

GPU NUCLEAR, INC.

OYSTER CREEK NUCLEAR GENERATING STATION

Operating License No. DPR-16

Docket No. 50-219

Technical Specification Change Request No. 243

This Technical Specification Change Request is submitted in support of the Licensee's request to change the Appendix A Technical Specifications to Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station. As a part of this request, the proposed replacement pages for Appendix A are also submitted.

GPU Nuclear, Inc.

Michael B. Roche

Michael B. Roche
Vice President and Director
Oyster Creek

Sworn and Subscribed to before me this 10 day of October 1996.

Geraldine E. Levin

A Notary Public of New Jersey

GERALDINE E. LEVIN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 6-8-2000

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter

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Docket No. 50-219

GPU Nuclear, Inc.

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CERTIFICATE OF SERVICE

This is to certify that a copy of Technical Specification Change Request No. 243 for Oyster Creek Nuclear Generating Station Technical Specifications, filed with the U. S. Nuclear Regulatory Commission on 10/10 , 1996, has this day of 10/10 , 1996, been served on the Major of Lacey Township, Ocean County, New Jersey by deposit in the United States mail, addressed as follows:

The Honorable John Parker
Mayor of Lacey Township
818 West Lacey Road
Forked River, NJ 08731

By Michael B. Roche
Michael B. Roche
Vice President and Director
Oyster Creek



GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
Forked River, NJ 08731-0388
Tel 609-971-4000

October 10, 1996
6730-96-2073

The Honorable John Parker
Mayor of Lacey Township
818 West Lacey Road
Forked River, New Jersey 08731

Dear Mayor Parker:

Enclosed herewith is one copy of Technical Specification Change Request No. 243 for the Oyster Creek Nuclear Generating Station Operating License.

This document was filed with the United States Nuclear Regulatory Commission on October 10, 1996.

Sincerely,

A handwritten signature in cursive script that reads "Michael B. Roche".

Michael B. Roche
Vice President and Director
Oyster Creek

MBR/GMG/plp
Attachment



GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
Forked River, NJ 08731-0388
Tel 609-971-4000

October 10, 1996
6730-96-2073

Mr. Kent Tosch, Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
CN 411
Trenton, NJ 08625

Dear Mr. Tosch:

Subject: Oyster Creek Nuclear Generating Station
Operating License No. DPR-16
Technical Specification Change Request No. 243

Pursuant to 10 CFR 50.91(b)(1), please find enclosed a copy of the subject document which was filed with the United States Nuclear Regulatory Commission on October 10, 1996.

Sincerely,

A handwritten signature in cursive script that reads "Michael B. Roche".

Michael B. Roche
Vice President and Director
Oyster Creek

MBR/GMG/plp
Attachment

Oyster Creek Nuclear Generating Station (OCNGS)
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1.0. PROPOSED TECHNICAL SPECIFICATION CHANGE REQUEST (TSCR)

GPUN requests that the following pages of the OCNGS Technical Specifications (Tech. Specs.) containing changes to the ADS protective instrumentation requirements be replaced as indicated below:

Replace Pages: 2.1-11, 3.1-16, and 4.1-6.

Add New Page: 3.1-16a

2.0. DESCRIPTION OF CHANGES

Tech. Spec. Table 3.1.1, "PROTECTIVE INSTRUMENTATION REQUIREMENTS" Item No. G.3 is revised by replacing the present interlock description "AC Voltage" with core spray booster pump differential pressure (d/p), as the permissive required for initiation of ADS. This permissive is similar to the Improved Standard Technical Specifications (STS) requirement to monitor core spray pump discharge pressure. The proposed change adds a "Trip Setting" to the table along with the applicable reactor modes under which the permissive must be functional, and a new Footnote "i." for Action Required when d/p switches become inoperable. Footnote "i." is written to provide Allowed Outage Times (AOTs) for the d/p switches based upon the currently designed ADS logic trains.

In addition, a change of AOTs in Footnote "h." for the ADS initiation signals: "High Drywell Pressure" and "Low-low-low Reactor Water Level" - Item Nos. G.1 and G.2 in Tech. Spec. Table 3.1.1 is being made to reflect and parallel the AOTs associated with the STS. Also, the proposed changes to Footnote "h." serve to clarify what was meant by placement of the instrument channel into a "simulated tripped condition" should either the "High Drywell Pressure" or "Low-low-low Reactor Level" instrumentation channels become inoperable, i.e., only the ADS circuit portions from these signals. Other Tech. Specs. on "High Drywell Pressure" and "Low-low-low Reactor Water Level" remain unchanged.

Lastly, Tech. Spec. Table 4.1.1, "MINIMUM CHECK, CALIBRATION, AND TEST FREQUENCY FOR PROTECTIVE INSTRUMENTATION," is revised by the addition of Item No. 31 - "Core Spray Booster Pump Differential Pressure." This new surveillance requirement is currently being implemented in plant procedures associated with the core spray booster pump d/p switches.

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3.0 DISCUSSION OF THE REASONS FOR CHANGE

Background:

The original concept of an AC Voltage interlock was first introduced in a letter from the Atomic Energy Commission (AEC) to JCP&L on November 20, 1967. JCP&L responded to the AEC recommendation in Amendment No. 28 to the FDSAR (dated December 4, 1967), stating in part that "The concept of a complete AC failure criteria for ECCS design...[was] unacceptable." The AEC responded to JCP&L by letter dated January 9, 1968 indicating that "an AC interlock in the logic system for the auto-relief system was not intended or suggested to be a design basis for the ECCS nor to reflect on the reliability of the emergency power supply system. Rather,...this delay in actuation of the auto-relief system, effected by the AC interlock, would provide additional time for the operator to restore the normal or emergency source of power."

JCP&L, with the help of its NSSS supplier General Electric, provided the function of an "interlock" permissive in its design of ADS by using core spray booster pump discharge pressure as the third signal required to initiate ADS. In 1985, a modification was made to the core spray system which changed the core spray booster pump discharge pressure switches to differential pressure switches, which are functionally equivalent.

System Design:

The Automatic Depressurization System (ADS) provides for a controlled blowdown of the primary system to rapidly reduce pressure during a small pipe break. This depressurization permits core spray system injection, when reactor pressure is below 285 PSIG, prior to uncovering the fuel. In addition, the Electromatic Relief Valves (EMRVs) of the ADS open on an overpressure condition in the reactor pressure vessel.

The ADS is initiated when instrumentation signals indicate that three conditions are satisfied: reactor vessel water level has reached the "low, low, low" level; the "high" drywell pressure setpoint has been reached; and, the core spray system is available. An operable core spray system is required to supply a source of cooling water after the ADS - EMRVs have depressurized the reactor. The availability of the core spray system is indicated by the existence of sufficient differential pressure across one of the core spray booster pumps. The required "Trip Setting" value for these differential pressures, which would be needed for the "permissive" to initiate ADS, is specified on the revised Table 3.1.1 in this TSCR. The system is designed such that each core spray system has a redundant set of booster pumps, each set of pumps are monitored by two differential pressure switches, which can detect the differential pressure across either pump in the set.

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Technical Specification Changes:

- (i) The following ADS permissive is added to Table 3.1.1. under Item G. "Automatic Depressurization" by revising Function No. 3 to read: "Core Spray Booster Pump d/p Permissive: > 21.2 psid." This Technical Specification limit was established by determining both upper and lower safety limits for actuation by using established calculation methodologies to ensure that adequate margins would be available to account for the potential of pump runout, instrument error, drift, switch reset deadbands, and potential pump failure, as well as electrical transients associated with a pump trip or a pump start. In addition, the table is being revised to require that the d/p instrument channels be operable during the shutdown and refuel modes, consistent with the mode applicability of both the High Drywell Pressure and Low-low-low Reactor Water Level initiation signals required for ADS actuation.
- (ii) A new Footnote "i" is provided to specify the operator action required when failure of a core spray booster pump d/p switch occurs. Footnote "i" also takes into account the redundancy of the d/p switches in the as-built configuration, i.e., the fact that each of two d/p switches provided in each core spray system monitors the operation of both core spray booster pumps simultaneously. If one of the two core spray booster pump d/p switches were to fail in either CSS-I or CSS-II or both (see simplified logic diagram enclosed for reference), monitoring of both pairs of redundant booster pumps in each of the respective core spray systems would continue to be accomplished by the redundant d/p switches in each system which remain operable.

Placing the relay contacts for the failed d/p switch in the "de-energized" state ensures that the redundant d/p switch performs the function of monitoring operability of either of the redundant booster pumps, such that ADS is prevented from being inadvertently initiated (when a source of cooling water is not available due to failure of a core spray booster pump) thus preventing any spurious actuation of the EMRVs and an inadvertent blowdown to the torus.

NEW FOOTNOTE "i." IS PROPOSED, AS FOLLOWS:

"With two core spray systems OPERABLE:

1. A maximum of two core spray booster pump differential pressure (d/p) switches may be inoperable provided that the switches are in opposing ADS trip systems [i.e., only: either RV-40 A&D or RV-40 B&C]. Place the relay contacts

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NEW FOOTNOTE "I." CONTINUED:

associated with the inoperable d/p switch(es) in the de-energized position, within 24 hours. Restore the inoperable d/p switch(es) within 8 days, or declare ADS inoperable and take the action required by Specification 3.4.B.3; or,

2. If two inoperable d/p switches are in the same ADS trip system [i.e., RV-40 A&B or RV-40 C&D], place the relay contacts associated with the inoperable d/p switch(es) in the de-energized position, within 24 hours. Restore the inoperable d/p switches within 4 days, or declare ADS inoperable and take the action required by Specification 3.4.B.3.

With only one core spray system OPERABLE:

If one or more d/p switches become inoperable in the OPERABLE core spray system, declare ADS inoperable and take the action required by Specification 3.4.B.3."

- (iii) Footnote "h." is also being revised to change the AOTs associated with the initiating signals of High Drywell Pressure or Low-low-low Reactor Water Level (Items G.1 and G.2 on Table 3.1.1) to align them with the STS AOTs for ADS. That is, 4-days of allowed operation of an inoperable channel prior to it being placed in the tripped position, if only one ADS trip system is affected; and, a one hour period for placing an inoperable instrument channel into the tripped condition if both ADS trip systems are affected. Of note, the STS allows channel inoperability which does not result in the loss of function to continue for an indefinite period, based on the reliability analyses referenced therein and continued operability of ADS when an inoperable channel is placed into the tripped condition.

Two of four initiation signals must be tripped in the ADS initiation circuit, in conjunction with a permissive indication that a core spray system is available (as sensed by the booster pump d/p switches) in order for ADS to provide its protective function, i.e., opening of the EMRVs and blowdown to the torus following a small break LOCA. If an inoperable channel is not placed into the tripped condition [relay contact(s) closed], then the ADS initiation circuit would fail to function when needed. The revised Footnote "h." clarifies specifically what operator action is required with respect to placing the inoperable instrument channel in the ADS initiation circuit into a tripped condition.

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THE REVISED FOOTNOTE "h." IS PROPOSED AS FOLLOWS:

"With one or more instrument channel(s) inoperable in one ADS trip system, place the relay contact(s) for the inoperable initiation signal in the tripped condition within 4 days, or declare ADS inoperable and take the action required by Specification 3.4.B.3.

With one or more instrument channel(s) inoperable in both ADS trip systems, restore ADS initiation capability in at least one trip system within 1 hour, or declare ADS inoperable and take the action required by Specification 3.4.B.3.

Relief valve controllers shall not be bypassed for any more than 3 hours (total time for all controllers) in any 30-day period and only one relief valve controller may be bypassed at a time."

The previous wording in Footnote "h." indicated that "One instrument channel in each trip system may be inoperable provided **'the circuit which it operates in the trip system is placed in a simulated tripped condition.'**..." As a result of the proposed change above, any confusion related to the phrase in single quote marks above is eliminated.

- (iv) The associated core spray booster pump differential pressure instrument channel check, calibration, and test frequency is added as Item No. 31 on Tech. Spec. Table 4.1.1. This addition to the surveillance table reflects those performance checks being implemented by existing plant procedures. The surveillance frequencies of Table 4.1.1 are consistent with those established in Reference 2 of T.S. Bases Section 4.1.

4.0 NO SIGNIFICANT HAZARDS CONSIDERATIONS:

GPUN has determined that this Technical Specification Change Request involves no significant hazards consideration as defined by NRC in 10 CFR 50.92.

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4.1 Operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability of occurrence or the consequences of an accident previously evaluated.

The implementation of this TSCR does not involve an increase in the probability of occurrence or the consequences of an accident previously evaluated, as no plant modifications are proposed by the change request, and no changes in instrument set or reset setpoints are required in order to implement the change. This change serves to clarify and to incorporate the "as-built" ADS system logic parameter (core spray booster pump differential pressure) as the functional permissive required for initiation of ADS. This "interlock" permissive compares closely with that of the BWR STS requirement to monitor core spray discharge pressure for initiation of ADS. In addition, the AOTs for the ADS initiation signals are being revised to align with the AOTs provided for such signals in the STS. The performance and function of the Automatic Depressurization System is unchanged by this request. However, by implementation of the change the specific functions of the ADS as-built d/p permissives would then be clearly identified in and controlled by T.S. Table 3.1.1, "Protective Instrumentation Requirements," including the associated surveillance requirements as shown on the revised T.S. Table 4.1.1.

4.2 Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The implementation of this TSCR does not impact upon the operation of the facility, and would not create the possibility of a new or different kind of accident from any previously evaluated because no plant modifications are proposed by this change request, and no changes in instrument set or reset setpoints are required in order to implement the change. This change clarifies the technical specifications by incorporating the "as-built" ADS system logic parameter (core spray booster pump differential pressure) as the functional permissive required for initiation of ADS. This "interlock" permissive compares closely with that of the BWR STS requirement to monitor core spray discharge pressure. The revised AOTs for ADS initiation signals are also being changed to conform with those allowed by and provided in the STS. The performance and function of the Automatic Depressurization System (ADS) is unchanged by this request.

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OC plant surveillance procedures for both ADS and the Core Spray system presently incorporate the calibration requirements and both the set and reset setpoints calculated for the core spray booster pump d/p switch permissive to the ADS initiation logic. Hence, a new or different kind of accident from any previously evaluated is not created.

4.3 Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety.

The implementation of this TSCR does not involve a reduction in the margin of safety for operation of the ADS or the Core Spray system. The Technical Specification Bases which presently define the margin of safety are not impacted as the core spray booster pump d/p "interlock" permissives are not described in the specifications for "Protective Instrumentation Requirements" or its surveillance requirements. In addition, the margin of safety for ADS initiation is not reduced by this TSCR because the required system response is not affected by the proposed changes as no plant modifications are required which could create a potential impact upon the margins of safety previously established.

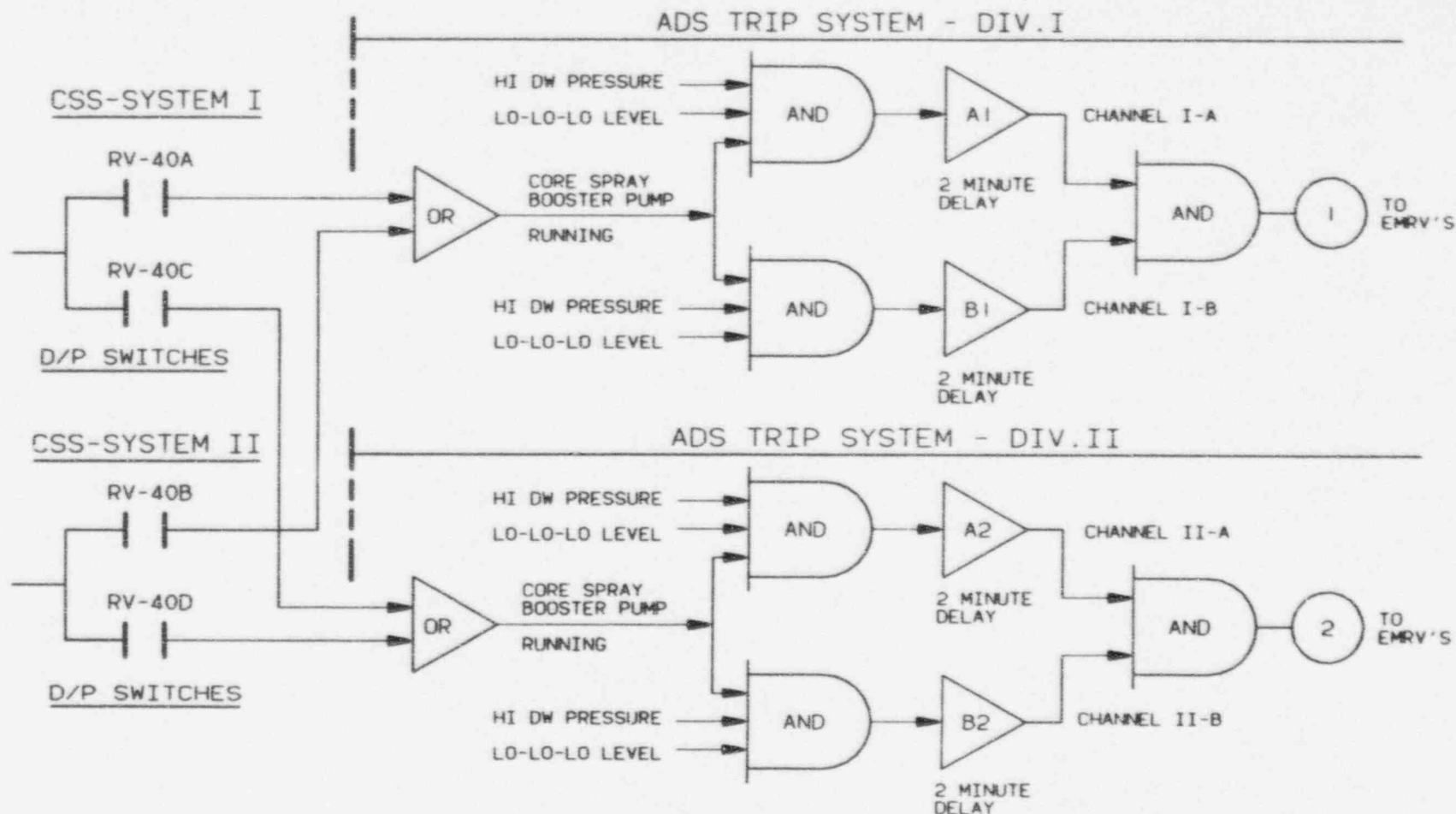
The revision of AOTs associated with ADS actuation signals by extension from 72 hours to 4 days is consistent with that presently provided in the STS. This does not decrease the margin of safety associated with availability of ADS as placement of the initiation signals into the "tripped condition" maintains the operability of the ADS trip systems while in the automatic mode. Additionally, the Bases for STS Specification 3.1 provides justifications for AOTs using the GE reliability analyses referenced therein and therefore 4 days is both justified and conservative. The margin of safety with respect to the instrument channels ability to perform its intended actuation function is not impacted; therefore, there is no reduction in the margin of safety.

Lastly, the surveillance frequency for the new surveillance interval created on Table 4.1.1 for the d/p switches is consistent with that established in Reference 2 of the Bases for Technical Specification 4.1. Therefore, there is no reduction in the margin of safety as a result of this change request.

5.0 IMPLEMENTATION:

It is requested that the license amendment authorizing this change become effective immediately upon receipt, and that 60 days be allowed to revise any applicable procedures associated with the AOTs for the new core spray booster pump d/p instrumentation

channels being added to the Technical Specifications, as well as any other procedures associated with the revised AOTs for the ADS initiating actuation signals.



CORE SPRAY SYSTEM (CSS) NOTES:

- A. CSS I PHYSICALLY CONTAINS THE CORE SPRAY BOOSTER PUMP d/p SWITCHES : RV-40A AND RV-40C.
 - B. CSS II PHYSICALLY CONTAINS THE CORE SPRAY BOOSTER PUMP d/p SWITCHES : RV-40B AND RV-40D.
- EACH CSS BOOSTER PUMP d/p SWITCH MONITORS BOTH CORE SPRAY BOOSTER PUMPS IN ITS RESPECTIVE SYSTEM.

AUTOMATIC DEPRESSURIZATION SYSTEM (ADS) NOTES:

1. DIV. I UTILIZES SIGNALS FROM EITHER RV-40A OR RV-40B TO DETERMINE THAT A CORE SPRAY SYSTEM IS OPERABLE, THUS PROVIDING THE "INTERLOCK" PERMISSIVE FOR ADS ACTUATION OF THE EMRV'S.
2. DIV. II UTILIZES SIGNALS FROM RV-40C OR RV-40D TO PROVIDE THE CSS "INTERLOCK" PERMISSIVE.
3. EACH OF THE TWO CHANNELS IN AN ADS TRIP SYSTEM DIVISION ARE REQUIRED FOR THE ADS ACTUATION OF ALL (5) EMRV'S, AS SHOWN.
4. EACH ADS TRIP SYSTEM IS REDUNDANT TO ITS COUNTER PART, THE INITIATION SIGNALS, HI DW PRESS. & LO-LO-LO REACTOR LEVEL ARE 2/2 TAKEN TWICE; AND, CS BOOSTER PUMP d/p INTERLOCK PERMISSIVE IS 1/2 TAKEN TWICE.