Enclosure 2

Technical Specifications Revised Pages

3.1.5 CHEMISTRY

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3.1.11 REACTOR INTERNALS VENT VALVES

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3.1.13 REACTOR COOLANT SYSTEM VENTS

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3.8 FUEL LOADING AND REFUELING

Applicability: Applies to fuel loading and refueling operations.

Objective: To assure that fuel loading and refueling operations are performed in a responsible manner.

Specification

3.8.1 DELETED

3.8.2 Core subcritical neutron flux shall be continuously monitored by at least two neutron flux monitors, each with continuous indication available, whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.

3.8.3 At least one decay heat removal pump and cooler shall be operable.

3.8.4 During reactor vessel head removal and while loading and unloading fuel from the reactor, the boron concentration shall be maintained at not less than that required for refueling shutdown.

3.8.5 DELETED

3.8.6 During the handling of irradiated fuel in the Reactor Building at least one door in the personnel and emergency air locks shall be closed. The equipment hatch cover shall be in place with a minimum of four bolts securing the cover to the sealing surfaces.

3.8.7 During the handling of irradiated fuel in the Reactor Building, each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange or manual valve, or

2. Be capable of being closed by an operable automatic containment purge and exhaust isolation valve.

3.8.8 If any of the above specified limiting conditions for fuel loading and refueling are not met, movement of fuel into the reactor core shall cease; action shall be initiated to correct the conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.

3.8.9 The reactor building purge system, including the radiation monitors which initiate purge isolation, shall be tested and verified to be operable no more than one week prior to refueling operations.

3.8.10 Irradiated fuel shall not be removed from the reactor until the unit has been subcritical for at least 72 hours.

Bases

Detailed written procedures will be available for use by refueling personnel. These procedures, the above specifications, and the design of the fuel handling equipment as described in Section 9.7 of the FSAR incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. If no change is being made in core geometry, one flux monitor is sufficient. This permits maintenance on the instrumentation. Continuous monitoring of the neutron flux provides immediate indication of an unsafe condition. The decay heat removal pump is used to maintain a uniform boron concentration. The shutdown margin indicated in Specification 3.8.4 will keep the core subcritical, even with all control rods withdrawn from the core (Reference 1). The boron concentration will be sufficient to maintain the core $k_{eff} \leq 0.99$ if all the control rods were removed from the core, however, only a few control rods will be removed at any one time during fuel shuffling and replacement. The k_{eff} with all rods in the core and with refueling boron concentration is approximately 0.9.

The specification requiring testing Reactor Building purge termination is to verify that these components will function as required should a fuel handling accident occur which resulted in the release of significant fission products.

Specification 3.8.10 is required as the safety analysis for the fuel handling accident was based on the assumption that the reactor had been shutdown for 72 hours (Reference 2).

REFERENCES

(1) UFSAR, Secuon 14.2.2.1 - "Fuel Handling Accident"

(2) UFSAR, Section 14.2.2.1(2) - "FHA Inside Containment"

3.9 DELETED

3.10 DELETED

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TABLE 4.1-1 (Continued)

	CHANNEL DESCRIPTION	CHECK	TEST	CALIBRATE	REMARKS
27.	Makeup Tank Level Channels	D(1)	NA	F	(1) When Makeup and Purification System is in operation.
28.	Radiation Monitoring Systems*				
	a. DELETED				(1) Using the installed check source when background is less than twice the expected increase in cpm which would result from the check source alone. Background readings greater than this value are sufficient in themselves to to show that the monitor is functioning.
	b. DELETED				
	c. DELETED				
	d. RM-A2P (RB Atmosphere particulate)	W(1)(4)	M(4)	E(4)	
	e. RM-A21 (RB Atmospheric iodine)	W(1)(4)	M(4)	E(4)	
	f. RM-A2G (RB Atmospheric gas)	W(1)(4)	M(4)	E(4)	
					(2) DELETED
					(3) DELETED
					(4) RM-A2 operability requirements are given in T.S. 3.1.6.8.
29.	High and Low pressure Injection Systems: Flow Channels	N/A	N/A	F	

*Includes only the monitors indicated under this item. Other T.S. required radiation monitors are included in specifications 3.5.5.2, 4.1.3, Table 3-5.1 item C.3.f, and Table 4.1-1 item 19e..

TABLE 4-1-3 Cont'd

MINIMUM SAMPLING FREQUENCY

ITEM	CHECK	FREQUENCY
1. Reactor Coolant	a. Specific Activity Determination to compare to the 100/E μCi/gm limit	At Least once each 72 hours during POWER OPERATION. HOT STANDBY. i) 1 per 14 days during power operations. ii) One Sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a one hour period during power operation, start-up and hot standby. iii)# Once per 4 hours, whenever the specific activity exceeds 1.0 μCi/gram DOSE EQUIVALENT I-131 or 100/$\bar{E}$ μCi/gram during all modes but refueling.
	c. Radiochemical for $\bar{E}$ Determinination	1 per 6 months* during power operation
	d. DELETED	DELETED
	e. Boron concentration	2 times/week
	f. Tritium Radioactivity	Monthly
2. Borated Water Storage Tank Water Sample	Boron concentration	Weekly and after each makeup when reactor coolant system pressure is greater than 300 psig or T_{avg} is greater than 200° F.
3. Core Flooding Tank Water Sample	Boron concentration	Monthly and after each makeup when RCS pressure is greater than 700 psig.

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5.0 DESIGN FEATURES

5.1 SITE

Applicability

Applies to the location and extent of the exclusion boundary, restricted area, and low population zone.

Objective

To define the above by location and distance description.

Specification

5.1.1 The Three Mile Island Nuclear Station Unit 1 is located in an area of low population density about ten miles southeast of Harrisburg, PA. It is in Londonderry Township of Dauphin County, Pennsylvania, about two and one-half miles north of the southern tip of Dauphin County, where Dauphin is coterminal with York and Lancaster Counties. The station is located on an island approximately three miles in length situated in the Susquehanna River upstream from York Haven Dam. Figure 5.1 is an extended plot plan of the site showing the plant orientation and immediate surroundings. The Exclusion Area as defined in 10 CFR 100.3, is a 2,000 ft. radius, including portions of Three Mile Island, the river surface around it, and a portion of Shelley Island, which is owned by Met Ed. The minimum distance of 2,000 ft. occurs on the shore of the mainland in a due easterly direction from the plant as shown on Figure 5.1 for the Exclusion Area. Figure 5-3 showing the physical location of the fence defines the "Restricted Area" surrounding the plant. The minimum distance of the "Restricted Area" is approximately 560 feet and is from the centerline of the TMI Unit 2 Reactor Building to a point on the westerly shoreline of Three Mile Island. The minimum distance to the outer boundary of the low population zone is two miles as shown on T.S. Figure 5-2, which also depicts the site topography for a radius of five miles.

5.2 DELETED

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5.3 REACTOR

Applicability

Applies to the design features of the reactor core and reactor coolant system.

Objective

To define the significant design features of the reactor core and reactor coolant system.

Specification

5.3.1 REACTOR CORE

5.3.1.1 A fuel assembly normally contains 208 fuel rods arranged in a 15 by 15 lattice. The reactor shall contain 177 fuel assemblies. Fuel rods shall be clad with zircaloy, ZIRLO, BWFC zirconium-based M4 or M5 alloy materials and contain an initial composition of natural or slightly enriched uranium dioxide as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions. The details of the fuel assembly design are described in TMI-1 UFSAR Chapter 3.

5.3.1.2 DELETED

5.3.1.3 DELETED

5.3.1.4 DELETED

5.3.1.5 DELETED

5.3.1.6 Enrichment shall not exceed a nominal 5.0 weight percent of U_{235}.

5.3.2 REACTOR COOLANT SYSTEM

5.3.2.1 The reactor coolant system shall be designed and constructed in accordance with code requirements. (Refer to UFSAR Chapter 4 for details of design and operation.)

Enclosure 3

Certificate of Service for
TMI-1 Technical Specification Change Request No. 257

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF GPU NUCLEAR, Inc.

DOCKET NO. 50-289
LICENSE NO. DPR-50

CERTIFICATE OF SERVICE

This is to certify that a copy of Technical Specification Change Request No. 257 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with executives of Londonderry Township, Dauphin County, Pennsylvania; Dauphin County, Pennsylvania; and the Pennsylvania Department of Environmental Resources, Bureau of Radiation Protection, by deposit in the United States mail, addressed as follows:

Mr. Darryl LeHew, Chairman
Board Supervisors of
Londonderry Township
R.D. #1, Geyers Church Road
Middletown, PA 17057

Mr. Russell L. Sheaffer, Chairman
Board of County Commissioners
of Dauphin County
P.O. Box 1295
Harrisburg, PA 17108

Director, Bureau of Radiation Protection
PA Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120
ATTN: Mr. Stan T. Maingi

GPU NUCLEAR CORPORATION

BY: J. Kunkel
Vice President and Director, TMI

DATE: 8/29/96