Proposed Technical Specification Revised Pages

TABLE OF CONTENTS

LIST OF TABLES

3.5.7 REMOTE SHUTDOWN SYSTEM

Applicability

Applies to the operability requirements for the Remote Shutdown System Panel "B" Functions in Table 3.5-4 during STARTUP, POWER OPERATION AND HOT STANDBY.

Objectives

To assure operability of the instrumentation and controls necessary to place and maintain the unit in HOT SHUTDOWN from a location other than the control room.

Specification

The minimum number of functions identified in Table 3.5-4 shall be OPERABLE. With the number of functions less than the minimum required, restore the required function to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within an additional 12 hours.

Bases

The Remote Shutdown System provides the control room operator with sufficient instrumentation and controls to place and maintain the unit in a safe shutdown condition from locations other than the control room. This capability is necessary to protect against the possibility that the control room becomes inaccessible. A safe shutdown condition is defined as HOT SHUTDOWN.

In the event that the control room becomes inaccessible, the operators can establish control at the remote shutdown panel and place and maintain the unit in HOT SHUTDOWN. Not all controls and necessary transfer switches are located at the remote shutdown panel. Some controls and transfer switches will have to be operated locally at the switchgear, motor control panels, or other local stations. The unit automatically reaches HOT SHUTDOWN following a unit shutdown and can be maintained safely in HOT SHUTDOWN for an extended period of time.

The OPERABILITY of the Remote Shutdown System control and instrumentation Functions ensures that there is sufficient information available on selected unit parameters to place and maintain the unit in HOT SHUTDOWN should the control room become inaccessible.

The Remote Shutdown System is required to provide equipment at appropriate locations outside the control room with a capability to promptly shut down and maintain the unit in a safe condition in HOT SHUTDOWN.

The criteria governing the design and the specific system requirements of the Remote Shutdown System are located in 10 CFR 50, Appendix A, GDC 19.

The controls, instrumentation, and transfer switches are those required for: Reactor Coolant Inventory Control, Reactor Coolant System Pressure and Temperature Control, Decay Heat Removal, Reactivity Monitoring, OTSG Level and Pressure Control, Reactor Coolant Flow Control, and Electrical Power.

The Remote Shutdown System instruments and control circuits covered by this specification do not need to be energized to be considered OPERABLE. This specification is intended to ensure the Remote Shutdown System instruments and control circuits will be OPERABLE if unit conditions require that the Remote Shutdown System be placed in operation. The operability of components and equipment are determined by their respective Technical Specification requirements. If a component required for safe shutdown is placed in its fail-safe condition, as permitted by Technical Specifications, then the safety function has been assured and the remote shutdown panel function is considered operable.

Entry into an applicable REACTOR OPERATING CONDITION while relying on the specification actions is allowed even though the specification actions may eventually require a unit shutdown. This is acceptable due to the low probability of an event requiring these instruments.

The conditions of the specification may be entered independently for each Function listed on Table 3.5-4 and completion times of inoperable Functions will be tracked separately for each Function.

TABLE 3.5-4 (Sheet 1 of 2)

REMOTE SHUTDOWN SYSTEM INSTRUMENTATION AND CONTROLS

Function/Instrument or Control Parameter	Required Number of Functions
1. Reactor Coolant	
Coolant Temperature	1
Inlet Temperature	1
Coolant Pressure	1
Pressurizer Level	1
RC-V-2	1
RC-V-3	1
2. Emergency Feedwater Controls	
EFW A Flow Indicator	1
EFW B Flow Indicator	1
OTSG A Level	1
OTSG B Level	1
EF-V-30B	1
EF-V-30D	1
3. OTSG "B" Pressure Control	
Outlet Pressure	1
MS-V-4B	1
MS-V-8B	1
MS-V-8A	1

TABLE 3.5-4 (Sheet 2 of 2)

Function/Instrument or Control Parameter	Required Number of Functions
4. Decay Heat Removal	
Cooler Outlet Temperature	1
Pump Inlet Temperature	1
Flow	1
5. Reactor Neutron Power	
Source Range Flux	1
6. Makeup Control and Status	
MU-P-1B	1
MU-P-1C	1
MU-P-3B	1
MU-P-3C	1
MU-V-2A	1
MU-V-2B	1
MU-V-8	1
MU-V-14B	1
MU-V-16C	1
MU-V-16D	1
MU-V-18	1
MU-V-20	1
MU-V-32 Indicator	1
MU-V-37	1
DH-T-1 BWST Level	1
Makeup Tank Level	1
7. Decay Heat Closed Cycle Cooling Water	
DC-P-1B (Auxiliary "B" Panel)	1
8. Diesel Generator	
EG-Y-1B	1

4.1 OPERATIONAL SAFETY REVIEW

Applicability

Applies to items directly related to safety limits and limiting conditions for operation.

Objective

To specify the minimum frequency and type of surveillance to be applied to unit equipment and conditions.

Specification

4.1.1 The minimum frequency and type of surveillance required for reactor protection system, engineered safety feature protection system, and heat sink protection system instrumentation when the reactor is critical shall be as stated in Table 4.1-1.

4.1.2 Equipment and sampling test shall be performed as detailed in Tables 4.1-2 and 4.1-3.

4.1.3 Each post-accident monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the check, test and calibration at the frequencies shown in Table 4.1-4.

4.1.4 Each remote shutdown system function shown in Table 3.5-4 shall be demonstrated OPERABLE by the performance of the following check, test, and calibration:

a) Perform CHANNEL CHECK for each required instrumentation channel that is normally energized every 31 days.

b) Verify each required control circuit and transfer switch is capable of performing the intended function every refueling interval.

c) Perform CHANNEL CALIBRATION for each required instrumentation channel every refueling interval (excludes source range flux).

Basis

Check

Failures such as blown instrument fuses, defective indicators, or faulted amplifiers which result in "upscale" or "downscale" indication can be easily recognized by simple observation of the functioning of an instrument or system. Furthermore, such failures are, in many cases, revealed by alarm or annunciator action. Comparison of output and/or state of independent channels measuring the same variable supplements this type of built-in surveillance. Based on experience in operation of both conventional and nuclear systems, when the unit is in operation, the minimum checking frequency stated is deemed adequate for reactor system instrumentation.

Bases (Cont'd)

The 600 ppmb limit in Item 4, Table 4 -3 is used to meet the requirements of Section 5.4. Under other circumstances the minimum acceptable boron concentration would have been zero ppmb.

Calibration

Calibration shall be performed to assure the presentation and acquisition of accurate information. The nuclear flux (power range) channels amplifiers shall be checked and calibrated if necessary, every shift against a heat balance standard. The frequency of heat balance checks will assure that the difference between the out-of-core instrumentation and the heat balance remains less than 4%.

Channels subject only to "drift" errors induced within the instrumentation itself can tolerate longer intervals between calibrations. Process system instrumentation errors induced by drift can be expected to remain within acceptance tolerances if recalibration is performed at the intervals of each refueling period.

Substantial calibration shifts within a channel (essentially a channel failure) will be revealed during routine checking and testing procedures.

Thus, minimum calibration frequencies set forth are considered acceptable.

Testing

On-line testing of reactor protection channels is required monthly on a rotational basis. The rotation scheme is designed to reduce the probability of an undetected failure existing within the system and to minimize the likelihood of the same systematic test errors being introduced into each redundant channel (Reference 1).

The rotation schedule for the reactor protection channels is as follows:

a) Deleted
b) Monthly with one channel being tested per week on a continuous sequential rotation.

The reactor protection system instrumentation test cycle is continued with one channel's instrumentation tested each week. Upon detection of a failure that prevents trip action in a channel, the instrumentation associated with the protection parameter failure will be tested in the remaining channels. If actuation of a safety channel occurs, assurance will be required that actuation was within the limiting safety system setting.

The protection channels coincidence logic, the control rod drive trip breakers and the regulating control rod power SCRs electronic trips, are trip tested monthly. The trip test checks all logic combinations and is to be performed on a rotational basis.

Discovery of a failure that prevents trip action requires the testing of the instrumentation associated with the protection parameter failure in the remaining channels.

For purposes of surveillance, reactor trip on loss of feedwater and reactor trip on turbine trip are considered reactor protection system channels.

ENCLOSURE 2

Certificate of Service for TMI-1

Technical Specification Change Request No. 248

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. 248 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 of Supervisors of
Londonderry Township
R. D. #1, Geyers Church Road
Middletown, PA 17057

Ms. Sally Klein, Chairman
Board of County Commissioners
of Dauphin County
Dauphin County Courthouse
Front & Market Streets
Harrisburg, PA 17101

Director, Bureau of Radiation Protection
PA Dept. of Environmental Resources
Rachael Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469
ATTN: Mr. Stan Maingi

GPU NUCLEAR INC.

BY: James W Langenbach
Vice President and Director, TMI

DATE: 10/19/98