

May 8, 1997

Mr. Michael B. Roche  
Vice President and Director  
GPU Nuclear Corporation  
Oyster Creek Nuclear Generating Station  
P.O. Box 388  
Forked River, NJ 08731

SUBJECT: OYSTER CREEK - ISSUANCE OF AMENDMENT RE: IMPLEMENTATION OF THE  
REVISED 10 CFR PART 20, "STANDARDS FOR PROTECTION AGAINST  
RADIATION" (TAC NO. M97296)

Dear Mr. Roche:

The Commission has issued the enclosed Amendment No. 191 to Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated November 12, 1996, as supplemented November 27, 1996 (TSCR 224).

The amendment updates the Technical Specifications to reflect the implementation of the revised 10 CFR Part 20, "Standards for Protection Against Radiation."

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by  
Ronald B. Eaton, Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosures: 1. Amendment No. 191 to DPR-16  
2. Safety Evaluation

cc w/encls: See next page

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M. Roche  
GPU Nuclear Corporation

Oyster Creek Nuclear  
Generating Station

cc:

Ernest L. Blake, Jr., Esquire  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, NW  
Washington, DC 20037

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406-1415

BWR Licensing Manager  
GPU Nuclear Corporation  
1 Upper Pond Road  
Parsippany, NJ 07054

Mayor  
Lacey Township  
818 West Lacey Road  
Forked River, NJ 08731

Licensing Manager  
Oyster Creek Nuclear Generating Station  
Mail Stop: Site Emergency Bldg.  
P.O. Box 388  
Forked River, NJ 08731

Resident Inspector  
c/o U.S. Nuclear Regulatory Commission  
P.O. Box 445  
Forked River, NJ 08731

Kent Tosch, Chief  
New Jersey Department of  
Environmental Protection  
Bureau of Nuclear Engineering  
CN 415  
Trenton, NJ 08625



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

GPU NUCLEAR CORPORATION

AND

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 191  
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by GPU Nuclear Corporation, et al. (the licensee), dated November 12, 1996, as supplemented November 27, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-16 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 191, are hereby incorporated in the license. GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Patrick D. Milano, Acting Director  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: May 8, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 191

FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace the following pages of the Appendix A, Technical Specifications, with the attached pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

1.0-6  
1.0-7  
1.0-8  
3.1-12  
3.1-16  
3.6-1  
3.6-5  
3.6-6  
4.6-1  
6-11  
6-13  
6-17  
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6-19

Insert

1.0-6  
1.0-7  
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3.1-12  
3.1-16  
3.6-1  
3.6-5  
3.6-6  
4.6-1  
6-11  
6-13  
6-17  
6-18  
6-19

1.28 FRACTION OF RATED POWER (FRP)

The FRACTION OF RATED POWER is the ratio of core thermal power to rated thermal power.

1.29 TOP OF ACTIVE FUEL (TAF) - 353.3 inches above vessel zero.

1.30 REPORTABLE EVENT

A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

1.31 IDENTIFIED LEAKAGE

IDENTIFIED LEAKAGE is that leakage which is collected in the primary containment equipment drain tank and eventually transferred to radwaste for processing.

1.32 UNIDENTIFIED LEAKAGE

UNIDENTIFIED LEAKAGE is all measured leakage that is other than identified leakage.

1.33 PROCESS CONTROL PLAN

The PROCESS CONTROL PLAN shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61 and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

1.34 AUGMENTED OFFGAS SYSTEM (AOG)

The AUGMENTED OFFGAS SYSTEM is a system designed and installed to holdup and/or process radioactive gases from the main condenser offgas system for the purpose of reducing the radioactive material content of the gases before release to the environs.

1.35 MEMBER OF THE PUBLIC

A MEMBER OF THE PUBLIC is a person who is not occupationally associated with GPU Nuclear and who does not normally frequent the Oyster Creek Nuclear Generating Station site. The category does not include contractors, contractor employees, vendors, or persons who enter the site to make deliveries, to service equipment, work on the site, or for other purposes associated with plant functions.

1.36 OFFSITE DOSE CALCULATION MANUAL (ODCM)

The OFFSITE DOSE CALCULATION MANUAL shall contain the methodology and

parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluent, in the calculation of gaseous and liquid effluent monitoring Alarm/Trip Setpoints, and in the conduct of the Environmental Radiological Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4; and (2) descriptions of the information that should be included in the Annual Radioactive Effluent Release Report AND Annual Radiological Environmental Operating Report required by Specifications 6.9.1.d and 6.9.1.e, respectively.

1.37 PURGE

**PURGE OR PURGING** is the controlled process of discharging air or gas from a confinement and replacing it with air or gas.

1.38 EXCLUSION AREA

**EXCLUSION AREA** is defined in 10 CFR part 100.3(2). As used in these technical specification, the Exclusion Area boundary is the perimeter line around the OCNCS beyond which the land is neither owned, leased, nor otherwise subject to control by GPU (ref. ODCM Figure 1-1). The area outside the Exclusion Area is termed **OFFSITE** or **UNRESTRICTED AREA**.

1.39 REACTOR VESSEL PRESSURE TESTING

System pressure testing required by ASME Code Section XI, Article IWA-5000, including system leakage and hydrostatic test, with reactor vessel completely water solid, core not critical and section 3.2.A satisfied.

1.40 SUBSTANTIVE CHANGES

**SUBSTANTIVE CHANGES** are those which affect the activities associated with a document or the document's meaning or intent. Examples of non-substantive changes are: (1) correcting spelling, (2) adding (but not deleting) sign-off spaces, (3) blocking in notes, cautions, etc, (4) changes in corporate and personnel titles which do not reassign responsibilities and which are not referenced in the Appendix A Technical Specifications, and (5) changes in nomenclature or editorial changes which clearly do not change function, meaning or intent.

1.41 DOSE EQUIVALENT I-131

**DOSE EQUIVALENT I-131** shall be that concentration of I-131 microcuries per gram which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table E-7 or Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluences for the Purpose of Evaluating Compliance with 10 CFR Par 40 Appendix I."

1.42 AVERAGE PLANAR LINEAR HEAT GENERATION RATE

The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) shall be applicable to a specific planar height and is equal to the sum of the heat generation rate per unit length of fuel rod for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle at that height.

1.43 CORE OPERATING LIMITS REPORT

The Oyster Creek CORE OPERATING LIMITS REPORT (COLR) is the document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.f. Plant operation within these operating limits is addressed in individual specifications.

1.44 LOCAL LINEAR HEAT GENERATION RATE

The LOCAL LINEAR HEAT GENERATION RATE (LLHGR) shall be applicable to a specific planar height and is equal to the AVERAGE PLANAR LINEAR GENERATION RATE (APLHGR) at the specified height multiplied by the local peaking factor at that height.

1.45 SHUTDOWN MARGIN (SDM)

SHUTDOWN MARGIN is the amount of reactivity by which the reactor would be subcritical when the control rod with the highest reactivity worth is fully withdrawn, all other operable control rods are fully inserted, all inoperable control rods are at their current position, reactor water temperature is 68°F, and the reactor fuel is xenon free. Determination of the control rod with the highest reactivity worth includes consideration of any inoperable control rods which are not fully inserted.

TABLE 3.1 PROTECTIVE INSTRUMENTATION REQUIREMENTS

Function	Trip Setting	Reactor Modes in which Function Must Be OPERABLE				Min. No. of OPERABLE or OPERATING [tripped] Trip Systems	Min. No. of Instrument Channels OPERABLE Trip System	Action Required*
		Shutdown	Refuel	Startup	Run			
<b>H. Isolation Condenser Isolation (See Note hh)</b>								Isolate affected Isolation Condenser, comply with Spec. 3.8 See note dd
1. High Flow Steam Line	≤ 20 psig P	X(s)	X(s)	X	X	2	2(oo)	
2. High Flow Condensate Line	≤ 27" P H <sub>2</sub> O	X(s)	X(s)	X	X	2	2(oo)	
<b>I. Offgas System Isolation</b>								See Note jj
1. High Radiation In Offgas Line (e)	≤ 2,000 mRem/hr	X(s)	X(s)	X	X	1(ii)	2(ii)	
<b>J. Reactor Building Isolation and Standby Gas Treatment System Initiation</b>								Isolate Reactor Building and Initiate Standby Gas Treatment System or Manual Surveillance for not more than 24 hours (total for all instruments under J) in any 30-day period
1. High Radiation Reactor Building Operating Floor	≤ 100 mR/hr	X(w)	X(w)	X	X	1	1	
2. Reactor Building Ventilation Exhaust	≤ 17 mR/hr	X(w)	X(w)	X	X	1	1	
3. High Drywell Pressure	≤ 3.5 psig	X(u)	X(u)	X	X	1(k)	2(k)	
4. Low-Low Reactor Water Level	≥ 7'2" above TOP OF ACTIVE FUEL	X	X	X	X	1	2	

TABLE 3.1.1 (CONTD)

\* Action required when minimum conditions for operation are not satisfied. Also permissible to trip inoperable trip system. A channel may be placed in an inoperable status for up to six hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE instrument channel in the same trip system is monitoring that parameter.

\*\* See Specification 2.3 for Limiting Safety System Settings.

Notes:

- a. Permissible to bypass, with control rod block, for reactor protection system reset in REFUEL MODE.
- b. Permissible to bypass below 800 psia in REFUEL and STARTUP MODES.
- c. One (1) APRM in each OPERABLE trip system may be bypassed or inoperable provided the requirements of Specification 3.1.C and 3.10.C are satisfied. Two APRMs in the same quadrant shall not be concurrently bypassed except as noted below or permitted by note.

Any one APRM may be removed from service for up to six hours for test or calibration without inserting trips in its trip system only if the remaining OPERABLE APRMs meet the requirements of Specification 3.1.B.1 and no control rods are moved outward during the calibration or test. During this short period, the requirements of Specifications 3.1.B.2, 3.1.C and 3.10.C need not be met.

- d. The IRMs shall be inserted and OPERABLE until the APRMs are OPERABLE and reading at least 2/150 full scale.
- e. Offgas system isolation trip set at  $\leq 2,000$  mRem/hr. Air ejector isolation valve closure time delay shall not exceed 15 minutes.
- f. Unless SRM chambers are fully inserted.
- g. Not applicable when IRM on lowest range.
- h. 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.

### 3.6 Radioactive Effluents

**Applicability:** Applies to the radioactive effluents of the facility.

**Objective:** To assure that radioactive material is not released to the environment in an uncontrolled manner and to assure that the radioactive concentrations of any material released is kept as low as is reasonably achievable and, in any event, within the limits of 10 CFR part 20.1301 and 40 CFR Part 190.10(a).

#### **Specification:**

##### 3.6.A. Reactor Coolant Radioactivity

The specific activity of the primary coolant except during REFUEL MODE shall be limited to: Less than or equal to 0.2 microcuries per gram DOSE EQUIVALENT (D.E.) I-131.

#### **Limiting Condition for Operation**

1. Whenever an isotopic analysis shows reactor coolant activity exceeds 0.2 uCi/gram DOSE EQUIVALENT (D.E.) I-131, operation may continue for up to 48 hours. Additional analyses shall be done at least once per 4 hours until the specific activity of the primary coolant is restored to within its limit.
2. If the reactor coolant activity is greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than 4.0 microcuries per gram D.E. I-131, be in at least SHUTDOWN CONDITION within 12 hours.
3. Annual Reporting Requirement

The results of specific activity analyses in which the reactor coolant exceeded the limits of Specification 3.6.A shall be reported on an annual basis. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded until after the radioiodine activity is reduced to less than the limit; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded until after the radioiodine activity is reduce to less than the limit; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and, (5) The time duration when specific activity of the primary coolant exceeded the radioiodine limit.

- 
- \* If there are consecutive thermal power changes by more than 15% per hour, take sample and analyze at least one sample between 2 and 6 hours following the change and at least once per four hours thereafter, until the specific activity of the primary coolant is restored to within limits.

- 3.6.C Restricting the quantity of radioactive material contained in the specific tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20.1001-20.2402, Appendix B, Table 2, Column 2 in the canal at the Route 9 bridge.

Retaining radioactive liquids on-site in order to permit systematic and appropriate processing is consistent with maintaining radioactive discharges to the environment as low as practicable. Limiting the contents of each outside tank to 10 curies or less assures that even if the contents of a tank were released onto the ground and drained into the discharge canal, the potential dose to a member of the public is estimated to be less than 1 percent of the 500 mrem/year limit to the total body of a member of the public and only 1 percent of the corresponding 1500 mrem/year standard for a single organ.

In the highly unlikely event that every outside tank named in Specification 3.6.C were to contain 10 curies and the contents of all were to spill into the discharge canal, the potential dose to a member of the public is estimated to be only about 2 percent of the 500 mrem/year limit to the total body and about 6 percent of the corresponding 1500 mrem/year standard.

3.6.D RELOCATED TO THE ODCM

- 3.6.E Some radioactive materials are released from the plant under controlled conditions as part of the normal operation of the facility. Other radioactive material not normally intended for release could be inadvertently released in the event of an accident. Therefore, limits in 10 CFR Part 20 apply to releases during normal operation and limits in 10 CFR Part 100 apply to accidental releases.

Radioactive gases from the reactor pass through the steam lines to the turbine and then to the main condenser where they are extracted by the air ejector, passed through holdup piping and released via the plant stack preferably after treatment in the Augmented Offgas System. Radioactive materials release limits for the plant stack have been calculated using meteorological data from a 400 ft. tower at the plant site. The analysis of these on-site meteorological data shows that a release of radioactive gases after holdup in the offgas system, would not result in a whole body radiation dose exceeding the 10 CFR 20 value of 0.1 rem per year.

Whole body dose was calculated to determine the offgas system isolation trip setpoints for the Steam Jet Air Ejector (SJAЕ) radiation monitor using RAC Code from gamma dose due to cloud passage over the receptor and not cloud submersion in which beta dose could be additive. The Holland plume rise model with no correction factor was used in the calculation of the effect of momentum and buoyancy of a continuously emitted plume. The source terms for this calculation assumes historical (i.e., 1989-1990) offgas isotopic composition, site specific meteorological conditions, plant specific offgas flow rates and takes credit for AOG operation 60 percent of the time.

These calculations have established that a dose rate of  $\leq 2,000$  mRem/hr at the SJAЕ Offgas Radiation Monitor is within 10 CFR 20.1301(a)(1) limits, i.e., less than 100 mRem in a year.

3.6.F The purpose of Specification 3.6.F is to require that the concentration of potentially explosive gas mixtures in the Augmented Offgas System be maintained below the flammability limit of hydrogen in air, although the AOG is designed to withstand a hydrogen explosion. Specification 3.6.F applies to the hydrogen concentration downstream of a recombiner during AOG operation. The AOG has redundant recombiners so that the recombiner in use can be isolated and purged with air in the event hydrogen in it exceeds the specified limit.

3.6.G NOT USED

3.6.H NOT USED

3.6.I RELOCATED TO THE ODCM

3.6.J RELOCATED TO THE ODCM

3.6.K RELOCATED TO THE ODCM

3.6.L RELOCATED TO THE ODCM

3.6.M RELOCATED TO THE ODCM

3.6.N RELOCATED TO THE ODCM

Applicability: Applies to monitoring of gaseous and liquid radioactive effluents of the Station during release of effluents via the monitored pathway(s). Each Surveillance Requirement applies whenever the corresponding Specification is applicable unless otherwise stated in an individual Surveillance Requirement. Surveillance Requirements do not have to be performed on inoperable equipment.

Objective: To measure radioactive effluents adequately to verify that radioactive effluents are as low as is reasonably achievable and within the limit of 10 CFR Part 20.

Specification:

A. Reactor Coolant

Reactor coolant shall be sampled and analyzed at least once every 72 hours for DOSE EQUIVALENT I-131 during RUN MODE, STARTUP MODE and SHUTDOWN CONDITION.

B. NOT USED.

C. Radioactive Liquid Storage

1. Liquids contained in the following tanks shall be sampled and analyzed for radioactivity at least once per 7 days when radioactive liquid is being added to the tank:

- a. Waste Surge Tank, HP-T-3;
- b. Condensate Storage Tank.

D. Main Condenser Offgas Treatment

RELOCATED TO THE ODCM.

E. Main Condenser Offgas Radioactivity

1. The gross radioactivity in fission gases discharged from the main condenser air ejector shall be measured by sampling and analyzing the gases.

- a. at least once per month, and
- b. When the reactor is operating at more than 40 percent of rated power, within 4 hours after an increase in the fission gas release via the air ejector of more than 50 percent, as indicated by the Condenser Air Ejector Offgas Radioactivity Monitor after factoring out increase(s) due to change(s) in the thermal power level.

F. Condenser Offgas Hydrogen Concentration

The concentration of hydrogen in offgases downstream of the recombiner in the Offgas System shall be monitored with hydrogen instrumentation as described in Table 3.15.2.

G. NOT USED.

H. NOT USED.

6.8.4 The following programs shall be established, implemented and maintained:

a. Radioactive Effluent Controls Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluent and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluent as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

1. Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including the surveillance tests and setpoint determination in accordance with the methodology in the ODCM,
2. Limitations on the concentrations of radioactive material released in liquid effluent to the UNRESTRICTED AREA conforming to less than the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402.
3. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluent in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM.
4. Limitations on the annual and quarterly doses and dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluent released to the UNRESTRICTED AREA conforming to Appendix I of 10 CFR 50,
5. Determination of cumulative and projected dose contributions from radioactive effluent for the current calendar quarter and the current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,
6. Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in the 31 day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR 50,
7. Limitations on the dose rate resulting from radioactive materials released in gaseous effluents from the site to the UNRESTRICTED AREA shall be limited to the following:
  - a. For noble gases: Less than or equal to a dose rate of 500 mRems/yr to the total body and less than or equal to a dose rate of 3000 mRems/yr to the skin, and
  - b. For iodine-131, iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mRems/yr to any organ.
8. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents to the UNRESTRICTED AREA conforming to Appendix I of 10 CFR 50,

In addition to the applicable reporting requirements of 10 CFR, the following identified reports shall be submitted to the Administrator of the NRC Region I office unless otherwise noted.

### 6.9.1 ROUTINE REPORTS

- a. Startup Report. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the FSAR and shall in general include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specified details required in license conditions based on other commitments shall be included in this report.

Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

- b. Annual Exposure Data Report. Routine exposure data reports covering the operation of the facility during the previous calendar year shall be submitted prior to April 30 of each year. Reports shall contain a tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) for whom monitoring is required receiving exposures greater than 100 mRem/yr. and their associated man rem exposure according to work and job functions (this tabulation supplements the requirements of Section 20.2206 of 10 CFR Part 20), e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimated based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- c. Monthly Operating Report. Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis which will include a narrative of operating experience, to the Director, Office of Management and Program Control, U. S. Nuclear Regulatory Commission, with a copy to the Regional Office, no later than the 15th of each month following the calendar month covered by the report.

6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principle maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All Licensee Event Reports.
- d. Records of surveillance activities, inspections and calibrations required by these technical specifications.
- e. Records of reactor tests and experiments.
- f. Records of changes made to operating procedures.
- g. Deleted.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Record and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of doses received by all individuals for whom monitoring was required entering radiation control areas.
- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.
- g. Records of training and qualification for current members of the plant staff.
- h. Records of inservice inspections performed pursuant to these technical specifications.
- i. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- j. Records of reviews by the Independent Onsite Safety Review Group.

- k. Records of Environmental Qualification which are covered under the provisions for paragraph 6.14.
- l. Records of the service lives of all snubbers, including the date which the service life commences, and associated installation and maintenance records.
- m. Records of results of analyses required by the Radiological Environmental Monitoring Program.
- n. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PLAN.
- o. Records of radioactive shipments.

6.10.3 Quality Assurance Records shall be retained as specified by the Quality Assurance Plan.

### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 (Deleted)

### 6.13 HIGH RADIATION AREA

6.13.1 In lieu of the "control device" or "alarm signal" required by Section 20.1601 of 10 CFR 20, each high radiation area in which the intensity of radiation at 30 cm (11.8 in.) is greater than deep dose equivalent of 100 mRem/hr but less than 1,000 mRem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP).

NOTE: Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they are following plant radiation protection procedures for entry into high radiation areas.

An individual or group of individuals permitted to enter such areas shall be provided with one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a pre-set integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them.
- c. A health physics qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device who is responsible for providing positive exposure control over the activities within the area and who will perform periodic radiation surveillance at the frequency in the RWP. The surveillance frequency will be established by the Director responsible for radiological controls.

- 6.13.2 Specification 6.13.1 shall also apply to each high radiation area in which the intensity of radiation is greater than deep dose equivalent of 1, ( ) mRem/hr at 30 cm (11.8 in.) but less than 500 rads in 1 hour at 1 meter (3.28 ft.) from sources of radioactivity. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of operations and/or radiation protection supervision on duty.

#### 6.14 ENVIRONMENTAL QUALIFICATION

- A. By no later than June 30, 1982 all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines); or, NUREG-0588 "Interim Staff Position of Environmental Qualification of Safety-Related Electrical Equipment," December 1979. Copies of these documents are attached to Order for Modification of License DPR-16 dated October 24, 1980.
- B. By no later than December 1, 1980, complete and auditable records must be available and maintained at a central location which describe the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with the DOR Guidelines or NUREG-0588. Thereafter, such records should be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified.

#### 6.15 INTEGRITY OF SYSTEMS OUTSIDE CONTAINMENT

The licensee shall implement a 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. This program shall include the following:

1. Provisions establishing preventative maintenance and periodic visual inspection requirements, and
2. System leak test requirements, to the extent permitted by system design and radiological conditions, for each system at a frequency of once every 24 months. The systems subject to this testing are (1) Core Spray, (2) Containment Spray, (3) Reactor Water Cleanup, (4) Isolation Condenser, and (5) Shutdown Cooling.

#### 6.16 IODINE MONITORING

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas\* under accident conditions. This program shall include the following:

- a. Training of personnel,
- b. Procedures for monitoring, and
- c. Provisions for maintenance of sampling and analysis equipment.

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\*Areas requiring personnel access for establishing hot shutdown condition.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 191

TO FACILITY OPERATING LICENSE NO. DPR-16

GPU NUCLEAR CORPORATION AND

JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated November 12, 1996, as supplemented November 27, 1996, the GPU Nuclear Corporation (GPU or the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station (OCNGS). The proposed amendment would change the TS to reflect the implementation of the revised 10 CFR Part 20, "Standards for Protection Against Radiation."

2.0 EVALUATION

The licensee has proposed to revise the TS to include wording that is consistent with the revised 10 CFR Part 20, Standards for Protection Against Radiation, and will retain the same overall level of effluent control required to meet the design objectives of Appendix I to 10 CFR Part 50.

The proposed TS changes and evaluations follow:

1. Definition 1.36 OFFSITE DOSE CALCULATION MANUAL

The licensee has proposed to change the referenced section designation to "6.8.4." The change is editorial in nature and is acceptable.

2. Definition 1.38 EXCLUSION AREA

The licensee has proposed to add the words "UNRESTRICTED AREA" to define the area outside the Exclusion Area. The change is consistent with other parts of the Oyster Creek TS. The change is administrative in nature and is acceptable.

3. Table 3.1.1

The licensee has proposed to change the trip setting for the "High Radiation In Offgas Line" from " $\leq 2.1/E$  Ci/sec" to " $\leq 2,000$  mRem/hr." The new setpoint is based on the 10 CFR 20.1301(a)(1) dose limit. The setpoint takes into consideration the reduction in release rate afforded by operation of the Augmented Offgas System based on its historical operating record, historical offgas composition, and site-specific meteorological data. The radiation monitors are not used to monitor effluent releases to the environment. The change will not cause an increase in radioactive material released into the environment and is consistent with 10 CFR Part 20. The proposed change is acceptable.

4. Table 3.1.1

The licensee has proposed to change "Note e" of this table to reflect the Steam Jet Air Ejector offgas radiation monitor setpoint as discussed in item 3 above. The change is administrative in nature and is acceptable.

5. BASES for TS 3.6.C

The licensee has proposed to change the 10 CFR Part 20 reference to "Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402." The change is consistent with the revised 10 CFR Part 20 and is acceptable.

6. BASES for TS 3.6.E

The licensee has proposed to change the description of this BASES to discuss the following three items:

1. That the offgas system performance includes augmented offgas (AOG) system operation which results in effective holdup time of much greater than 30 minutes.
2. The release rate of 0.3 Ci/sec is no longer applicable since credit is taken for historical offgas composition, use of AOG system, and the new 10 CFR 20.1301(a)(1) dose limit.
3. The whole body radiation dose of 0.1 rem per year reflects the new 10 CFR 20.1301(a)(1) dose limit.

The changes are consistent with the revised 10 CFR Part 20 and are acceptable.

7. BASES for TS 3.6.E

The description is being revised to describe the revised steam jet air ejector offgas radiation monitor setpoint discussed in item 3 above.

The change is administrative in nature and is acceptable.

8. TS 4.6

The licensee has proposed to correct a grammatical error and revise the reference to 10 CFR Part 20.

The changes are administrative in nature and are acceptable.

9. TS 6.8.4.a.2

The licensee has proposed to revise the 10 CFR Part 20 reference to "Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402."

The change is administrative in nature and is acceptable.

10. TS 6.8.4.a.7

The licensee has proposed to change this TS which specifies the limitations on the concentrations of radioactive material released in gaseous effluents to read as follows:

Limitations on the dose rate resulting from radioactive materials released in gaseous effluents from the site to the UNRESTRICTED AREA shall be limited to the following:

- a. For noble gases: Less than or equal to a dose rate of 500 mRems/yr to the total body and less than or equal to a dose rate of 3000 mRems/yr to the skin, and
- b. For iodine-131, iodine-133, tritium, and for all radionuclides in particulate form with half-lives [greater] than 8 days: Less than or equal to a dose rate of 1500 mRems/yr to any organ.

This specification provides reasonable assurances that radioactive material discharged in gaseous effluents will not result in the exposure of a member of the public in an unrestricted area in excess of the design objectives of Appendix I to 10 CFR Part 50. The specification is provided to ensure that gaseous effluents from the site will be appropriately controlled. It provides operational flexibility for releasing gaseous effluents to satisfy the design objectives of Section II.A and II.C of Appendix I to 10 CFR Part 50. The specified release rate limit restricts, at all times, the corresponding dose rates above background to a member of the public in an unrestricted area to less than or equal to 500 mRems/yr to the total body or to less than or equal to 3000 mRems/yr to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mRems/yr. The specification does not affect the licensee's requirement to comply with the dose limits in 10 CFR 20.1301(a).

Based on the above, the specification, which is based on guidance contained in NUREG-0133, is acceptable as a TS limit for gaseous effluents.

11. TS 6.8.4.a.8, 6.8.4.a.2, 6.8.4.a.4, and 6.8.4.a.7

The licensee has proposed to change the words "beyond the EXCLUSION AREA boundary" and "UNRESTRICTED AREAS" with the words "the UNRESTRICTED AREA."

The change is administrative in nature and is acceptable.

12. TS 6.9.1.b

The licensee has proposed to change this specification which requires that a report be submitted annually which includes a tabulation of individuals receiving exposures greater than 100 mRem/yr and their associated person-rem exposure according to work and job functions. The proposed change will clarify that the individuals monitored in accordance with 10 CFR 20.1502 will be included in the tabulated annual report.

The change is consistent with the revised 10 CFR Part 20 and is acceptable.

13. TS 3.6, 6.8.a.3, 6.9.1.b, and 6.13.1

The licensee has proposed to change the 10 CFR Part 20 section references to the corresponding revised 10 CFR Part 20 section references.

The changes are administrative in nature and are acceptable.

14. TS 6.10.g and 6.10.2.o

The licensee has proposed to relocate the requirement to retain records of radioactive shipments from TS 6.10.g to TS 6.10.2.o. TS 6.10.2.o requires that records be kept for the duration of the operating license.

The change is consistent with the revised 10 CFR Part 20 and is acceptable.

15. TS 6.10.2.d

The licensee has proposed to change this specification to require retention of dose records, for the duration of the operating license, only for those individuals for whom monitoring was required.

The change is consistent with the revised 10 CFR Part 20 and is acceptable.

16. TS 6.13.1 and 6.13.2

The licensee has proposed to change this specification related to high radiation areas to provide wording and measurement distances consistent with the definition of a high radiation area in 10 CFR 20.1003 and to identify the maximum doses associated with a high radiation area.

The proposed changes are consistent with the revised 10 CFR Part 20 and are acceptable.

### 17. Typographical Corrections

In a discussion with the staff by telephone on April 15, 1997, the licensee requested that the following typographical errors be corrected on the TS pages:

TS page 3.1-12: "Mr" to "mR" in Table 3.1.1, item J.  
TS page 6-11: "grater" to "greater" in TS 6.8.4.a.7.b.  
Bases page 3.6-5 "mem" to "mrem" in 3.6.C.

These are simply typographical changes and the text has been corrected.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the *Federal Register* on May 7, 1997 (62 FR 24983).

Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: S. Klementowicz

Date: May 8, 1997