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Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1395



November 4, 1998

AEP:NRC:1295A

Docket No. 50-315

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, D.C. 20555-0001

Donald C. Cook Nuclear Plant Unit 1
STEAM GENERATOR SURVEILLANCE EXTENSION FOR UNIT 1
SUPPLEMENTAL INFORMATION

Gentlemen:

The purpose of this letter is to (1) provide supplemental information requested by members of your staff during an October 9, 1998, phone discussion; (2) provide a limiting date of January 31, 2001, for the surveillance extension; and (3) replace the proposed footnote requested in letter AEP:NRC:1295 with a new license condition.

The supplemental information requested by your staff is included in attachment 1. The description of proposed changes is contained in attachment 2. The proposed, revised Facility Operating License page is contained in attachment 3. The existing Facility Operating License page, which is marked to reflect the proposed changes, is contained in attachment 4.

These proposed changes have been reviewed and approved by the plant nuclear safety review committee and the nuclear safety and design review committee.

It is requested that your approval of this change be provided by November 30, 1998.

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to the Michigan Public Service Commission and the Michigan Department of Public Health.

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PDR ADDCK 05000315
P PDR

This letter is being submitted pursuant to 10 CFR 50.54 (f) and,
as such, an oath statement is enclosed.

Sincerely,



R. P. Powers
Vice President

SWORN TO, AND SUBSCRIBED BEFORE ME

THIS 14th DAY OF November, 1998



Notary Public

VALERIE L. BUNNELL

My Commission Expires Notary Public, Berrien County, MI
My Commission Expires Sept. 5, 2002

/jmc

Attachments

c: J. A. Abramson, w/attachments
J. L. Caldwell, w/attachments
MDEQ - DW & RPD, w/attachments
NRC Resident Inspector, w/attachments
J. R. Sampson, w/attachments



bcc: T. P. Beilman, w/attachments
E. R. Eckstein/D. F. Powell/D. R. Hafer/K. R. Baker
J. J. Euto
B. J. Hickie
G. Honma
FOLIO, w/attachments
J. B. Kingseed/G. P. Arent/M. J. Gumns
J. A. Kobyra/S. P. Hodge/J. R. Jensen/P. W. Monk/
D. H. Malin
J. F. Stang, Jr., NRC Washington, DC, w/attachments

ATTACHMENT 1 TO AEP:NRC:1295A

SUPPLEMENTAL INFORMATION

Introduction

The following information is in response to verbal NRC inquiries made during an October 9, 1998, phone discussion concerning Cook Nuclear Plant submittal AEP:NRC:1295. This supplement will document the technical issues discussed below and resolves other administrative items concerning the subject submittal.

Inquiry #1:

Discuss the steam generator lay-up chemistry history from February 1998 through the present. The technical report contained within letter AEP:NRC:1295 evaluated steam generator lay-up chemistry through February 1998.

Response #1:

The unit 1 steam generator chemistry is being maintained with wet lay-up chemicals covering the tubes and a nitrogen blanket above the tube bundle. This practice has been used throughout the shutdown period, which commenced in September 1997 and will continue until unit restart, with the exception of brief periods when the chemicals are replenished due to decomposition or when system maintenance needs require a short drain down period.

At the beginning of the shutdown period, ethanolamine and carbohydrazide were used for wet lay-up, followed by a period of ethanolamine, carbohydrazide, and hydrazine to address lower steam generator pHs. Since May of 1998, the steam generators have been in wet lay-up using ethanolamine and hydrazine.

These wet lay-up conditions meet the conditions for steam generator lay-up outlined in the EPRI secondary chemistry guidelines. Sampling for low level contaminants including sodium, chloride, and sulfate is performed three times per week, which is more conservative than the weekly frequency specified in the noted EPRI guideline. These samples indicate that the chemistry has remained stable throughout the shutdown period with contaminant levels below allowable limits.

As concluded in the evaluation contained in letter AEP:NRC:1295, the extended time period in wet lay-up should not result in structural degradation of the steam generators regardless of the length of the shutdown period. Therefore, we concluded the proposed surveillance extension of January 31, 2001, would not adversely affect the condition of the steam generators.

Inquiry #2:

Discuss from a historical perspective, the chemical excursions that have occurred within the past 2-3 years (i.e., cycles 13, 14, and 15).

Response #2:

During cycles 13 and 14, unit 1 secondary system chemistry was maintained within EPRI recommended limits. No excursions were experienced that required entry into action level 2 or 3 chemistry, which would in turn lead to a unit power reduction or shutdown.

During the cycle 15 unit 1 startup, prior to exceeding 30 percent power, the unit experienced an action level 3 excursion. This event was documented in plant condition report 95-1760. Corrective actions resulting from the event included shutting down the unit to mode 5, draining, refilling, and soaking the steam generators three times over a ten-day period. A review of the condition report confirmed no licensee event report was required as a result of this event. No other action level chemistry excursions were experienced during subsequent unit startup and power operation throughout the remainder of cycle 15 or during the first four months of cycle 16 operation.

Inquiry #3:

Describe the Cook Nuclear Plant leak rate monitoring program.

Response #3:

The Cook Nuclear Plant program follows the EPRI revision 1 guidelines for primary-to-secondary leak rate monitoring. Our plant relies on air ejector off-gas monitoring and grab sample monitoring for xenon gas in the air ejector. The continuous monitoring by operations personnel of the off-gas activity allows identification of rapidly propagating steam generator leaks. Additional procedure methodology allows for monitoring tritium in steam generator water as an alternate indication of primary-to-secondary leakage. This grab sample technique can be used to confirm leakage in individual steam generators or as a confirmation of air ejector off-gas leak rate indication.

Inquiry #4:

Describe the corrective actions program implemented following a chemical excursion.

Response #4:

Cook Nuclear Plant has incorporated corrective action sections into its chemistry procedures. These sections, which are included in the steam generator procedure, condensate and feedwater procedure, and the steam generator wet lay-up procedure, outline EPRI action levels and responses, provide specific guidance for expected off-normal chemistry conditions, and provide guidelines for returning parameters to within the goal and limit values.

ATTACHMENT 2 TO AEP:NRC:1295A
DESCRIPTION OF PROPOSED CHANGES

Description of Proposed Changes

The purpose of the proposed amendment is to modify the in-service inspection frequency, on a cycle 16 specific basis, from a calendar-based interval to an end-of-cycle interval.

This submittal requests an extension for the steam generator surveillance that must be performed during unit shutdown. Our evaluation concluded that it is not practical to perform the surveillance now, nor is it warranted to perform the surveillance before the end of the current cycle. We propose to add the following license condition, applicable to technical specification (T/S) 4.4.5.3:

- 2.C(8) The steam generator tube inspection surveillance requirements of technical specification 4.4.5.3 have been extended until the start of cycle 17, not to exceed January 31, 2001. In the event the steam generators are replaced at that time, the retired steam generators are exempted from further surveillance under technical specification 4.4.5.3.

Basis for Request

Due to the ongoing shutdown of unit 1, the steam generators have experienced approximately 130 effective full power days of operation since the last T/S surveillance. At this time, total accumulated cycle runtime before the 1999 T/S required surveillance date can not be predicted, due to unit startup uncertainties. However, the steam generators will not experience operating time and conditions approaching a normal 18-month fuel cycle before the surveillance is required. The majority of elapsed calendar time between the last and upcoming 1999 T/S surveillance has been accumulated with the steam generators out of service and maintained under lay-up conditions.

A no significant hazards evaluation has been performed pursuant to 10 CFR 50.92. This evaluation is included as attachment 1 to AEP:NRC:1295, submitted on August 28, 1998. The bases and conclusions presented in that evaluation are not changed as a result of this submittal.

ATTACHMENT 3 TO AEP:NRC:1295A

PROPOSED REVISED FACILITY OPERATING LICENSE PAGES

Amendment
No. 31, 194,
208

- 2.C(4) Indiana Michigan Power Company shall implement and maintain, in effect, all provisions of the approved Fire Protection Program as described in the Updated Final Safety Analysis Report for the facility and as approved in the SERs dated December 12, 1977, July 31, 1979, January 30, 1981, February 7, 1983, November 22, 1983, December 23, 1983, March 16, 1984, August 27, 1985, June 30, 1986, January 28, 1987, May 26, 1987, June 16, 1988, June 17, 1988, June 7, 1989, February 1, 1990, February 9, 1990, March 26, 1990, April 26, 1990, March 31, 1993, April 8, 1993, December 14, 1994, January 24, 1995, April 19, 1995, June 8, 1995, and March 11, 1996, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

2.C(5) Spent Fuel Pool Storage

Amendment
No. 118, 136,
169

The licensee is authorized to store D. C. Cook Unit 1 and Unit 2 fuel assemblies, new or irradiated up to a total of 3613 fuel assemblies in the shared spent fuel pool at the Donald C. Cook Nuclear Plant subject to the following conditions:

Fuel stored in the spent fuel pool shall not have nominal enrichment greater than 4.95% Uranium-235

2.C(6) Deleted by Amendment 80.

Amendment
No. 169

- 2.C(7) The provisions of Specification 3/4.9.7 are not applicable for loads being moved over the pool for the duration of the spent fuel pool reracking project. Control of loads moving over the spent fuel pool during the spent fuel pool reracking project shall comply with the criteria of NUREG-0612 "Control of Heavy Loads at Nuclear Power Plants." Administrative controls shall be in place to prevent any load not rigged in compliance with the criteria of NUREG-0612 from passing over the spent fuel pool with the crane interlocks, required by T/S 3/4.9.7, disengaged.

Amendment
No.

- 2.C(8) The surveillance requirements of Technical Specification 4.4.5.3 have been extended until the start of cycle 17, not to exceed January 31, 2001. In the event the steam generators are replaced prior to the start of cycle 17, the retired steam generators are exempted from further surveillance under T/S 4.4.5.3.

*2.D Physical Protection

Amendment
No. 122

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Donald C. Cook Nuclear Plant Security Plan," with revisions submitted through July 21, 1988; "Donald C. Cook Nuclear Plant Training and Qualification Plan," with revisions submitted through December 19, 1986; and Donald C. Cook Nuclear Plant Safeguards Contingency Plan," with revisions submitted through June 10, 1988. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

ATTACHMENT 4 TO AEP:NRC:1295A

EXISTING FACILITY OPERATING LICENSE PAGES
MARKED TO INDICATE PROPOSED CHANGES

Amendment 2.C(4)
No. 31, 194,
208

NUCLEAR RECORD
MANAGEMENT SEC 01

FEB 10 1997

CONTROLLED
DOCUMENT

Indiana Michigan Power Company shall implement and maintain, in effect, all provisions of the approved Fire Protection Program as described in the Updated Final Safety Analysis Report for the facility and as approved in the SERs dated December 12, 1977, July 31, 1979, January 30, 1981, February 7, 1983, November 22, 1983, December 23, 1983, March 16, 1984, August 27, 1985, June 30, 1986, January 28, 1987, May 26, 1987, June 16, 1988, June 17, 1988, June 7, 1989, February 1, 1990, February 9, 1990, March 26, 1990, April 26, 1990, March 31, 1993, April 8, 1993, December 14, 1994, January 24, 1995, April 19, 1995, June 8, 1995, and March 11, 1996, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(5) Spent Fuel Pool Storage

Amendment
No. 118,136,169

The licensee is authorized to store D. C. Cook, Unit 1 and Unit 2 fuel assemblies, new or irradiated up to a total of 3613 fuel assemblies in the shared spent fuel pool at the Donald C. Cook Nuclear Plant subject to the following conditions:

Fuel stored in the spent fuel pool shall not have a nominal enrichment greater than 4.95% Uranium-235.

(6) Deleted by Amendment 80.

Amendment
No. 169

(7) The provisions of Specification 3/4.9.7 are not applicable for loads being moved over the pool for the duration of the spent fuel pool reracking project. Control of loads moving over the spent fuel pool during the spent fuel pool reracking project shall comply with the criteria of NUREG-0612 "Controls of Heavy Loads at Nuclear Power Plants." Administrative controls shall be in place to prevent any load not rigged in compliance with the criteria of NUREG-0612 from passing over the spent fuel pool with the crane interlocks, required by T/S 3/4.9.7, disengaged.

INSERT A

*2.D Physical Protection

Amendment
No. 122

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Donald C. Cook Nuclear Plant Security Plan," with revisions submitted through July 21, 1988; "Donald C. Cook Nuclear Plant Training and Qualification Plan," with revisions submitted through December 18, 1986; and "Donald C. Cook Nuclear Plant Safeguards Contingency Plan," with revisions submitted through June 10, 1988. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

INSERT A

2.C(8) The steam generator tube inspection surveillance requirements of technical specification 4.4.5.3 have been extended until the start of cycle 17, not to exceed January 31, 2001. In the event the steam generators are replaced at that time, the retired steam generators are exempted from further surveillance under technical specification 4.4.5.3.