

June 12, 1995

Mr. J. E. Cross  
Senior Vice President and  
Chief Nuclear Officer  
Nuclear Power Division  
Duquesne Light Company  
Post Office Box 4  
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 (TAC NOS. M86770  
AND M86771)

Dear Mr. Cross:

The Commission has issued the enclosed Amendment No. 188 to Facility Operating License No. DPR-66 and Amendment No. 70 to Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 17, 1993, as supplemented October 20, 1993, and May 23, 1995.

These amendments revise the Appendix A TSs for Unit 1 and Unit 2 by relocating the requirements of the radiological effluent technical specifications (RETS) and the solid radioactive wastes TSs from the Appendix A TSs to the offsite dose calculation manual (ODCM) or to the process control program (PCP) in accordance with the guidance provided in NRC Generic Letter 89-01 and NRC Report NUREG-1301. Programmatic controls are also being incorporated into the Administrative Controls section of the TSs. Additionally, editorial and definition changes are being made to facilitate the relocation of these requirements.

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

Sincerely,

C. Poslusny /s/ for  
Donald S. Brinkman, Senior Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

9507050284 950612  
PDR ADOCK 05000334  
P PDR

Docket Nos. 50-334/412

- Enclosures: 1. Amendment No. 188 to License No. DPR-66
- 2. Amendment No. 70 to License No. NPF-73
- 3. Safety Evaluation

cc w/encls: See next page

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Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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\*See previous occurrence

OFFICE	<i>MO'Brien</i>	PDI-2/PM	OGC	PDI-2/D	
NAME	MO'Brien	DBrinkman:mw	CMarco	JStolz	
DATE	<i>6/12/95</i>	<i>6/14/95</i>	4/10/95	6/12/95	



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 12, 1995

Mr. J. E. Cross  
Senior Vice President and  
Chief Nuclear Officer  
Nuclear Power Division  
Duquesne Light Company  
Post Office Box 4  
Shippingport, PA 15077

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These amendments revise the Appendix A TSs for Unit 1 and Unit 2 by relocating the requirements of the radiological effluent technical specifications (RETS) and the solid radioactive wastes TSs from the Appendix A TSs to the offsite dose calculation manual (ODCM) or to the process control program (PCP) in accordance with the guidance provided in NRC Generic Letter 89-01 and NRC Report NUREG-1301. Programmatic controls are also being incorporated into the Administrative Controls section of the TSs. Additionally, editorial and definition changes are being made to facilitate the relocation of these requirements.

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Sincerely,

A handwritten signature in cursive script, appearing to read "Donald S. Brinkman".

Donald S. Brinkman, Senior Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334/412

Enclosures: 1. Amendment No. 188 to  
License No. DPR-66  
2. Amendment No. 70 to  
License No. NPF-73  
3. Safety Evaluation

cc w/encls: See next page

J. E. Cross  
Duquesne Light Company

Beaver Valley Power Station  
Units 1 & 2

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

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

DOCKET NO. 50-334

BEAVER VALLEY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188  
License No. DPR-66

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duquesne Light Company, et al. (the licensee) dated June 17, 1993, as supplemented October 20, 1993, and May 23, 1995, 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-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 188, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*John F. Stolz*

John F. Stolz, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 12, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 188

FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

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

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1-7	1-7
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ATTACHMENT TO LICENSE AMENDMENT NO. 188

FACILITY OPERATING LICENSE NO: DPR-66

DOCKET NO. 50-334

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

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B 3/4 11-3	----
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SOURCE CHECK

1.27 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

PROCESS CONTROL PROGRAM

1.28 The PROCESS CONTROL PROGRAM (PCP) 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.

1.29 DELETED

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.30 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, 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 6.8.6 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.10 and 6.9.1.11.

GASEOUS RADWASTE TREATMENT SYSTEM

1.31 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

VENTILATION EXHAUST TREATMENT SYSTEM

1.32 A VENTILATION EXHAUST TREATMENT SYSTEM is any system designed and installed to reduce gaseous radioiodine or radioactive

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material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

PURGE-PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions, in such a manner that replacement air or gas is required to purify the confinement.

VENTING

1.34 VENTING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

MAJOR CHANGES

1.35 MAJOR CHANGES to radioactive waste systems (liquid, gaseous and solid), as addressed in the PROCESS CONTROL PROGRAM shall include the following:

- 1) Major changes in process equipment, components, structures and effluent monitoring instrumentation from those described in the Final Safety Analysis Report (FSAR) or the Hazards Summary Report and evaluated in the staff's Safety Evaluation Report (SER) (e.g., deletion of evaporators and installation of demineralizers; use of fluidized bed calciner/incineration in place of cement solidification systems);

Specification 3.3.3.9 has been moved to the OFFSITE DOSE CALCULATION MANUAL.  
Specification 3.3.3.10 has been partially moved to the OFFSITE DOSE CALCULATION MANUAL and the remaining part renumbered as 3.3.3.11.

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INSTRUMENTATION

EXPLOSIVE GAS MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

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3.3.3.11 The explosive gas monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.2.6 are not exceeded.

APPLICABILITY: As shown in Table 3.3-13.

ACTION

- a. With an explosive gas monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above specification, declare the channel inoperable and take the ACTION shown in Table 3.3-13.
- b. With less than the minimum number of explosive gas monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 to explain why this inoperability was not corrected in a timely manner.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.3.3.11 Each explosive gas monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-13.

TABLE 3.3-13

DPR-66

EXPLOSIVE GAS MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Waste Gas Decay Tanks Monitor			
a. Oxygen Monitor (O <sub>2</sub> -AS-GW-110-1,2)	(2)	**	31

\*\* During waste gas decay tank filling operation.

TABLE 3.3-13, (Continued)

ACTION STATEMENTS

- ACTION 27 - (This ACTION is not used)
- ACTION 28 - (This ACTION is not used)
- ACTION 29 - (This ACTION is not used)
- ACTION 30 - (This ACTION is not used)
- ACTION 31 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue provided grab samples are taken and analyzed at least once per 24 hours. With both channels inoperable, operation may continue provided grab samples are taken and analyzed at least once per 4 hours during degassing operations and at least once per 24 hours during other operations.
- ACTION 32 - (This ACTION is not used)

EXPLOSIVE GAS MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. Waste Gas Decay Tanks Monitor			
a. Oxygen Monitor (O <sub>2</sub> -AS-GW-110-1,2)	D**	Q(1)	M

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\*\* During waste gas decay tank filling operation.

TABLE 4.3-13 (Continued)

TABLE NOTATION

- (1) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
1. One volume percent oxygen, balance nitrogen, and
  2. Four volume percent oxygen, balance nitrogen

Specifications 3.11.1.1 through 3.11.1.3  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

LIQUID HOLDUP TANKS

LIMITING CONDITION FOR OPERATION

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3.11.1.4 The quantity of radioactive material contained in each of the following tanks shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

- a. BR-TK-6A (Primary Water Storage Tank)
- b. BR-TK-6B (Primary Water Storage Tank)
- c. LW-TK-7A (Steam Generator Drain Tank)
- d. LW-TK-7B (Steam Generator Drain Tank)
- e. Miscellaneous temporary outside radioactive liquid storage tanks.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above listed tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit, and
- b. Submit a Special Report to the Commission within 30 days pursuant to Specification 6.9.2 and include a schedule and a description of activities planned and/or taken to reduce the contents to within the specified limits.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.11.1.4.1 The quantity of radioactive material contained in each of the above listed tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

Specifications 3.11.2.1 through 3.11.2.4  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

DPR-66  
RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

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3.11.2.5 The quantity of radioactivity contained in each gas storage tank shall be limited to less than or equal to 52,000 curies noble gases (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit, and
- b. Submit a Special Report to the Commission within 30 days pursuant to Specification 6.9.2 and include a schedule and a description of activities planned and/or taken to reduce the contents to within the specified limits.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.11.2.5.1 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 24 hours when radioactive materials are being added to the tank. Performance of this surveillance is required when the gross concentration of the primary coolant is greater than 100 uCi/ml.

DPR-66  
RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

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3.11.2.6 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times.

ACTION:

- a. With the concentration of oxygen in the waste gas holdup system greater than 2% by volume but less than or equal to 4% by volume, immediately suspend all additions of waste gases to the gaseous waste decay tank and reduce the concentration of oxygen to less than or equal to 2% by volume within 48 hours.
- b. With the concentration of oxygen in the waste gas holdup system greater than 4% by volume and the hydrogen concentration greater than 4% by volume, immediately suspend all additions of waste gases to the affected tank and reduce the concentration of oxygen to less than or equal to 4% by volume, then take ACTION a, above.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.11.2.6.1 The concentrations of oxygen in the waste gas holdup system shall be determined to be within the above limits by continuously monitoring the waste gases in the waste gas holdup system with the oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.11 or monitoring in conjunction with its associated action statement.

Specification 3.11.3.1 has been moved  
to the PROCESS CONTROL PROGRAM.  
Specification 3.11.4.1 has been moved  
to the OFFSITE DOSE CALCULATION MANUAL.

Specifications 3.12.1 through 3.12.3  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

DPR-66  
INSTRUMENTATION

BASES

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3/4.3.3.11 EXPLOSIVE GAS MONITORING INSTRUMENTATION

This instrumentation includes provisions for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

3/4.11 RADIOACTIVE EFFLUENTSBASES

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3/4.11.1 LIQUID EFFLUENTS3/4.11.1.4 LIQUID HOLDUP TANKS

Restricting the quantity of radioactive material contained in the specified 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, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area.

3/4.11.2 GASEOUS EFFLUENTS3/4.11.2.5 GAS STORAGE TANKS

Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting total body exposure to an individual located at the nearest exclusion area boundary for two hours immediately following the onset of the release will not exceed 0.5 rem. The specified limit restricting the quantity of radioactivity contained in each gas storage tank was specified to ensure that the total body exposure resulting from the postulated release remained a suitable fraction of the reference value set forth in 10 CFR 100.11 (a)(1).

3/4.11.2.6 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. Isolation of the affected tank for purposes of purging and/or discharge permits the flammable gas concentrations of the tank to be reduced below the lower explosive limit in a hydrogen rich system. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

6.8.6 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 effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents 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 surveillance tests and setpoint determination in accordance with the methodology in the ODCM,
- 2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 2, Column 2,
- 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 or 10 CFR 20.1302, as appropriate, and with the methodology and parameters in the ODCM,
- 4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and 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 a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,

- 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR Part 20, Appendix B, Table 2, Column 1,
- 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

b. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- 1) Monitoring, sampling, analysis, and reporting or radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,
- 2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and

- 3) Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the U. S. Nuclear Regulatory Commission, Document Control Desk.

### STARTUP REPORTS

6.9.1.1 A summary report of plant startup and power escalation testing will 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.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall 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 specific details requested in license conditions based on other commitments shall be included in this report.

6.9.1.3 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.

ANNUAL REPORTS (1)

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions<sup>(2)</sup> (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20 percent of the individual total dose need not be accounted for. In the aggregate, at least 80 percent of the total whole body dose received from external sources should be assigned to specific major work functions.
- b. Documentation of all challenges to the pressurizer power operated relief valves (PORVs) or pressurizer safety valves.
- c. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (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 the radioiodine activity was reduced to less than limit. Each result should

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(1) A single submittal may be made for a multiple unit site. The submittal should combine those sections that are common to all units at the site.

(2) This tabulation supplements the requirements of Section 20.2206 of 10 CFR Part 20.

ANNUAL REPORTS (Continued)

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; (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 the specific activity of the primary coolant exceeded the radioiodine limit.

MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

6.9.1.7 DELETED by Amendment No. 84

6.9.1.8 DELETED by Amendment No. 84

6.9.1.9 DELETED by Amendment No. 84

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT<sup>(3)</sup>

6.9.1.10 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

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(3) A single submittal may be made for a multi-unit station.

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT<sup>(4)</sup>

6.9.1.11 The Annual Radioactive Effluent Release Report covering the operation of the unit during the previous 12 months of operation shall be submitted before April 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

CORE OPERATING LIMITS REPORT

6.9.1.12 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC in:

1. WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY", July 1985 (Westinghouse Proprietary). Methodology applied for the following Specifications:
  - 3.1.3.5, Shutdown Rod Insertion Limits
  - 3.1.3.6, Control Rod Insertion Limits
  - 3.2.1, Axial Flux Difference-Constant Axial Offset Control
  - 3.2.2, Heat Flux Hot Channel Factor-FQ(Z)
  - 3.2.3, Nuclear Enthalpy Rise Hot Channel Factor-FN delta H
2. WCAP-9220-P-A, Rev. 1, "WESTINGHOUSE ECCS EVALUATION MODEL-1981 VERSION", February 1982 (Westinghouse Proprietary). Methodology applied for the following Specification: 3.2.2, Heat Flux Hot Channel Factor-FQ(Z)
3. WCAP-8385, "POWER DISTRIBUTION CONTROL AND LOAD FOLLOWING PROCEDURES - TOPICAL REPORT", September 1974 (Westinghouse Proprietary). Methodology applied for the following Specification: 3.2.1, Axial Flux Difference-Constant Axial Offset Control

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(4) A single submittal may be made for a multi-unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

CORE OPERATING LIMITS REPORT (Continued)

4. T. M. Anderson to K. Kniel (Chief of Core Performance Branch, NRC) January 31, 1980 -- Attachment: Operation and Safety Analysis Aspects of an Improved Load Follow Package. Methodology applied for the following Specification: 3.2.1, Axial Flux Difference-Constant Axial Offset Control
5. NUREG-0800, Standard Review Plan, U. S. Nuclear Regulatory Commission, Section 4.3, Nuclear Design, July 1981. Branch Technical Position CPB 4.3-1, Westinghouse Constant Axial Offset Control (CAOC), Rev. 2, July 1981. Methodology applied for the following Specification: 3.2.1, Axial Flux Difference-Constant Axial Offset Control

The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided on issuance, for each reload cycle, to the NRC Document Control Desk.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the U. S. Nuclear Regulatory Commission, Document Control Desk, within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. Seismic event analysis, Specification 4.3.3.3.2.
- e. Sealed source leakage in excess of limits, Specification 4.7.9.1.3.
- f. Miscellaneous reporting requirements specified in the Action Statements for Appendix C of the ODCM.
- g. Containment Inspection Report, Specification 4.6.1.6.2.

SPECIAL REPORTS (Continued)

- h. Steam Generator Tube Inservice Inspection Results Report, Specification 4.4.5.5.
- i. Liquid Hold Up Tanks, Specification 3.11.1.4.
- j. Gas Storage Tanks, Specification 3.11.2.5.
- k. Explosive Gas Monitoring Instrumentation, Specification 3.3.3.11.

6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five (5) years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All Reportable Events.
- 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. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

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

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.

RECORD RETENTION (Continued)

- b. Records of new irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals 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 in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the OSC and the ORC.
- l. Records of the service lives of all hydraulic and mechanical snubbers including the date at which the service life commences and associated installation and maintenance records.
- m. Records 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 PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

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

## 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601 of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit<sup>(1)</sup> or Radiological Access Control Permit. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by 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 preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by a facility health physics supervisor in the Radiological Work Permit or Radiological Access Control Permit.

6.12.2 The requirements of 6.12.1, above, also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. 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 the Shift Supervisor on duty and/or a facility health physics supervisor.

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(1) Health physics personnel, or personnel escorted by health physics personnel in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.n. This documentation shall contain:
  - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
  - 2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the OSC and the approval of the General Manager Nuclear Operations, predesignated alternate or a predesignated Manager to whom the General Manager Nuclear Operations has assigned in writing the responsibility for review and approval of specific subjects.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.n. This documentation shall contain:
  - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
  - 2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the OSC and the approval of the General Manager Nuclear Operations, predesignated alternate or a predesignated Manager to whom the General Manager Nuclear Operations has assigned in writing the responsibility for review and approval of specific subjects.

OFFSITE DOSE CALCULATION MANUAL (ODCM) (Continued)

- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.16 Moved to the PROCESS CONTROL PROGRAM.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

DOCKET NO. 50-412

BEAVER VALLEY POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 70  
License No. NPF-73

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duquesne Light Company, et al. (the licensee) dated June 17, 1993, as supplemented October 20, 1993, and May 23, 1995, 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. NPF-73 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 70, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. DLCO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*Chester Poslony for*

John F. Stolz, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 12, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 70

FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

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

<u>Remove</u>	<u>Insert</u>
I thru XVII	I thru XVI
1-5	1-5
1-6	1-6
1-7	1-7
1-8	1-8
3/4 3-60	3/4 3-60
3/4 3-61	3/4 3-61
3/4 3-62	3/4 3-62
3/4 3-63	3/4 3-63
3/4 3-64	3/4 3-64
3/4 3-65	3/4 3-65
3/4 3-66	3/4 3-66
3/4 3-67	3/4 3-67
3/4 3-68	----
3/4 3-69	----
3/4 3-70	----
3/4 3-71	----
3/4 3-72	----
3/4 3-73	----
3/4 3-74	----
3/4 3-75	----
3/4 11-1	3/4 11-1
3/4 11-2	3/4 11-2
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3/4 11-4	3/4 11-4
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ATTACHMENT TO LICENSE AMENDMENT NO. 70

FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

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

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f. A procedure identifying:

- 1) the authority responsible for the interpretation of the data, and
- 2) the sequence and timing of administrative events required to initiate corrective action.

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

a. Radioactive Effluent Control Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents 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 surveillance tests and setpoint determination in accordance with the methodology in the ODCM,
- 2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 2, Column 2,
- 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 or 10 CFR 20.1302, as appropriate, and with the methodology and parameters in the ODCM,
- 4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,

PROCEDURES (Continued)

- 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and 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 a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,
- 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR Part 20, Appendix B, Table 2, Column 1,
- 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

PROCEDURES (Continued)

b. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- 1) Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,
- 2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- 3) Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the U.S. Nuclear Regulatory Commission, Document Control Desk.

STARTUP REPORTS

6.9.1.1 A summary report of plant startup and power escalation testing will 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 had been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

STARTUP REPORTS (Continued)

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall 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 specific details requested in license conditions based on other commitments shall be included in this report.

6.9.1.3 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 operations, 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.

ANNUAL REPORTS<sup>(1)</sup>

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation of the number of station, utility, and other personnel (including contractors) receiving exposure greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions<sup>(2)</sup> (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket

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(1) A single submittal may be made for a multiple unit site. The submittal should combine those sections that are common to all units at the site.

(2) This tabulation supplements the requirements of Section 20.2206 of 10 CFR Part 20.

ANNUAL REPORTS (Continued)

dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20 percent of the individual total dose need not be accounted for. In the aggregate, at least 80 percent of the total whole body dose received from external sources should be assigned to specific major work functions.

- b. Documentation of all challenges to the pressurizer power operated relief valves (PORVS) or pressurizer safety valves.
- c. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (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 the 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; (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 the specific activity of the primary coolant exceeded the radioiodine limit.

MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

6.9.1.7 This item intentionally blank

6.9.1.8 This item intentionally blank

6.9.1.9 This item intentionally blank

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT<sup>(3)</sup>

6.9.1.10 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT<sup>(4)</sup>

6.9.1.11 The Annual Radioactive Effluent Release Report covering the operation of the unit during the previous 12 months of operation shall be submitted before April 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

CORE OPERATING LIMITS REPORT

6.9.1.12 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC in:

1. WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY", July 1985 (Westinghouse Proprietary). Methodology applied for the following Specifications:
  - 3.1.3.5, Shutdown Rod Insertion Limits
  - 3.1.3.6, Control Rod Insertion Limits
  - 3.2.1, Axial Flux Difference-Constant Axial Offset Control
  - 3.2.2, Heat Flux Hot Channel Factor- $F_0(Z)$
  - 3.2.3, Nuclear Enthalpy Rise Hot Channel Factor-FN delta H

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(3) A single submittal may be made for a multi-unit station.

(4) A single submittal may be made for a multi-unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

CORE OPERATING LIMITS REPORT (Continued)

2. WCAP-9220-P-A, Rev. 1, "WESTINGHOUSE ECCS EVALUATION MODEL-1981 VERSION", February 1982 (Westinghouse Proprietary). Methodology applied for the following Specification: 3.2.2, Heat Flux Hot Channel Factor- $F_Q(Z)$ .
3. WCAP-8385, "POWER DISTRIBUTION CONTROL AND LOAD FOLLOWING PROCEDURES - TOPICAL REPORT", September 1974 (Westinghouse Proprietary). Methodology applied for the following Specification; 3.2.1, Axial Flux Difference-Constant Axial Offset Control.
4. T. M. Anderson to K. Kniel (Chief of Core Performance Branch, NRC) January 31, 1980 -- Attachment: Operation and Safety Analysis Aspects of an Improved Load Follow Package. Methodology applied for the following Specification: 3.2.1, Axial Flux Difference-Constant Axial Offset Control.
5. NUREG-0800, Standard Review Plan, U.S. Nuclear Regulatory Commission, Section 4.3, Nuclear Design, July 1981. Branch Technical Position CPB 4.3-1, Westinghouse Constant Axial Offset Control (CAOC), Rev. 2, July 1981. Methodology applied for the following Specification: 3.2.1, Axial Flux Difference-Constant Axial Offset Control.

The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the U.S. Nuclear Regulatory Commission, Document Control Desk within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.

SPECIAL REPORTS (Continued)

- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. Seismic event analysis, Specification 4.3.3.3.2.
- e. Sealed source leakage in excess of limits, Specification 4.7.9.1.3.
- f. Miscellaneous reporting requirements specified in the ACTION Statements for Appendix C of the ODCM.
- g. Containment Inspection Report, Specification 4.6.1.6.2.
- h. Steam generator tube inservice inspection, Specification 4.4.5.5.
- i. Inoperable accident monitoring, Specification 3.3.3.8.
- j. Liquid Hold-Up Tanks, Specification 3.11.1.4.
- k. Gas Storage Tanks, Specification 3.11.2.5.
- l. Explosive Gas Monitoring Instrumentation, Specification 3.3.3.11.

6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five (5) years;

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE EVENTS.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of reactor tests and experiments.

RECORD RETENTION (Continued)

- f. Records of changes made to Operating Procedures.
- g. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

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

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals 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 in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the OSC and the ORC.

RECORD RETENTION (Continued)

- l. Records of the service lives of all hydraulic and mechanical snubbers including the date at which the service life commences and associated installation and maintenance records.
- m. Records 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 PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

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

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601 of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit<sup>(1)</sup> or Radiological Access Control Permit. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by 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 preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

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(1) Health physics personnel, or personnel escorted by health physics personnel in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

HIGH RADIATION AREA (Continued)

- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by a facility health physics supervisor in the Radiological Work Permit or Radiological Access Control Permit.

6.12.2 The requirements of 6.12.1, above, also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. 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 the Shift Supervisor on duty and/or a facility health physics supervisor.

6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.n. This documentation shall contain:
  - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
  - 2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the OSC and the approval of the General Manager Nuclear Operations, predesignated alternate or a predesignated Manager to whom the General Manager Nuclear Operations has assigned in writing the responsibility for review and approval of specific subjects.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.n. This documentation shall contain:
  - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
  - 2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the OSC and the approval of the General Manager Nuclear Operations, predesignated alternate or a predesignated Manager to whom the General Manager Nuclear Operations has assigned in writing the responsibility for review and approval of specific subjects.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.16 Moved to the PROCESS CONTROL PROGRAM.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NOS. 188 AND 170 TO FACILITY OPERATING  
LICENSE NOS. DPR-66 AND NPF-73  
DUQUESNE LIGHT COMPANY  
OHIO EDISON COMPANY  
PENNSYLVANIA POWER COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
THE TOLEDO EDISON COMPANY  
BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

By letter dated June 17, 1993, as supplemented October 20, 1993, the Duquesne Light Company (the licensee) submitted a request for changes to the Beaver Valley Power Station, Unit Nos. 1 and 2, Technical Specifications (TSs). The requested changes would incorporate programmatic controls for radiological effluents and radiological environmental monitoring in the Administrative Controls section of the TSs consistent with the requirements of 10 CFR 20.1301, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50. At the same time, the licensee proposed to transfer the procedural details of the Radio-logical Effluent Technical Specifications (RETS) from the TSs to the Offsite Dose Calculation Manual (ODCM) or to the Process Control Program (PCP) for solid radioactive wastes as appropriate. With these changes, the TSs related to RETS reporting requirements were simplified. Finally, changes to the definitions of the ODCM and PCP were proposed consistent with these changes. Guidance on these proposed changes was provided to all power reactor licensees and applicants by Generic Letter (GL) 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program," dated January 31, 1989. The October 20, 1993, supplemental letter provided clarifying information. The May 23, 1995, supplemental letter provided typed final TS pages for issuance of these amendments and included minor editorial changes. Neither the October 20, 1993, nor the May 23, 1995, letter changed the initial proposed no significant hazards consideration determination or expanded the scope of the original Federal Register notice.

## 2.0 EVALUATION

### 2.1 Removal of RETS from the Technical Specifications

Section 50.36 of Title 10 of the Code of Federal Regulations established the regulatory requirements related to the content of TSs. The rule requires that TSs include items in specific categories, including safety limits, limiting conditions for operation, and surveillance requirements; however, the rule does not specify the particular requirements to be included in a plant's TSs. The NRC developed criteria, as described in the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," (58 FR 39132) to determine which of the design conditions and associated surveillances need to be located in the TSs because the requirement is "necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety." Briefly, those criteria are (1) detection of abnormal degradation of the reactor coolant pressure boundary, (2) boundary conditions for design basis accidents and transients, (3) primary success paths to mitigate design basis accidents and transients, and (4) functions determined to be important to risk or operating experience. The Commission's final policy statement acknowledged that its implementation may result in the relocation of existing TS requirements to licensee-controlled documents and programs.

The RETS provide the release limits and monitoring and reporting criteria for gaseous, liquid, and solid radioactive effluents. Such releases are a byproduct of the use of a nuclear reaction for power generation. The RETS are not related to the detection of abnormal degradation of the reactor coolant pressure boundary, boundary conditions for design basis accidents and transients, or functions determined to be important to risk or operating experience. In GL 89-01 the staff noted that it had examined the contents of the RETS in relation to the Commission's Interim Policy Statement of Technical Specifications Improvements and had determined that programmatic controls could be implemented in the Administrative Controls section of the TSs to satisfy the existing regulatory requirements for RETS. The staff had also determined that the procedural details of the TSs on radioactive effluents and radiological environmental monitoring could be relocated to the ODCM, while the procedural details for solid radioactive waste could be relocated to the PCP. After relocation, future changes to these procedural details will be controlled by the controls for changes to the ODCM and PCP included in the Administrative Controls section of the TSs.

On this basis, the NRC staff concludes that the RETS do not need to be controlled by TSs, and changes to the RETS are adequately controlled by 10 CFR 50.59, "Changes, tests, and experiments." Should the licensee's determination conclude that an unreviewed safety question is involved, due to either (1) an increase in the probability or consequences of accidents or malfunctions of equipment important to safety, (2) the creation of a possibility for an accident or malfunction of a different type than any evaluated previously, or

(3) a reduction in the margin of safety, NRC approval and a license amendment would be required prior to implementation of the change. NRC inspection and enforcement programs also enable the staff to monitor facility changes and licensee adherence to Updated Final Safety Analysis Report (UFSAR) commitments and to take any remedial action that may be appropriate.

The NRC staff has concluded, therefore, that relocation of RETS is acceptable because (1) their inclusion in TSs is not specifically required by 10 CFR 50.36 or other regulations, (2) the RETS are not required to avert an immediate threat to the public health and safety, and (3) changes that are deemed to involve an unreviewed safety question will require prior NRC approval in accordance with 10 CFR 50.59(c).

## 2.2 Implementation of RETS Requirements in ODCM and PCP

In GL 89-01 the staff provided model specifications and encouraged licensees to propose changes consistent with the GL. The licensee's proposed changes to the TSs are in accordance with the guidance provided in NRC GL 89-01 and are addressed below.

- (1) The licensee has proposed to incorporate programmatic controls for radioactive effluents and radiological environmental monitoring in TS 6.8.4, "Procedures and Programs," as noted in the guidance provided in GL 89-01. The programmatic controls ensure that programs are established, implemented, and maintained to ensure that operating procedures are provided to control radioactive effluents consistent with the requirements of 10 CFR 20.1301, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50.
- (2) The licensee has confirmed that the detailed procedural requirements addressing limiting conditions for operation, their applicability, remedial actions, associated surveillance requirements, or reporting requirements for the following specifications have been prepared to implement the relocation of these procedural details to the ODCM or PCP. These changes to the ODCM and PCP have been prepared in accordance with the new Administrative Controls in the TSs on changes to the ODCM and PCP so that they will be implemented in the ODCM or PCP when this amendment is issued.

### SPECIFICATION

### TITLE

3/4.3.3.9

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

3/4.3.3.10

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION (This TS has been partially relocated to the ODCM and the remaining portion renumbered as TS 3/4.3.3.11)

3/4.11.1.1

RADIOACTIVE EFFLUENTS: LIQUID EFFLUENTS CONCENTRATION

3/4.11.1.2	RADIOACTIVE EFFLUENTS: LIQUID EFFLUENTS DOSE
3/4.11.1.3	RADIOACTIVE EFFLUENTS: LIQUID WASTE TREATMENT
3/4.11.2.1	RADIOACTIVE EFFLUENTS: GASEOUS EFFLUENT DOSE RATE
3/4.11.2.2	RADIOACTIVE EFFLUENTS: DOSE NOBLE GASES
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6.9.1.12	SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
6.16	MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS

These procedural details that have been removed from the TSs are not required by the Commission's regulations to be included in TSs. They have been prepared for incorporation in the ODCM or PCP upon issuance of this license amendment and may be subsequently changed by the licensee in accordance with 10 CFR 50.59 without prior NRC approval. Changes to the ODCM and PCP are documented and will be retained for the duration of the operating license in accordance with Specification 6.10.2.n.

- (3) The licensee has proposed replacing the existing TSs in the Administrative Controls section of the TSs for the Annual Radiological Environmental Operating Report, TS 6.9.1.10, for the Process Control Program, TS 6.14, and for the Offsite Dose Calculation Manual, TS 6.15, with the updated specifications that were provided in GL 89-01. The requirements for the Semi-Annual Radioactive Effluent Release Report, TS 6.9.1.12, were changed to annual and were included in TS 6.9.1.11. This change reduces the regulatory burden for the licensee and is consistent with a revision to 10 CFR Part 50 (57 FR 39353, August 31, 1992).

The following specifications that are included under the heading of Radioactive Effluents have been retained in the TSs. This is in accordance with the guidance of GL 89-01.

<u>SPECIFICATION</u>	<u>TITLE</u>
3/4.3.3.11	EXPLOSIVE GAS MONITORING INSTRUMENTATION (Retained applicable requirements from TS 3/4.3.3.10 and renumbered as TS 3/4.3.3.11)
3/4.11.1.4	LIQUID HOLDUP TANKS
3/4.11.2.5	GASEOUS WASTE STORAGE TANKS
3/4.11.2.6	EXPLOSIVE GAS MIXTURE

On the basis of the above, the NRC staff finds that the changes included in the proposed TS amendment request are consistent with the guidance provided in GL 89-01 and that the licensee has adequately relocated the RETS requirements. Because the control of radioactive effluents continues to be limited in accordance with operating procedures that must satisfy the regulatory requirements of 10 CFR 20.1301, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50, the NRC staff concludes that these changes are administrative in nature and there is no adverse impact on plant safety as a consequence. Accordingly, the NRC staff finds the proposed changes acceptable.

### 3.0 STATE CONSULTATION

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

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 41504). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

**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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: June 12, 1995

TABLE 3.3-13 (Continued)ACTION STATEMENTS

- ACTION 27 - (This ACTION is not used)
- ACTION 28 - (This ACTION is not used)
- ACTION 29 - (This ACTION is not used)
- ACTION 30 - (This ACTION is not used)
- ACTION 31 - With the number of channels OPERABLE one less than required by the MINIMUM Channels OPERABLE requirement, operation of this system may continue provided grab samples are taken and analyzed at least once per 24 hours. With both channels inoperable, operation may continue provided grab samples are taken and analyzed at least once per 4 hours during degassing operations and at least once per 24 hours during other operations.
- ACTION 32 - (This ACTION is not used)
- ACTION 35 - (This ACTION is not used)

Explosive Gas Monitoring Instrumentation Surveillance Requirements

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. Gaseous Waste System Surge Tank Discharge			
a. Oxygen Monitor (2GWS-OA100A & B)	D**	Q(1)	M

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\*\* During waste gas decay tank filling operation.

TABLE 4.3-13 (Continued)

TABLE NOTATION

- (1) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
1. One volume percent oxygen, balance nitrogen, and
  2. Four volume percent oxygen, balance nitrogen

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

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3.3.4 At least one Turbine Overspeed Protection System shall be OPERABLE.

APPLICABILITY: MODES 1, 2<sup>(1)</sup>, and 3<sup>(1)</sup>.

ACTION:

- a. With one throttle valve or one governor valve per high pressure turbine steam line inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam line(s) or isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required Turbine Overspeed Protection System otherwise inoperable, within 6 hours isolate the turbine from the steam supply.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.2 The above required Turbine Overspeed Protection System shall be demonstrated OPERABLE:

- a. By cycling each of the following valves through at least one complete cycle from the running position:
  - 1) Four high pressure turbine throttle valves at least once per 31 days,
  - 2) Four high pressure turbine governor valves at least once per 31 days,
  - 3) Four low pressure turbine reheat stop valves at least once per 18 months,
  - 4) Four low pressure turbine reheat intercept valves at least once per 18 months,

---

(1) Specification not applicable with all main steam isolation valves and associated bypass valves in the closed position and all other steam flow paths to the turbine isolated.

INSTRUMENTATIONSURVEILLANCE REQUIREMENTS (Continued)

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- b. By direct observation of the movement of each of the following valves through one complete cycle from the running position:
- 1) Four high pressure turbine throttle valves at least once per 31 days,
  - 2) Four high pressure turbine governor valves at least once per 31 days,
  - 3) Four low pressure turbine reheat stop valves at least once per 18 months,
  - 4) Four low pressure turbine reheat intercept valves at least once per 18 months,
- c. At least once per 18 months by performing a CHANNEL CALIBRATION on the turbine overspeed protection systems, and
- d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks, and stems and verifying no unacceptable flaws or excessive corrosion. If unacceptable flaws or excessive corrosion are found, all other valves of that type shall be inspected unless the nature of the problem can be directly attributed to a service condition specific to that valve. For reheat stop and intercept valves the inspection cycle may be increased to a maximum of 60 months, provided there is no indication of operational distress.

Specifications 3.11.1.1 through 3.11.1.3  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

LIQUID HOLDUP TANKS

LIMITING CONDITION FOR OPERATION

---

3.11.1.4 The quantity of radioactive material contained in each miscellaneous temporary outside radioactive liquid storage tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit, and
- b. Submit a Special Report to the Commission within 30 days pursuant to Specification 6.9.2 and include a schedule and a description of activities planned and/or taken to reduce the contents to within the specified limits.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.11.1.4.1 The quantity of radioactive material contained in each of the above listed tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

Specifications 3.11.2.1 through 3.11.2.4  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

NPF-73  
RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

GASEOUS WASTE STORAGE TANKS

LIMITING CONDITION FOR OPERATION

---

3.11.2.5 The quantity of radioactivity contained in any connected group of gaseous waste storage tanks shall be limited to less than or equal to 19,000 curies noble gases (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any connected group of gaseous waste storage tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tanks and within 48 hours reduce the tanks' contents to within the limit, and
- b. Submit a Special Report to the Commission within 30 days pursuant to Specification 6.9.2 and include a schedule and a description of activities planned and/or taken to reduce the contents to within the specified limits.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.11.2.5.1 The quantity of radioactive material contained in any connected group of gaseous waste storage tanks shall be determined to be within the above limit at least once per 24 hours when radioactive materials are being added to the tanks.

NPF-73  
RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

---

3.11.2.6 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times

ACTION:

- a. With the concentration of oxygen in the waste gas holdup system greater than 2% by volume but less than or equal to 4% by volume, immediately suspend all additions of waste gases to the gaseous waste decay tank and reduce the concentration of oxygen to less than or equal to 2% within 48 hours.
- b. With the concentration of oxygen in the waste gas holdup system greater than 4% by volume and the hydrogen concentration greater than 4% by volume, immediately suspend all additions of waste gases to the affected tank and reduce the concentration of oxygen to less than or equal to 4% by volume, then take action a, above.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.11.2.6.1 The concentrations of oxygen in the waste gas holdup system shall be determined to be within the above limits by continuously monitoring the waste gases in the waste gas holdup system with the oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.11 or monitoring in conjunction with its associated action statement.

Specification 3.11.3.1 has been moved  
to the PROCESS CONTROL PROGRAM.  
Specification 3.11.4.1 has been moved  
to the OFFSITE DOSE CALCULATION MANUAL.

Specifications 3.12.1 through 3.12.3  
have been moved to the OFFSITE DOSE  
CALCULATION MANUAL.

BASES

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3/4.3.3.8 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

3/4.3.3.11 EXPLOSIVE GAS MONITORING INSTRUMENTATION

This instrumentation includes provisions for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

3/4.3.4 TURBINE OVERSPEED PROTECTION

This specification is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are OPERABLE and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is required since excessive overspeed of the turbine could generate potentially damaging missiles which could impact and damage safety related components, equipment or structures.

3/4.11 RADIOACTIVE EFFLUENTSBASES

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3/4.11.1 LIQUID EFFLUENTS3/4.11.1.4 LIQUID HOLDUP TANKS

Restricting the quantity of radioactive material contained in the specified 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, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area.

3/4.11.2 GASEOUS EFFLUENTS3/4.11.2.5 GASEOUS WASTE STORAGE TANKS

Restricting the quantity of radioactivity contained in any connected group of gaseous waste storage tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting total body exposure to an individual located at the nearest exclusion area boundary for two hours immediately following the onset of the release will not exceed 0.5 rem. The specified limit restricting the quantity of radioactivity contained in any connected group of gaseous waste storage tanks was specified to ensure that the total body exposure resulting from the postulated release remained a suitable fraction of the reference value set forth in 10 CFR 100.11(a)(1). The curie content limit is applied individually to each gaseous waste storage tank and collectively to the number of unisolated gaseous waste storage tanks.

3/4.11.2.6 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. Isolation of the affected tank for purposes of purging and/or discharge permits the flammable gas concentrations of the tank to be reduced below the lower explosive limit in a hydrogen rich system. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

PROCEDURES (Continued)

6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two (2) members of the plant management staff, at least one (1) of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is documented, reviewed by the OSC and approved by the General Manager Nuclear Operations, predesignated alternate or a predesignated Manager to whom the General Manager Nuclear Operations has assigned in writing the responsibility for review and approval of specific subjects, within 14 days of implementation.

6.8.4 A Post-Accident monitoring program shall be established, implemented, and maintained. The program will provide the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples following an accident. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis, and
- (iii) Provisions for maintenance of sampling and analysis equipment.

6.8.5 A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation shall be implemented. This program shall be described in the station chemistry manual and shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to measure the values of the critical parameters;
- c. Identification for process sampling points;
- d. Procedures for the recording and management of data;
- e. Procedures defining corrective actions for off control point chemistry conditions; and

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PHYSICS TESTS

1.25 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 14.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

$\bar{E}$  - AVERAGE DISINTEGRATION ENERGY

1.26  $\bar{E}$  shall be the average sum (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

SOURCE CHECK

1.27 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

PROCESS CONTROL PROGRAM

1.28 The PROCESS CONTROL PROGRAM (PCP) 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.

1.29 DELETED

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.30 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, 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 6.8.6 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.10 and 6.9.1.11.

GASEOUS RADWASTE TREATMENT SYSTEM

1.31 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

VENTILATION EXHAUST TREATMENT SYSTEM

1.32 VENTILATION EXHAUST TREATMENT SYSTEM is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

PURGE-PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions, in such a manner that replacement air or gas is required to purify the confinement.

VENTING

1.34 VENTING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

MAJOR CHANGES

1.35 MAJOR CHANGES to radioactive waste systems (liquid, gaseous and solid), as addressed in the PROCESS CONTROL PROGRAM, shall include the following:

- 1) Major changes in process equipment, components, structures, and effluent monitoring instrumentation from those described in the Final Safety Analysis Report (FSAR) or the Hazards Summary Report and evaluated in the

MAJOR CHANGES (Continued)

- staff's Safety Evaluation Report (SER) (e.g., deletion of evaporators and installation of demineralizers; use of fluidized bed calciner/incineration in place of cement solidification systems);
- 2) Major changes in the design of radwaste treatment systems (liquid, gaseous, and solid) that could significantly increase the quantities or activity of effluents released or volumes of solid waste stored or shipped offsite from those previously considered in the FSAR and SER (e.g., use of asphalt system in place of cement);
  - 3) Changes in system design which may invalidate the accident analysis as described in the SER (e.g., changes in tank capacity that would alter the curies released); and
  - 4) Changes in system design that could potentially result in a significant increase in occupational exposure of operating personnel (e.g., use of temporary equipment without adequate shielding provisions).

MEMBER(S) OF THE PUBLIC

1.36 MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors, or its vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries and persons who traverse portions of the site as the consequence of a public highway, railway, or waterway located within the confines of the site boundary. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.

CORE OPERATING LIMITS REPORT

1.37 The CORE OPERATING LIMITS REPORT (COLR) is the unit-specific 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 6.9.1.12. Plant operation within these operating limits is addressed in individual specifications.

TABLE 1.1  
OPERATIONAL MODES

<u>MODE</u>	<u>REACTIVITY CONDITION, K<sub>eff</sub></u>	<u>% RATED THERMAL POWER<sup>(1)</sup></u>	<u>AVERAGE COOLANT TEMPERATURE</u>
1. POWER OPERATION	≥0.99	>5%	≥350°F
2. STARTUP	≥0.99	≤5%	≥350°F
3. HOT STANDBY	<0.99	0	≥350°F
4. HOT SHUTDOWN	<0.99	0	350°F >T <sub>avg</sub> >200°F
5. COLD SHUTDOWN	<0.99	0	≤200°F
6. REFUELING <sup>(2)</sup>	≤0.95	0	≤140°F

(1) Excluding decay heat.

(2) Reactor vessel head unbolted or removed and fuel in the vessel.

Specification 3.3.3.9 has been moved to the  
OFFSITE DOSE CALCULATION MANUAL.  
Specification 3.3.3.10 has been partially  
moved to the OFFSITE DOSE CALCULATION MANUAL  
and the remaining part renumbered 3.3.3.11.

NPF-73  
INSTRUMENTATION

EXPLOSIVE GAS MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

---

3.3.3.11 The explosive gas monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.2.6 are not exceeded.

APPLICABILITY: As shown in Table 3.3-13.

ACTION:

- a. With an explosive gas monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification declare the channel inoperable and take the ACTION shown in Table 3.3-13.
- b. With less than the minimum number of explosive gas monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 to explain why the inoperability was not corrected in a timely manner.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.3.3.11 Each explosive gas monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-13.

EXPLOSIVE GAS MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Gaseous Waste System Surge Tank Discharge			
a. Oxygen Monitor (2GWS-OA100A & B)	2	*	31

\* During waste gas decay tank filling operation.