

I. TECHNICAL SPECIFICATION CHANGE REQUEST (TSCR) No. 230

GPU Nuclear requests that the following changed replacement pages be inserted into existing Technical Specifications:

Replace existing pages 3.7-1, 3.7-2, 4.7-1 and 4.7-2 with the attached revised replacement pages 3.7-1, 3.7-2, 4.7-1 and 4.7-2.

II. REASON FOR CHANGE

This change includes several distinct aspects. First, Oyster Creek's current Technical Specifications (TS) include a requirement that the emergency diesel generators (EDG) be given a thorough inspection at least once every 24 months during shutdown. Inspecting the diesels and overhauling them, if necessary, is prudent and recommended by the vendor. GPUN believes, however, that it is inappropriate to incorporate this requirement into the Technical Specifications. Rather, it should be part of the facility's maintenance program. NUREG-1433 "Standard Technical Specifications General Electric Plants BWR/4" does not include a requirement to inspect EDG's.

An additional restriction contained in the Oyster Creek TS, concerns allowed outage time (AOT). The current specification permits the reactor to remain in operation for a period of seven days with one EDG out of service provided certain conditions are met. The specification also includes the phrase "in any 30 day period". This restrictive element is another constraint which is not contained in the Standard Technical Specifications (STS). A segment of specification 3.7.C.2 states that during a repair period (of an EDG) that no engineered safety features (ESF) supported by the operable diesel may be out of service. Virtually all ESFs are subject to specification 3.0.B which addresses normal and emergency power requirements.

Other aspects of the change also concern AOT and the inspection of the EDGs while operating. If the TS which requires EDG inspection during shutdown were removed, GPUN could schedule such activities during operating periods. Such inspections would be expected, planned for and permit greater availability of the EDGs during planned shutdowns. To provide operational flexibility, it is proposed that the AOT for scheduled periodic inspections be extended to 14 days, although recent history has shown that it is very unlikely that the 14 days would be required.

Finally, several wording changes have been made to enhance clarity. The phrase "becomes inoperable" in specifications 3.7.C.2 and 3 have been changed to "is inoperable" and "are inoperable", respectively. Thus, the need to interpret "becomes inoperable" is obviated when entering the LCO intentionally. A phrase has been added to specification 4.7.A.5 to reflect the possibility that some activities may now be performed during the operating cycle.

Also, two minor typographical errors on pages 3.7-1 and 4.7-1 have been corrected. On 3.7-1 the word "charger" has replaced the word "changer" which was incorrect. On page 4.7-1 a lower case "b" in a reference to specification 4.7.B has been corrected.

III. SAFETY EVALUATION JUSTIFYING CHANGE

The Bases of Oyster Creek TS 3.7 "Auxiliary Electrical Power" states that the objective is to "assure an adequate supply of power with at least one active and one standby source of power available for operation of equipment required for a safe plant shutdown." The plant's main generator is not credited, however, since it is not available during shutdown. The Bases also cite the probability analysis in the Oyster Creek FDSAR Appendix L which is based on one diesel and shows that even with only one diesel, the probability of requiring engineered safety features at the same time as the second diesel fails is quite small. Since that analysis was performed, the reliability of the diesels has been enhanced and, although not analyzed for accident conditions, an additional source of AC power has been installed. If this action is approved, EDG inspections could be conducted while the reactor is online. Periodic inspections and overhaul of the EDGs during plant operations would contribute to improved EDG reliability during plant operations as well as improved availability during plant shutdown. If inspections were performed during plant operations, one active and one standby source of power would be available. The JCP&L Combustion Turbines would provide an Alternate AC source consistent with GPUN's Station Blackout (SBO) commitments.

In September 1992, the NRC issued NUREG-1433 which reflects the generic requirements for General Electric plants. The STS include definitions, LCOs and surveillance requirements. This document does not include a specification concerning the inspection of EDGs. Similarly, while there is a limit on the amount of time that a reactor can operate with an EDG out of service, each occurrence is independent and not further constrained.

This change retains the specification which requires that with an EDG inoperable, the reactor may remain in operation for a period not to exceed seven days. An exception to this requirement, however, is added to extend the AOT to fourteen days when an EDG is inoperable due to its periodic inspection.

If specification 4.7.A.3 were deleted and relocated to the plant's maintenance program, GPU Nuclear could inspect, and overhaul if required, the EDGs during reactor operations. Such an inspection would be planned well in advance, ensuring that there would be no conflicting work and all components required to be operational would be in service. The fourteen day time frame would provide sufficient time to thoroughly inspect the EDGs, perform needed repairs, allow for any unanticipated delay in the delivery of parts and permit reassembly. An analysis was performed utilizing PRA techniques which considers the change in Core Damage Frequency (CDF) based on extending the AOT from seven days to fourteen days. The change in CDF is a 3.85% increase which equates to an absolute core damage frequency increase of $1.2\text{E-}7$. Using the EPRI "PSA Application Guide", this proposed change is classified as Non-Risk-Significant. In addition, the analysis conservatively assumes that the entire fourteen day period would be used. Recent operational history indicates that it is very unlikely that the full fourteen days would be required for the periodic inspection.

Inspecting the EDGs while the reactor is on line obviates the need to inspect them when the unit is shutdown. The diesel generator batteries capacity test may also be performed during the operating cycle. While other tests and activities relative to the EDGs will continue to take place during shutdown, the percentage of time that they are available during shutdown will significantly increase. As a result, shutdown risk would be reduced.

In addition, a statement requiring all engineered safety features normally served by the operable diesel to be operable during repair periods is being deleted. For the ESFs which have LCOs this requirement is covered by specification 3.0.B. which addresses normal and emergency power requirements. Several ESFs do not have LCOs, these ESFs do not have power requirements or are not supported by the EDGs. Hence, the provision does not apply.

Finally, one specification has been moved to a more appropriate location, several wording changes were made to enhance understanding and two minor typographical errors have been corrected. These changes are purely administrative in nature. As such, they have no effect on safety.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION

GPU Nuclear has determined that this TSCR poses no significant hazard as defined by the NRC in 10 CFR 50.92.

1. State the basis for the determination that the proposed activity will or will not increase the probability of occurrence of the consequences of an accident.

The proposed activity deletes the requirement to inspect EDGs during shut down from the Technical Specifications. It further modifies the operability of a single EDG for a limited and defined period of time. These changes do not affect the design or performance of the EDGs or their ability to perform their design function. Analysis using PRA techniques indicates the changes do not significantly increase the probability or consequences of an accident.

2. State the basis for the determination that the activity does or does not create a possibility of an accident or malfunction of a different type than any previously identified in the SAR.

The EDGs are not the source of any accident described in the SAR. These changes do not modify the design or performance of the EDGs and do not affect plant functions or actions. Therefore, the proposed change does not create the possibility of an accident or malfunction of a different type than those previously identified.

3. State the basis for the determination that the margin of safety is not reduced. The proposed changes are designed to improve EDG reliability and availability during shutdown periods by providing flexibility in the scheduling and performance of maintenance. The surveillance intervals are unchanged and operability requirements are only modified to an acceptable degree. The proposed activity does not alter the basis of any technical specification that is related to the establishment or maintenance of a nuclear safety margin. Therefore, the margin of safety is not significantly reduced by this action.

V. IMPLEMENTATION

GPUN requests that the amendment authorizing this change be effective upon issuance.

AUXILIARY ELECTRICAL POWER

Applicability: Applies to the operating status of the auxiliary electrical power supply.

Objective: To assure the operability of the auxiliary electrical power supply.

Specification: A. The reactor shall not be made critical unless all of the following requirements are satisfied:

1. The following buses or panels energized.
 - a. 4160 volt buses 1C and 1D in the turbine building switchgear room.
 - b. 460 volt buses 1A2, 1B2, 1A21, 1B21 vital MCC 1A2 and 1B2 in the reactor building switchgear room; 1A3 and 1B3 at the intake structure; 1A21A, 1B21A, 1A21B, and 1B21B and vital MCC 1AB2 on 23'6" elevation in the reactor building; 1A24 and 1B24 at the stack.
 - c. 208/120 volt panels 3, 4, 4A, 4B, 4C and VACP-1 in the reactor building switchgear room.
 - d. 120 volt protection panel 1 and 2 in the cable room.
 - e. 125 volt DC distribution centers C and B, and panel D, Panel DC-F, isolation valve motor control center DC-1 and 125V DC motor control center DC-2.
 - f. 24 volt D.C. power panels A and B in the cable room.
2. One 230 KV line is fully operational and switch gear and both startup transformers are energized to carry power to the station 4160 volt AC buses and carry power to or away from the plant.
3. An additional source of power consisting of one of the following is in service connected to feed the appropriate plant 4160 V bus or buses:
 - a. A second 230 KV line fully operational.
 - b. One 34.5 KV line fully operational.
4. Station batteries B and C and an associated battery charger are operable. Switchgear control power for 4160 volt bus 1D and 460 volt buses 1B2 and 1B3 are provided by battery B. Switchgear control power for 4160 volt bus 1C and 460 volt buses 1A2 and 1A3 are provided by battery C.
5. Bus tie breakers ED and EC are in the open position.

B. The reactor shall be placed in the cold shutdown position if the availability of power falls below that required by Specification A above, except that

1. The reactor may remain in operation for a period not to exceed 7 days in any 30 day period if a startup transformer is out of service. None of the engineered safety feature equipment fed by the remaining transformer may be out of service.
2. The reactor may remain in operation for a period not to exceed 7 days if 125 VDC Motor Control Center DC-2 is out of service, provided the requirements of Specification 3.8 are met.

C. Standby Diesel Generators

1. The reactor shall not be made critical unless both diesel generators are operable and capable of feeding their designated 4160 volt buses.
2. If one diesel generator is inoperable during power operation, repairs shall be initiated immediately and the other diesel shall be operated at least one hour every 24 hours at greater than 20% rated power until repairs are completed. The reactor may remain in operation for a period not to exceed 7 days if a diesel generator is out of service. If a diesel is out of service due to its periodic integrated inspection, the allowable out of service time is 14 days.
3. If both diesel generators are inoperable during power operation, the reactor shall be placed in the cold shutdown condition.
4. For the diesel generators to be considered operable:
 - A) There shall be a minimum of 14,000 gallons of diesel fuel in the standby diesel generator fuel tank,

OR

- B) To facilitate inspection, repair, or replacement of equipment which would require full or partial draining of the standby diesel generator fuel tank, the following conditions must be met:
 - 1) There shall be a minimum of 14,000 gallons of fuel oil contained in temporary tanker trucks, connected and aligned to the diesel generator fill station.

4.7 AUXILIARY ELECTRICAL POWER

Applicability: Applies to surveillance requirements of the auxiliary electrical supply.

Objective: To verify the availability of the auxiliary electrical supply.

Specification: A. Diesel Generator

1. Each diesel generator shall be started and loaded to not less than 20% rated power every two weeks.
2. The two diesel generators shall be automatically actuated and functionally tested during each refueling outage. This shall include testing of the diesel generator load sequence timers listed in Table 3.1.1.
3. Deleted
4. The diesel generators' fuel supply shall be checked following the above tests.
5. The diesel generators' starting batteries shall be tested and monitored using the same methodology as the station batteries, Specification 4.7.B., except the battery capacity test may be performed during the operating cycle.
6. At least once per 12 months, the diesel generator battery capacity shall be demonstrated to be able to supply the design duty loads (diesel start) during a battery service test.

B. Station Batteries

1. Weekly surveillance will be performed to verify the following:
 - a. The active metallic surface of the plates shall be fully covered with electrolyte in all batteries,
 - b. The designated pilot cell voltage is greater than or equal to 2.0 volts and
 - c. The overall battery voltage is greater than or equal to 120 volts (Diesel battery; 112 volts).
 - d. The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.190.
2. Quarterly Surveillance will be performed to verify the following:
 - a. The active metallic surface of the plates shall be fully covered with electrolyte in all batteries.

- b. The voltage of each connected cell is greater than or equal to 2.0 volts under float charge and
 - c. The specific gravity, for each cell, is greater than or equal to 1.190 when corrected to 77°F. The electrolyte temperature of every fifth cell (Diesel; every fourth cell) shall be recorded for surveillance review.
3. At least once per 24 months during shutdown, the following tests will be performed to verify battery capacity.
- a. Battery capacity shall be demonstrated to be at least 80% of the manufacturers' rating when subjected to a battery capacity discharge test to be considered operable.
 - b. Any battery which is demonstrated to have less than 85% of manufacturers ratings during a capacity discharge test shall be replaced during the subsequent refueling outage.
 - c. Station battery capacity shall be demonstrated to be able to supply the design duty cycle loads during a battery service test.
 - d. Battery low voltage annunciators are verified to pick up at 115 volts \pm 1 volt and to reset at 125 volts \pm 1 volt (Diesel; 112 volts \pm 1 volt).

Basis: The biweekly tests of the diesel generators are primarily to check for failures and deterioration in the system since last use. The manufacturer has recommended the two week test interval, based on experience with many of their engines. One factor in determining this test interval (besides checking whether or not the engine starts and runs) is that the lubricating oil should be circulated through the engine approximately every two weeks. The diesels should be loaded to at least 20% of rated power until engine and generator temperatures have stabilized (about one hour). The minimum 20% load will prevent soot formation in the cylinders and injection nozzles. Operation up to an equilibrium temperature ensures that there is no over-heat problem. The tests also provide an engine and generator operating history to be compared with subsequent engine-generator test data to identify and correct any mechanical or electrical deficiency before it can result in a system failure.