



231 W Michigan PO Box 2045 Milwaukee WI 53201

(414) 221-2345

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U. S. NUCLEAR REGULATORY COMMISSION
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Gentlemen:

DOCKETS 50-266 AND 50-301
TECHNICAL SPECIFICATION CHANGE REQUEST 142
FIFTH SAFETY-RELATED BATTERY AND
BATTERY SERVICE AND PERFORMANCE TESTING
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

On September 7, 1990, Wisconsin Electric Power Company, licensee for the Point Beach Nuclear Plant, Units 1 and 2, submitted a license amendment application for Technical Specification Change Request 142. This change request proposed revisions to the Technical Specifications for the testing of safety-related batteries which would define and establish periodic service and performance testing requirements for safety-related station batteries.

On September 20, 1990, a telephone call was held between Wisconsin Electric personnel and members of the NRC staff including Mr. Robert Samworth and Dr. Saba Saba to discuss this license amendment application. During that conference we discussed at some length our plans to add a fifth safety-related station battery. We noted that the testing specifications proposed in our September 7 application were dependent on the installation of this fifth station battery. We noted that after the fifth station battery was installed, we would then propose revisions to our technical specifications to incorporate revised Limiting Conditions for Operation (LCO) and include the fifth station battery in these new surveillance requirements. Dr. Saba suggested that it would be more efficient if the NRC had both change requests to review at the same time. Accordingly, we agreed to modify our license amendment request of September 7, 1990 to include the LCOs for the fifth safety-related station battery.

This modification of our Technical Specification Change Request 142 includes a discussion of all the changes proposed with our

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original September 7, 1990, license amendment application. For your convenience much of the material provided with that application has been reproduced with this letter. The attached proposed Technical Specification page changes replace completely the proposed page changes attached to our September 7, 1990 application. The first portion of this letter will discuss the new LCO changes including the 10 CFR 50.91(a) determination. The second portion will be largely duplicative of the information previously submitted concerning the proposed surveillance specifications. The attached Technical Specification pages are provided in the "marked-up" format as requested by Mr. Samworth.

Specification 15.3.7, "Auxiliary Electrical Systems," applies to the availability of off-site and on-site electrical power for plant power operations. The following changes are being proposed to this specification:

1. 15.3.7.A.1.f- Revised to recognize a fifth safety-related battery and to acknowledge that the DC main distribution systems are not associated with a specific station battery and shall be operable.
2. 15.3.7.A.2.g- Revised to recognize a fifth safety-related battery and to acknowledge that the DC main distribution systems are not associated with a specific station battery and shall be operable.
3. 15.3.7.B.1.f- Revised to permit one of the four safety-related batteries connected to the main DC distribution systems to be inoperable for up to twenty-four hours. This would permit plant operations for twenty-four hours with two of the five safety-related batteries inoperable provided four battery chargers remain operable and are carrying the loads on the main DC distribution buses.
4. 15.3.7.A.1.g and 15.3.7.A.2.h are revised for editorial correction and to specify the main DC distribution bus designations.
5. The basis for this section has been expanded to describe the provision for five safety-related batteries.

We have evaluated these changes, items 1 through 4 above, in accordance with the requirements of 10 CFR 50.91(a) using the standards provided in 10 CFR 50.92 and have determined that these changes do not result in a significant hazards 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 kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Changes 1 and 2 as listed above acknowledge that, after the addition of the new safety-related battery in 1992, the Point Beach Nuclear Plant will have five instead of four safety-related batteries. This LCO still requires that four of these batteries be operable. The installation of the fifth battery will actually enhance the safety of the plant by providing a more versatile arrangement with added equipment redundancy. The addition of a new battery does not create the potential for a new accident or increase the consequences of an accident previously analyzed, since four safety-related batteries already were a part of the plant design. The addition of the new fifth battery will actually increase margins of safety by providing additional stored electrical energy for operation of plant DC electrical loads in the event of loss of normal and emergency AC electrical service.

Change 3 permits relaxation of the limiting condition for operation for the specified period of time. The changes proposed in items 1 and 2 allow one of the five batteries to be out of service indefinitely. This would effectively place the plant in the condition which presently exists, four available batteries. Specification 15.3.7.B.1.f, as proposed, would permit one of the four remaining batteries to be out of service for up to 24 hours. The existing specifications allow either D05 or D06 to be out of service for up to 24 hours or either D105 or D106 to be inoperable for 72 hours. This change would limit the out of service time for any of these batteries to 24 hours when one other battery of the five safety-related batteries is inoperable. This change therefore represents a condition which has increased the margin of safety by reducing the out of service time allowable for certain safety-related batteries. Again no new accident potential is created nor are the consequences of an accident previously evaluated changed because the existing specifications already provided for, as assumed in the accident analysis, the potential for the limited unavailability of a station battery. We, therefore, have concluded that these changes do not involve a significant hazards consideration.

The remainder of the changes discussed in this letter were included in our license amendment application dated September 7, 1990. We have essentially duplicated elements of that application in order for this letter to stand alone as our amendment application.

Specifications to establish a battery testing program, including both service testing and performance testing, consistent with Regulatory Guide 1.129 and IEEE Standard 450-1987, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries." The proposed specifications regarding the tests are also consistent with NUREG-0752, Revision 4, "Standard Technical Specifications (STS) for Westinghouse Pressurized Water Reactors". These proposed changes may be described as follows:

- a. TS 15.4.6, "Emergency Power System Periodic Tests", specifies periodic surveillance requirements for both diesel generators and batteries. The first proposed change retitles Section B as "Safety-Related Station Batteries" vice the present, more generic "Station Batteries". An identical change is proposed in the text to TS 15.4.6.B.1. A paragraph has also been added to explain that this specification is applicable to all four safety-related station batteries and the safety-related swing battery D205. This change is essentially a consideration for the future configuration of the station batteries because, at present, all four station batteries, D05, D06, D105, and D106, are safety-related. However, as mentioned in our September 29, 1989 letter and in our response to the Electrical Distribution System Functional Inspection dated August 3, 1990, it is our intention to install a new non-safety-related station battery for the purpose of powering several large non-safety-related loads presently carried by the station batteries, thus relieving the safety-related-batteries of significant loading. The proposed title change will specifically delineate the surveillance as applicable to the safety-related station batteries only.
- b. The present TS 15.4.6.B.4 describes the performance testing requirements for the station batteries. We are proposing that this TS be replaced by a new TS 15.4.6.B.4 which defines a more restrictive, more definitive, and more conservative testing program. The new TS 15.4.6.B.4.a defines the eighteen-month required service test, and the wording presented essentially duplicates the STS except for the requirement that the test be conducted during shutdown. This restriction is unnecessary for a battery whose loads are not unit-specific. At Point Beach, all four safety-related batteries carry loads which are common to both units. The stipulation that the battery test be conducted while shut down would thus require that both units be shut down to conduct a battery test. This is an unacceptable restriction. As discussed previously, our intention is to install, by the

end of 1992, a fully qualified, seismically mounted "swing" safety-related battery, capable of performing the safety-related functions of any of the four present station batteries. (The battery, presently designated spare battery D205, is on site and was utilized during the replacement of the D05 and D06 batteries in 1989.) With the full installation of this battery as a swing component, any of the station batteries may be taken off line for testing, regardless of the reactor condition. Thus the battery service test need not take place only during shutdown.

- c. The proposed new TS 15.4.6.B.4.b defines the 60-month required performance test which serves to measure battery capacity and, thus, indicate long-term degradation due to aging effects. Our proposed specification is virtually identical to the STS with two exceptions:
1. As with the service test, we are taking exception to the requirement that the test be conducted while shut down, for the same reasons discussed above.
 2. We have revised the definition of degradation to be consistent with IEEE Standard 450-1987.

This standard uses the "previous performance test" as the basis from which degradation is measured rather than the "average on previous performance tests" used in the STS. A review of earlier revisions of the IEEE Standard revealed that the "average on previous performance tests" concept was previously specified by the standard but was changed with the 1987 revision.

- d. We have added a footnote to 15.4.6.4.a and b which specifies that service and performance testing will begin subsequent to installation of the swing safety-related battery. Our revised testing program, as specified by the proposed new TS 15.4.6.B.4, will subject the batteries to a more conservative and demanding loading cycle. This more extensive testing program will involve manual disconnection of the battery and reconnection of the battery to a resistor bank. Following testing and subsequent recharging of the battery, manual reconnection of the battery to its bus will complete the evolution. Based on our experience with testing of batteries D105 and D106 in 1989 (72-hour LCO's), we have determined that testing of this nature cannot be completed within the present 24-hour LCO currently specified for batteries D05 and D06. The additional time required for

battery disconnection and reconnection, as well as the additional time required to recover and recharge the battery, precludes these tests from being completed in 24 hours.

As previously discussed, we expect to complete installation of a swing safety-related battery by the end of 1992. The installation of this battery will allow replacing any of the four safety-related batteries (D05, D06, D105, D106) and thus permit testing off-line without affecting plant operation and without the time limitation of the existing LCO's. Accordingly, the new testing specifications must be qualified with the proposed footnote.

We intend to enter our proposed battery testing cycle, including the 18-month service tests, following installation of the swing safety-related battery. This creates a period of three years in which no testing will take place for batteries D105 and D106 (these batteries were installed in 1984 and completed their 5-year required performance test in fall 1989) and three and one-half years for batteries D05, D06, and D205, all of which were installed in 1989. We believe this testing delay is acceptable because of the relative newness of these batteries whose design service life is 20 years and their satisfactory performance thus far. These batteries are presently at their expected peak capacity. Furthermore, and as mentioned above, the physical limitations imposed by testing under the present electrical system configuration preclude completion of testing within the 24-hour LCO specified for batteries D05 and D06. Experience has also demonstrated that the 72-hour LCO for D105 and D106 is extremely limiting. Thus the testing program proposed in this application cannot be initiated until these Technical Specification changes have been approved. This approval is predicated on our installation of an additional, swing safety-related battery.

We will begin the new test cycle by testing all five safety-related batteries during the two refueling outages subsequent to the installation of the swing safety-related battery. Although we are requesting a Technical Specification for battery testing which does not require a unit shutdown, we intend to do the initial testing during unit outages in order to minimize the risk following installation of the new safety-related swing battery and its supporting switchgear. We believe it is prudent to conduct the initial tests while one of the Point Beach units is shut down.

We have evaluated these changes, as through d above, in accordance with the requirements of 10 CFR 50.91(a) using the standards in 10 CFR 50.92 and have determined that the changes do not result in a

significant hazards consideration. For the reasons discussed in the following, operation of the facility in accordance with the proposed amendment will 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 kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

The proposed changes to TS 15.4.6.B impose more stringent and more frequent test requirements for the batteries than present requirements. Additionally, the tests will be performed with the tested battery off-line and replaced by a swing safety-related battery. Battery testing with the batteries on-line has been a part of the Point Beach Technical Specifications since plant start-up and was evaluated and approved during the initial plant licensing. Continued battery testing with the batteries off-line has less impact on potential plant operations and, therefore, has no effect on previously evaluated accidents. Off-line testing and more stringent service and performance testing will serve to provide greater assurance that the batteries are fully capable of performing their safety-related functions. The provisions for this testing does not create the potential for new accidents not previously analyzed. By the same reasoning, there is no significant reduction in the margin of safety. In fact, the more stringent surveillance requirements should result in an increase in margin of safety by providing more thorough and more frequent assurances of battery operability.

During the conversations on September 20, 1990, Dr. Saba also requested we provide additional information concerning the service test and performance test testing profiles. In the bases proposed with these technical specification revisions, we have stated that the design duty cycle for the service test is defined in the FSAR, Section 8.2. The service test duty cycle is based on a loss of off-site power coincident with actuation of safeguards loads in one unit. Dr. Saba requested that we provide load profiles to better describe these duty cycles. The existing service test duty cycles for batteries D05, D06, and D105/D106 are provided in Figures 1-3 attached. Also included as Figures 4 and 5 are the load profiles for the performance tests for D05/D06 and D105/D106 respectively.

Also discussed during the September 20 telephone call were our plans to install an additional non-safety-related station battery. Once this installation is completed (it is presently scheduled for 1993 following the installation of the fifth safety-related battery), it is our intention to remove the major non-safety-related loads, the DC turbine lube oil pumps (1P37D and 2P37D),

from the safety-related batteries DO5 and DO6 respectively. When this is done the service test load profiles for the batteries DO5 and DO6 will be reduced. In Figures 6 and 7, we have provided the duty cycle profiles for DO5 and DO6 following the removal of these loads. By comparison with Figure 4, it is apparent that the performance test will, in all respects, bound the service test profile. After these modifications have been completed, the FSAR will be amended to include the revised duty cycle definitions and will include the service test profiles.

On a separate matter, Wisconsin Electric submitted Technical Specification Change Request 132, "LCO's for Power Distribution on Safeguards Buses," to you on September 22, 1989. It is our understanding through Mr. Warren Swenson, our Project Manager prior to July 1, 1990, that the staff has completed their review of this change request. Mr. Swenson informed us that one of the reviewers requested we consider removing the phrase "...including Black Plant start-up..." from TS 15.3.7.A.2 which begins with the following sentence: "A.2 Under abnormal conditions, including Black Plant start-up, one reactor may be made critical providing the following conditions are met..." The reviewer's concerns are that the term "Black Plant" is undefined; the STS do not use this term; and, to his knowledge, no other plant has this phrase in its specifications.

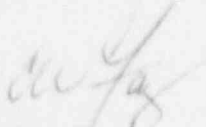
We have considered this matter, and we concur with the proposed deletion of the words "including Black Plant start-up" from the first sentence of TS 15.3.7.A.2. We have attached a revised TS Page 15.3.7-2. which incorporates the change.

We have evaluated this proposed change in accordance with the standards specified in 10 CFR 50.92 and have determined that this proposed change involves no significant hazards considerations. "Black Plant start-up" itself is an abnormal condition and, therefore, its removal does nothing to change the meaning or intent of the specification. This change is thus only administrative in nature. As such, the change has no effect on actual or potential plant operations, cannot affect the probability or consequences of any accident previously analyzed, cannot create a new accident, and has no impact on the margin to safety of any accident previously evaluated.

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Please contact us if you have any questions concerning this license amendment application.

Very truly yours,



C. W. Fay
Vice President
Nuclear Power

Attachment

Copies to NRC Regional Administrator, Region III
NRC Resident Inspector

Subscribed and sworn to before me
this 10th day of May, 1991.



Notary Public, State of Wisconsin

My Commission expires 5-22-94.