



Point Beach Nuclear Plant
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PBL 97-0061

February 20, 1997

Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
REQUEST FOR ENFORCEMENT DISCRETION
SERVICE WATER AND COMPONENT COOLING WATER REQUIREMENTS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Wisconsin Electric Power Company, licensee for the Point Beach Nuclear Plant, hereby requests enforcement discretion from specific Point Beach Nuclear Plant Technical Specification requirements related to the inoperability of one Train A service water pump, P-32A, and the Unit 1 Train A component cooling water pump, 1P-11A. This request is made in accordance with the guidance contained in NRC Inspection Manual, Part 9900: Technical Guidance, "Operations - Notices of Enforcement Discretion." Point Beach Nuclear Plant Units 1 and 2 are presently shut down. Unit 2 is shut down and defueled with recovery in progress from the ongoing refueling and steam generator replacement activities. Unit 1 had been operating at 90% power at the time of the discovery of the conditions described in this request. Unit 1 was shut down in accordance with Technical Specification requirements and is presently being maintained at approximately 1050 psig, 380°F primary system pressure and temperature with decay heat being removed through the steam generators and secondary systems.

Requirement(s) For Which Discretion Is Requested

Technical Specification 15.3.3.C.2 requires that during power operation, an inoperable component cooling water pump must be restored to operable status within 24 hours. If this cannot be satisfied, the reactor shall be placed in the hot shutdown condition. If the pump cannot be restored to an operable status within an additional 48 hours, the reactor shall be placed in cold shutdown.

Technical Specification 15.3.3.D.2 requires that during power operation, an inoperable service water pump must be restored to operable status within 24 hours. If this cannot be satisfied, both reactors shall be placed in the hot shutdown condition within six hours, and in cold shutdown within 36 hours.

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We are requesting enforcement discretion from the requirements of Technical Specifications 15.3.3.C.2 and 15.3.3.D.2 to allow Point Beach Nuclear Plant Unit 1 to stay in a hot shutdown condition. We believe maintaining Unit 1 in a hot shutdown condition, pending repairs of the 1P-11A component cooling water pump, will reduce shutdown risk and provide an overall safety benefit.

Enforcement discretion is requested until 2400 hours on February 21, 1997, to allow time to return the inoperable component cooling pump to an operable condition. Should the component cooling water pump be returned to operable status prior to meeting the requirements described in Technical Specification 15.3.3.D and administrative restrictions contained in DCS 3.1.7 for the service water pump, we will proceed to cold shutdown. Should it be determined necessary to proceed to cold shutdown, an additional 18 hours is requested, from the time of this determination, to cool down to cold shutdown conditions in a safe and orderly manner.

Additional discussions will be held with NRC staff at approximately 1400 hours on February 21, 1997, to communicate the status of repairs to the component cooling water pump and service water pump. If an extension of the enforcement discretion duration is required and warranted, it will be requested at that time.

Circumstances Surrounding The Situation

Point Beach Nuclear Plant, Unit 1 component cooling water pump 1P-11A was declared inoperable on February 17, 1997, at 1800 hours. An operability determination had been performed in 1994 on 1P-11A as a result of the discovery of defects on the pump impeller. During a recent review of that operability determination, it was decided that the determination did not include sufficient information to conclude that the pump was operable. The pump was taken out of service and disassembled to verify the existence and extent of the defects.

Technical Specification 15.3.3.C.2.a allows this pump to be inoperable for up to 24 hours provided the redundant pump is operable. The impeller defects were not repairable within this time frame.

The review of operability determinations that discovered this particular condition was being performed as a result of issues identified by Wisconsin Electric and the NRC staff and was associated with Unit 2 startup commitments identified in our December 12, 1996, letter. This review was being performed to verify the operability of required structures, systems and components at the Point Beach Nuclear Plant.

Service Water Pump P-32A, one of three train A service water pumps, was declared inoperable at 1558 hours on February 17, 1997. P-32A was experiencing high upper motor bearing vibration. Technical Specification 15.3.3.D and an administrative restriction contained in DCS 3.1.7, "Service Water Pump Operability," allow a required service water pump to be inoperable for up to 24 hours prior to initiating shutdown of the operating unit(s). The service water pump was not returned to an operable condition within this time period. Investigations have not yet determined the cause for the high vibration.

Because we were unable to return these pumps to an operable status within the time periods specified, Unit 1 reactor shutdown was initiated at 1500 hours on February 18, 1997. The unit was placed in hot shutdown at 2138 hours on February 18, 1997. This action met the requirements of Technical Specifications 15.3.3.C.2 for the component cooling water pump and Technical Specification 15.3.3.D.2 for the service water pump for placing the unit in hot shutdown.

Technical Specification 15.3.3.C is in potential conflict with requirements for decay heat removal contained in Technical Specifications 15.3.3.A.3, which contains requirements related to the residual heat removal system. Component cooling water provides cooling to the residual heat removal heat exchangers during post-accident conditions and for shutdown cooling. With Train A of the component cooling water system inoperable due to the inoperable pump, Train A of the residual heat removal system is also not operable. If a residual heat removal loop is not being relied upon for decay heat removal, Technical Specification 15.3.3.A.3 requires the reactor to be maintained at greater than 350°F so both steam generators and the secondary system are available for decay heat removal. The requested enforcement discretion is consistent with continued operation at hot shutdown in accordance with Technical Specification 15.3.3.A.3.

The Point Beach Nuclear Plant Manager's Supervisory Staff (on-site nuclear safety review committee) has recognized the inconsistency between Technical Specification 15.3.3.A.3 and 15.3.3.C and acknowledge a license amendment may be warranted. While preparing this request for enforcement discretion, it was evident to us that a Technical Specification change was impractical because we expect to return to compliance with the existing license requirements in so short a period of time that a license amendment could not be issued before compliance is restored. However, an evaluation of these Technical Specification provisions will continue and, if determined to be appropriate, a change request will be developed and submitted to resolve this apparent inconsistency.

Safety Basis For The Request

This request is made in accordance with the guidance contained in NRC Inspection Manual, Part 9900: Technical Guidance, "Operations - Notices of Enforcement Discretion." Point Beach Nuclear Plant Units 1 and 2 are presently shut down. Criterion B.2 of this guidance states:

"For plants in the shutdown condition, the NOED is intended to reduce shutdown risk by avoiding testing, inspection, or system realignment that is inappropriate for the particular plant conditions, in that it does not provide an overall safety benefit, or may, in fact, be detrimental to safety in the particular plant condition."

As discussed below, operation of Point Beach Unit 1, in accordance with the cited Technical Specification requirements for component cooling water and service water, does not provide an overall safety benefit, and may be detrimental in that certain transients may provide additional risk under the stipulated Technical Specification conditions.

Point Beach Nuclear Plant Technical Specifications require redundancy of decay heat removal methods during all shutdown conditions. Under the present condition, only one train of residual heat removal is available for removing decay heat from the reactor. Redundant and diverse means are provided through the reactor coolant loops, steam generators and secondary systems. Under cold shutdown conditions, the reactor is also maintained solid by procedure. That is, primary pressure is not being maintained with a steam bubble in the pressurizer.

Under these cold shutdown conditions, loss of the operable component cooling water loop results in the loss of decay heat removal until the primary reactor coolant system heats up sufficiently to allow heat transfer through the steam generators and secondary systems. In addition, the reactor coolant pump needs to be secured as a result of a lack of component cooling water. Under water solid conditions, this temperature increase results in expansion of the water, which may result in a pressure excursion challenging the power-operated relief valves (PORV) used as low temperature overpressure protection (LTOP). This challenge can be eliminated by maintaining the reactor at a temperature above the LTOP enable setpoint and with pressure controlled by a steam bubble in the pressurizer.

Additionally, station voltage is subject to greater variation because in addition to Unit 1 being out of service, both Point Beach Unit 2 and the Kewaunee Nuclear Plant are in refueling outages. This is an unusual situation and is a factor in assessing the safety basis for keeping the unit in hot shutdown. Normally, cooldown would be conducted using the residual heat removal system. Continued cooldown with a single residual heat removal train would require at least one reactor coolant pump operating. As reactor coolant density increases during the cooldown, the reactor coolant pump load increases. This could potentially reduce station bus voltage resulting in loss of the reactor coolant pump if the undervoltage setpoint was reached. This would not normally occur if the cooldown was on residual heat removal or if one of the three nuclear units was in service.

By maintaining the reactor above cold shutdown and above 350°F as specified in Technical Specification 15.3.3.A.3, redundancy of decay heat removal is maintained under all anticipated conditions, and the potential consequences related to the loss of the operable component cooling water pump are mitigated. The reactor is maintained in an analyzed condition with decay heat removed through the steam generators.

In addition, safety systems, including safety injection, safety injection accumulators, and the steam-driven auxiliary feedwater pump, remain available to perform their design basis function for mitigating the consequence of potential accidents, as analyzed in the Final Safety Analysis Report (FSAR).

Basis For No Unreviewed Safety Question or Significant Hazards Consideration

As defined in 10 CFR 50.59, a proposed change results in an Unreviewed Safety Question (USQ); 1) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased, 2) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created, or 3) if the margin of safety as defined in the basis of any technical specification is reduced.

As defined in 10 CFR 50.91, a change involves no significant hazards consideration if the change 1) does not involve a significant increase in the probability or consequences of an accident previously evaluated, 2) does not create the possibility of a new or different kind of accident from any accident previously evaluated, or 3) does not involve a significant reduction in a margin of safety.

Operation in accordance with the proposed enforcement discretion does not result in an Unreviewed Safety Question nor a Significant Hazards Consideration. The proposed discretion ensures the plant is operated as analyzed and as described in the safety analysis report. Structures, systems and components relied on for decay heat removal function are not being altered by the proposed condition; and will be operated as analyzed and designed in accordance with approved procedures. Redundancy of decay heat removal will be maintained. In addition, the potential for transients related to the failure of a residual heat removal train, when relied on as a means of decay heat removal, is eliminated. Therefore, the probability or consequences of previously analyzed accidents do not increase, the possibility of an accident or malfunction of a different type is not created, nor is a margin of safety reduced.

The health and safety of the public is not impacted by operation in accordance with the provisions of the requested enforcement discretion.

Environmental Consequences

We have determined that operation in this condition does not involve a significant hazards consideration, authorize a significant change in the types or total amounts of any effluent release, or result in any significant increase in individual or cumulative occupational radiation exposure. Therefore, we conclude that no environmental impact results.

Compensatory Measures

During the duration of the enforcement discretion, the following compensatory measures were or will be taken:

- Evaluations were performed which demonstrated the adequacy of two service water pumps to provide the required post-accident cooling load under the condition of one unit defueled and the other at power. This demonstrates that under the worst case single failure with pump P-32A inoperable, service water will perform its design basis function.
- Non-essential service water loads assumed to be isolated in the above calculation in Unit 2 were isolated and danger tagged. This ensures the assumptions in the above evaluation are maintained.

- Point Beach Nuclear Plant has the capability to cross-connect the Unit 1 and Unit 2 component cooling water systems should the system in one unit fail. Operations personnel have been directed to review the abnormal operating procedure governing this evolution to ensure that they are familiar with the actions necessary to cross-connect the systems should a loss of the operable Unit 1 pump occur prior to restoring the redundant pump to an operable condition.

Auxiliary Operators are walking down the component cooling system to ensure they are familiar with all valve locations for valves that are required to be operated to perform the cross-connect.

- Plans were finalized on February 19, 1997, to replace the inoperable Unit 1 train A component cooling water pump with the Train B pump from Unit 2. This will ensure a pump is available from each train if cross-connection is necessary.
- Status boards were updated to indicate the protected status of the Unit 1 Train B and Unit 2 Train A component cooling water pump to ensure these pumps are maintained operable. Signs have also been placed on the pumps to indicate this status.
- Work crews are being cautioned about the protected status of the aforementioned pumps.
- The combustion turbine-generator (G05) was tested on February 19, 1997. This test verified the availability and operability of G05 as a source of power to the station and as a supplemental means to maintain station voltage should grid voltage become a concern affecting equipment operability with both Point Beach units shut down.
- Discussions were held with Wisconsin Electric System Control on the morning of February 20, 1997. These discussions emphasized the need for prompt action and informing the station should grid voltage become a concern. Subsequent discussions will occur at least daily during the period of the requested enforcement discretion.

Justification For Duration Of Non-Compliance

Enforcement discretion is requested from the cited Technical Specification requirements until 2400 hours on February 21, 1997, to allow time to return the inoperable component cooling water pump to an operable condition. The enforcement discretion duration requested is based on the estimate of the time it will take to replace the inoperable Unit 1 Train A component cooling water pump with the Train B pump from Unit 2. This work is expected to take a minimum of three to four shifts worked around the clock. Allowing for contingencies, 2400 hours on February 21, 1997, provides for a high probability that the replacement evolution will be successful while being performed in a safe manner.

Summary Of Communications And Approvals

The PBNP Manager's Supervisory Staff (on-site nuclear safety review committee) met and discussed this enforcement discretion action on February 19, 1997. The Manager's Supervisory Staff concurred with the decision to request this enforcement discretion, and with the content of this request.

Discussions were held with NRC Region III, Point Beach resident inspectors, and Projects staff on February 19, 1997, at approximately 1600 hours. Verbal approval of this request was received at approximately 1800 hours.

If you have any questions or require additional information, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas F. Johnson".

Douglas F. Johnson
Manager,
Regulatory Services & Licensing

cc: NRC Regional Administrator, Region III
NRC Resident Inspector