass a JPM the examinee will be required to perform the task per the procedure. Missed steps or incorrectly performed steps are bases for failure.

Section 2.3.3: Additional wording has been provided to address exemptions from the CFH training requirements based on previous qualifications and training activities. This information is provided to address the concerns in Question II.3 of the NRC Request for Additional Information to Maine Yankee (Reference 5).

Section 2.4: The phrasing allowing exemption has been relocated to requirement (1) pertaining to the CFH training to more accurately reflect that this is the only permitted exemption.

The operational portion of the exams are specified to be based on passing 80% of the JPMs administered instead of the 80% criteria used by Maine Yankee. This information is detailed in Section 2.3.1 of Zion's program.

Section 3.1: Additional wording has been provided detailing the selection process for the content of the retraining program. This information is provided to address the concerns identified in response to Question II.4 of the NRC Request for Additional Information to Maine Yankee (Reference 5).

Minor rewording provides for clarification as to what will be covered during the retraining cycle. Program elements remain the same as described in Main Yankee's program.

Section 3.2.1: The 24 month retraining cycle span has been revised to biennial. Wording has been added to reflect that biennial and annual are as defined in NUREG-1021 (Rev. 8) Appendix F [Glossary].

Section 3.3.1: The wording regarding the comprehensive final examination has been reworded to clarify that the written exam is given biennially and the operating exam is given annually. Since the operating exam is given annually wording reflecting that the exam will be given at the end of the training cycle, which is every 24 months, has been deleted.

The operational portion of the exams are specified to be based on passing 80% of the JPMs administered instead of the 80% criteria used by Maine Yankee. Each JPM will be individually evaluated as pass/fail. In order to pass a JPM the examinee will be required to perform the task per the procedure. Missed steps or incorrectly performed steps are bases for failure.

Section 3.3.2: The word "Failures" has been added to the section title to more accurately describe this subsection's contents.

Section 3.4.1: The operational portion of the exams are specified to be based on passing 80% of the JPM administered instead of the 80% criteria used by Maine Yankee. This information is detailed in Section 3.3.1 of Zion's program.

A paragraph has been added to address what actions will be taken if an individual fails to meet the requirements for maintaining CFH status. This information is provided to address the concerns identified in to Question II.5 of the NRC Request for Additional Information to Maine Yankee (Reference 5).

Section 3.4.2: The wording has been revised to reflect that the exemptions in this section pertain to the retraining requirements.

Section 4.0: More detail has been provided describing program evaluation that will be conducted by Zion Station.

Section 5.0: This section has been added to address record retention requirements. This information is provided to address the concerns identified in Question II.1 of the NRC Request for Additional Information to Maine Yankee (Reference 5).

Appendix A: Maine Yankee's program completely disallowed the use of open reference material during the initial written exam. Zion's program allows use of open references except where commonly disallowed. Open references will be allowed where the operators are not expected to perform the task from memory, such as locked valve verifications and radiation monitoring surveillances. If the task is to be performed from memory, open references will be disallowed.

Appendix B: In item b, the terminology of "decay heat removal system(s)" has been revised to specify the spent fuel pool cooling system. This reflects the specific system for Zion Station as well as making this terminology consistent with that in section 3.4.1.

List of Commitments Identified in ZRA980013

The following table identifies those actions committed to by ComEd in this document. Any other actions discussed is this submittal represent intended or planned actions by ComEd. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify Mr. Robert Godley, Zion Station Regulatory Assurance Manager, of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed Date
Zion Station will implement a Certified Fuel Handler Training and Retraining Program in accordance with the conditions in this submittal.	Upon approval of the program and the associated License Amendment by the NRC.
Zion Station will obtain a License Amendment Request addressing the replacement of the Licensed Operator Program with the Certified Fuel Handler.	Prior to implementation of the Certified Fuel Handler Training Program