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ILLINOIS POWER

U-601916
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JSP-0772-91
December 27, 1991
10CFR50.90

Docket No. 50-461

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

Subject: Clinton Power Station
Proposed Amendment of Facility
Operating License No. NPF-62

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 3/4.7.2, "Control Room Ventilation System". A description of the proposed change, the associated justification (including a Basis For No Significant Hazards Consideration), and a marked-up copy of the affected pages from the current Technical Specifications are provided in Attachment 2. In addition, 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 changes do not involve a significant hazards consideration, or significantly increase the amounts or change the types of effluents that may be released offsite, nor do they significantly increase individual or cumulative occupational

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

Sincerely yours,

J. S. Perry
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

Attachment 1
to U-601916

STATE OF ILLINOIS
COUNTY OF DE'ITT

J. Stephen Perry, 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 application and the facts contained therein are true and correct.

DATE: This 27 day of December 1991

Signed: _____
J. Stephen Perry

Subscribed and sworn to before me this 27th day of December 1991.

_____
Notary Public

"OFFICIAL SEAL"
Linda S. French
Notary Public, State of Illinois
My Commission Expires 9/1/92

Background

The Clinton Power Station (CPS) Control Room Ventilation System provides conditioned air (heated or cooled and humidified) to maintain a quality environment suitable for the comfort, health and safety of personnel within the control room envelope. The Control Room Ventilation System is comprised of two full-capacity, redundant Heating, Ventilation and Air Conditioning (HVAC) recirculation and make-up trains. Each recirculation train has a 100% capacity prefilter and a charcoal adsorber for radioactive contaminant removal. The Control Room Ventilation System is also equipped with two 100% standby makeup air filter trains for the removal of radioactive contaminants. These filter trains consist of a demister, electric heater, prefilter, High Efficiency Particulate Air (HEPA) filter, iodine adsorber beds (charcoal filter), and downstream HEPA filter. The Control Room Ventilation System is designed for normal operation, smoke isolation operation and high radiation operation. The normal and smoke isolation modes of operation utilize the control room supply air fans, cooling coil, heating coil and zone mixing damper. The high radiation mode of operation uses the standby make-up air filter and recirculation air filter trains.

The use of the control room standby makeup air filter trains can be automatic, as a result of a high radiation condition existing outside the control building, or manual by starting the control room makeup air fans. Use of the Control Room Ventilation System in this mode coupled with the control room shielding assures that the dose to the operators inside the control room is within the limits specified by criterion 19 of 10CFR50 Appendix A for the duration of a design basis accident. Since the filters are an integral part of compliance with design requirements, it is necessary to periodically determine the remaining life of the system filters. As particulates build up on the HEPA filters, resistance to airflow through the filters will increase, thus providing an indication of remaining HEPA filter life. However, unlike HEPA filters, charcoal filter life is not a function of resistance to airflow. Therefore, test canisters are provided by the manufacturer to allow the effectiveness of the charcoal media to be monitored without disturbing the integrity of the filter bank.

Each charcoal adsorber filter unit is provided with ten cannisters which are installed so they see the same proportionate air flow as the main unit. As required in Technical Specification (TS) 4.7.2.d, a test canister is removed and analyzed after every 720 hours of charcoal adsorber operation. This analysis is performed by an outside laboratory and when analysis of a test sample (i.e. test canister media) shows that the remaining charcoal effectiveness is no longer adequate, the charcoal filter must be replaced. Once a test canister is removed for analysis, it is replaced with a blank flange and the number of test canisters remaining is reduced. Following removal of the last test canister it is necessary to replace the charcoal filter bank as no test canisters remain to verify adequate charcoal effectiveness.

Operation of the Control Room Ventilation System in the high radiation mode in response to an actual high radiation condition is not expected

to occur frequently; however, based on current Technical Specification requirements, the CPS system is frequently operated in the high radiation mode during shutdown conditions. TS 3.7.2 requires two independent Control Room Ventilation Systems to be operable in all Operational Conditions (1, 2, 3, 4 and 5) and when irradiated fuel is being handled in the secondary containment (Operational Condition *). With one Control Room Ventilation System inoperable in Operational Condition 4,5, or *, Action Statement b of TS 3.7.2 requires the inoperable system to be restored to operable status within 7 days or the operable system to be initiated and maintained in operation in the high radiation mode. In addition, with both Control Room Ventilation Systems inoperable in Operational Condition 4, 5 or *, Action Statement b of TS 3.7.2 requires the suspension of core alterations, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. Because maintenance is generally performed on this system during plant shutdown periods, frequently one train of the system is inoperable and the operable train of the Control Room Ventilation System is being operated in the high radiation mode in accordance with the current Action Statement. A sample is thus being taken on average every 15 months. This is depleting the supply of test canisters in the system at a faster rate than originally expected (to date four of the ten sample cannisters in each of the Control Room Ventilation System charcoal filters have been removed). This request, therefore, involves proposed changes to CPS Technical Specification 3/4.7.2 to provide a means for reducing the amount of time the Control Room Ventilation System is required to be operated in the high radiation mode and to provide additional clarification on system surveillances.

Description of Proposed Changes

In accordance with 10CFR50.90, the following proposed changes to Technical Specification 3/4.7.2, "Control Room Ventilation System," are being proposed:

1) Action Statement b.1 is being revised to read as follows:

   "1. With one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days. Otherwise, initiate and maintain operation of the OPERABLE system in the high radiation mode of operation or suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel."

2) In addition to the above change, IP proposes a change to provide clarification with respect to one of the Control Room Ventilation System surveillance requirements. Specifically, Surveillance Requirement 4.7.2.e.5 is being revised to reference the control room pressure to the adjacent areas as opposed to the outside atmosphere as currently identified.

Justification for Proposed Change

As stated in the Bases for Technical Specification 3/4.7.2, operability of the Control Room Ventilation System ensures that the control room will remain habitable for operations personnel during and following all design basis accident conditions. In addition, the operability of this system, in conjunction with the control room design provisions, is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent.

The performance of activities such as the handling of irradiated fuel within the secondary containment, CORE ALTERATIONS, and activities which could potentially drain the reactor vessel during Operational Conditions 4 and 5 resulted in the current wording in Limiting Condition for Operation (LCO) 3.7.2, Action b.1. Requiring the operable system to be in the high radiation mode of operation during these conditions results in a greater assurance of system operability, thus ensuring compliance with General Design Criterion 19 of Appendix A to 10CFR50. However, by suspending the activities which could result in high radiation conditions during Operational Condition 4 or 5, the need for the system to operate in the high radiation mode to maintain compliance with the design criterion is eliminated. The proposed change is also consistent with the actions currently specified for the situation when both trains in the system are inoperable. Eliminating the requirement to have the operable train in operation does not affect the operability of that train. This proposed change merely provides the Operations staff with an alternative action which will increase the usable life of the system filters. In addition, this proposed change will reduce the costs associated with testing the sample canisters and replacing the adsorber charcoal too frequently due to unnecessary accumulated hours of system operation, as well as reduce potential radiation exposure to test and maintenance personnel incurred during these activities. By extending the sample intervals from the current average of 15 months to the Technical Specification maximum acceptable interval of 18 months, an additional 30 months of system operation could be achieved before filter replacement would be required. The cost for replacement charcoal is approximately $5 per pound (or $6300 per train) and complete replacement of the filter material takes approximately four days.

The requirement to place the operable Control Room Ventilation System in the high radiation mode also impacts the ability to schedule work associated with support systems during refueling outages. It has been our experience in past outages that the time spent during a refueling outage handling fuel is small and is not normally critical path to completion of the outage. It is the maintenance activities associated with systems such as the Control Room Ventilation System which have the largest impact on the outage schedule. Therefore, in addition to reducing the need to remove filter samples, additional outage flexibility would be achieved by providing the Operations department with the option of not running the Control Room Ventilation System under the shutdown conditions.

Surveillance Requirement 4.7.2.e.5 states that at least once every 18 months each Control Room Ventilation System shall be demonstrated operable by verifying the system automatically switches to the high

radiation mode of operation following a high radiation actuation test signal and the control room is maintained at a positive pressure of at least 1/8-inch water gauge (W.G.) relative to the outside atmosphere. This wording has generated confusion since it is not clear what is meant by "outside atmosphere". Revising this wording to indicate the pressure should be measured with respect to adjacent areas is in accordance with the intent of the surveillance and will provide the needed clarification. Surveillance Requirement 4.7.2.e.3 contains the words "relative to adjacent areas", and the pressure gauge that is utilized when performing this surveillance is the same gauge utilized during the performance of surveillance 4.7.2.e.5. The proposed change will thus eliminate the current confusion and make these surveillances consistent.

Basis For No Significant Hazards Considerations

In accordance with 10CFR50.92, a proposed change to the Operating License (Technical Specifications) involves no significant hazards considerations 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, or (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) As discussed previously, the effect of permitting the suspension of fuel handling activities in lieu of placing the operable Control Room Ventilation System in the high radiation mode of operation provides the operator with the flexibility which will permit extended life of the system filters when appropriate actions are taken to significantly reduce the likelihood of needing the system. In addition, failure of this system does not alter the probability of occurrence of any accident previously evaluated. Further, the proposed change to the wording in the surveillance is editorial in nature in that it provides additional clarification and ensures proper implementation of the intent of the specification. As a result, this request does 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 as the scope of the potential impact of this request is limited only to providing an acceptable alternative to operation of the operable Control Room Ventilation System in the high radiation mode of operation and to providing clarification on the surveillance requirements. No new failure modes are introduced, and the request will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Permitting the suspension of fuel handling activities in lieu of placing the operable train in the high radiation mode of operation does not impact the reliability of the Control Room Ventilation System. An equivalent level of safety is maintained because either (1) the system will continue to be operated as currently required, or (2) challenges to the system and system demands will

be reduced or eliminated due to core alterations, handling of irradiated fuel and operations with the potential for draining the reactor vessel being prohibited. The system will continue to function as required and the proposed changes are consistent with all the Updated Safety Analysis Report (USAR) analyses. Since this alternative will significantly reduce the need for the system and all required functions are still capable of being fulfilled, this request does not involve a significant reduction in a margin of safety. The proposed change to the wording in the surveillance is editorial in nature and provides the operator with needed clarification to prevent improper implementation of the intent of the specification. Therefore, this proposed change does not involve a significant reduction in a margin of safety.

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