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Docket No. 50-220

Niagara Mohawk Power Corporation  
 ATTN: Mr. Gerald K. Rhode  
 Vice President - Engineering  
 300 Erie Boulevard West  
 Syracuse, New York 13202

Gentlemen:

In response to your request dated February 4, 1976, the Commission has issued the enclosed Amendment No. 11 to Facility Operating License No. DPR-63 for the Nine Mile Point Unit No. 1.

This amendment consists of changes to the license conditions and Technical Specifications relating to the receipt, possession, and use of byproduct, source, and special nuclear material.

Our current procedure for the licensing of byproduct, source, and special nuclear materials included in reactor licenses is not to specify quantity limits. Therefore, we have issued this amendment consistent with that procedure.

In reviewing your application it was found that certain changes in the proposed Technical Specifications were required to assure consistency with our current standard format. These changes were discussed with and approved by your staff.

Copies of the related Safety Evaluation and the Federal Register Notice also are enclosed.

Sincerely,

George Lear, Chief  
 Operating Reactors Branch #3  
 Division of Operating Reactors

- Enclosures:  
 1. Amendment No. 11  
 2. Safety Evaluation  
 3. Federal Register Notice

OFFICE	ORB#3	ORB#3	OELD	ORB#3	
SURNAME	CParrish	JGuibert:acr	B. B. ...	GLear	
DATE	6/28/76	6/24/76	6/30/76	7/7/76	

cc:

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Mr. Robert P. Jones, Supervisor  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 11  
License No. DPR-63

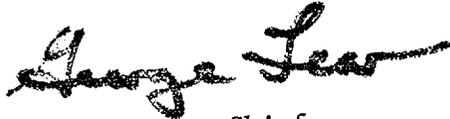
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated February 4, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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; and
  - 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.
  - E. The receipt, possession and use of the byproduct, source and special nuclear material as authorized by this license, as amended, will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including Sections 30.33, 40.32, 70.23 and 70.31.
  - F. 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 a change to the Technical Specifications as indicated in the attachment to this license amendment and Facility Operating License No. DPR-63, as amended, is hereby further amended by replacing in their entirety paragraphs 2.B.(1), 2.B.(2), 2.B.(3), and 2.B.(4) and adding paragraph 2.B.(5) thereof with the following:

- "2.B. (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Oswego County, New York, in accordance with the procedures and limitations set forth in this license;
- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended as of February 4, 1976;
- (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components.
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Date of Issuance: July 7, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 11

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Replace pages 241k, 241l, 244, and 258 with the attached revised pages.

3.6.5 Radioactive Material SourcesApplicability:

Applies to the limit on source leakage for sealed or startup sources.

Objective:

To specify the requirements necessary to limit contamination from radioactive source materials.

Specification:

1. The leakage test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, it shall immediately be withdrawn from use, decontaminated, and repaired, or be disposed of in accordance with Commission regulations. Sealed sources are exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
2. Results of required leak tests performed on sources, if the tests reveal the presence of 0.005 microcurie or more of removable contamination, shall be reported within 90 days.
3. A complete inventory of radioactive byproduct materials in sealed sources in possession shall be maintained current at all times.

4.6.5 Radioactive Materials SourcesApplicability:

Applies to the periodic testing requirements for source leakage.

Objective:

To assure the capability of each source material container to limit leakage within allowable limits.

Specification:

Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an agreement State, as follows:

1. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months.
2. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed sources shall not be put into use until tested.
3. Startup sources shall be leak tested within 31 days prior to being subjected to core flux and following any repair or maintenance.

The limitations on sealed source removable contamination ensure that the total body or individual organ irradiation does not exceed allowable limits in the event of ingestion or inhalation of the probable leakage from the source material. The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. Quantities of interest to this specification which are exempt from the leakage testing are consistent with the criteria of 10 CFR Parts 30.11-20 and 70.19. Leakage from sources excluded from the requirements of this specification is not likely to represent more than one maximum permissible body burden for total body irradiation if the source material is inhaled or ingested.

## 5.5 Storage of Unirradiated and Spent Fuel

Unirradiated fuel assemblies will normally be stored in critically safe new fuel storage racks in the reactor building storage vault. Even flooded with water the resultant  $k_{eff}$  is less than 0.95. Fresh fuel may also be stored in shipping containers. The unirradiated fuel storage vault is designed and shall be maintained with a storage capacity limited to no more than 200 fuel assemblies.

The spent fuel storage facility is designed to maintain fuel in a geometry such that  $k_{eff}$  is less than 0.9 under conditions of optimum water moderation. The spent fuel storage facility is designed and shall be maintained with a storage capacity limited to no more than 1140 fuel assemblies.

Calculations for  $k_{eff}$  values have been based on methods approved by the AEC covering special arrays (10CFR70.56).

## 5.6 Seismic Design

The reactor building and all contained engineered safeguards are designed for the maximum credible earthquake ground motion with an acceleration of 11 percent of gravity. Dynamic analysis was used to determine the earthquake acceleration, applicable to the various elevations in the reactor building.

- b. Safety Class 1 Inservice Inspection, Specification (See Table 4.2.6 (a)) (Three months)
- c. Safety Class 2 Inservice Inspections, Specification (See Table 4.2.6(b)) (Three months)
- d. Safety Class 3 Inservice Inspections, Specification (See Table 4.2.6(c)) (Three months)
- e. Primary Containment Leakage Testing, Specification 3.3.3 (Three months)
- f. Secondary Containment Leakage Testing, Specification 3.4.1 (Three months)
- g. Sealed Source Leakage In Excess Of Limits, Specification 3.6.5.2 (Three months)

6.10 Record Retention

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

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. REPORTABLE OCCURRENCE Reports.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 11 TO FACILITY OPERATING LICENSE NO. DPR-63

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT UNIT NO. 1

DOCKET NO. 50-220

Introduction

By letter dated February 4, 1976, Niagara Mohawk Power Corporation (NMPC) proposed an amendment to Facility Operating License No. DPR-63 for Nine Mile Point Unit No. 1 (NMP-1). The proposed amendment involves a modification of those parts of the Facility Operating License which relate to the receipt, possession, and use of byproduct, source, and special nuclear material.

In support of the proposed license amendment, NMPC has:

- a. Proposed Technical Specification changes which (1) provide for leakage testing of miscellaneous radioactive material sources, (2) establish surveillance requirements for the leakage tests, and (3) require retention of leakage test results.
- b. Provided a Technical Supplement to the NMP-1 Final Safety Analysis Report (FSAR) which updated the Radioactive Materials Safety Program.

Selected changes to the proposed Technical Specification were made, with mutual concurrence of the NRC staff and NMPC, to assure consistency with the format of the Standard BWR Technical Specifications.

Discussion

By letter dated December 16, 1974, we requested that nuclear power facility licensees provide:

- (1) proposed amendments to the conditions of existing Facility Operating Licenses which relate to the receipt, possession, and use of byproduct, source, and special nuclear materials;

- (2) the related surveillance and reporting requirements for miscellaneous radioactive material sources;
- (3) FSAR revisions to include information described in Regulatory Guide 1.70.3, "Additional Information, Radioactive Materials Safety For Nuclear Power Plants", of February 1974.

Our letter included standard formats and guidelines for the requested proposals.

The objective of the requests made in our letter of December 16, 1974 was to add flexibility to the operation of nuclear power plants by establishing a more generalized approach to the licensing of byproduct, source and special nuclear materials. This objective would reduce the number of licensing actions required as a result of changes in possession limits of related materials. In order to assure that adequate safeguards be maintained within the framework of this more generalized approach, provisions for more stringent control, accountability and leakage testing of byproduct, source and special nuclear materials were included.

The NMPC proposed license amendment, as supplemented and modified following discussions between the NRC staff and NMPC, is responsive to the requests and guidelines in our letter of December 16, 1974.

#### Evaluation

The proposed Technical Specification changes and the Technical Supplement to the FSAR have been reviewed by the NRC staff with particular attention to the Radioactive Materials Safety program. We evaluated the personnel qualifications, facilities, equipment, and procedures for handling byproduct, source, and special nuclear material, as described in the revised FSAR and we conclude that they are consistent with the provisions of Regulatory Guide 1.70.3. Based on our review, we also conclude that the comprehensive testing and surveillance program, as established by the proposed Technical Specification changes, provides additional assurance that leakage from radioactive material sources will not exceed allowable limits.

We evaluated the amount of reactor fuel which can be received, used, and possessed by the licensee under provisions of the proposed license amendment by assuming that: (1) the new fuel storage area is filled with unused fuel, (2) the spent fuel storage facility is filled with fuel which has been used to average projected burnup, and (3) the reactor core is filled with fuel such that 1/3 of the fuel is unused, 1/3 of the fuel has been used to an average burnup of 5,000 MWD/STU, and 1/3 of the fuel has been used to an

average burnup of 10,000 MWD/STU. We concluded by this evaluation that the provisions of the proposed license amendment will not alter the amount of reactor fuel which the licensee is currently authorized to receive, use, or possess.

We further conclude that the proposed license amendment, as supported by the proposed Technical changes and the Technical Supplement to the FSAR, are acceptable in that they:

- a. Comply with the guidance and intent of our letter of December 16, 1974.
- b. Assure that the amount and type of reactor fuel which can be received, used, and possessed is limited by the onsite fuel storage capacity and the requirements for reactor operation which have been approved previously by the NRC staff and which are described in Section 5.0, "Design Features", of the NMP-1 Technical Specifications.
- c. Provide reasonable assurance that byproduct, source, and special nuclear material will be stored, used, and accounted for in a manner which meets the applicable radiation protection provisions of 10 CFR Parts 20, 30, 40 and 70.

#### Summary

The licensee's radiation protection program, as supplemented by the Technical Supplement to the FSAR and the proposed Technical Specifications additions, has been evaluated. We have concluded that the incorporation of flexible yet controlled licensing provisions for the receipt, possession, and use of byproduct, source, and special nuclear material into the Facility Operating License for Nine Mile Point Unit No. 1 is acceptable.

#### Environmental Aspects

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4), that an environmental statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: July 7, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-220

NIAGARA MOHAWK POWER CORPORATION

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 11 to Facility Operating License No. DPR-63 to Niagara Mohawk Power Corporation (the licensee) which revised Technical Specifications for operation of the Nine Mile Point Nuclear Station, Unit No. 1 (the facility) located in Oswego County, New York. The amendment is effective as of its date of issuance.

The amendment consists of a license amendment and Technical Specifications change relating to the receipt, possession, and use of byproduct, source, and special nuclear material and incorporates surveillance requirements for leakage testing of sealed sources in the Technical Specifications.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated February 4, 1976, (2) Amendment No. 11 to License No. DPR-63, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street N. W., Washington, D. C. and at the Oswego City Library, 120 E. Second Street, Oswego, New York 13126.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 7 day of July 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "George Lear". The signature is written in dark ink and is positioned above the typed name and title.

George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors