



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10 CFR 50.2

April 15, 2013  
3F0413-07

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

Subject: Crystal River Unit 3 – Request for Approval of the Certified Fuel Handler Training and Retraining Program

- References:
1. NRC to FPC letter dated March 13, 2013, “Crystal River Unit 3 Nuclear Generating Plant Certification of Permanent Cessation of Operation and Permanent Removal of Fuel from the Reactor” (ADAMS Accession No. ML13058A380)
  2. Zion Station, Units 1 and 2, letter dated March 16, 1998, “Request for Approval of the Certified Fuel Handler Training and Retraining Program”
  3. Zion Station, Units 1 and 2, letter dated July 20, 1998, “Acceptance of Certified Fuel Handlers Program”

Dear Sir:

Pursuant to 10 CFR 50.2, Florida Power Corporation (FPC) hereby requests the Nuclear Regulatory Commission (NRC) approval of the Crystal River Unit 3 (CR-3) Certified Fuel Handler (CFH) Training and Retraining Program. In Reference 1, the NRC acknowledged CR-3’s certification of permanent cessation of power operation and permanent removal of fuel from the reactor vessel. Accordingly, pursuant to 10 CFR 50.82(a)(2), the 10 CFR Part 50 license for CR-3 no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel. Based on this acknowledgement, plant operating activities which require Licensed Operators and Senior Reactor Operators will no longer be conducted.

A copy of the proposed CFH Training and Retraining Program for CR-3 is contained in the attachment to the submittal. The program is patterned after the Zion Certified Fuel Handler Program which was previously submitted (Reference 2) and approved by the NRC (Reference 3). The CR-3 CFH Training and Retraining Program ensures that the qualifications of operations personnel are commensurate with the tasks to be performed and the conditions requiring response. Section 50.120 of Title 10 of the Code of Federal Regulations, “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. This submittal describes a program that will fulfill those requirements. The five key elements are: (1) analysis of job performance requirements and training needs, (2) derivation of learning objectives based on the preceding analysis, (3) design and implementation of the

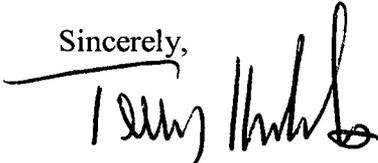
training program based upon learning objectives, (4) trainee evaluation, and (5) program evaluation and revision.

The CR-3 CFH Training and Retraining Program provides adequate confidence that appropriate SAT based training of personnel who will perform Certified Fuel Handler duties is conducted to ensure the facility is maintained in a safe and stable condition. The program allows for changes to be made to the program without prior NRC approval provided the program continues to comply 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.

By a separate submittal, Crystal River Unit 3 will provide a license amendment request to delete the requirements for Licensed Operators and Senior Reactor Operators and add the requirements for the Certified Fuel Handler.

If you have any questions regarding this submittal, please contact Mr. Dan Westcott, Licensing Supervisor, at (352) 563-4796.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Hobbs", written over a horizontal line.

Terry Hobbs  
Plant General Manager  
Crystal River Nuclear Plant

TH/cc/mc

Attachment: Crystal River Unit 3 Certified Fuel Handler Training and Retraining Program

xc: NRR Project Manager  
Regional Administrator, Region II  
Senior Resident Inspector

**FLORIDA POWER CORPORATION**

**CRYSTAL RIVER UNIT 3**

**DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72**

**ATTACHMENT**

**CRYSTAL RIVER UNIT 3  
CERTIFIED FUEL HANDLER TRAINING AND RETRAINING  
PROGRAM**

**CRYSTAL RIVER UNIT 3**  
**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 Crystal River Unit 3 (CR-3) to ensure the monitoring, handling, storage and cooling of nuclear fuel is performed in a manner consistent with ensuring the public health and safety.

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 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 CR-3 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 CR-3 facility license to eliminate the requirements for the NRC licensed Senior Reactor Operators and Reactor Operators, and the requirement for the associated 10 CFR 55 Training Program.

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

The 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 fundamental 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 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 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, "Training Review Criteria and Procedures." The SAT process contains the following elements:

- (1) Analysis of job performance requirements and training needs
- (2) Derivations 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

## **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 or incorrectly performed critical steps are the 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 passes an appropriate examination.

### **2.3.3 Exemption of Training Requirements**

The 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, 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 CR-3 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 the 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 an 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 CR-3 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 Plant Manager (or delegate) shall approve the basis for evaluations qualifying an individual as a Certified Fuel Handler.

### **2.4 Qualifications**

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 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 and will be approved by the Plant Manager (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, "Operator Licensing Examination Standards for Power Reactors."

##### **3.2.2 Missed Training**

Any missed material or examination must be made up within 90 days of the training. If required training is not completed within the makeup 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 JPMs and 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 or incorrectly performed critical steps are the 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 the 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 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 the 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 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 Crystal River Unit 3 management personnel 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.

## **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 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  
TRAINING AND RETRAINING PROGRAM**

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.