



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 21, 2017

Ms. Mary J. Fisher  
Senior Director for Decommissioning  
Omaha Public Power District  
Fort Calhoun Station  
9610 Power Lane, Mail Stop FC-2-4  
Blair, NE 68008

SUBJECT: FORT CALHOUN STATION, UNIT 1 – APPROVAL OF CERTIFIED FUEL  
HANDLER TRAINING AND RETRAINING PROGRAM (CAC NO. MF8112)

Dear Ms. Fisher:

By letter dated June 24, 2016, Omaha Public Power District (OPPD) submitted a Notification of Permanent Cessation of Power Operations at Fort Calhoun Station, Unit 1 (FCS). In this letter, OPPD provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) of its intent to permanently cease power operation at FCS no later than December 31, 2016. By letter dated August 25, 2016, OPPD provided formal notification to the NRC of its intent to permanently cease power operation at FCS on October 24, 2016.

By letter dated November 13, 2016, OPPD informed the NRC that in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.82(a)(1)(ii), as of November 13, 2016, all fuel has been permanently removed from the FCS reactor vessel and placed into the FCS spent fuel pool. Further, the letter stated that OPPD understands and acknowledges that upon docketing these certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel, the 10 CFR Part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel.

After certifications of permanent cessation of operations and of permanent removal of fuel from the reactor vessel for FCS are submitted in accordance with 10 CFR 50.82(a)(1)(i) and (ii), the 10 CFR Part 50 license no longer authorizes operation of the reactor or placement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant 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.

By letter dated July 7, 2016, and supplemented by letters dated October 7, 2016, and March 30 and June 6, 2017, OPPD submitted its CFH Training and Retraining Program for FCS to the NRC for approval. The proposed CFH Training and Retraining Program is to be used to satisfy training requirements for the plant personnel responsible for supervising and directing the monitoring, storage, handling, and cooling of irradiated nuclear fuel in a manner consistent with ensuring the health and safety of the public. Section 10 CFR 50.2, "Definitions," requires that CFHs be qualified in accordance with an NRC-approved training program.

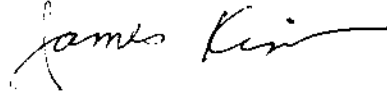
M. Fisher

- 2 -

The NRC has reviewed the submittal and, based on the enclosed safety evaluation, approves the FCS CFH Training and Retraining Program as requested.

If you have any questions, please contact me at 301-415-4125 or via e-mail at [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

Sincerely,

A handwritten signature in black ink that reads "James Kim". The signature is written in a cursive style with a long horizontal stroke at the end.

James Kim, Project Manager  
Special Projects and Process Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:  
Safety Evaluation

cc: Listserv

SUBJECT: FORT CALHOUN STATION, UNIT 1 – APPROVAL OF CERTIFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM (CAC NO. MF8112) DATED JUNE 21, 2017

**DISTRIBUTION:**

- PUBLIC
- LSPB R/F
- RidsACRS\_MailCTR Resource
- RidsNrrDorlLspb Resource
- RidsNrrDraAphb Resource
- RidsNrrLAJBurkhardt Resource
- RidsNrrLAIBetts Resource
- RidsNrrPMFortCalhoun Resource
- RidsRgn4MailCenter Resource
- SWeerakkody, NRR/DRA/APHB
- VHuckabay, NRR/DRA/APHB

**ADAMS Accession No.: ML17144A246**

\*via memorandum

OFFICE	NRR/DORL/LSPB/PM	NRR/DORL/LSPB/LAIT	NRR/DORL/LSPB/LA	NRR/DRA/APHB/BC*
NAME	JKim	IBetts	JBurkhardt	GCasto
DATE	06/07/17	06/05/17	06/06/17	05/25/17
OFFICE	OGC – NLO	NRR/DORL/LSPB/BC	NRR/DORL/LSPB/PM	
NAME	BHarris	DBroaddus	JKim	
DATE	06/15/17	06/21/17	06/21/17	

**OFFICIAL RECORD COPY**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

CERTIFIED FUEL HANDLER TRAINING AND RETRAINING PROGRAM

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION, UNIT 1

DOCKET NO. 50-285

1.0 INTRODUCTION

By letter dated June 24, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16176A213), Omaha Public Power District (OPPD) submitted a Notification of Permanent Cessation of Power Operations at Fort Calhoun Station, Unit 1 (FCS). In this letter, OPPD provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) of its intent to permanently cease power operation at FCS no later than December 31, 2016. By letter dated August 25, 2016 (ADAMS Accession No. ML16242A127), OPPD provided formal notification to the NRC of its intent to permanently cease power operation at FCS on October 24, 2016.

By letter dated November 13, 2016 (ADAMS Accession No. ML16319A254), OPPD informed the NRC that in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.82(a)(1)(ii), as of November 13, 2016, all fuel has been permanently removed from the FCS reactor vessel and placed into the FCS spent fuel pool. Further, the letter stated that OPPD understands and acknowledges that upon docketing these certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel, the 10 CFR Part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel.

After certifications of permanent cessation of operations and of permanent removal of fuel from the reactor vessel for FCS are submitted in accordance with 10 CFR 50.82(a)(1)(i) and (ii), the 10 CFR Part 50 license no longer authorizes operation of the reactor or placement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant 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.

By letter dated July 7, 2016 (ADAMS Accession No. ML16190A208), and supplemented by letters dated October 7, 2016, and March 30 and June 6, 2017 (ADAMS Accession Nos. ML16281A479, ML17089A544, and ML17157B590, respectively), OPPD submitted its CFH Training and Retraining Program for FCS to the NRC for approval. The proposed CFH Training and Retraining Program is to be used to satisfy training requirements for the plant personnel responsible for supervising and directing the monitoring, storage, handling, and cooling of irradiated nuclear fuel in a manner consistent with ensuring the health and safety of

the public. Section 10 CFR 50.2, "Definitions," requires that CFHs be qualified in accordance with an NRC-approved training program.

## 2.0 REGULATORY EVALUATION

The regulatory framework concerning operator and fuel handler staffing was discussed by the NRC staff in SECY-00-145, "Integrated Rulemaking Plan for Nuclear Power Plant Decommissioning," Attachment 1, "Integrated Rulemaking Plan for Emergency Planning, Insurance, Safeguards, Staffing and Training, and Backfit at Decommissioning Nuclear Power Plants," dated June 28, 2000 (ADAMS Accession No. ML003721626), which states, in part, that:

The operator staffing regulations in 10 CFR 50.54(m) specify the minimum licensed operator staffing levels for operating reactors (e.g., minimum staff per shift for licensed operators and senior operators) but do not provide any alternatives for licensees that have certified that they are permanently shutdown and defueled under 10 CFR 50.82(a)(1). For decommissioning plants, the NRC has been approving license amendments that discontinue the requirements for licensed operators and allow shift staffing consisting of a certified fuel handler (certified by an NRC-approved training program) and an additional nonlicensed operator....

In August 1996, a major decommissioning rule became effective that made a number of changes to 10 CFR Part 50 to simplify the decommissioning regulations. One of the changes involved the adoption of a definition of "certified fuel handler" in 10 CFR 50.2. The certified fuel handler is intended to be the onshift licensee representative who is not only responsible for safe fuel handling operations at a decommissioning plant, but is always present on shift to ensure the safe maintenance and storage of spent fuel and the overall safety of any decommissioning-related activities at the facility. However, there are no regulations that specify substantive requirements for the presence and regulatory responsibilities of a certified fuel handler during decommissioning.

In addition, the certified fuel handler must be qualified in accordance with a certified fuel handler training program approved by the Commission. However, there are no regulations besides the definition that specifies the training requirements for the certified fuel handler.

Considering the definition of CFH in 10 CFR 50.2 and the background provided by the Final Rule, "Decommissioning of Nuclear Power Reactors," published in the *Federal Register* on July 29, 1996 (61 FR 39278), which added the definition, plus the insights provided in SECY-00-145, the NRC staff determined that an acceptable CFH training program should ensure that the trained individual has requisite knowledge and experience in spent fuel handling and storage, and reactor decommissioning, and is capable of evaluating plant conditions and exercising prudent judgment for emergency action decisions. In addition, since the CFH is defined as a non-licensed operator, the NRC staff also used the criteria in 10 CFR 50.120, "Training and qualification of nuclear power plant personnel," and assessed the program against the elements of a systems approach to training (SAT) provided in the definitions section of 10 CFR 55.4.

Following the issuance of the 1996 decommissioning rule, the NRC commenced the review and approval of CFH training programs for permanently shutdown and defueled reactors consistent

with the requirements in the rule. Nuclear power plants that are permanently shutdown and defueled would reassess their staffing plans related to decommissioning organization structure; retaining, re-assigning, or releasing staff; and meeting minimum staffing requirements in technical specifications and regulatory required programs (e.g., emergency response organizations, fire brigade, security, etc.). The effort balanced personnel and plant status commensurate with the reduced risk once the certifications associated with permanent cessation of operations and permanent defueling had been submitted. Included in the effort was the transition from licensed operators to CFHs. With a simplified operating configuration in the permanently shutdown and defueled condition, licensed operators were replaced with CFHs following NRC approval of the CFH training program. Consistent with these changes, the training and requalification programs required by 10 CFR Part 55, "Operators' Licenses," were modified to reflect the reduced staffing levels and responsibilities of the operations staff.

Past practice of the NRC staff included reviewing the proposed CFH training program to confirm that the program was based on a systems approach to training as defined in 10 CFR 55.4. Examples of such precedents include NRC safety evaluations for Maine Yankee Atomic Power Plant, dated November 26, 1997 (Legacy Library Accession No. 9712040233); and for Zion Nuclear Power Station, Units 1 and 2, dated July 20, 1998 (Legacy Library Accession No. 9807240263). In more recent years, the NRC staff has approved CFH training programs for Kewaunee Power Station, dated May 12, 2014 (ADAMS Accession No. ML14104A046); Crystal River Unit 3 Nuclear Generating Plant, dated June 26, 2014 (ADAMS Accession No. ML14155A181); San Onofre Nuclear Generating Station, Units 2 and 3, dated August 1, 2014 (ADAMS Accession No. ML13268A165); Vermont Yankee Nuclear Power Station, dated October 1, 2014 (ADAMS Accession No. ML14162A209); Oyster Creek Nuclear Generating Station, Clinton Power Station, Unit 1, and Quad Cities Nuclear Power Station, Units 1 and 2, dated September 6, 2016 (ADAMS Accession No. ML16222A787); James A. FitzPatrick Nuclear Power Plant, dated October 17, 2016 (ADAMS Accession No. ML16259A347); and Pilgrim Nuclear Power Station, dated April 12, 2017 (ADAMS Accession No. ML17058A325).

Therefore, the regulatory requirements and guidance that the NRC staff used in its review of the proposed CFH Training and Retraining Program for FCS are as follows:

- Section 10 CFR 50.2, which states, in part, that *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 Commission.
- Section 10 CFR 50.120, which states, in part, that:
  - (b)(2) The training program must be derived from a systems approach to training as defined in 10 CFR 55.4, and must provide for the training and qualification of the following categories of nuclear power plant personnel:
    - (i) Non-licensed operator.
    - ...
  - (b)(3) The training program must incorporate the instructional requirements necessary to provide qualified personnel to operate and maintain the facility in a safe manner in all modes of operation. The training program must be developed to be in compliance with the facility license, including all technical

specifications and applicable regulations. 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. The training program must be periodically reviewed by licensee management for effectiveness. Sufficient records must be maintained by the licensee to maintain program integrity and kept available for NRC inspection to verify the adequacy of the program.

- Section 10 CFR 55.4, "Definitions," which states, in part, that *Systems approach to training* means a training program that includes the following five elements:
  - (1) Systematic analysis of the jobs to be performed.
  - (2) Learning objectives derived from the analysis 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.

### 3.0 TECHNICAL EVALUATION

The NRC staff reviewed the specific elements of the proposed CFH Training and Retraining Program for FCS against the regulatory requirements of 10 CFR 50.120, consistent with previous NRC staff reviews and approvals of decommissioning reactor CFH programs, together with the elements of a systems approach to training defined in 10 CFR 55.4.

#### 3.1 CFH Training Program Broad-Scope Objectives

Based on the discussion of the applicable regulatory requirements in Section 2.0 of this safety evaluation, the NRC staff used the following three broad-scope objectives as criteria for an acceptable CFH Training and Retraining Program:

- (1) Safe conduct of decommissioning activities.
- (2) Safe handling and storage of spent fuel.
- (3) Appropriate response to plant emergencies.

The proposed CFH Training and Retraining Program, as provided in the Attachment to OPPD's July 7, 2016, submittal, and supplemented by letters dated October 6, 2016, and March 30 and June 6, 2017, was reviewed by the staff. The licensee stated, in part, in its submittal dated July 7, 2016, that the approval of a CFH Training and Retraining Program is needed to facilitate activities associated with decommissioning and irradiated fuel handling management. In its

In its March 30, 2017 letter, the licensee provided, in part, a revised CFH Training and Retraining Program resulting from its responses to the NRC request for additional information.

In Attachment 2, "Certified Fuel Handler Training and Retraining Program," of the licensee's letter dated March 30, 2017, Section 1, "Purpose," stated that the document is:

To outline development of a Certified Fuel Handler training and qualification program for the Omaha Public Power District's Fort Calhoun Station (FCS) nuclear facility that is permanently shutdown and defueled.

In Subsection 3.2.2.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

The fundamentals training phase of the initial Certified Fuel Handler Training Program consists of lecture, and/or self-study of topics ... Selection of topics will be based on a job analysis for the Certified Fuel Handler tasks and functions.

In Subsection 3.2.2.2 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

Fundamental topics will include ... radiological safety principles and monitoring, ... facility/system design and function, and facility administrative and safety procedures, as appropriate for the current plant status.

In Subsection 3.2.3.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

The On-The-Job training [(OJT)] phase of the initial 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 specified watch standing activities. [The OJT will also include training on the] facility license; and the content, bases, and importance of Technical Specifications. On-The-Job Training will be conducted in accordance with the requirements of TQ-AA-203, "On-The-Job Training and Task Performance Evaluations"....

The NRC staff reviewed Exelon Generation procedure TQ-AA-203, Revision 10, "On-The-Job Training and Task Performance Evaluation." Procedure TQ-AA-203 describes the requirements for the development, implementation, and evaluation of qualification requirements for OJT administration.

The NRC staff finds the inclusion of these topics in the initial training program to be consistent with objective (1) above.

The proposed initial CFH Training Program also includes lectures and/or self-study of topics appropriate to the monitoring, handling, storage, and cooling of nuclear fuel, including topics on thermodynamics, heat transfer, fluid mechanics, electrical theory, and mechanical components operation. The OJT phase of the CFH Training Program includes watch-standing activities, such as operation of systems/components used to provide handling, storage, cooling, and monitoring of fuel. The NRC staff finds the inclusion of this information to be consistent with objective (2) above.



Further, the OJT phase of the proposed initial CFH Training Program includes training on normal, abnormal, and emergency procedures, accident analysis, and the facility's Emergency Plan. The NRC staff finds the inclusion of this information to be consistent with objective (3) above.

In Subsection 3.3.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "[a]ll qualified Certified Fuel Handlers will participate in the retraining program."

In Subsection 3.3.2.2 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that:

The Certified Fuel Handler retraining phase will consist of lectures 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.

In Subsection 3.3.2.4 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

Retraining will typically include a review of changes associated with the facility and procedures, regulations, and quality assurance requirements, as well as problem areas associated with the monitoring, handling, storage, and cooling of nuclear fuel, and selected topics from the initial training program.

The NRC staff finds the inclusion of these topics in the retraining program to be consistent with the broad-scope objectives.

Based on the above, the NRC staff concludes that the proposed CFH Training and Retraining Program for FCS meets all of the three broad-scope objectives.

### 3.2 CFH Training and Retraining Program Evaluation

The NRC staff reviewed the specific elements of the proposed CFH Training and Retraining Program for FCS against the regulatory requirements of 10 CFR 50.120(b)(2) and (b)(3), consistent with previous staff reviews and approvals of decommissioning reactor CFH training programs, and summarized the results below.

#### 3.2.1 Use of a Systems Approach to Training (SAT)

The regulation under 10 CFR 50.120(b)(2), states, in part, that "[t]he training program must be derived from a systems approach to training as defined in 10 CFR 55.4 ...." In its submittal dated July 7, 2016, the licensee stated, in part, that "[t]he FCS 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." Further, OPPD stated, in part, that the CFH Training and Retraining Program "...will align with the provisions of 10 CFR 50.120 and 10 CFR 55.4 for SAT" and "will provide adequate confidence that appropriate SAT-based training of personnel performing CFH duties is conducted in a manner commensurate with the level of hazard at the facility in order to ensure the facility is maintained in a safe and stable condition."

In Subsection 3.1.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that:

The Certified Fuel Handler Training and Retraining Program contained herein describes the training program to be implemented by Omaha Public Power District (OPPD) 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 OPPD facilities that have transitioned to a permanently defueled status.

In Subsection 3.1.2 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

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).

In Subsection 3.1.6 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

The Certified Fuel Handler Training and Retraining Program is developed using the SAT process, as described in Section 2.4 and TQ-DC-FC-201, SAFSTOR Systematic Approach to Training (SAT) ....

In Subsection 3.1.8 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that:

The Certified Fuel Handler Training and Retraining Program consists of an initial training program and a requalification training program[, which are described in Sections 3.2 and 3.3 of the submittal, respectively.]

The NRC staff reviewed the proposed CFH Training and Retraining Program, to ensure that it includes all five of the required elements of a SAT-based program, which are:

- (1) Systematic analysis of the jobs to be performed,
- (2) Learning objectives derived from the analysis 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, and
- (5) Evaluation and revision of the training based on the performance of trained personnel in the job setting.

In Subsection 3.2.2.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

Selection of topics [for the fundamentals training phase of the initial training program] will be based on a job analysis for the Certified Fuel Handler tasks and functions. The job analysis will be conducted by an incumbent Senior Reactor

Operator/CFH, training Subject Matter Expert and Site Decommissioning Transition Planning Organization Operations Lead, in accordance with the requirements of TQ-DC-FC-201... The procedure outlines a graded approach to evaluating job tasks and includes Difficulty, Importance, and Frequency (DIF) ratings for each new job task. A review of the DIF ratings for each task will be performed by Operations and Training personnel and management. Learning objectives will be derived from the analysis to describe the desired performance after training.

In Subsection 3.2.4.9 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "the training requirements will be specifically identified and enumerated using the SAT process as described in Section 3.1.6[ which references document TQ-DC-FC-201]."

In Subsection 3.3.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "[a]ll qualified Certified Fuel Handlers will participate in the retraining program."

In Subsection 3.3.2.2 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "[t]he content of the retraining program will be based upon the tasks selected during program development for the retraining cycle."

In Subsection 3.3.2.3 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that "[a] retraining plan will be developed by a training committee, chaired by the Decommissioning Plant Manager (or designee)."

In Subsection 3.3.2.4 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "[t]he [retraining] plan will be developed utilizing the SAT process...."

The NRC staff reviewed FCS document TQ-DC-FC-201, Revision 0, "SAFSTOR Systematic Approach to Training (SAT)," which was included in Attachment 3 to the letter dated March 30, 2016. Document TQ-DC-FC-201 describes the activities performed in the analysis phase of the SAT process and provides specific guidance on analyzing training requests and maintaining task lists. It also describes the activities performed in the design and development phase of the SAT process and provides specific guidance on identifying the training methods and developing materials to support the selected method. The NRC staff finds the licensee's plan to use this document to conduct a systematic analysis of jobs to be performed and to derive learning objectives from that analysis to be consistent with SAT elements 1 and 2.

Element 3 of the SAT requires that the training design and implementation be based upon the learning objectives. In Subsection 3.2.2.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "[t]raining materials will be designed based on the learning objectives."

The NRC staff reviewed FCS document TQ-DC-FC-201, Revision 0. Document TQ-DC-FC-201 provides specific guidance on the design and development of training materials and exams, and all aspects of training implementation, including scheduling, allocation of resources, examination, documentation of training, collection of feedback, and remediation of identified deficiencies.

The NRC staff reviewed the licensee's process to design and implement training based upon the learning objectives and finds it to be consistent with SAT element 3.

In Subsection 3.2.2.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that “[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 the Certified Fuel Handler job and associated tasks.”

In Subsection 3.2.4.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that “[a] comprehensive final examination shall be administered at the end of the initial training program.” The comprehensive examination will include a written and an operating examination. Subsection 3.2.4.2 of Attachment 2 of the letter dated March 30, 2017, states that “[t]he written examination requires a minimum score of 80 percent to pass.”

In Subsection 3.2.4.3 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

The operating examination will consist of [Job Performance Measures (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 .... Critical tasks for a JPM will be defined in NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 11 [(ADAMS Accession No. ML17038A432)].

Each JPM will be scored on a pass/fail basis and the operating examination requires passing a minimum of 80 percent of the administered JPMs to pass.

In Subsection 3.2.4.9 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

In general, the training of individuals who hold a Senior Reactor Operator license and 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 .... 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.

In Subsection 3.2.4.10 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that “[t]raining 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 of that individual as a Certified Fuel Handler.” It further states that document TQ-DC-FC-101-1000, “Fort Calhoun Station SAFSTOR CFH Training Program Description,” Section 4, “Certification Guide,” approved by the Operations Manager, will be used to document completion of training and certification as a CFH.

In Subsection 3.1.7.1 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that “[t]he Decommissioning Plant Manager (or designee) may exempt an individual from a specific training requirement based upon the individual’s depth of experience and previous equivalent training. Such exemptions, including the basis, must be documented.”

In Subsection 3.1.7.2 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that “[e]xemptions from specific training requirements will be administered in accordance with the process defined in TQ-DC-FC-201, ....”

The NRC staff reviewed FCS document TQ-DC-FC-201, Revision 0.

Section 4.3, “Exemption/Alternate Qualification,” provides guidance on exempting individuals from training requirements. Section 3.1.7 of Attachment 2 of the licensee’s letter dated March 30, 2017, also identifies certain requirements from which the CFH cannot be exempted from. Specifically, Subsection 3.1.7.3 states that:

An individual shall not be exempted from the annual operating or biennial written examinations unless that individual prepared the exam. No individual may be exempted from any two consecutive annual operating exams. No individual may be exempted from any two consecutive biennial written examinations.

In Subsection 3.1.7.4 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that “[t]he requirement for a medical examination shall not be exempted.”

In Subsection 3.1.7.5 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that the requirement for the Certified Fuel Handler to stand watch under instruction for a minimum of 8 hours in order to regain qualified status shall not be exempted.

In Section 3.4 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that:

Any missed training or examination must be made up within 90 days of the missed training activity. Remediation for identified performance deficiencies, or exam failures, shall be conducted in accordance with TQ-DC-FC-201 .... If required training or examination is not completed within the specified makeup period, the Certified Fuel Handler will be suspended from Certified Fuel Handler duties, pending successful completion of the [required activity].

The NRC staff reviewed document FCS document TQ-DC-FC-201, Revision 0. Section 4.6.6, “Remediation,” provides specific guidance on remediation of identified performance deficiencies or exam failures. In addition, Section 4.5.5, “Creating Exam Items and Exams” of the document states, in part, that the Certified Fuel Handler Training Program Description (document TQ-FC-101-1000) requires a complete reevaluation exam if a failure occurs.

In Subsection 3.3.2.5 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that “[p]articipants in the Certified Fuel Handler retraining program must pass a biennial written examination and an annual operating examination to maintain their qualification.”

In Subsection 3.3.2.6 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that “[t]he written examination requires a minimum score of 80 percent to pass.”

In Subsection 3.3.2.7 of Attachment 2 of the letter dated March 30, 2017, the licensee stated that:

The operating examination will consist of JPMs and each JPM will be scored on a pass/fail basis. Passing criteria will be  $\geq 80$  of the administered JPMs on the examination.

The NRC staff reviewed the licensee's process to evaluate the trainee mastery of the objectives during training and retraining and finds it to be consistent with SAT element 4.

In Section 3.5 of Attachment 2 of the letter dated March 30, 2017, the licensee stated, in part, that "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 are reviewed by the FCS Training Oversight Committee (TOC) as defined in document TC-DC-FC-201. The FCS TOC will verify the resolution of any discrepancies identified by the evaluation. Any required changes to the program determined by the FCS TOC will be incorporated into the program.

The NRC staff reviewed document TC-DC-FC-201, Revision 0. Section 4.1, "Program Oversight," of the document describes evaluation of training based on job performance feedback by the FCS TOC.

The NRC staff reviewed the licensee's process to evaluate and revise the training based on the performance of trained personnel and finds it to be consistent with SAT element 5.

Based on the above, the NRC staff concludes that the proposed CFH Training and Retraining Program includes the five elements of 10 CFR 55.4 and thus complies with 10 CFR 50.120(b)(2).

### 3.2.2 Compliance with Requirements of 10 CFR 50.120(b)(3)

The NRC staff also verified that the proposed CFH Training and Retraining Program meets the requirements of 10 CFR 50.120(b)(3). Specifically, 10 CFR 50.120(b)(3) requires that the training program:

- a. Incorporate the instructional requirements necessary to provide qualified personnel to operate and maintain the facility in a safe manner in all modes of operation;
- b. Be developed to be in compliance with the facility license, including all technical specifications and applicable regulations;
- c. Be periodically evaluated and revised as appropriate to reflect industry experience as well as changes to the facility, procedures, regulations, and quality assurance requirements;
- d. Be periodically reviewed by licensee management for effectiveness; and

- e. Ensure the licensee maintains and keeps available sufficient records to maintain program integrity and allow for NRC inspection to verify the adequacy of the program.

The NRC staff reviewed the proposed CFH Training and Retraining Program and confirmed that each of the 10 CFR 50.120(b)(3) requirements is satisfied as discussed below.

Subsection 3.2.2.1 states that the job analysis for the CFH tasks and functions will be conducted by an incumbent Senior Reactor Operator/CFH, training Subject Matter Expert, and Site Decommissioning Transition Planning Organization Operations Lead, in accordance with the requirements of document TQ-DC-FC-201. Learning objectives be derived from the analysis to describe the desired performance after training, and training materials will be designed based on the learning objectives.

Subsection 3.2.4.1 states that a comprehensive final examination must be administered at the end of the initial training program consisting of a written examination and an operating examination described in Attachments 1 and 2, respectively, of the proposed CFH Training and Retraining Program.

Subsection 3.3.2.5 states that participants in the CFH retraining phase of the program will be required to pass a biennial written examination and an annual operating examination to maintain their qualification, with examination areas described in Attachments 1 and 2, respectively. Attachments 1 and 2 of the proposed CFH Training and Retraining Program provide a compendium of instructional areas that the licensee has identified as required instructional areas necessary to ensure that the CFHs will be trained in all areas necessary to maintain the facility and operate equipment in a safe manner. The NRC staff finds that this satisfies element "a" above.

Subsection 3.1.2 states that the training program shall comply with the requirements of American National Standards Institute (ANSI) standard ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel," as specified in the facility's Technical Specifications Section 5.3.1, and shall be consistent with the level of hazard at the facility and ensure that the facility is maintained in a safe and stable condition. The NRC staff finds that this is consistent with element "b" above.

Section 3.5 states that 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 2-year training cycle. These assessments will also evaluate applicability of industry operating experience as well as changes to the facility, procedures, regulations, and quality assurance requirements. Evaluation results are required to be reviewed by the FCS Training Oversight Committee as defined in document TC-DC-FC-201. Resolution of any discrepancies identified by the evaluation will be verified by the station oversight board, and any required changes, as determined by the FCS TOC, are required to be incorporated into the program. The NRC staff reviewed the provisions for evaluating and revising the CFH Training and Retraining Program and finds that they satisfy the program evaluation requirements of elements "c" and "d" above.

Section 4 states that records associated with the proposed CFH Training and Retraining Program will be retained in a retrievable format until there is no longer a need for the CFH position at the facility (i.e., when all fuel is permanently transferred to a dry fuel storage facility).

Subsection 3.6.2 states that changes to the CFH Training and Retraining Program may be made without prior NRC approval provided the changes are appropriately evaluated in accordance with Attachment 3, SAFSTOR Certified Fuel Handler Training Program Description Change Description and Review Form, and the program continues to comply with ANSI N18.1-1971, consistent with the level of hazard at the facility and ensuring that the facility is maintained in a safe and stable condition. It also states that changes may be made to the training program elements 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.

Subsection 3.6.3 states that changes to the CFH Training Program may be made without prior NRC approval provided that they do not make changes which would remove or alter: (3) the CFH experience requirements stated in ANSI N18.1-1971, as specifically described in Section 3.2.1 of the document; (4) the requirements to apply SAT as described in Section 2.4 of the document and TQ-DC-FC-201. Attachment 3 to the document will be used to document and justify any changes made to the CFH Training Program without prior NRC approval. Attachment 3 provides six screening criteria, all of which are required to be met in order for the proposed change to the CFH Training Program to be made without prior NRC approval. The six screening criteria in Attachment 3 include the abovementioned two criteria, as well as the following: (1) the proposed change cannot significantly diminish or degrade the skills, knowledge, or ability required by the CFH to oversee the safe conduct of decommissioning of FCS; (2) the proposed change cannot significantly diminish or degrade the skills, knowledge, or ability required by the CFH to oversee the safe handling and storage of spent fuel; (5) the proposed change cannot significantly diminish or degrade the skills, knowledge, or ability required by the CFH to appropriately respond to plant emergencies; and (6) the proposed change cannot significantly diminish the proficiency or the ability of the CFH in the performance of assigned tasks or duties.

The NRC staff finds that the above described provisions are consistent with element "e" above.

#### 4.0 CONCLUSION

The NRC staff's review of the proposed CFH Training and Retraining Program for FCS determined that the program adequately addresses the safe conduct of decommissioning activities, safe handling and storage of spent fuel, appropriate response to plant emergencies, and is consistent with the SAT processes defined by 10 CFR 55.4 and the requirements of 10 CFR 50.120(b)(2) and (b)(3). Based on the above findings, the NRC staff approves the CFH Training and Retraining Program for FCS, pursuant to 10 CFR 50.2. Because the program is based on SAT, the licensee may change elements of the program 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.

Principal Contributor: Victoria Huckabay, NRR

Date: June 21, 2017