

LICENSE NO. R-119

PROPOSED

AMENDED

TECHNICAL SPECIFICATIONS

FOR THE

WESTINGHOUSE ELECTRIC CORPORATION

NUCLEAR TRAINING REACTOR

8707150700 870708  
PDR ADOCK 05000087  
P PDR



## TABLE OF CONTENTS

- 1.0 DEFINITIONS
- 2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS
- 3.0 LIMITING CONDITIONS FOR OPERATION
  - 3.1 Radiation Monitoring
- 4.0 EXPERIMENTS
- 5.0 SURVEILLANCE REQUIREMENTS
  - 5.1 Radiation Monitoring
- 6.0 DESIGN FEATURES
  - 6.1 Site and Reactor Room
  - 6.2 Defueled Status of the Reactor
  - 6.3 Reactor and Dump Tanks
  - 6.4 Control and Safety Systems
- 7.0 ADMINISTRATIVE CONTROLS
  - 7.1 Organization
  - 7.2 Audit and Review
  - 7.3 Operating Procedures
  - 7.4 Actions to be taken in the Event of a Reportable Occurrence
  - 7.5 Reporting Requirements
  - 7.6 Records



The Westinghouse Nuclear Training Reactor has been defueled and the Special Nuclear Material shipped to a NRC approved recipient. The ~~proposed~~ Technical Specifications amend the present Technical Specifications to conform with conditions for a non-operating reactor for possession of the facility without possession of SNM. The primary purpose of the proposed Technical Specification is the safe storage of the reactor components and remaining licensed material with the assurance that no significant radioactive material is released from the Facility (Public Safety).

## 1.0 DEFINITIONS

The following terms are defined to aid in the uniform interpretation of the specifications.

- 1.1 Administrative Controls - the provisions related to organization and management, personnel requirements, procedures, record keeping, review and audit, and reporting that are considered necessary to assure operation of the facility in a safe manner.
- 1.2 Moderator-Shield Water - the water that is placed in the reactor tank.
- 1.3 Operable - means a component or system is capable of performing its intended function. (Operating means it is performing its function.)
- 1.4 Reactor Operational - means the reactor is not secured.
- 1.5 Reactor Secured - means that all control rods are in their down positions and the key is removed from the console lock, or when there is no fuel in the core.

## 2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

Not Applicable. The reactor shall remain secured.





### 3.0 LIMITING CONDITIONS FOR OPERATION

#### 3.1 Radiation Monitoring

##### Applicability

These specifications apply to the minimum radiation monitoring requirements for the reactor facility.

##### Objective

The purpose of these specifications is to assure that adequate monitoring is available to preclude undetected radiation hazards or uncontrolled releases of radioactive material.

##### Specifications

- 3.1.1. Instruments to permit the periodic sampling and measuring of radioactivity in the air and the moderator-shield water shall be provided.
- 3.1.2. Portable detection and survey instruments shall be provided.

##### Bases

The availability of instruments to measure the amount of radioactivity in the air and moderator-shield water will assist in assuring continued compliance with the requirements of 10CFR Part 20. The availability of the required portable monitors provides assurance that personnel will be able to monitor potential radiation fields before an area is entered.



#### 4.0 EXPERIMENTS

Not Applicable. The reactor shall remain secured.

#### 5.0 SURVEILLANCE REQUIREMENTS

Actions specified in this section are applicable to the possession only condition of the facility and shall be performed within the specified surveillance period.

##### 5.1 Radiation Monitoring

###### Applicability

These specification apply to the surveillance of the radiation monitoring equipment and activities of the facility.

###### Objective

The purpose of these specification is to assure the continued validity of radiation protection standards in the facility.

###### Specifications

1. The portable radiation survey instruments shall be calibrated semiannually.
2. The air in the reactor room shall be sampled and measured for particulate activity monthly.
3. Water, if any, remaining in the reactor tank and dump tank shall be sampled and measured for radioactive contaminations monthly.
4. The reactor facility shall be surveyed for radioactive contamination semiannually.



## Bases

Experience has demonstrated that calibration of the portable survey instruments semiannually is adequate to assure that significant deterioration in accuracy does not occur.

The specified frequencies for monitoring radioactive contamination in the air and water in the reactor room as well as in the overall reactor facility is based on previous experience.

Surveillance testing intervals shall also contain maximum intervals as set out below to provide operational flexibility and not to reduce frequency. Established frequencies shall be maintained over the long term.

- a. Semiannual (intervals not to exceed seven and one-half months).
- b. Monthly (intervals not to exceed six weeks).

## 6.0 DESIGN FEATURES

### 6.1 Site and Reactor Room

The facility known as the Westinghouse Nuclear Training Reactor is located on Commonwealth Edison property adjacent to the exclusion area for the Zion Station.

### 6.2 Defueled Status of the Reactor

The reactor fuel elements, including control rod followers, have been removed from the facility and shipped to a NRC approved recipient.





### 6.3 Reactor and Dump Tanks

The water from the reactor tank is dumped to the dump tank. The water tested to be within the specified limits of 10CFR20 may be discharged from the dump tank.

### 6.4 Control and Safety Systems

The reactor controls are deenergized, removed from the core and stored in the facility. The reactor safety system is no longer required for the non-operating reactor.

## 7.0 ADMINISTRATIVE CONTROLS

### 7.1 Organization

The facility shall be under the direct control of the Facility Manager. He/She shall be responsible to the Westinghouse management for the safe operation of the reactor facility. The Facility Manager (or his/her Appointee) shall review and approve the operating procedures prior to their use in the facility and within the limits prescribed by the facility license. He/She shall enforce rules for the protection of personnel against radiation. A Radiation Safety Engineer, appointed by the Facility Manager, shall be responsible for maintaining surveillance over all radiation monitoring in compliance with State and Federal regulatory codes and standards.

### 7.2 Audit and Review

- 7.2.1 The Reactor Safeguards Committee (RSC) shall include at least three scientists or engineers who are not in the line organization responsible for reactor operations and shall represent at least one half of the Committee membership. The minimum qualification of the RSC members with regard to nuclear experience shall be:



1. Each member must have a minimum of five years industrial experience in nuclear and related fields and must have a minimum of three years of active participation in his nuclear oriented discipline.
  2. The experience and knowledge of each member must be applicable to or pertain to the Committee's responsibility to properly review the facility and its operation from the standpoint of safety.
  3. Each member must be capable and willing to exercise his individual judgement in regard to all Committee reviews and decisions.
- 7.2.2 The RSC shall meet at least once each six months. A quorum of the RSC shall consist of at least four members and at least half of those present shall be from organizations outside the line organization responsible for facility operation.
- 7.2.3 The RSC shall review activities and advise the Facility Manager and/or whatever echelon of management it feels appropriate on all matters pertaining to the safe operation of the facility. The reviews shall cover:
1. Proposed normal operating procedures, emergency procedures and changes thereto.
  2. Safety standards associated with the operation of the facility.
  3. Proposed changes to the Technical Specifications.
  4. Facility operation for compliance with internal rules, procedures and regulations, and with license provisions.
  5. Performance of facility apparatus and equipment.





6. Proposed changes or modifications to the facility not described in the Safety Analysis Report.

7.2.4 Recording and reporting requirements for the RSC shall include:

1. Minutes of each meeting.
2. Special reports on facility inspections, including Committee's findings.
3. Special reports on facility radiation safety practices and records made semiannually.
4. All Committee reports and meeting minutes shall be transmitted through the line management up to and including the Manager, TOS.

7.3 Operating Procedures

7.3.1 Approved written procedures shall be followed for the following items:

1. Radiation safety procedures.
2. Emergency situations.

7.3.2 New procedures and changes in the operating procedures shall require review by the RSC and the approval of the Facility Manager.

7.3.3 Temporary changes in the operating procedures which do not change the intent of the original procedures may be made by the Facility Manager. Such changes shall be recorded in the operating records and reported to the RSC.



#### 7.4 Actions to be Taken in the Event of a Reportable Occurrence

7.4.1 With the removal of the fuel from the reactor, Reportable Occurrences shall include but not necessarily be limited to the following:

1. A significant uncontrolled release of radioactivity external to the reactor facility.
2. An exposure of personnel in excess of approved NRC levels.

7.4.2 In the event of a Reportable Occurrence, the following actions shall be taken:

1. The Facility Manager shall be notified and corrective action taken prior to resumption of the operation involved.
2. The licensee shall notify, within 24 hours by telephone or telegraph, the NRC and shall submit within ten days a report in writing.
3. A report shall be made which shall include an analysis of the cause of the occurrence, efficacy of corrective action and recommendations for measures to prevent or reduce the probability of recurrence. This report shall be submitted to the Reactor Safeguards Committee for review and shall be maintained as part of the facility records.

#### 7.5 Reporting Requirements

In addition to reports otherwise required by applicable federal regulations, the licensee shall report the following occurrences to the NRC in accordance with the requirements of 10CFR50.73d.



- 7.5.1 The licensee shall report to the NRC in writing within 30 days of any change in the Facility organizational structure.
- 7.5.2 The licensee shall submit in writing, to the NRC an annual operating report within 60 days after the end of each calendar year, providing the following information:
1. A narrative summary of operating experience and changes in facility design and operating procedures related to safety of the public.
  2. Discussion of the major maintenance operations performed during the reporting period, including the reason for any corrective maintenance required.
  3. A summary description of changes in the facility or procedures, and tests and experiments carried out under the conditions of Section 50.59 of 10 CFR Part 50.
  4. A summary of the nature and amount of radioactive effluents released or discharged to the environs beyond the effective control of the licensee as measured at or prior to the point of such release or discharge.
  5. A summary of reportable occurrences.

#### 7.6 Records

- 7.6.1 In addition to the requirements of applicable regulations, records and logs shall be prepared and retained for a period of at least five (5) years for the following items as a minimum:
1. Reactor operating records, including power levels and periods of operation at each power level.





2. Records of inadvertent trips, including reasons therefore.
3. Records of experiments, including any unusual events involved in their performance and in their handling.
4. Records of reportable Occurrences.
5. Records of tests and measurements performed pursuant to the Technical Specifications.
6. Records of maintenance operations involving substitution or replacement of reactor equipment or components.

7.6.2 Records and logs shall be prepared and retained for the life of the facility for the following items as a minimum:

1. Records of fuel inventories and transfers.
2. Records showing radioactivity released or discharged into the air or water beyond the effective control of the licensee as measured at or prior to the point of such release or discharge.
3. Records of facility contamination and radiation survey results.
4. Updated, corrected, and as built drawings of the facility.

7.6.3 Records of radiation exposures for all facility personnel and visitors shall be retained indefinitely or until the Commission authorizes their disposal.

