

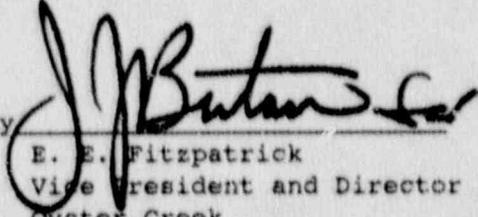
GPU NUCLEAR CORPORATION
OYSTER CREEK NUCLEAR GENERATING STATION

Provisional Operating
License No. DPR-16

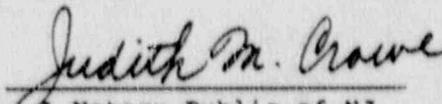
Technical Specification
Change Request No. 187
Docket No. 50-219

Applicant submits, by this Technical Specification Change Request No. 187 to the Oyster Creek Nuclear Generating Station Technical Specifications, a change to pages 4.1-6, 4.1-8, 4.2-2, 4.5-3, 4.5-6, 4.5-9, 4.5-11, 4.7-1, and 6-16.

By


E. E. Fitzpatrick
Vice President and Director
Oyster Creek

Sworn and Subscribe to before me this 4th day of May, 1990.


A Notary Public of NJ

JUDITH M. CROWE
Notary Public of New Jersey
My Commission Expires 1-25-95

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
GPU Nuclear Corporation)

Docket No. 50-219

CERTIFICATE OF SERVICE

This is to certify that a copy of Technical Specification Change Request No. 187 for Oyster Creek Nuclear Generating Station Technical Specifications, filed with the U.S. Nuclear Regulatory Commission on May 4, 1990 has this day of May 4, 1990, been served on the Mayor of Lacey Township, Ocean County, New Jersey by deposit in the United States mail, addressed as follows:

The Honorable Debra Madensky
Mayor of Lacey Township
818 West Lacey Road
Forked River, NJ 08731

By


E. E. Fitzpatrick
Vice President and Director
Oyster Creek

OYSTER CREEK NUCLEAR GENERATING STATION
PROVISIONAL OPERATING LICENSE NO. DPR-16
DOCKET NO. 50-219
TECHNICAL SPECIFICATION CHANGE REQUEST NO. 187

Applicant hereby requests the Commission to change Appendix A to the above captioned license as below, and pursuant to 10CFR50.91, an analysis concerning the determination of no significant hazards consideration is also presented:

1.0 SECTIONS TO BE CHANGED

Technical Specification Sections: Table 4.1.1 Item 15, 28.a, and 28.b, 4.2.E.3, 4.5.E, 4.5.J.4, 4.5.J.5, 4.5.Q, 4.7.A.2, 4.7.A.3, and 6.15

2.0 EXTENT OF CHANGE

Technical Specification Table 4.1.1 Item 15, is revised to extend the High Radiation on Air Ejector Off-Gas instrument channel calibration and test from each refueling outage to once per 24 months.

Technical Specification Table 4.1.1 Items 28.a and 28.b are revised to extend the 4.16 KV Emergency Bus Undervoltage (Loss of Voltage and Degraded Voltage) instrument channel calibrations from once per 18 months to once per 24 months.

Technical Specification Table 4.1.1 Legend is also revised to include the designation: 1/24 mo. = Once every 24 months.

Technical Specification Section 4.2.E.3 is revised to extend the Standby Liquid Control System Functional Test from each refueling outage to once every 24 months.

Technical Specification Section 4.5.E is revised to extend the Type "B" and "C" Local Leak Rate Tests (LLRT) from each refueling outage to an interval not to exceed 24 months.

Technical Specification Section 4.5.J.4.b is revised to extend the Reactor Building to Suppression Chamber Vacuum Breakers test and instrument calibration from each refueling outage to once every 24 months.

Technical Specification Section 4.5.J.5.b (1), (2), and (3) are revised to extend the Suppression Chamber-Drywell Vacuum Breakers test, position indication and alarms calibration and test, and inspections from Refueling Outage tests to Once Every 24 Months.

Technical Specification Section 4.5.J.5 b (4) is clarified to specify that the Drywell to Suppression Chamber leak rate test shall be performed each refueling outage (interval not to exceed 20 months), as presently required.

Technical Specification 4.5.Q.1.a is revised to extend the subsequent visual inspection period from 18 months to 24 months when zero inoperable snubbers are detected per inspection period. Technical Specification Section 4.5.Q.1.c is revised to extend the functional test of 10% of each type of snubber in the plant from each refueling cycle to every 24 months. Technical Specification Section 4.5.Q.1.f is revised to extend the review of installation and maintenance records from 18 months to 24 months.

Technical Specification Section 4.7.A.2 is revised to extend the emergency diesel generator automatic actuation and functional test from each refueling outage to once every 24 months. Technical Specification Section 4.7.A.3 is revised to extend the diesel generator inspection from once per 18 months to once per 24 months.

Technical Specification Section 6.15, Subsection (2) is revised to extend performance of system leak tests for the Core Spray, Containment Spray, Reactor Water Cleanup, Isolation Condenser, and Shutdown Cooling Systems from refueling cycle intervals to a frequency of once every 24 months.

3.0 CHANGES REQUESTED

The requested changes are shown on the attached Technical Specification pages; 4.1-6, 4.1-8, 4.2-2, 4.5-3, 4.5-6, 4.5-9, 4.5-11, 4.7-1, and 6-16.

4.0 DISCUSSION

The purpose of this Technical Specification change is to revise the Technical Specifications to accommodate implementation of the 24-month plant refueling cycle by changing the surveillance interval for Technical Specification surveillance requirements which will expire prior to the currently scheduled 13R refueling outage date. The following discussion supports the Technical Specification changes identified in Section 3.0 above.

The evaluations of the past surveillance histories were completed in 1988. Each evaluation considered the historical surveillance data available at that time. As a result the various system or equipment evaluations are based on historical data and operating experience derived over different time periods. In all cases, the historical surveillance data that was available is sufficient to demonstrate reliable operation as described in the detailed discussions below.

Change No. 1 Protective Instrumentation

1. Technical Specification Table 4.1.1 Item 15, High Radiation on Air Ejector Off-Gas instrument channel calibration and test are currently specified to be performed each refueling outage. The purpose of this test is to verify that detector sensitivity to a known radioactive source has not been degraded. The Air Ejector Off-gas Radiation Monitoring System monitors and records the radioactivity level of the effluent gases removed from the main condenser by the steam jet air ejectors. The purpose of this subsystem is to obtain a continuous

record of radioactivity released to the off-gas holdup system through the air ejectors and to isolate the off-gas volume from the stack before the maximum permissible stack release rate is reached. The safety function of the Air Ejector Off-gas Radiation Monitoring System is to initiate closure of the Off-gas System Isolation valves when the off-gas activity exceeds ten times the average stack release rate limit. The proposed change will extend the interval between successive calibrations and tests from 20 months to 24 months. Evaluation of the surveillance test and calibration results for this instrumentation over the period 1977 to 1986 do not indicate any deviations, and the acceptance criteria for these surveillances were fully met. Technical Specification required channel checks are performed once every shift. In addition, the analog Log Radiation Monitors (LRM) have been replaced with new G.E. NUMAC LRM's which include self-diagnostic functions, which alarm when failures are detected. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on system availability since the detectors have demonstrated reliable operation over the nine year period cited above, and Technical Specification required channel checks once every shift will allow the operators to verify instrument channel performance and to initiate repair or replacement of a defective channel component, and new self-diagnostic radiation monitors have been installed. Therefore, the proposed change has no effect on the safety function of the High Radiation on Air Ejector Off-gas instrument channels.

2. Technical Specification Table 4.1.1, Items 28.a and 28.b, Loss of Power instrument channel calibrations are currently specified to be performed once every 18 months. Loss of power relays monitor the 4.16 KV Emergency Buses 1C and 1D voltages. On loss of voltage or degraded grid voltage, the safety buses are unloaded and the emergency diesel generator is started. The calibration test is performed to verify that the loss of voltage relays and the degraded voltage relays operate at the proper setpoints. The proposed change will extend the interval between successive calibrations from 18 months to 24 months. Evaluation of the calibration test results from 1985, 1986, and 1988 indicate no deviations for the loss of voltage relays (Type GE IAV 53K). The Type 27H degraded voltage relays had experienced drift beyond the Technical Specification limit. As a result, these relays have been replaced with new Type 27N relays. The Type 27N relays have a maximum expected drift of $\pm 0.6\%$ which is well within the Technical Specifications limit. Degraded voltage logic is designed for 2 out of 3 relay operations. Therefore, malfunction of one relay would not affect the operation of the instrument channel. In addition, both the loss of voltage and the degraded voltage relays are required by Technical Specifications to be checked daily and tested monthly which provides added assurance of channel operability. The proposed change from 18 months to 24 months will have no effect on the 4160 volt system since the Type 27N replacement relays installed for the degraded voltage relays are not expected to drift beyond Technical Specification limits based on design specification and the degraded voltage logic in a 2 out of 3 relay operation; the loss of voltage relays have demonstrated

reliable operation, and both the degraded voltage and loss of voltage instrument channels are checked daily and tested monthly in accordance with Technical Specification requirements. Therefore, the proposed change has no effect on the safety function of the Loss of Power protective instrument channels.

Change No. 2 Reactivity Control

1. Technical Specification Section 4.2, Subsection E.3, currently specifies that a functional test of the standby liquid control system be performed each refueling outage. This surveillance demonstrates operability of the standby Liquid Control System by manually initiating pump start and verifying a pump running indication, verifying the corresponding squib valve (explosive valve) has a fired indication, verifying a flow indication annunciator alarm, and verifying automatic Reactor Water Clean-up System Isolation upon a signal from the flow indicating switch. The standby Liquid Control System is designed to bring the reactor to a shutdown condition at any time in core life independent of control rod capabilities. The safety function of the periodic surveillance testing is to assure that the standby Liquid Control System will perform as designed if it is needed during a plant emergency. The proposed change will extend the interval between successive system functional tests from 20 to 24 months. Evaluation of system functional test results from 1978 to 1988 did not indicate any failures to meet acceptance criteria. In addition, a pump operability test is performed each month in accordance with current Technical Specification requirements and quarterly in accordance with IST requirements. The explosive valves (squibs) are purchased in lots with samples tested prior to installation. The lots are purchased such that the valve's primer and trigger mechanism 5-year service shelf life could accommodate a 24-month testing interval. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on the standby Liquid Control System availability since the system components have demonstrated reliable operation over the ten year period cited above. Additional IST pump testing, explosive valve sample testing and a 5-year service shelf life for the explosive valve primer and trigger mechanisms provides further assurance of system operability. Therefore, the proposed change has no effect on the safety function of the standby Liquid Control System.

Change No.3 Containment System

1. Technical Specification Section 4.5, Subsection E, currently specifies that Type "B" and "C" Local Leak Rate Tests (LLRT) shall be performed each refueling outage. Technical Specification Section 4.5, Subsection G, further specifies that the Local Leak Rate Tests shall be performed as stated in Section 4.5.E, but in no case may exceed intervals of 24 months. This specified maximum interval of 24 months is consistent with the requirements, of 10CFR50, Appendix J, Primary Reactor Containment Leakage Testing, Subsections III.D.2 and D.3, which specifies that Type "B" and "C" tests shall be performed during each reactor shutdown for refueling but in no case

at intervals greater than 2 years. Thus, the extension of the refueling outage from 20 months to 24 months is within the existing Technical Specification frequency requirements for the LLRT and within the regulations pertaining to the LLRT as specified in 10CFR50, Appendix J. Therefore, the proposed change has no effect on the specified frequency for performing the LLRT.

2. Technical Specifications Section 4.5, Subsection J.4.b, specifies that the Reactor Building to Suppression Chamber Vacuum Breakers shall be tested each refueling outage and the air-operated vacuum breaker instrumentation shall be calibrated each refueling outage. This surveillance verifies the force required to open the vacuum breaker from closed to fully open, and calibrates the vacuum breaker actuation instrumentation. The safety function of the Reactor Building to Suppression Chamber Vacuum Breakers is to prevent exceeding the torus design external pressure of 1.0 psig. The safety function of the periodic surveillance is to assure acceptable vacuum breaker valve operability. The proposed change will extend the interval between successive tests from 20 months to 24 months. Evaluation of test results has indicated no degradation of valve parts. Technical Specification Section 4.5, Subsection J.4.a requires that the Reactor Building to Suppression Chamber Vacuum Breakers and associated instrumentation, including setpoint be checked for proper operation every three months. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on the Reactor Building to Suppression Chamber Vacuum Breakers and actuation instrumentation since the vacuum breakers and instrumentation have demonstrated reliable operation, and quarterly operability testing in accordance with Technical Specification requirements provides additional assurance of availability between refueling inspections. Therefore, the proposed change has no effect on the safety function of the Reactor Building to Suppression Chamber Vacuum Breakers and actuation instrumentation.
3. Technical Specification Section 4.5, Subsections J.5.b(1), (2) and (3), currently specify that all suppression chamber - drywell vacuum breakers shall be tested each refueling outage, the suppression chamber - drywell vacuum breaker position indication and alarms shall be calibrated and tested each refueling outage, and at least four of the suppression chamber - drywell vacuum breakers shall be inspected each refueling outage. This surveillance verifies the force required to open each valve from fully closed to fully open, functionally tests and calibrates alarms and position indication instrumentation, and inspects for valve deficiencies.

The suppression chamber - drywell vacuum breakers prevent exceeding the design limit of 2.0 psid between the drywell and the external environment, and to prevent suppression pool water backup to the drywell. The safety function of the periodic surveillance is to assure acceptable vacuum breaker valve operability. The proposed change will extend the interval between successive tests from 20 months to 24 months. Evaluation of test results have indicated no degradation of valve parts. Additionally, Technical Specification

Section 4.5, Subsection J.5.a, requires each operable suppression chamber - drywell vacuum breaker be exercised once each month and following any release of energy which would tend to increase pressure to the suppression chamber. Operation of position switches, indicators, and alarms are also verified monthly by operation of each vacuum breaker in accordance with Technical Specification requirements. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on the suppression chamber - drywell vacuum breakers and associated instrumentation since the vacuum breakers and instrumentation have demonstrated reliable operation, and monthly operability testing in accordance with Technical Specification requirements provides additional assurance of availability between refueling inspections. Therefore, the proposed change has no effect on the safety function of the suppression chamber - drywell vacuum breakers.

4. Technical Specification Section 4.5.Q.1.a, 4.5.Q.1.c, and 4.5.Q.1.f, Shock Suppressors (Snubbers), currently specify visual inspection every 18 months, a functional test each refueling cycle, and a review of installation and maintenance records for each snubber every 18 months, respectively. The purpose of the inspection and test is to provide assurance of snubber operability and reliability. The purpose of the installation and maintenance record review is to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled review. Snubbers are provided to prevent unrestrained pipe motion under dynamic loads, as may occur during an earthquake or severe transient, while allowing normal thermal motion during start-up and shutdown. The proposed change will extend the intervals between successive visual inspections from 18 months to 24 months, successive functional tests from 20 months to 24 months, and successive maintenance and installation record reviews from 18 months to 24 months. Evaluation of the 100% visual inspection results over the period 1978 to 1988 indicate only two (2) individual mechanical snubber failures, and three (3) individual hydraulic snubber failures. Evaluation of the functional tests results, performed on 10% of the total population, over the period 1983 to 1989 indicate no failures of mechanical snubbers, and only one (1) individual hydraulic snubber failure. The proposed change from 18 months to 24 months and from each refueling cycle (20 months) to 24 months will have no effect on snubber reliability since both mechanical and hydraulic snubbers have demonstrated reliable operation over the periods cited above. This data confirms that the snubber program is more than adequate in minimizing snubber failure. In addition, the nature of the Technical Specification will force a more frequent inspection schedule if the failure rate per inspection period increases, and is therefore self-correcting. The extension of the installation and maintenance record reviews maintains the snubber service life monitoring program consistent with the visual inspection and functional test periods and does not affect snubber operability. This program will continue to ensure that the indicated service life will not be exceeded prior to the next scheduled review. Therefore, the proposed change has no effect on the safety function of the snubbers.

Change No. 4 Auxiliary Electrical Power

1. Technical Specification Section 4.7, Subsections A.2 and A.3, currently specify that the emergency diesel generators shall be automatically actuated and functionally tested during each refueling outage, and a thorough inspection performed at least once per 18 months during shutdown. This surveillance testing verifies that the emergency diesel generators can start and assume load in the proper time and sequence. Thorough inspections serve to detect any signs of wear long before any failure. The emergency diesel generators provide sufficient electrical power for all loads required for safe shutdown of the plant. The safety function of the periodic surveillance testing and inspection is to verify acceptable availability of the emergency diesel generator system. The proposed change will extend the interval between successive functional tests from 20 months to 24 months, and the interval between successive inspections from 18 months to 24 months. Evaluation of emergency diesel generator test results has indicated that reliability is well within NRC guidelines as described in OCNCS response to NRC Generic Letter 84-15. In response to the station blackout issue, OCNCS is committed to maintaining a 0.975 target reliability value for the emergency diesel generator. The diesel generator manufacturer has stated that the increased maintenance and inspection cycle is acceptable. Since the emergency diesel generator units are standby units, the actual operating time of approximately 120 hours per year is far less than the rated maintenance/inspection interval of 2000 hours as specified by the manufacturer. The proposed change from refueling outage interval (20 months) to 24 months and extension of the inspections from 18 months to 24 months will have no effect on the availability or reliability of the emergency diesel generator system since acceptable performance, availability, and reliability has been demonstrated, target reliability values are established and monitored, extension of maintenance and inspection intervals is supported by the manufacturer, and the cumulative operating time of each diesel generator between extended maintenance and inspection intervals would remain much less than the manufacturers recommended interval of 2000 hours. Therefore, the proposed change has no effect on the safety function of the emergency diesel generator system.

Change No. 5 Integrity of Systems Outside Containment

1. Technical Specification Section 6.15, Subsection (2) currently requires performance of system leak tests at a frequency not to exceed refueling cycle intervals for the following systems:
 - Core Spray
 - Containment Spray
 - Reactor Water Cleanup
 - Isolation Condenser
 - Shutdown Cooling

This surveillance implements the program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low

as practical levels. The proposed change will extend the interval between successive inspections from 20 months to 24 months. Evaluation of test results over the period 1980 to 1988 for the Core Spray System indicates that only minor shaft seal and flange leakage were identified (0.04 gpm) which was subsequently repaired. Evaluation of test results over the period 1980 to 1988 for the Containment Spray System indicates only minor flange leakage identified (0.34 gpm) for one test which was repaired. Evaluation of test results over the period 1980 to 1988 for the Isolation Condenser System indicates only minor leakage identified (0.03 gpm) for two tests, which was repaired. Evaluation of test results over the period 1980 to 1988 for the Shutdown Cooling System indicated only one test in 1980 which resulted in unacceptable system external leakage. The affected components were repaired and retested. Subsequent inspections indicated only minor pump flange leakage identified for one test, which was repaired. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on the integrity of these systems located outside containment since these systems have demonstrated acceptable leak tight integrity over the eight year period cited above. Therefore, the proposed change has no effect on the integrity of these systems located outside containment.

Evaluation of test results over the period 1982-1989 for the Reactor Water Cleanup System (RWCU) indicate several instances when the 0.20 gpm leak rate inspection criteria was not met. In each case maintenance requests were initiated to address the leaking component. No major source of leakage capable of challenging system operability had been recorded. The 0.20 gpm external leakage criteria represents 20% of the total integrated ESF Systems leak rate assumed for control room habitability analyses. The ESF leak rate is the smallest contributor to the dose consequences to the control room operators following a design basis LOCA. In addition, the RWCU system is visually inspected for leaks periodically during power operation. The proposed change from refueling outage interval (20 months) to 24 months will have no effect on the integrity of the RWCU system located outside containment since system operability had been adequately maintained even though the conservative leak rate criteria has not been met on several instances, and additional periodic visual inspection during operation will continue to provide assurance of adequate integrity. Therefore, the proposed change has no effect on the integrity of the RWCU system located outside containment.

5.0 Determination

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

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 proposed amendment extends the interval between successive surveillances from 18 or 20 months to 24 months. This change does not involve any change to the actual surveillance requirements, nor does it involve any change to the limits and restrictions on plant

operations. The reliability of systems and components relied upon to prevent or mitigate the consequences of accidents previously evaluated is not degraded beyond that obtained from the currently defined surveillance interval. Assurance of system and equipment availability is maintained. This change does not involve any change to system or equipment configuration. Therefore, this change does not increase the probability of occurrence or the consequences of an accident previously evaluated.

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 proposed amendment extends the interval between successive surveillances from 18 or 20 months to 24 months. This change does not involve any change to the actual surveillance requirements, nor does it involve any change to the limits and restrictions on plant operation. This change does not involve any change to system or equipment configuration. Therefore, this change is unrelated to the possibility of creating a new or different kind of accident from any previously evaluated.
3. Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety. The proposed amendment extends the interval between successive surveillances from 18 or 20 months to 24 months. This change does not involve any change to the actual surveillance requirements, nor does it involve any change to the limits and restrictions on plant operation. The reliability of systems and components is not degraded beyond that obtained from the currently defined surveillance interval. Assurance of system and equipment availability is maintained. Therefore, it is concluded that operation of the facility in accordance with the proposed amendment does not involve a significant reduction in a margin of safety.

The proposed extension of the identified surveillances to 24 months does not degrade the reliability of systems and components beyond that obtained from the currently defined surveillance interval. Reliable performance of the systems and equipment effected by this change has been demonstrated. Implementation of the proposed amendment will maintain the required level of assurance of system and equipment availability. Thus, operation of the facility in accordance with the proposed amendment involves no significant hazards considerations.

6.0 Implementation

It is requested that the amendment authorizing this change become effective upon issuance.

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