

March 21, 1983

Docket File

NRC PDR  
Local PDR  
ORB#2 Rdg.  
D. Eisenhut  
ORAB  
S. Norris  
J. Hegner  
B. Hermann  
OELD  
E. L. Jordan  
T. Barnhart 4  
ACRS 10  
OPA Clare Miles  
NSIC  
J. M. TAYLOR  
SECY  
R. Diggs  
gray File

CO3

Docket No. 50-220

Mr. G. K. Rhode  
Senior Vice President  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

Dear Mr. Rhode:

SUBJECT: EXEMPTION REQUESTS - 10 CFR 50.48 FIRE PROTECTION AND APPENDIX R  
TO 10 CFR PART 50

Re: Nine Mile Point Nuclear Station, Unit No. 1

The Commission has issued the enclosed Exemption from certain requirements of Section 50.48 and Appendix R to 10 CFR Part 50 for the Nine Mile Point Nuclear Station, Unit No. 1. This action is in response to your request in a letter dated March 19, 1981, as supplemented by information contained in your letters dated June 9, 1981, October 1, 1982, and December 8, 1982. In your letter you requested exemptions from the requirements of Section III.G of Appendix R for the Battery Board Rooms, Battery Rooms, Reactor Building (upper level), Turbine Building (upper level), and the Control Room.

Based on our evaluation, we find that the level of protection currently provided in these areas is equivalent to the level of fire protection required by Section III.G and, therefore, exemption from the requirements of Section III.G is granted.

A copy of the Exemption is being filed with the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY

Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

*Please fix marked types, and please proofread.*

8304220019 830321  
PDR ADDCK 05000220  
F PDR

Enclosure:  
Exemption

cc w/enclosure  
See next page

OFFICE	DL:ORB#2	DL:ORB#2	DL:ORB#2	DL:OR	OELD	
SURNAME	S. Norris	J. Hegner:pr	D. Vassallo	G. Lamas	Shields	Eisenhut
DATE	3/21/83	3/8/83	3/8/83	3/11/83	2/14/83	3/17/83

Mr. G. K. Rhode  
Niagara Mohawk Power Corporation

cc:

Troy B. Conner, Jr. Esq.  
Conner & Wetterhahn  
Suite 1050  
1747 Pennsylvania Ave., NW  
Washington, D.C. 20006

Director,  
Technological Development Programs  
State of New York  
Energy Office  
Swan Street Building  
CORE 1 - Second Floor  
Empire State Plaza  
Albany, New York 12223

Mr. Robert P. Jones, Supervisor  
Town of Scriba  
R. D. #4  
Oswego, New York 13126

Niagara Mohawk Power Corporation  
ATTN: Mr. Thomas Perkins  
Plant Superintendent  
Nine Mile Point Nuclear Station  
P.O. Box 32  
Lycoming, New York 13093

U.S. Environmental Protection Agency  
Region II Office  
Regional Radiation Representative  
26 Federal Plaza  
New York, New York 10007

Resident Inspector  
c/o U.S. NRC  
P. O. Box 126  
Lycoming, New York 13093

John W. Keib, Esquire  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

Ronald C. Haynes  
Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

NIAGARA MOHAWK POWER CORPORATION

(Nine Mile Point Nuclear Station,  
Unit No. 1)

Docket No. 50-220

EXEMPTION

I.

The Niagara Mohawk Power Corporation (the licensee) is the holder of Facility Operating License No. DPR-63 which authorizes the licensee to operate the Nine Mile Point Nuclear Station, Unit No. 1 (the facility) at power levels not in excess of 1850 megawatts thermal. The facility is a boiling water reactor (BWR) located at the licensee's site in Oswego County, New York. The license provides, among other things, that it is subject to all rules, regulations and Orders of the Commission now or hereafter in effect.

II.

Section 50.48 of 10 CFR Part 50 requires that licensed operating reactors be subject to the requirements of Appendix R of 10 CFR Part 50. Appendix R contains the general and specific requirements for fire protection programs at licensed nuclear facilities. On February 17, 1981, the fire protection rule for nuclear power plants, 10 CFR 50.48 and Appendix R, become effective. This rule required all licensees of plants licensed prior to January 1, 1979, to submit by March 19, 1981: (1) plans and schedules for meeting the applicable requirements of Appendix R, (2) a design description of any modifications proposed to provide alternative safe shutdown capability pursuant to Paragraph III.G.3 of Appendix R, and (3) exemption requests for which the tolling provision of Section 50.48(c)(6) was to be invoked.

The licensee responded to these requirements by letter dated March 19, 1981, and supplemented its response by information contained in letters dated June 9, 1981, October 1, 1982, and December 3, 1982.

In these submittals, the licensee requested certain exemptions from the requirements of Section III.G of Appendix R to 10 CFR Part 50. Section III.G of Appendix R requires that one train of cables and equipment necessary to achieve and maintain safe shutdown be maintained free of fire damage by one of the following means:

- a. Separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of or supporting such fire barriers shall be protected to provide fire resistance equivalent to that required of the barrier;
- b. Separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area; or
- c. Enclosure of cables and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

If these conditions are not met, Section III.G.3 requires alternative shutdown capability independent of the fire area of concern.

The exemption requests we found to be acceptable are as follows:

1. The licensee requested an exemption from the provisions of Section III.G of Appendix R for the battery board rooms (Fire Zones B1A and B1B) because their boundary walls do not provide the required three-

hour rated barriers.

The licensee justified the exemption by stating that: redundant systems, equipment and associated cabling in the battery board rooms are separated by a two-hour fire wall; transient combustibles are essentially non-existent, smoke detectors and manual fire suppression are available; fixed combustible loading is minimal; combustible storage and personnel access is controlled; and automatic suppression capabilities are installed in adjacent areas.

We have reviewed the licensee's submittals and agree with the licensee's evaluation that the area does not comply with Section III.G because the boundary walls are not the required three-hour rated barriers. However, we find that the combustible loading in these rooms is significantly lower than the fire resistance rating of the boundary walls and that detection and manual suppression capability is provided in adjacent areas. We find that this protection, in conjunction with the other features identified by the licensee, provide sufficient fire protection capability such that reasonable assurance exists that one train of components needed for safe shutdown will be maintained free of fire damage.

Therefore, we conclude that the existing fire protection program for the battery board rooms (Fire Zones B1A and B1B) provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R and that the licensee's request should be granted.

2. The licensee has requested an exemption from the provisions of Section III.G of Appendix R for the battery rooms located in Fire Zones B2A and B2B because their boundary walls are not the required three hour barriers.

The licensee has justified the exemption request by stating that:

redundant systems, equipment and associated cabling are separated by a two-hour rated fire barrier; transient combustibles are essentially nonexistent; smoke detectors are available; manual suppression is available in adjacent areas; fixed combustible loading in the area is light; and that access to the area is restricted.

We have reviewed the licensee's submittals and agree with the licensee's evaluation that the area does not comply with Section III.G of Appendix R because the boundary walls are not the required three hour barriers. However, we find that the combustible loading in these rooms is significantly lower than the fire resistance rating of the existing boundary walls and that detection and manual suppression capability are provided in adjacent areas. We find that this protection, in conjunction with the other features identified by the licensee, provide sufficient fire protection capability such that reasonable assurance exists that one train of components needed for safe shutdown will be maintained free of fire damage.

Therefore, we conclude that the existing fire protection program for the battery rooms in Fire Zones B2A and B2B provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R and that the licensee's request should be granted.

3. The licensee has requested an exemption from Section III.G for the boundary wall that separates fire Sub-Areas 1 and 2 in the upper level of the Reactor Building and for the boundary wall that separates Fire Sub-Areas 1 and 2 from Fire Zones T8A and T8B in the adjacent Turbine Building because the area does not have a three-hour rated barrier or an automatic suppression system, nor is there an alternate shutdown capability independent of the area.

The licensee has justified the exemption by stating that: redundant systems, equipment, and associated cabling are separated by twenty feet of separation without intervening combustibles; transient combustible loadings are low and controlled; smoke detectors are provided; manual fire suppression is available; fixed combustible loading is extremely light; and maximum fire severity is less than one minute.

We have reviewed the licensee's submittals and agree with its evaluation that the area does not comply with Section III.G because it is not provided with a three-hour rated barrier or an automatic suppression system, and that no alternate shutdown capability independent of the area exists. However, we find that due to the low in-situ fire load, large room volume and a ceiling height in excess of fifty feet, the probability of a fire occurrence of sufficient magnitude to damage redundant cables and components is low. In addition, the fire hazard associated with this small amount of cables has been further reduced by coating the intervening cables with a flame-retardant coating.

Therefore, we conclude that the existing fire protection program provides reasonable assurance that one train of cables and components needed for safe shutdown in Fire Sub-Areas 1 and 2 will be maintained free of fire damage, and the existing fire wall between these sub-areas and the adjacent Fire Zones T8A and T8B in the Turbine Building is adequate to prevent fire propagation to these areas. We also conclude that these measures provide a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R and that the licensee's request should be granted.

4. The licensee has requested an exemption from the provisions of Section III.G of Appendix R for the boundary wall between Fire Zones T8A and T8B along with common boundary of column line 8.

The licensee has justified the exemption by stating that: redundant systems, equipment and associated cabling are separated by twenty feet of separation without intervening combustibles. Transient combustible loadings are low and controlled; early warning ionization-type smoke detectors are used in each fire zone which alarm in the control room; manual suppression is available within and outside each fire zone; and fixed combustible loading is extremely light, with controlled storage of transient combustibles.

We have reviewed the licensee's submittals and agree with the licensee's evaluation which concludes that this area does not comply with Section III.G because the boundary wall between redundant divisions is not three-hour rated barrier, and automatic suppression, or alternate shutdown capability independent of the area is not provided. However, we find that redundant components are separated by twenty feet with only a small amount of intervening combustibles, and that the fire hazard associated with these combustibles has been further reduced by coating the intervening combustibles (cables) with a flame retardant coating. In addition, due to the physical configuration of the room and the materials used in the safety related applications in this area, we find the probability that a fire could damage redundant safety related components is low.

Therefore, we conclude that the existing fire protection program for Fire Zones T8A and T8B provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R and that the licensee's request should be granted.

5. The licensee has requested an exemption from the provision of Section III.G of Appendix R for the control room ceiling because the ceiling does not have a three-hour rating from the control room side due to unprotected structural steel members.

The licensee has justified the exemption by stating that: ionization type smoke detectors are installed in the control room and in each control console; manual suppression is available; the control room is continuously manned; access to the control room is controlled; storage of transient combustibles is not allowed; control room systems are capable of removing smoke and byproducts; fire loading is minimal; no safe shutdown systems are located in fire zones above the control room; the ceiling area is well above the combustibles in the control room; and the majority of the combustibles in the control room are enclosed in metal panels.

We have reviewed the licensee's submittals and agree with the licensee's evaluation that the area does not comply with Section III.G because the control room is not provided with a fixed fire suppression system, and is not completely enclosed by three-hour rated fire barriers. However, we find that the fire protection features currently installed in the control room and the continuous manning of the control room provide adequate defense-in-depth fire fighting capability for this area. In addition, we agree that the other features identified by the

licensee provide adequate assurance that any fire initiated in the control room would be rapidly extinguished before significant fire damage occurred.

Therefore, we conclude that the existing fire protection program for the control room provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R, and that the licensee's request should be granted.

### III.

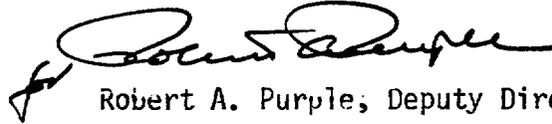
Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, an exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. Therefore, the Commission hereby approves the following exemption request:

Exemption is granted from the requirements of Section III.G of Appendix R of 10 CFR Part 50 for the following areas:

1. Battery Board Rooms (Fire Zones B1a and B1B)
2. Battery Rooms (Fire Zones B2A and B2B)
3. Reactor Building, upper level (Fire Sub-Areas 1 and 2), including the boundary wall that separates Fire Sub-Areas 1 and 2 from the Fire Zones T8A and T8B in the adjacent Turbine Building.
4. Turbine Building, upper level (Fire Zones T8A and T8B)
5. Control Room (Fire Zone C3).

The NRC staff has determined that the granting of these exemptions will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4), an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with this action.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Purple, Deputy Director  
Division of Licensing  
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland  
this 21st day of March 1983