



231 W. Michigan, P.O. Box 2046, Milwaukee, WI 53201

(414) 221-2345

VPNPD-91-058
NRC-92-016

CFR 50.59
10 CFR 50.90

January 29, 1992

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

Gentlemen:

DOCKETS 50-266 AND 50-301
TECHNICAL SPECIFICATION CHANGE REQUEST 150
QUARTERLY TESTING OF REACTOR PROTECTION
AND SAFEGUARDS CIRCUITS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In accordance with the requirements of 10 CFR 50.59(c) and 10 CFR 50.90, Wisconsin Electric Power Company (Licensee) requests amendments to Facility Operating Licenses DPR-24 and DPR-27 for Point Beach Nuclear Plant, Units 1 and 2 respectively. These amendments will increase the testing interval for reactor protection and safeguards circuits from monthly to quarterly. A number of other changes are also proposed in support of the requested change to quarterly test intervals. We also propose to remove the test requirement for the analog rod position, since this is a control not a reactor protection function. Periodic testing will still be performed.

Testing frequency for reactor protection and safeguards instrumentation is defined in Technical Specification Table 15.4.1-1, "Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels." This testing is based on early industry experience with this type of instrumentation and was established to assure the required level of performance. WCAP 10271 and supplements evaluated the acceptability of decreasing the test frequency from monthly to quarterly. The proposed changes described in this application are consistent with the testing interval proposed in WCAP 10271 and supplements submitted by the Westinghouse Owners' Group and approved by the NRC staff in safety evaluations dated February 21, 1985; February 22, 1989; and April 30, 1990. The WCAP and SER also support the testing of

030123

9202040130 920129
PDR ADDCK 05000266
P PDR

ADD 1/

the instrument channels in bypass. At this time, we are not requesting to test the channels in bypass because we do not have the required capability to test in this configuration.

In support of the above testing interval change, we also propose to add a new item to Technical Specification Table 15.4.1-1 to specifically identify the testing frequency for the Reactor Protection System and Emergency Safety Feature Actuation System Logic. Presently, the Technical Specifications do not differentiate between testing of the analog instrument channels and the actuation logic. We interpreted the specifications to require testing the actuation logic on a monthly frequency consistent with the analog channel testing. The relaxation of the testing requirement for the analog channels supported by WCAP 10271 does not support relaxation of the testing requirement for the actuation logic. Accordingly, we propose to add to Table 15.4.1-1 a new item, Item 43, "Reactor Protection and Engineered Safety Feature Actuation System Logic," to require monthly testing on a staggered basis for the logic channels. A note is proposed to indicate each train is tested, on a staggered basis, at least once every 62 days. This requirement is consistent with the Westinghouse Standard Technical Specifications. The logic testing requirements in Table 15.4.1-1, Item 5, "Reactor Coolant Flow," and Item 11, "Steam Generator Level," are replaced by this addition. Logic channel testing for reactor on loss of reactor coolant flow cannot be performed while the reactor is at power. We, therefore, will continue to perform this test on a refueling interval basis.

We also propose to add new item, Item 44, "Reactor Trip System Interlocks," to require refueling interval tests and calibration of the trip system interlocks and permissives. This item is consistent with the Westinghouse Standard Technical Specifications and WCAP 10271 and supplements. Item 44.e, "Turbine First Stage Pressure," replaces Item 26 in the present table. The permissive test requirements in Table 15.4.1-1, Item 1, "Nuclear Power Range," and Item 2, "Nuclear Intermediate Range," are replaced by Items 44.b and 44.a, respectively. The note at the bottom of Page 1 of Table 15.4.1-1 (designated "***") will then be modified to read, "Not required during periods of refueling shutdown but must be performed prior to starting up if it has not been performed during the previous surveillance period." The note will then be consistent throughout the table.

Technical Specification Table 15.4.1-1, Item 33, "PORV Operability," requires a monthly functional test, excluding valve operation. To perform this test, other instrument channels are placed in test, including pressurizer pressure. For this reason, the PORV functional test is done during the present monthly tests. In order to maintain the test interval to coincide with instrument channel testing, we request the PORV test interval be changed to quarterly. Since this test does not include physically repositioning the PORV, quarterly testing is not expected to adversely affect PORV operability.

Finally, we are requesting removal of the monthly test requirement in Table 15.4.1-1, Item 9, "Analog Rod Position." According to the Point Beach Nuclear Plant FSAR Section 7.3, these circuits do not serve as a reactor protection function but are for control. Therefore, we do not believe it is necessary to define the test requirements for analog rod position instrumentation in the Technical Specification. Testing will be procedurally controlled at an appropriate interval.

Technical Specification Table 15.4.1-1 items have been renumbered as necessary to support these changes. Marked-up Technical Specification pages with these proposed changes are included in Enclosure 1.

We have reviewed WCAP 10271 and its supplements and have determined that the analyses presented are applicable to Point Beach. Our safety evaluation supporting the applicability of this WCAP to the Point Beach instrumentation and this amendment application is included in Enclosure 2.

We have reviewed the NRC staff's safety evaluations and a number of actions have been taken, or will be taken prior to implementation of the proposed Technical Specification changes, to meet the conditions of the safety evaluations.

First, we have reviewed reactor protection and safeguards bistable calibration data over the period from June 1985 to June 1990. For most cases, we have determined that the increased total setpoint drift over the quarterly interval will not result in an increased number of Technical Specification violations. In those instances where a Technical Specification setpoint could be violated due to instrument drift, plant setpoint and/or instrumentation calibration changes will be implemented as necessary prior to increasing the test interval.

Second, the NRC staff requires that programs and procedures be in place to evaluate problems discovered during testing for potential common cause failures and the testing of other instrument channels that may be susceptible to the common cause failure. Presently, when an abnormal condition is found during testing and requires corrective action, procedures require that a Maintenance Work Request (MWR) be initiated to investigate and correct the problem. An entry is also required in the machinery history. At the time an entry is made, past entries are reviewed for similar problems. Quarterly and annual reviews of the machine history are also performed. This review will identify any potential common mode concerns. Testing on redundant instrument channels is generally performed within a short time period. Therefore, if a common mode problem affects other redundant instrument channels, we would expect to detect and correct the problem expeditiously.

We have reviewed the proposed changes in accordance with the requirements of 10 CFR 50.91 and have determined that operation of the Point Beach Units in accordance with the proposed changes will not result in a significant hazard. Our analysis against each of the standards in 10 CFR 50.92 is contained in Enclosure 3.

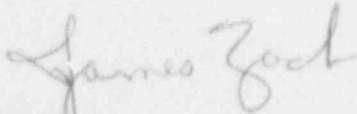
The proposed amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR 20 or a change in a surveillance requirement. We have determined that the proposed amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released off site, and that there is no significant increase in individual cumulative occupational radiation exposure. We have determined that the proposed amendments involve no significant hazards consideration. Accordingly, this proposed amendment meets the categorical exclusion requirement of 10 CFR 51.22(c)(9) from environmental reviews. Therefore, we have determined that, in accordance with 10 CFR 50.22(b), no environmental assessment or environmental impact statement need be prepared in connection with this proposed amendment.

The submittal of these proposed changes satisfies the commitment made in October 14, 1991, letter requesting temporary relief from the monthly testing requirements for certain reactor protection system instrumentation. The commitment was to submit a request for an amendment to the Point Beach Nuclear Plant licenses to increase the test interval from monthly to quarterly.

NRC Document Control Room
January 29, 1992
Page 5

If you have any questions concerning the proposed changes, please contact us.

Sincerely,



James J. Zach
Vice President
Nuclear Power

Copies to NRC Regional Administrator, Region III
NRC Resident Inspector
L. L. Smith, PSCW

Subscribed and sworn to before me
this 29th day of January, 1992.


Notary Public, State of Wisconsin

My Commission expires 5-22-94.

Enclosure 1

Safety Evaluation in Support of Quarterly Test Intervals
for Reactor Protection and Safeguards Instrumentation
Point Beach Nuclear Plant Units 1 and 2

In WCAP-10271 and supplements, the Westinghouse Owners' Group (WOG) evaluated the effect of an increase in the surveillance and test intervals for Reactor Trip System (RTS) and Engineered Safety Feature Actuation System (ESFAS) instrumentation from monthly to quarterly on core damage frequency and public risk. The NRC staff, in its evaluation of WCAP 10271, concluded the overall upper bound increase of the core damage frequency, due to the proposed surveillance and test interval changes, is less than six percent for Westinghouse Pressurized Water Reactor plants. The NRC staff also concluded that the core damage frequency increase for individual plants is substantially less than six percent. The NRC considered this core damage frequency increase to be small compared to the range of uncertainty in the core damage frequency analyses and is therefore acceptable.

The NRC staff determined that the requirement to routinely verify permissive status is a different consideration than the availability of trip or actuation channels which are required to change state on the occurrence of an event and for which function availability is more dependent on the surveillance interval. The definition of the channel check includes comparison of the channel status with other channels for the same parameter. For the Reactor Trip System Interlocks, the change from a monthly surveillance interval to a refueling interval, not to exceed 18 months, is justified.

The increase in the surveillance and test intervals is consistent with the NRC staff's letters dated February 21, 1985; February 22, 1989; and April 30, 1990, to WOG regarding evaluation of WCAP-10271, WCAP-10271 Supplement 1, WCAP-10271 Supplement 2, and WCAP-10271 Supplement 2 Revision 1. The NRC Staff has stated that approval of the changes is contingent upon confirmation that certain conditions are met. We will apply the conditions imposed in the NRC staff's SER for WCAP-10271 and WCAP-10271 Supplement 1 for the Reactor Trip System and the Emergency Safety Feature Actuation System. To satisfy the conditions set forth in the SER:

1. We have reviewed reactor protection and safeguards bistable calibration data over the period from June 1985 to June 1990. For most cases, we have determined that the increased total setpoint drift over the quarterly interval will not result in an increased number of Technical Specification violations. In those instances where a Technical Specification setpoint could be violated due to instrument drift, plant setpoints and/or instrument calibration changes will be implemented as necessary prior to increasing the test interval.

2. The NRC staff requires that programs and procedures be in place to evaluate problems discovered during testing for potential common cause failures and the testing of other instrument channels that may be susceptible to the common cause failure. Presently, when an abnormal condition is found during testing and requires corrective action, procedures require that a Maintenance Work Request (MWR) be initiated to investigate and correct the problem. A machinery history entry is made and a review performed to identify similar problems. Quarterly and annual reviews of machinery history are also performed. These reviews will identify any potential common mode concerns. Testing on redundant instrument channels is generally performed within a short time period. Therefore, if a common mode problem affects other instrument channels, we would expect to detect and correct the problem expeditiously.

The addition of the specific requirements for the Reactor Trip System Interlocks and for the testing of the Reactor Protection System and Engineered Safety Feature Actuation System Logic is consistent with the Westinghouse Standardized Technical Specifications and the WCAP justified test intervals. Certain logic and test requirements presently defined are relocated to these specific items. Other changes include an amplification of the item descriptions and a change in the test interval for the PORV to be consistent with the instrument channel test frequency. These items are not an addition to the present test requirements but delineate specific requirements implied by the present specifications. With respect to the change in the PORV test interval, since the PORV is not exercised during the test, the increased test interval is not expected to adversely affect PORV operability.

The proposed changes will not adversely impact the safe operation of the Point Beach Nuclear Plant.

Enclosure 2

No Significant Hazards Determination In Support of Quarterly Test Intervals for Reactor Protection and Safeguards Instrumentation Point Beach Nuclear Plant Units 1 And 2

In accordance with the requirements of 10 CFR 50.91, we have evaluated the proposed changes against the standard in 10 CFR 50.92 and have determined that the proposed amendments do not present a significant hazard consideration. A proposed amendment does not result in a significant hazards consideration if operation of the facility in accordance with the proposed amendment does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.
2. Create the possibility of a new or different type of accident from any accident previously evaluated.
3. Involve a significant reduction in a margin of safety.

Our evaluation against each of the criteria and the basis for our no significant hazard determination follows.

Criterion 1

Operation of the Point Beach Nuclear Plant in accordance with the proposed license amendment does not result in a significant increase in the probability or consequences of an accident previously evaluated.

The change in the test frequency for Reactor Protection System and Emergency Safety Feature System instrumentation meets the criteria evaluated in WCAP 10271 and supplements. Implementation of the proposed changes is expected to result in an acceptable increase in the total Reactor Protection System yearly unavailability. This increase, due primarily to less frequent surveillance, results in a similar magnitude increase in the probability of a core melt resulting from an Anticipated Transient Without Scram (ATWS) and also results in a slight increase in the Core Damage Frequency (CDF) due to the slight increase in the Engineered Safety Feature Actuation System (ESFAS) unavailability.

Implementation of the proposed changes is expected to result in a significant reduction in probability of a core melt from inadvertent reactor trips. This reduction in inadvertent trips is primarily attributable to the less frequent surveillance.

The reduction in the core melt frequency is sufficiently large to counter the increase in the core melt probability due to an ATWS event resulting in an overall reduction in the core melt probability.

The values presented in the WCAP and supplement for the increase in CDF were verified by Brookhaven National Laboratory as part of an audit and sensitivity analysis for the NRC staff. Based on the small value of the increase as compared to the uncertainty in the CDF, the increase is considered acceptable.

The addition of separate requirements for the check, calibration, and testing of the reactor trip system interlocks and the logic for the Reactor Protection System and Engineered Safety Feature Actuation System do not present new requirements. These specifically define the surveillance required that was being performed as part of the instrumentation surveillance.

Changes to the surveillance test frequencies for the reactor trip system interlocks do not represent a significant reduction in the testing. The currently specified interval, as part of the instrument surveillance, allows the surveillance requirement to be satisfied by verifying that the permissive logic is in its required state using the annunciator status light. The surveillance as currently performed addresses the status of the permissive logic and does not address verification of the channel setpoint or operability. Permissives are tested during the present monthly test only when plant conditions allow. Setpoint verification and channel operability are verified during refueling shutdowns. The requirement to verify permissive status is different than verifying the availability of trip or actuation channels which are required to change state on the occurrence of an event and for which the function availability is more dependent on the surveillance interval. Therefore, the change in the surveillance requirement to at least once every eighteen months does not represent a significant increase in the unavailability of the Reactor Protection System.

The elimination of the monthly test of the analog rod position indication cannot result in a new or different kind of accident as this indication serves no protective function. The comparison of the analog rod position and rod position bank counters is performed on a shift basis which is adequate for the detection and correction of any potential problems.

The change in the PORV operability test interval cannot result in a significant increase in the probability or consequences of an accident. The operation of the PORV's is not changed.

The addition of specific requirements for checks, calibration and testing for the reactor trip system interlocks and for the Reactor Protection System and Emergency Safety Feature Actuation System is not a change in the present Technical Specification requirements that the surveillances be performed. Therefore, the addition of the specific requirements is not a change in the present operation of the facility and cannot result in a new or different kind of accident from any previously evaluated.

The proposed changes do not result in an increase in the severity or consequences of an accident previously evaluated. Implementation of the proposed changes affects the probability of failure of the RPS but does not alter the manner in which protection is afforded or the manner in which limiting criteria are established.

Criterion 2

The proposed amendments do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not result in a change in the manner in which the Reactor Protection System provides plant protection or in which the RPS and ESFAS function. The likelihood or probability of the RPS and ESFAS functioning improperly is affected as described under Criterion 1. Changing the PORV operability test to quarterly does not affect the operation of the PORV. Removing the test requirement for analog rod position also does not affect the operation of the plant.

Therefore the proposed changes do not create the possibility or probability of a new or different type of accident from any accident previously evaluated.

Criterion 3

The proposed amendments do not involve a significant reduction in a margin of safety.

The proposed changes do not alter the manner in which safety limits, limiting safety system setpoints, or limiting conditions for operation are determined. The impact of reduced testing, other than as addressed above, is to allow a longer time interval over which instrument uncertainties may act.

Implementation of the proposed changes is expected to result in an overall improvement in plant safety by providing for:

- a. Less frequent testing which will potentially result in fewer inadvertent reactor trips and actuation of Engineered Safety Features Actuation System components.
- b. Improvements in the effectiveness of the operating staff in monitoring and controlling plant operation. This is a result of less frequent distraction of the operator and shift supervisor attending to instrumentation testing.

The explicit addition of testing requirements that are presently implied by the Technical Specification is only administrative in nature and cannot reduce a margin of safety.

This analysis demonstrates that the proposed amendments to the Point Beach Nuclear Plant Technical Specifications do not involve a significant increase in the probability or consequences of a previously evaluated accident, do not create the possibility of a new or different type of accident than any accident previously evaluated and do not involve a significant reduction in a margin of safety. Therefore, operation of the Point Beach Nuclear Plant in accordance with the proposed amendment does not involve a significant hazards consideration.