

October 8, 2002

Mr. John T. Conway  
Site Vice President  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 - SCHEDULAR  
EXEMPTION FROM THE REQUIREMENTS OF 10 CFR PART 54, SECTION  
54.17(c) (TAC NO. MB3532)

Dear Mr. Conway:

The Commission has approved the enclosed schedular exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54, Section 54.17(c). This action is in response to your application of January 4, 2002, as supplemented by letter dated June 27, 2002, that requested a schedular exemption from the subject regulation regarding requirements on the timing of submission of application for operating license renewal.

A copy of the exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

**/RA/**

Peter S. Tam, Senior Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-410

Enclosure: Exemption

cc w/encl: See next page

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\*Input to exemption transmitted by memo of 9/3/02 \*\*P. Tam concurred for R. Laufer

\*\*\*D. Nicosia concurred for J. Moore

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
NINE MILE POINT NUCLEAR STATION, LLC  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 2  
DOCKET NO. 50-410  
EXEMPTION

1.0 BACKGROUND

Nine Mile Point Nuclear Station, LLC (NMPNS, or the licensee) is the holder of Facility Operating License Nos. DPR-63 and NPF-69, which authorize operation of Nine Mile Point Nuclear Station, Unit Nos. 1 and 2 (NMP1 and NMP2), respectively. The licenses provide, among other things, that the licensee is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect.

The facility consists of two boiling-water reactors (BWRs) located in Oswego County in New York; this exemption addresses only NMP2.

2.0 REQUEST/ACTION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 54, Section 54.17(c) (10 CFR 54.17(c)) stipulates that an application for a renewed license may not be submitted to the Commission earlier than 20 years before the expiration of the operating license currently in effect.

NMPNS, however, requested a schedular exemption from the 20-year restriction specified in 10 CFR 54.17(c) to allow it to submit a renewal application for NMP2 earlier than 20 years before expiration of its operating license. Such an exemption would allow NMPNS to submit one application for renewal of the operating licenses of both NMP1 and NMP2, with the goal of attaining efficiencies for preparation and review of the application. The current

operating license for NMP1 (DPR-63) expires on August 22, 2009, and for NMP2 (NPF-69) on October 31, 2026. By the end of 2003, NMP1 will have more than 34 years of operating experience and NMP2 will have more than 17 years of experience.

By application dated January 4, 2002, as supplemented by letter dated June 27, 2002, NMPNS proposed a schedular exemption from the 20-year restriction in 10 CFR 54.17(c) to allow it to submit a renewal application for NMP2 earlier than 20 years before expiration of its operating license.

### 3.0 DISCUSSION

Pursuant to 10 CFR 54.15, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 54, in accordance with the provisions of 10 CFR 50.12, when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

The current operating licenses for NMP1 and NMP2 were issued in accordance with the Atomic Energy Act (AEA), as amended, and 10 CFR 50.51, which limit the duration of an operating license to a maximum of 40 years. In accordance with 10 CFR 54.31, the renewed license will be of the same class as the operating license currently in effect and cannot exceed a term of 40 years. Therefore, the term of the renewed licenses for NMP1 and NMP2, are limited both by Federal statute and the Commission's regulations to 40 years. Additionally, Section 54.31(b) of 10 CFR states that:

A renewed license will be issued for a fixed period of time, which is the sum of the additional amount of time beyond the expiration of the operating license (not to exceed 20 years) that is requested in a renewal application plus the remaining number of years on the operating license currently in effect. The term of any renewed license may not exceed 40 years.

The potential exists, due to NMPNS's decision to apply early for license renewal for NMP2, that the renewed NMP2 license may not have the maximum 20-year period of extended operation permitted by 10 CFR 54.31(b). Any actual reduction from the maximum of 20 years will depend on the date the renewed NMP2 license is issued.

The Commission's basis for establishing the 20-year limit contained in 10 CFR 54.17(c) is discussed in the 1991 Statement of Consideration for 10 CFR Part 54 (56 FR 64963). The limit was established to ensure that substantial operating experience was accumulated by a licensee before a renewal application is submitted, such that any plant-specific concerns regarding aging would be disclosed. While amending the rule in 1995, the Commission sought public comment on whether the 20-year limit should be reduced. The Commission determined that sufficient basis did not exist to generically reduce the 20-year limit. However, the Commission indicated in the Statement of Consideration for the amended rule (60 FR 22488), that it was willing to consider plant-specific exemption requests by applicants who believe that sufficient information is available to justify applying for license renewal prior to 20 years from expiration of the current license. NMPNS's exemption request is consistent with the Commission's intent to consider plant-specific requests and is permitted by 10 CFR 54.15 (regarding specific exemptions to provisions in Part 54).

NMPNS stated that the two units have similar operation, maintenance, use of operating experience, and environment, and, as such, NMP1 operating experience is directly applicable to NMP2. Both units employ BWRs with nuclear steam supply systems provided by General Electric Company, and were constructed by Stone & Webster Engineering Corporation. NMPNS reported that materials of construction for systems, structures, and components on both units are typically identical or similar. Moreover, NMPNS stated that many of the maintenance activities and other existing aging management programs are common to both

units; thus, the effectiveness of aging management programs is demonstrated by the experience at both units.

NMPNS also stated that many of the procedures that govern site activities are not unit-specific and require the consideration of operating experience at both units. If an item is potentially applicable to both units, the item is addressed in the plant's corrective action process. Nonconforming or degraded equipment on one unit necessitates consideration of the same condition on the other unit because of the similarities between the two units. Further, NMPNS does not divide the plant organizations by unit and typically assigns personnel to work on either unit.

While the units have common operation, maintenance, use of operating experience, and environment, NMP1 and NMP2 are of different BWR design. NMP1 is a BWR/2 design and NMP2 is a BWR/5 design. The containment designs and thermal output of these two designs are significantly different. In a letter dated May 15, 2002, the NRC requested additional information from NMPNS to justify the applicability of NMP1's BWR/2 operating experience as the basis for the schedular exemption request for NMP2, or to discuss how industry-wide BWR/5 operating experience can supplement NMP2's lack of sufficient operating experience.

In its June 27, 2002, letter, NMPNS compared the NMP1 and NMP2 containment structures and components to those in the applicable sections of the Generic Aging Lessons Learned (GALL) Report. NMPNS stated that the operating experience from NMP1 is applicable to NMP2 with regard to identifying containment structure-related aging effects. The NRC staff reviewed the June 27, 2002, letter and determined that, although there are differences in containment design and configurations between NMP1 and NMP2, both units do exhibit similar aging effects, and their aging effects are comparable to those of the GALL Report. The NRC staff also reviewed NMPNS's assertions that (1) NMP2 also has the benefit of industry operating experience, particularly for those BWRs that have Mark II containments; (2) by

October 2003, when NMPNS anticipates submitting the license renewal application (LRA) for NMP2, two BWR units (i.e., LaSalle 1 and Susquehanna 1) with Mark II containments will have accumulated at least 20 years of operating experience and two other units (Columbia and LaSalle 2) will have close to 20 years of operating experience; and (3) the NMP2 LRA will also reflect industry experience identified in the GALL Report as well as other industry programs. The NRC staff finds that the justifications provided by NMPNS for these assertions are based on factual information and are reasonable.

NMPNS compared the NMP1 and NMP2 thermal output, which results in differences in neutron flux and fluence to which the reactor vessel internals (RVI) and reactor vessels are exposed. NMPNS indicated that the differences in thermal output do not significantly affect the reactor coolant temperature. In addition, NMPNS stated that the NMP1 and NMP2 reactor vessel operating temperatures are similar and closely match those specified in the GALL Report for the BWR reactor vessel environment. The NRC staff compared the operating temperatures through the reactor vessel integrity database with those in the GALL Report and found NMPNS's justification reasonable.

NMPNS also provided additional information regarding neutron flux. As a result of higher power density, the NMP2 RVI experience greater neutron flux than the NMP1 RVI. However, as a result of reactor vessel geometry (i.e., a larger annulus between the core shroud and the vessel wall), the NMP2 reactor vessel actually experiences a lower flux than the NMP1 reactor vessel, which results in a lower predicted end-of-life fluence.

In addition, NMPNS indicated that the higher core power density and, correspondingly, a higher fluence for NMP2 may result in the emergence of certain aging effects earlier in plant life than would be the case for NMP1. However, NMPNS stated that it noted no unique aging effects for the NMP2 RVI.

NMPNS also stated that, on an industry-wide basis, the BWR Vessel and Internals Project (BWRVIP) addresses RVI. The BWRVIP reviewed the function of each internal BWR component (including the BWR/2 and BWR/5 designs). For those internals that could impact safety, the BWRVIP considered the aging mechanisms that could cause degradation of such components and developed an inspection program that would enable degradation to be detected before component function was adversely affected. Therefore, NMPNS indicated that the operating experience gained from the BWRVIP could be applied to NMP2 in assisting the identification of plant-specific concerns regarding aging. The NRC staff finds this approach acceptable.

An exemption will not be granted unless special circumstances are present, as defined in 10 CFR 50.12(a)(2). Specifically, 10 CFR 50.12(a)(2)(ii) states that a special circumstance exists when "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." As discussed above, the purpose of the time limit specified in 10 CFR 54.17(c) was "to ensure that substantial operating experience is accumulated by a licensee before it submits a renewal application." The 20-year limit was imposed to ensure that sufficient operating experience was accumulated to identify any plant-specific aging concerns. Although the 20-year requirement of 10 CFR 54.17(c) is specifically applicable to the unit applying for a renewed operating license, the operating experience available to a license renewal applicant is not limited solely to the operating experience accumulated by the unit itself. In the supplementary information accompanying the 1991 publication of the rule, the NRC stated: "... both renewal applicants and the NRC will have the benefit of the operational experience from the nuclear industry and are not limited to information developed solely by the utility seeking a renewed license." As discussed above, such operational experience aspect has been acceptably addressed by NMPNS. Therefore, sufficient combined operating experience exists



to satisfy the intent of 10 CFR 54.17(c), and the application of the regulation in this case is not necessary to achieve the underlying purpose of the rule. The NRC staff concludes that special circumstances are present in accordance with 10 CFR 50.12(a)(2)(ii).

#### 4.0 CONCLUSION

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants NMPNS a schedular exemption from the requirements of 10 CFR 54.17(c). Specifically, this schedular exemption allows NMPNS to apply for a renewed license for NMP2 earlier than 20 years before the expiration of the operating license currently in effect.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (67 FR 62503).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 8th day of October.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

John A. Zwolinski, Director  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Nine Mile Point Nuclear Station  
Unit No. 2

cc:

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

Resident Inspector  
Nine Mile Point Nuclear Station  
P.O. Box 126  
Lycoming, NY 13093

Mr. John V. Vinqvist, MATS Inc.  
P.O. Box 63  
Lycoming, NY 13093

Supervisor  
Town of Scriba  
Route 8, Box 382  
Oswego, NY 13126

Mr. Paul D. Eddy  
Electric Division  
NYS Department of Public Service  
Agency Building 3  
Empire State Plaza  
Albany, NY 12223

Charles Donaldson, Esquire  
Assistant Attorney General  
New York Department of Law  
120 Broadway  
New York, NY 10271

C. Adrienne Rhodes  
Chairman and Executive Director  
State Consumer Protection Board  
5 Empire State Plaza, Suite 2101  
Albany, NY 12223-1556

Mark J. Wetterhahn, Esquire  
Winston & Strawn  
1400 L Street, NW.  
Washington, DC 20005-3502

Mr. Michael J. Wallace  
President  
Nine Mile Point Nuclear Station, LLC  
c/o Constellation Energy Group  
250 W. Pratt Street - 24<sup>th</sup> Floor  
Baltimore, MD 21201-2437

Mr. Raymond L. Wenderlich  
Senior Constellation Officer  
Responsible for Nine Mile Point  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

James M. Petro, Jr., Esquire  
Counsel  
Constellation Power Source, Inc.  
111 Market Place  
Suite 500  
Baltimore, MD 21202

Mr. William M. Flynn, President  
New York State Energy, Research,  
and Development Authority  
17 Columbia Circle  
Albany, NY 12203-6399