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SUBJECT: Application for amend to license DPR-58,requesting extension of SG surveillance,which TSs require to be performed on or before 990408,until end of current refuel cycle currently scheduled for Mar 2000.W/assessment of SG degradation & TSs.

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INDIANA MICHIGAN POWER

August 28, 1998

AEP:NRC:1295

Docket No.: 50-315

U.S. Nuclear Regulatory Commission
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Gentlemen:

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

This letter and its attachments constitute an application for amendment to the technical specifications (T/Ss) for Cook Nuclear Plant unit 1. Specifically, we request an extension of the steam generator surveillance (T/S 4.4.5.3), which the T/Ss require to be performed on or before April 8, 1999.

We are requesting relief from this requirement until the end of the current fuel cycle (currently scheduled for March 2000), at which time the unit 1 steam generators are scheduled for replacement. In the event the replacement is delayed beyond the end of the current cycle, the steam generator surveillance would be performed during the cycle 17 refueling outage. If the steam generator replacement project proceeds as scheduled, no surveillance would be performed on the currently installed steam generators because they will be removed, retired, and will see no additional service past the end-of-cycle 16 refueling outage.

A description of the proposed change and our analysis concerning significant hazards considerations are contained in attachment 1. Attachment 2 contains an assessment performed by Framatome Technologies on the impact of the unit 1 extended shut down period on the continued operability of the steam generators. The proposed, revised T/S pages are contained in attachment 3. The existing T/S pages, which are marked to reflect the proposed changes, are contained in attachment 4.

The subject surveillance is normally performed at the conclusion of each eighteen month fuel cycle and thus, within the twenty-four calendar month maximum interval allowed by the T/S. However, due to the extended mid-cycle shutdown of unit 1, the projected end-of-cycle is out of alignment with the twenty-four calendar month inspection frequency.

At this time, the steam generators have accumulated approximately 130 effective full power days of operation since the previous inspection. Assessment of the degradation experienced during the limited run time and the ability of our steam generator lay-up process to mitigate further degradation during the shutdown period is discussed in attachments 1 and 2. These discussions provide supporting information to this amendment request.

A001

In accordance with 10 CFR 50.92(c), our evaluation of the change indicates no significant hazard because these changes do 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.

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

It is requested that your approval of this request be provided by November 15, 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.

This letter is 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 28th DAY OF AUGUST, 1998

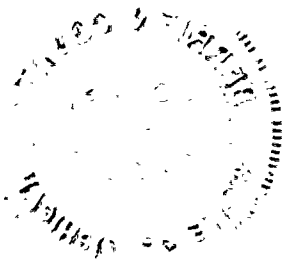
Notary Public

My Commission Expires 01/21/2001

/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



ATTACHMENT 1 TO AEP:NRC:1295

DESCRIPTION OF PROPOSED ACTIONS AND
10 CFR 50.92 SIGNIFICANT HAZARDS EVALUATION
FOR CHANGES TO THE UNIT 1 TECHNICAL SPECIFICATIONS

Description of Proposed Actions

As discussed in the cover letter, the purpose of the proposed amendment is to modify the inservice 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 footnote, applicable to technical specification (T/S) 4.4.5.3:

> † Amendment ____ granted an extension to this surveillance until the start of cycle 17. In the event the steam generators are replaced at that time, the retired steam generators are exempted from further surveillance under this specification.

Basis for Request

T/S 4.4.5.3 requires a steam generator inservice inspection be performed within a maximum of twenty-four calendar months since the previous inspection. Stipulations within this T/S for extending the inspection frequency to forty calendar months are not applicable to the unit 1 steam generators given their current category (C-3) rating. Because the last inspection was completed on April 9, 1997, the subsequent inspection must be completed by April 8, 1999, to fulfill the requirement.

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 cannot 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.

The ability of the lay-up practice to control degradation is discussed in the re-assessment of the current cycle's operability assessment, contained in attachment 2. This assessment indicates that the extended shutdown period will not adversely impact the steam generators capability of maintaining their integrity for the balance of the current cycle. Therefore, performance of the scheduled steam generator surveillance is not technically warranted, as demonstrated by the operability re-assessment.

Additionally, due to the extended unit shutdown, there are no plans for a refueling outage prior to implementation of the steam generator replacement project. Therefore, an opportunity exists for the plant to avoid the dose and resource drain associated with a steam generator inspection and to apply these resources to other safety significant work. In the event an inspection is conducted prior to steam generator replacement, i.e., per current T/S

requirements, total expected dose to site and contractor personnel is projected to exceed 10.5 man-rem.

10 CFR 50.92 Criteria

Per 10 CFR 50.92, a proposed amendment will not involve a significant hazards consideration if the amendment does not:

1. involve a significant increase in the probability or consequences of an accident previously analyzed;

2. create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated; or

3. involve a significant reduction in a margin of safety.

Criterion 1

The last unit 1 surveillance was completed in the spring of 1997 and was the most thorough evaluation of the steam generators to date. Both standard and enhanced eddy current inspection techniques were employed to inspect the steam generator tubing. Additionally, a series of in situ pressure tests were performed to verify tubing integrity. Tube repairs consisting of hot leg tube end re-rolling and plugging were performed. Pre- and post-tube bundle pressure tests were conducted to verify the integrity of the repairs. A tube pull was also conducted to verify continued comformance with generic letter 95-05 requirements. The tube pull data was provided to the NRC under AEP:NRC:1166AN and did not identify any unexpected conditions or areas of concern. During the 1997 inspection, select secondary side visual and eddy current inspections were also performed to provide assurance of continued secondary side internals integrity.

Following the inspection, a condition monitoring and operational assessment, using data gathered during the steam generator inspections and tests, was made to determine whether steam generator leakage and structural integrity could be maintained throughout the upcoming cycle (cycle 16). This assessment was provided to the NRC in our ninety day report, submitted under AEP:NRC:1166AI.

The unit was subsequently restarted and the steam generators operated without incident when a unit shutdown occurred in September of 1997.

Throughout the cycle 16 operating period, a relatively low reactor coolant temperature was maintained. By maintaining a T-hot temperature of approximately 586° F during the operating period, corrosion impact on the steam generator tubes was minimized.

Throughout the operating period, steam generator primary-to-secondary leakrate monitoring was performed to assure conformance with T/S requirements. Historically, unit 1 has not experienced a forced shutdown because of leakrate concerns.

During the shutdown period, the steam generators have been maintained under lay-up conditions, which, as noted in attachment 2, comply with or exceed the industry standard

practice. These practices are designed to mitigate the corrosive environment within the steam generators.

The previous cycle 16 integrity assessment has been re-visited to provide reasonable assurance conclusions made remain valid given the extended shutdown period. This re-assessment considered the initial cycle runtime, the shutdown period and subsequent operation through the end of the current fuel cycle. The results as summarized in attachment 2 confirm the findings of the initial evaluation (i.e., that adequate steam generator integrity will be maintained throughout the current cycle).

The proposed change will not affect the scope, methodology, acceptance limit, or corrective measures of the existing steam generator examination program. As adequate integrity will be maintained, the probability and consequences of an accident previously analyzed due to leaking or degraded tubes is not increased by the proposed change.

Criterion 2

We have determined that this extension will not result in a change in plant configuration or operation. Plant systems and components will not be operated in a different manner as a result of this change. No plant modifications or changes in methods of operation will result from this change. Therefore, the extension will not create the possibility of a new or different kind of accident from what has been previously evaluated or analyzed.

Criterion 3

We have determined that the proposed extension request will not involve a significant reduction in a margin of safety. Re-assessment of the cycle 16 steam generator operational assessment report, which indicates structural and leakage integrity will be maintained throughout the cycle, has shown that the shutdown period will not adversely impact overall steam generator integrity.

This assessment concluded that when the reactor is shut down and the reactor coolant system is at a reduced temperature, the steam generators are not subject to conditions that lead to tube degradation. The actual number of days that the steam generators will be subjected to an environment conducive to tube degradation is not being increased under this request. Therefore, this request is judged not to involve a significant reduction in a margin of safety.

Additional Actions

Throughout the shutdown period, primary and secondary side chemistry conditions have been and will continue to be monitored. It is recognized that minor fluctuations in chemistry can occur and may result in parameters exceeding procedurilized limits for short durations. It is the practice of the plant to return system conditions to within specified values as soon as possible, thereby negating the effect of these minor excursions on steam generator degradation. In case of a large chemical excursion, a condition report will be initiated per plant procedures to investigate the incident and its impact on steam generator integrity.

After unit 1 is restarted, primary-to-secondary leakrate will be monitored as an indicator of steam generator integrity and to assure that the leakrate remains within allowable values.

At the completion of the cycle, the current steam generators will be removed and replaced without further inspection. If circumstances delay this replacement beyond the end of the current cycle (i.e., cycle 16), the steam generators will be inspected per the T/S requirements and applicable NRC commitments.