7590-01-P

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-220

LICENSE NO. DPR-63

NIAGARA MOHAWK POWER CORPORATION

RECEIPT OF PETITION FOR DIRECTOR'S DECISION UNDER 10 CFR 2.206

Notice is hereby given that by Petition dated May 24, 1999, Mr. Tim Judson (the Petitioner) on behalf of Citizens Awareness Network, Coalition on West Valley Nuclear Waste, Environmental Advocates, Greens of Greater Syracuse, Nuclear Information and Resource Service, Oswego Valley Peace and Justice, Sierra Club (Iroquois Group), Student Environmental Action Coalition, Syracuse Anti-Nuclear Effort, Syracuse Peace Council, and Dr. Steven Penn, has requested that the U.S. Nuclear Regulatory Commission (NRC) take action with regard to Nine Mile Point Nuclear Station, Unit No. 1 (NMP1). The Petitioner requests that the NRC take enforcement action against Niagara Mohawk Power Corporation (NMPC) by suspending its NMP1 operating license until (1) NMPC releases the most recent inspection data on the plant's core shroud; (2) a public meeting can be held in Oswego County, New York, to review this inspection data and the repair design to core shroud vertical welds V9 and V10; and (3) an adequate public review of the safety of the plant's continued operation is accomplished. The Petitioner bases this request upon the following issues and concerns:

1. Petitioner believes that the public cannot rely upon NMPC to accurately perform the data analysis necessary to calculate the extent and rate of cracking in the core shroud because of problems with NMPC's previous testing and analyses that were identified in letters to the NRC from Dr. Penn. Petitioner states that the NRC has not responded to Dr. Penn's letters, and, therefore, Petitioner believes Dr. Penn's expressed concerns constitute unreviewed safety issues.

2. NMPC and NRC reported during the May 1999 inspection that cap screws in the bow spring mechanisms of the shroud tie rod assemblies were found to have suffered intergranular stress-corrosion cracking, resulting in the fracture of one of the cap screws. Petitioner states that this problem, and the tie rod problem corrected during the 1997 outage, indicates that NMPC's designs warrant in-depth review by the public and closer implementation scrutiny. Petitioner believes that NMPC's prior selection of poor cap screw material and the NRC staff's acceptance of it raises questions about the credibility of the NRC's approval of the vertical weld repair design and, thus, necessitates a public review of the level of safety before plant restart.

3. Data from the May 1999 inspection of the NMP1 core shroud are new and the NRC staff's review of the data will not be completed before plant restart. Petitioner states that previous NRC staff safety evaluations required future evaluations. Petitioner believes that subsequent NRC approval of an "unprecedented and unproven" repair design for vertical welds, issued before the inspection, does not preempt the previously determined need to assess the actual extent of cracking in the vertical welds and the structural integrity of the core shroud.

4. NMPC has informed the NRC that supporting a meeting for public review of the core shroud inspection data during this refueling outage would place an undue regulatory burden on NMPC's manpower resources, and this burden could possibly compromise safety at NMP1. Petitioner considers inadequate licensee resources to be new information and an unreviewed safety issue. Petitioner contends that violations and a civil penalty issued against NMPC on November 5, 1997, involving inadequate management oversight and failure to monitor the effectiveness of maintenance activities

are "directly pertinent to failure of the tie rod installation (1995), faulty design of the bow spring modification (1997), flawed studies on core shroud boat samples (1998), postponement of mid-cycle inspection (1998), and miscalibration of instruments for vertical weld inspection (May 1999)." Petitioner believes that, because the degree of cracking in the NMP1 shroud is precedent-setting, the question of regulatory burden is not relevant, as the NMP1 shroud requires the strictest regulatory oversight and a full public review. Petitioner states that postponing restart would eliminate this regulatory burden and ensure that outage work is properly reviewed.

The NRC staff has determined that the issues and concerns addressed in the Petition do not warrant deferring restart of NMP1. The NRC staff has also determined that a meeting to provide for public review of the shroud reinspection results need not be held before restart. In reaching this determination, the NRC staff has considered the following:

1. By letter dated May 28, 1999, the NRC staff responded to Dr. Penn's letters dated December 3, 1998; March 25, 1999; and April 15, 1999. In a letter dated April 30, 1999, NMPC has also responded to relevant concerns in Dr. Penn's letter of March 25, 1999. The responses indicate that testing and evaluations of the core shroud by NMPC and its contractors can be relied upon by the NRC with reasonable assurance as to their accuracy. Therefore, the issues in Dr. Penn's letters do not provide a sufficient basis to warrant suspension of the NMP1 operating license.
2. The bow spring modification to each of the four tie rod assemblies replaces the design function of the failed cap screw and other cap screws that have the potential for future failure. By letter dated May 28, 1999, NMPC confirmed that no additional modifications are needed other than the bow spring modification addressed in the letter of

May 21, 1999. The function of the tie rod bow spring does not affect the tie rod's function of maintaining a predetermined compressive force ("preload") on the shroud during power operation. In response to NMPC's letter dated May 21, 1999, the NRC staff reviewed and approved the modifications as an alternative repair pursuant to 10 CFR 50.55a(a)(3)(i) by letter dated June 7, 1999, and NMPC has implemented these modifications. With the NRC staff's review and approval of this modification, the NRC staff finds no basis to consider enforcement action to suspend the operating license.

3. During the current refueling outage, NMPC has implemented preemptive repairs of shroud vertical welds V9 and V10, as approved by the NRC staff in a letter dated April 30, 1999. These repairs mechanically restore the vertical welds. NMPC has also verbally informed the NRC that the 1997 modifications to the tie rod assemblies have performed satisfactorily and that the tie rod assemblies have applied the appropriate preload on the shroud throughout the last operating cycle. Since vertical welds V9 and V10 have been restored and the tie rods are satisfactorily performing their preload function, the need for NRC staff review of reinspection data before restart is obviated.

4. NMPC will provide reinspection results and analyses to disposition these reinspection findings to the NRC within 30 days of completing the reinspection. This schedule is consistent with the guidelines established by the Boiling Water Reactor Vessel and Internals Project in its report BWRVIP-01, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines," which the NRC staff reviewed and accepted by letter dated September 25, 1994. The NRC staff, noting the results of inspections to date and that NMPC has followed the BWRVIP generic criteria for inspection, evaluation, and repair, does not believe a public meeting is warranted prior to restart. Also, during telephone discussions with the NRC, NMPC has indicated that a meeting on reinspection results before restart would require significant participation and preparation by NMPC, involving

some of the same key employees and contractors involved in outage activities. The NRC staff recognizes the value of public meetings, and to this end, a routinely scheduled meeting to discuss recent plant performance at the NMP site is planned for August 1999. This meeting will discuss a variety of topics related to licensee performance. A brief discussion on the NMP1 core shroud activities will be one of the agenda topics.

The remaining issues in the Petition are being treated pursuant to 10 CFR 2.206 of the Commission's regulations and have been referred to the Director of the Office of Nuclear Reactor Regulation. As provided by Section 2.206, appropriate action will be taken on this Petition within a reasonable time.

By letter dated June 11, 1999, the Director acknowledged receipt of the Petition. A copy of the Petition is available for inspection at the Commission's Public Document Room at 2120 L Street, NW., Washington, D.C. 20555-0001.

FOR THE NUCLEAR REGULATORY COMMISSION

Roy P. Zimmerman

Roy P. Zimmerman, Acting Director
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 11th day of June 1999

May 24, 1999

Dr. William Travers
Executive Director of Operations
United States Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Travers;

As provided under 10 CFR 2.206, Citizens Awareness Network, Coalition on West Valley Nuclear Waste, Environmental Advocates, Greens of Greater Syracuse, Nuclear Information and Resource Service, Oswego Valley Peace and Justice, Sierra Club (Iroquois Group), Student Environmental Action Coalition (SU/SUNY-ESF), Syracuse Anti-Nuclear Effort, Syracuse Peace Council, and Dr. Steven Penn, Ph.D., petition the U.S. Nuclear Regulatory Commission to suspend the operating license of Niagara Mohawk Power Corporation (NMPC) for the Nine Mile Point Unit One (NMP1) nuclear power generating station. The petition calls for suspension of the license until such time as NMPC releases the most recent inspection data on the plant's core shroud and an adequate public review of the plant's safety is accomplished because of the following new and unreviewed information and safety concerns:

1) The public cannot rely upon NMPC to accurately perform the data analysis necessary to calculate the extent and rate of cracking in the core shroud. As demonstrated in two letters to the NRC by Dr. Steven Penn (December 14, 1998 and March 17, 1999) the research studies commissioned by Niagara Mohawk to estimate crack growth rates (CGR) in the core shroud were replete with procedural errors including selective omission of data and calibration inconsistencies in electropotentiokinetic reactivity (EPR) measurements used in calculations of the CGR. In many instances, the studies neglected proper error analysis, misrepresenting the accuracy with which the reported CGR was known and against which new data must be checked. While we acknowledge that the issue of estimating the CGR is less relavant given the recent direct measurements of the CGR, the public still has no assurance that the calculations and research being performed by NMPC and its research contractors is being conducted in an accurate and unbiased manner. Lingering public doubt over the research practices of NMPC necessitates a public review of the inspection data to assess the true safety status of the core shroud. Further, the NRC has not evaluated Dr. Penn's letters, and has stated it does not plan to review Dr. Penn's second letter until Fall 1999; NRC's refusal to assess these analyses poses an unreviewed safety issue. *The most recent inspection data must be properly analyzed and publicly reviewed prior to any potential restart in order to assess the current state of the core shroud material and the safety concerns of continued operation of NMP1.*

2) NMPC and NRC have reported in the May 1999 inspection that cap screws installed as a modification to the core shroud in 1997 suffered intergranular stress corrosion cracking (IGSCC), resulting in the fracture of at least one of the cap screws. The cap screws were part of bow spring mechanisms designed to prevent tie rods from rubbing against the core shroud. With the failure of one of the tie rods between 1995 and 1997 due to improper installation and the inferior material chosen for the cap screws, NMPC's record on installing repairs to the core shroud, and NRC's record on approving and overseeing them, indicate: (1) that NMPC's designs warrant in-depth review by the public; and (2) that the implementation of repairs requires closer scrutiny to assure safe operation of NMP1. The fact that the material chosen by NMPC and approved by NRC for the cap screws was so susceptible to IGSCC, the same mechanism by which the core shroud is believed to be deterioriating, indicates a shocking lack of forethought on the part of the licensee and a dismaying inadequacy of oversight by the regulator. *This new data concerning the cap screws, which has come to light since NRC approved the repair design for V-9 and V-10, raises safety-significant questions about the credibility of NRC's approval of the vertical weld repair design, and necessitates a further public review of the design's adequacy in order to determine the level of safety before restart of NMP1.*

3) Data from the May 1999 inspection of the NMP1 core shroud is new and NRC staff review will not occur prior to restart of the reactor on the current refueling outage schedule. This data constitutes new information on a significant safety issue, and permitting restart of the reactor before the data is reviewed and a safety evaluation issued constitutes an unreviewed safety issue. This inspection was initially scheduled for a mid-cycle outage after 10,600 hours of operating cycle 13 (approximately November 1998). The mid-cycle outage was required by NRC prior to restart in 1997 because of the unprecedented extent of deterioration of the core shroud. Analysis of the inspection data and a safety evaluation were necessary to determine (1) the extent of cracking, (2) to assess the safety consequences of continued operation of NMP1 with a severely cracked core shroud, and (3) to begin collecting empirical data on IGSCC and core shroud deterioration as part of an industry directive to monitor the age-related degradation of boiling water reactor internals. However, NRC postponed inspection at NMPC's request since estimates of the CGR suggested the

cracks would not approach the next safety significant threshold until the end of the operating cycle. The NRC staff's letter to NMPC approving postponement of the mid-cycle inspection states: "This approval of NMPC's request ... does not affect the NRC staff's earlier letter and SE dated May 8, 1997." The approval of postponement only deferred the necessary review of the status and level of safety of the core shroud. *Therefore, a review of the most recent inspection data to assess the current extent of cracking in the core shroud and a safety evaluation based on that assessment are necessary before the reactor is allowed to restart, as would have been the case during the mid-cycle inspection. Subsequent NRC approval of an unprecedented and unproven repair design for vertical welds, issued prior to the inspection and review of the May 1999 data, does not preempt the previously determined need to assess the actual extent of cracking in the vertical welds and the structural integrity of the core shroud.*

4) NMPC has informed NRC that a public review of the core shroud inspection data during this refueling outage would place an "undue regulatory burden" on NMPC management and possibly compromise safety at NMP1. NMPC management acknowledged that they have insufficient resources to respond to the regulatory process and the public on issues relevant to safe operation of NMP1. This fact in itself constitutes new information and an unreviewed safety issue relating to the core shroud inspection and implementation of the proposed core shroud repair. NMPC's record during the last 2 operating cycles and during this refueling outage do not warrant that level of trust. Moreover, there is precedent for increased concern about NMPC's ability to self-assess its safety performance at NMP1. In a civil penalty issued against NMPC on November 6, 1997, NRC cited "significant regulatory concern" with NMPC for violations at NMP1; the panel investigating the violations discovered, among other things, "inadequate management oversight" and "fail[ure] to monitor the effectiveness of maintenance activities for safety-significant plant equipment in order to minimize the likelihood of failure and of events caused by the lack of effective maintenance." These are issues directly pertinent to the failure of the tie rod installation (1995), faulty design of the bow spring modification (1997), flawed studies on core shroud boat samples (1998), postponement of mid-cylcle inspection (1998), and miscalibration of instruments for vertical weld inspection (May 1999). Further, the core shroud at NMP1 is known to be "the worst case of cracking in the nuclear industry" (Union of Concerned Scientists). The question of "undue regulatory burden" is not relevant with a precedent-setting case of reactor degradation, but rather requires the strictest regulatory oversight and a full public review. Finally, if the licensee cannot guarantee that compliance with regulatory requirements can be met while protecting the public health and safety, this constitutes a violation of NMPC's operating license. *Therefore, NRC should suspend NMPC's operating license for NMP1 until there has been a public review of the May 1999 inspection data and the proposed repair to V-9 and V-10 and the safety of continued operation of the reactor can be determined. Postponing restart of NMP1 would eliminate the issue of "regulatory burden" for NMPC management and ensure that the safety-significant work being conducted during this refueling outage is properly reviewed.*

Therefore, for all of the above stated contentions, the Petitioners call upon the NRC to suspend NMPC's operating license for NMP1 by postponing the scheduled restart date until such time as a public meeting can be held in Oswego County to review the most recent core shroud inspection data and the proposed repair design to core shroud welds V-9 and V-10.

Sincerely,

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