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**ILLINOIS
POWER**

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L47-94(06-13)LP
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Docket No. 50-461

10CFR50.90
JGC-114-94
June 13, 1994

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Clinton Power Station Proposed Amendment of
Facility Operating License No. NPF-62 (LS-90-007)

Dear Sir:

Pursuant to 10CFR50.90, Illinois Power (IP) hereby applies for amendment of Facility Operating License No. NPF-62, Appendix A - Technical Specifications, for Clinton Power Station (CPS). This request consists of a proposed change to Technical Specification 3/4.6.1.8, "Containment Building Ventilation and Purge Systems," which includes a requirement to perform a leak rate measurement at least once per 92 days on each 36-inch supply and exhaust containment ventilation isolation valve with a resilient seal. IP proposes to revise this requirement such that the 36-inch isolation valve leak rate measurement would be performed at least once per 18 months, providing the valves remain closed during that period. In the event the valves are opened, they would be leak tested within 92 days.

A description of the proposed change and the associated justification (including a Basis For No Significant Hazards Consideration) are provided in Attachment 2. A marked-up copy of the affected pages from the current Technical Specifications are provided in Attachment 3. In addition, associated changes to the current Technical Specification Bases are provided in Attachment 4, and changes to IP's previous request to convert to the Improved Standard Technical Specifications (reference IP letter U-602196 dated October 26, 1993) are provided in Attachment 5. Further, an affidavit supporting the facts set forth in this letter and its attachments is provided in Attachment 1.

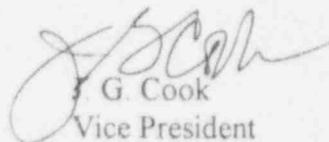
IP has reviewed the proposed change against the criteria of 10CFR51.22 for categorical exclusion from environmental impact considerations. The proposed change does not involve a significant hazards consideration, or significantly increase individual or

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cumulative occupational radiation exposures. Based on the foregoing, IP concludes that the proposed change meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

Sincerely yours,



G. Cook
Vice President

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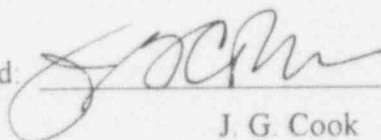
Attachments

cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

J. G. Cook, being first duly sworn, deposes and says: That he is Vice President of Illinois Power Company; that the application for amendment of Facility Operating License NPF-62 has been prepared under his supervision and direction; that he knows the contents thereof, and that to the best of his knowledge and belief said letter and the facts contained therein are true and correct.

DATED: This 13 day of June 1994.

Signed: _____

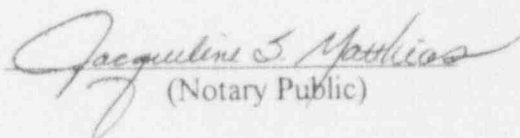
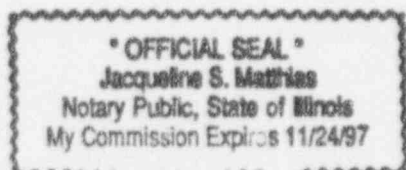


J. G. Cook

STATE OF ILLINOIS } SS.

Dewitt COUNTY }

Subscribed and sworn to before me this 13th day of June 1994.



(Notary Public)

Background

The Clinton Power Station (CPS) Containment Building Ventilation system design utilizes 36-inch supply and exhaust containment isolation valves. Each of these 36-inch butterfly valves is equipped with a resilient seal. At the time the CPS Technical Specifications were being developed (during initial licensing of CPS), industry operating experience confirmed the potential for this type of seal to degrade in a shorter time period than other seal types. As a result, the NRC staff required, as documented in the CPS Safety Evaluation Report (SER), that periodic leakage integrity tests were necessary for the 36-inch isolation valves. The SER stated that the testing frequency for the subject valves shall be at least once every three months for active valves and once every six months for inactive valves. Since Illinois Power (IP) intended to perform stroke testing of the Containment Building Ventilation system containment isolation valves on a quarterly basis in accordance with the American Society of Mechanical Engineers (ASME) Code, the commitment was made to leak test these valves at least once every three months. The NRC staff found this to be acceptable and documented the results of their review in Supplement 2 to the CPS SER.

After the operating license was received and as plant operating experience was gained (including a better knowledge of the use of and the need for operation of the Containment Building Ventilation system) it became clear that there was little or no need to operate the 36-inch ventilation system during plant operation. The four 36-inch valves (1VR001A and B and 1VQ004A and B) therefore were (and continue to be) normally maintained closed during plant operation (except during stroke testing), even though CPS Technical Specification (TS) 3.6.1.8 allows these valves to be open for up to 250 hours per year while in Operational Condition 1, 2, or 3.* As a result, IP submitted a Cold Shutdown Justification for these valves on September 27, 1990 (reference IP letter U-601736), to allow these valves to be stroke tested on a cold shutdown frequency rather than quarterly. This eliminated the need to stroke the subject valves between outages and thus greatly reduced the number of times the valves are stroked during each operating cycle.

Since the valves remain closed during Operational Conditions 1, 2 or 3, there is no mechanism present to significantly change the valve leakage rate. Therefore, IP believes that the TS surveillance requirement to perform quarterly leak rate tests on the

* The Containment Ventilation system actually consists of two subsystems: the Containment Building Ventilation system and the Continuous Containment Purge system. The former is a high-volume system generally used only to provide filtered and conditioned outside air at high volume to the Containment Building for ventilation purposes during refueling outages, though the TS permits limited intermittent use of this system if required during plant operation. The Continuous Containment Purge system is a low-volume system that is used on a continuous basis to provide ventilation to the containment to support containment access during normal plant operation. Opening of the noted 36-inch valves with resilient seals is required only for use of the high-volume Containment Building Ventilation system.

containment building ventilation 36-inch supply and exhaust penetrations is overly conservative and IP proposes to revise the frequency for performing the required leak rate tests associated with the four 36-inch valves.

Description of Proposed Change

In accordance with 10CFR50.90, IP proposes to revise TS Surveillance Requirement 4.6.1.8.3 to read as follows:

At least once per 18 months and within 92 days after opening the associated valve(s), each 36-inch supply and exhaust containment ventilation isolation valve (with resilient material seals) shall be demonstrated OPERABLE by verifying that the measured rate is ≤ 0.01 La when pressured to Pa.

This proposed change is identified on the marked-up copy of the pages from the current CPS TS contained in Attachment 3.

In addition, a revision is provided for the Bases for Technical Specification 3/4.6.1.8 to reflect the revised testing frequency for the 36-inch isolation valves with resilient seals. This change is provided on the marked-up copies from the current Technical Specifications Bases contained in Attachment 4.

As the NRC staff is currently reviewing IP's request to adopt the Improved Technical Specifications (ITS) (reference IP letter U-602196 dated October 26, 1993), the proposed changes are reflected in marked-up copies from the CPS ITS submittal contained in Attachment 5. It should be noted that the changes proposed in Attachment 5 differ slightly from those proposed in Attachment 3. Justification for this additional change is bounded by Discussion of Change L.1 and associated No Significant Hazards Consideration evaluation for TS 3.6.1.2 contained in IP's October 26, 1993, letter.

Justification for Proposed Change

As stated in the Bases for TS 3/4.6.1.8, the required leakage integrity tests combined with a maximum allowable leakage rate for the 36-inch supply and exhaust isolation valves (1VR001A&B and 1VQ004A&B) are intended to provide indication of resilient material seal degradation. This allows the opportunity for repair before gross leakage failures develop. However, if the valves are not stroked, no mechanism is introduced to significantly change the valve leakage rate. This has been confirmed by a review of the penetration leak rate test results for the past two operating cycles.

Since the second refueling outage, the valves have been stroked only during refueling outages. Prior to startup from a refueling outage, the valves are leak tested and if the leak rate is found to be acceptable the valves are caution-tagged closed for the duration of the subsequent operating cycle. However, IP has continued to perform the quarterly local

leak rate testing of penetrations IMC-101 (1VR001A&B) and IMC-102 (1VQ004A&B) in accordance with TS Surveillance Requirement 4.6.1.8.3. The results of these local leak rate tests showed that the leak rate measured for penetration IMC-101 did not change at all during cycle 3 except during the test performed just prior to the third refueling outage when the leak rate decreased. In addition, during cycle 4 the leak rate for penetration IMC-101 did not vary more than 250 sccm (approximately 8%) from the leak rate measured at the end of the third refueling outage. Similar results were observed for penetration IMC-102. Following the second refueling outage, the leak rate measured for IMC-102 varied by only 50 sccm (approximately 15%) and was less than the leak rate measured at the end of the refueling outage for the duration of cycle 3. During cycle 4, the penetration IMC-102 leak rate remained below the value measured at the end of the third refueling outage and was measured to be exactly the same for three consecutive test intervals.

Based on the above, IP has determined that while the resilient seals in the subject valves have the potential to degrade in a shorter time period than do other seal types, if the valves are not stroked no mechanism is introduced to exacerbate degradation of the seals and cause significant increased leakage through the penetration. The proposed change to TS Surveillance Requirement 4.6.1.8.3 takes into account this reduced potential for significant seal degradation and increases the time interval between leak rate tests to 18 months. However, should the valve be opened at any time during the 18-month period, a leak rate test would be required to be performed on the penetration within 92 days after opening the valve. This will ensure that the penetration continues to meet the limits for local leak rates by providing for early determination of seal degradation.

IP chose to change the stroke testing frequency in conjunction with the proposed Technical Specification change in lieu of other approaches to reduce the potential for excessive leakage problems with these penetrations. These other options included installation of spectacle flanges, permanently blanking off the penetrations, and changing the valve design to a smaller valve or different type of valve. Each of these options was dismissed since they were too costly to implement, prohibited the use of the penetration when needed, affected outage duration or reduced the effectiveness of the system. By changing the frequency of stroke testing the subject valves, IP was able to reduce the potential for leakage through penetrations IMC-101 and IMC-102 while continuing to provide flexibility in the operation of CPS. The containment building HVAC 36-inch supply and exhaust lines continue to be available if unusual circumstances require the use of the high-volume containment building ventilation system during power operation. In addition, this method continues to allow use of the containment ventilation system to control atmosphere conditions and support pool decontamination activities during refueling outages without impacting outage durations.

The proposed change to TS Surveillance Requirement 4.6.1.8.3 will not change the design basis for the valves being leak tested. Additionally, the valves will continue to be verified to meet the required leak rate and will remain operable in accordance with TS 3/4.6.1.8.

The safety function of the 36-inch butterfly valves remains unchanged, and as demonstrated above, the valve leak rate is not expected to significantly change during plant operation since the valves are no longer stroked during plant operation. As a result, the intent of surveillance requirement TS 4.6.1.8.3 will continue to be met, albeit on an 18-month frequency when the containment isolation valves associated with penetrations 1MC-101 and 1MC-102 are not opened during the surveillance interval. Should the valves be opened during the 18-month interval (as permitted by LCO 3.6.1.8.a), the proposed change to TS Surveillance Requirement 4.6.1.8.3 would require that a leak rate test be performed within 92 days. This will ensure that the subject penetration meets the leak rate limits as specified in the surveillance requirement.

Basis For No Significant Hazards Consideration

In accordance with 10CFR50.92, a proposed change to the operating license (Technical Specifications) involves no significant hazards consideration if operation of the facility in accordance with the proposed change would not (1) involve a significant increase in the probability or consequences of any 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. This request is evaluated against each of these criteria below.

- (1) The proposed change does not involve a change in plant design. Failure of or leakage through a containment barrier cannot itself create an accident; therefore, this change would not increase the probability of any accident previously evaluated. Failure of or leakage through a containment barrier can, however, increase the consequences of those accidents previously evaluated. The proposed change merely revises the frequency at which the local leak rate test is performed on the containment building HVAC 36-inch supply and exhaust penetrations. The containment isolation valves for these penetrations are normally only opened during refueling outages. The stroke testing for the isolation valves has been changed to a cold shutdown frequency and, as a result, there is no mechanism present to degrade the seals and cause increased leakage through the penetration. Based on past penetration leak rate measurements, it has been determined that leak rate testing on an 18-month frequency is sufficient to identify seal degradation if the valves are not opened. However, should the valves be opened during the 18-month interval, the proposed change would require that a leak rate test be performed within 92 days. This will ensure that the leak rate for the given penetration has not exceeded the specified limit as a result of stroking the valve. Penetration leakage will continue to be measured at sufficient intervals to identify seal degradation in the 36-inch containment isolation valves. In addition, the same leakage limits will be imposed. Therefore, the proposed change will not result in a significant increase in the probability or the consequences of any accident previously evaluated.

- (2) This request does not result in any change to the plant design nor does it involve a change in current plant operation. The proposed change will not change the design basis for the valves being leak tested. The valves will continue to be verified to meet the required leak rate and the safety function of the subject valves remains unchanged. Furthermore, any potential leakage through the containment building HVAC 36-inch supply exhaust and supply penetrations cannot create an accident. As a result, the proposed change cannot create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) The only margin of safety that could potentially be impacted by the proposed change to the surveillance requirement frequency is the margin concerning the offsite dose consequences of postulated accidents (which is directly related to the containment leak rate). As discussed above, this request does not result in a significant increase in the consequences of any accident previously evaluated. It has been demonstrated that the penetration leakage does not change appreciably when the valves are not stroked. Therefore, since the valves are normally only opened during refueling outages, leakage through the penetrations is not expected to change during the proposed 18-month interval between leak rate tests. Should the valves be opened during the 18-month interval, a local leak rate test will be performed within 92 days. The proposed leak rate test frequency will provide sufficient indication of seal degradation to allow the opportunity for repair before gross leakage failures develop. In addition, the proposed change involves no change to the currently established leak rate test acceptance criteria. As a result, the proposed changes do not result in a significant reduction in the margin of safety.

Based on the foregoing information, IP concludes that this request does not involve a significant hazards consideration.