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U-602417
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8E.100a
JGC-075-95
February 14, 1995

Docket No. 50-461

10CFR50.90

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

Subject: Clinton Power Station Proposed Amendment of
Facility Operating License No. NPF-62 (LS-95-003)

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 proposed changes to Technical Specification (TS) 3.8.2, "AC Sources-Shutdown"; 3.8.5, "DC Sources-Shutdown"; and 3.8.8, "Inverters-Shutdown." The proposed changes revise the operability requirements for the Division 3 diesel generator and the Division 3 and 4 batteries, battery chargers, and inverters to apply only when the high pressure core spray system is required to be OPERABLE.

A description of the proposed changes 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 is provided in Attachment 3. An affidavit supporting the facts set forth in this letter and its attachments is provided in Attachment 1.

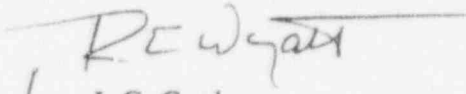
IP has reviewed the proposed changes against the criteria of 10CFR51.22 for categorical exclusion from environmental impact considerations. The proposed changes do not involve a significant hazards consideration, or significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, IP concludes that the proposed changes meet the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

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This proposed change significantly affects "critical path" work activities planned for the fifth refueling outage (RF-5) currently scheduled to begin at CPS on March 12, 1995. According to IP's schedule of activities for RF-5, the first significant work activity affected by this proposed change is scheduled to begin March 20, 1995. IP therefore requests NRC review on a schedule sufficient to support receipt of a license amendment on or by March 20, 1995.

Sincerely yours,


for J. G. Cook
Vice President

DAS/csm

Attachments

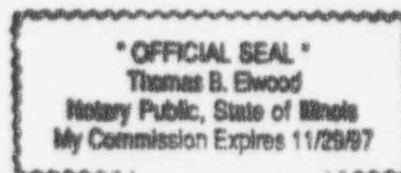
cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

R. E. Wyatt, being first duly sworn, deposes and says: That he is Manager-Nuclear Assessment for Illinois Power's Clinton Power Station and has been duly authorized to submit this application for amendment of Facility Operating License NPF-62; 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.

Date: This 14th day of February 1995.

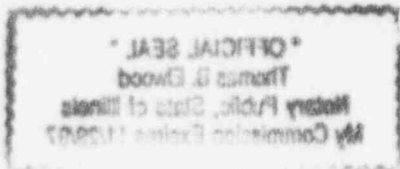
Signed: R E Wyatt
R. E. Wyatt

STATE OF ILLINOIS }
 }
DEWITT COUNTY }



Subscribed and sworn to before me this 14th day of February 1995.

Thomas B. Elwood
(Notary Public)



Background

By Amendment No. 95 to the Clinton Power Station (CPS) Operating License, the NRC approved implementation of revised Technical Specifications (TS) in the format of NUREG-1434, "Standard Technical Specifications, General Electric Plants, BWR/6," Revision 0, September 1992. Conversion to the format of these Improved Technical Specifications was performed on an industry "lead-plant" basis and involved changes not only to the format of the TS, but also to the technical content of the TS. In particular, the requirements for operability of electrical power systems were made more restrictive during plant shutdown conditions.

The electrical power systems at CPS are described in CPS Updated Safety Analysis Report (USAR) Chapter 8. As described in Section 8.1.2, the offsite power system supplies CPS via two separate transformers, the Reserve Auxiliary Transformer (RAT) and the Emergency Reserve Auxiliary Transformer (ERAT). The ERAT is supplied from a 138-kV offsite power system by a two-terminal transmission line. This line connects the station to the Illinois Power (IP) Company grid at the South Bloomington and Clinton Route 54 Substations. Electrical power can be fed to the station through this line from South Bloomington or North Decatur (via Clinton Route 54 Substation) or both. The line terminates directly (through a circuit switcher) at the ERAT, which transforms the electrical power to 4160-volt auxiliary bus voltage.

The RAT is supplied power from the 345-kV offsite power system. The 345-kV offsite power system provides power to the station through three transmission lines. These lines connect the station to the IP grid at the Brokaw, Rising-Oreana, and Latham-Oreana Substations. All three lines terminate at the station switchyard ring bus which feeds the RAT, which in turn transforms the electrical power to the 6900-volt and 4160-volt auxiliary bus voltages.

The onsite Class 1E safety-related power systems at CPS include AC, DC, and uninterruptible AC bus power systems. The Class 1E AC power system supplies power to the unit Class 1E loads and consists of 4160-volt switchgear, 480-volt unit substations, and 480-volt motor control centers (some of which include 480-120/208-volt transformers and distribution panels). The system includes diesel generators that serve as standby power sources, independent of any other onsite or offsite source. The onsite system is divided into three divisions, each with its own independent distribution network, diesel generator (DG), and redundant load group. Each division is capable of being supplied by one onsite (i.e., DG) and two offsite (i.e., RAT and ERAT) sources of electrical power for serving the unit Class 1E AC loads.

The Class 1E DC power system supplies 125-volt DC power to unit Class 1E loads. The primary power sources are battery chargers. The system includes batteries, battery chargers, motor control centers, and DC distribution panels. The system is divided into four divisions, each with its own independent distribution network, battery, battery charger, and redundant load group.

The Class 1E uninterruptible AC bus power system supplies 120-volt AC power to the nuclear system protection system (NSPS) and miscellaneous Class 1E loads. The system is also divided into four divisions and includes uninterruptible power supplies and buses. The uninterruptible AC bus power supply system is designed to provide adequate uninterruptible power to all the NSPS loads during all modes of operation including abnormal and accident conditions. Loads include NSPS logic power, neutron monitoring, process radiation monitoring, portions of the leak detection system, reactor water cleanup and Residual Heat Removal (RHR) System sample line valves, and scram discharge volume controls and indication. The Division 4 Class 1E power system components which require AC power to operate are supplied by the Division 2 Class 1E AC power system.

The TS that are currently applicable during plant shutdown conditions for CPS require operability of the electrical power systems as follows:

- Limiting Condition for Operation (LCO) 3.8.10, "Distribution Systems - Shutdown," specifies that the necessary portions of the electrical power distribution subsystems are required to be operable to support all equipment required to be operable.
- LCO 3.8.2, "AC Sources - Shutdown," specifies that one offsite circuit is required to be operable between the offsite transmission network and the distribution subsystems required operable by LCO 3.8.10, the Division 1 or 2 DG is required to be operable, and a second offsite circuit or the Division 3 DG is required to be operable when the Division 3 AC electrical power distribution subsystem is required operable by LCO 3.8.10.
- LCO 3.8.5, "DC Sources - Shutdown," specifies that the battery and battery charger are required to be operable for the Division 1 or 2 DC electrical power distribution subsystem required operable by LCO 3.8.10, the battery or battery charger is required to be operable for the remaining Division 1 or 2 DC electrical power distribution subsystem required operable by LCO 3.8.10, and the Division 3 and 4 batteries and battery chargers are required to be operable when the Division 3 and 4 DC electrical power distribution subsystems are required operable by LCO 3.8.10.
- LCO 3.8.8, "Inverters - Shutdown," specifies that the inverter is required to be operable for the Division 1 or 2 uninterruptible AC bus electrical power distribution subsystem required operable by LCO 3.8.10, and both Division 3 and 4 inverters are required to be operable when the Division 3 and 4 uninterruptible AC bus electrical power distribution subsystems are required operable by LCO 3.8.10.

Because there are safety-related loads supplied power by the above electrical power distribution subsystems that are "fail-safe" or otherwise do not need an electrical power source to perform their intended safety functions, IP believes that the above-noted

requirements are overly restrictive as related to Division 3 and 4 and place unnecessary constraints on when certain work can be performed or when certain systems can be removed from service relative to an optimal refueling outage work schedule. Thus, IP is requesting a relaxation from the TS requirements associated with Division 3 and 4 electrical power system requirements that are applicable during plant shutdown conditions. IP has estimated that this proposed change will reduce the critical path outage time of the fifth refueling outage by approximately 2.5 days.

Description of Proposed Changes

In accordance with 10CFR50.90, the following changes to the CPS TS are being proposed:

- (1) LCO 3.8.2, item c, is being revised to state, "One qualified circuit, other than the circuit in LCO 3.8.2.a, between the offsite transmission network and the Division 3 onsite Class 1E AC electrical power distribution subsystem, or the Division 3 DG capable of supplying the Division 3 onsite Class 1E AC electrical power distribution subsystem, when the High Pressure Core Spray System is OPERABLE for compliance with LCO 3.5.2, 'ECCS - Shutdown,' [shall be OPERABLE]."
- (2) LCO 3.8.5, item c, is being revised to state, "The Division 3 and 4 DC electrical power subsystems capable of supplying the Division 3 and 4 onsite Class 1E DC electrical power distribution subsystems, when the High Pressure Core Spray System is OPERABLE for compliance with LCO 3.5.2, 'ECCS - Shutdown,' [shall be OPERABLE]."
- (3) LCO 3.8.8, item c, is being revised to state, "The Division 3 and 4 Divisional inverters capable of supplying the Division 3 and 4 onsite Class 1E uninterruptible AC bus electrical power distribution subsystems, when the High Pressure Core Spray System is OPERABLE for compliance with LCO 3.5.2, 'ECCS - Shutdown,' [shall be OPERABLE]."

The proposed changes to the CPS TS are reflected in Attachment 3.

Justification for Proposed Changes

This request does not involve any changes to the requirements for operability of the Division 1 or 2 Class 1E electrical power systems. The proposed changes are limited to the operability requirements for the Division 3 and 4 Class 1E electrical power systems. The justification provided below addresses the impact on the capability of the loads supplied power by the Division 3 and 4 Class 1E electrical power systems to perform their safety functions.

The operability requirements for the Division 3 and 4 loads (per their respective TS) are not affected by this proposed change. In addition, the operability requirements for the Division 3 and 4 electrical power distribution subsystems (per LCO 3.8.10) are not

affected by this proposed change. LCO 3.8.2, item a, will continue to require these distribution subsystems (and hence the loads) to be capable of being energized with offsite power via a qualified circuit. In addition, a second qualified offsite circuit or the Division 3 DG would still be required to be operable when the High Pressure Core Spray (HPCS) System is being relied upon to meet the requirements of LCO 3.5.2, "ECCS - Shutdown."

Changes related to the inverters, DC sources, and AC sources associated with the Division 3 and 4 electrical power systems during operation outside MODES 1, 2, and 3 are separately addressed as follows.

Proposed Changes to Inverter Requirements

With respect to the operability requirements for the Division 3 and 4 inverters, the proposed change will eliminate the requirement for the required Division 3 and 4 loads to be supplied offsite power (as required by LCO 3.8.2, item c) through an operable uninterruptible NSPS inverter when the HPCS System is not being relied upon to meet the requirements of LCO 3.5.2. This change is based on consideration of the low safety significance associated with the non-HPCS System loads during plant shutdown conditions. The loads on the Division 3 and 4 inverters are described in CPS USAR Section 8.1.4.1. During plant shutdown conditions, the CPS TS require operability of only a subset of these loads. The loads which are potentially required to be operable by the CPS TS in these conditions consist of:

- ° Several Reactor Protection System (RPS) Functions per LCO 3.3.1.1, "RPS Instrumentation," (including Intermediate Range Monitor Neutron Flux, Scram Discharge Volume Water Level, Reactor Mode Switch - Shutdown Position, and Manual scram Functions);
- ° Source Range Neutron Monitors (SRMs) per LCO 3.3.1.2, "SRM Instrumentation";
- ° Actuation instrumentation for the HPCS System and Division 3 DG per LCO 3.3.5.1, "ECCS Instrumentation," including the Low Reactor Water Level (Level 2) Function";
- ° Isolation actuation instrumentation for primary containment, the Reactor Water Cleanup System, and the RHR System shutdown cooling suction line per LCO 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," including the Low Reactor Water Level (Level 1, Level 2, and Level 3) and Manual isolation Functions;
- ° Isolation actuation instrumentation for secondary containment isolation dampers and the Standby Gas Treatment System (SGTS) per LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," including the Low Reactor Water Level (Level 2) and Manual isolation Functions;

- Loss of Power instrumentation for the Division 3 DG per LCO 3.3.8.1, "Loss of Power Instrumentation;" and
- Control power for the HPCS System when required by LCO 3.5.2, "ECCS - Shutdown."

With the exception of the SRMs, support of the HPCS System, and actuation of the Division 3 DG, the above components fail in a safe condition upon loss of power. That is, upon deenergization of the associated uninterruptible AC bus, the safety function will automatically be performed by generating a scram, control rod block, isolation, actuation, or inhibit signal, as applicable. Thus, only the impact on the SRMs, HPCS System, and the Division 3 DG require further evaluation.

As stated in the Bases for LCO 3.3.1.2, the SRMs have no safety function and are not assumed to function during any design basis accident or transient analysis. However, the SRMs provide the only on-scale monitoring of neutron flux levels during startup and refueling. (There are four SRMs at CPS, one powered from each of the four uninterruptible AC buses.) Because this proposed change only affects the requirements for electrical power to SRMs in MODES other than 1, 2, and 3, the plant will not be undergoing any startups during these plant conditions. The Action statements for inoperable SRMs (per LCO 3.3.1.2) require refueling activities to be suspended immediately. Because the plant would already have been shutdown and subcritical prior to the loss of the SRM indication, it is reasonable to assume that plant status would not change as a result of the loss of the SRM indication. In addition, the reactor is designed to remain subcritical with the most reactive control rod fully withdrawn. Thus, shutdown margin requirements (required by LCO 3.1.1, "Shutdown Margin") will ensure that the core remains subcritical during the time that SRM monitoring is potentially lost.

With respect to the HPCS System, the proposed change will continue to require operability of the Division 3 and 4 inverters when the HPCS System is being used to satisfy the requirements of LCO 3.5.2. Therefore, the proposed changes do not impact the capability of the HPCS System to perform its intended safety functions when it is being relied upon. Impact on the Division 3 DG is discussed below under the proposed change to AC Source Requirements.

Proposed Changes to DC Source Requirements

As described in USAR Tables 8.3-10 and 8.3-11, the Division 3 and 4 batteries and battery chargers supply power primarily to the Division 3 and 4 inverters. In addition, the DC sources supply control power to other Division 3 and 4 components, including the HPCS System and the Division 3 DG and electrical breakers. Impact on loss of power to the affected inverters is as described above. Per the proposed change to LCO 3.8.2 described above (and further discussed below), the Division 3 DG will not be required to be operable unless the HPCS

System is required for compliance with LCO 3.5.2. The proposed changes to LCO 3.8.5 will still require both Division 3 and 4 batteries and battery chargers to be operable when the HPCS System is required for compliance with LCO 3.5.2. The remaining components which receive power from the Division 3 and 4 DC Sources do not require power to perform their safety functions when the HPCS System is not required to be operable.

Proposed Changes to AC Source Requirements

The current TS LCO 3.8.2, item c, requires operability of a second qualified offsite circuit or the Division 3 DG when the Division 3 AC distribution subsystems are required to be operable per LCO 3.8.10. The Division 3 AC distribution subsystem supplies power primarily to the HPCS System. The safety-related loads on this distribution system are supported by the Division 3 DG. In addition to the HPCS System, as described in USAR Table 8.3-13, the Division 3 AC bus supports operation of the Division 3 SX pump; room cooling for the Division 3 switchgear, Division 3 DG, Division 3 battery, Division 3 SX pump, and the HPCS pump; and the Division 3 inverter and alternate supply to the Division 3 uninterruptible AC bus. The proposed change to LCO 3.8.2, item c, will still require an additional offsite circuit or the Division 3 DG to be operable when the HPCS System is required for compliance with LCO 3.5.2. The Division 3 SX pump is required to be operable only when the HPCS System is required to be operable. When the HPCS System is not required to be operable, the Division 3 SX pump and the associated room cooling functions are not needed to support operation of the remaining Division 3 loads, including the associated SRM. The Division 3 SRM would still be required to be capable of being powered from a qualified offsite circuit per LCO 3.8.2, item a.

Based on the above discussion, it has been concluded that when the plant is operating outside of MODES 1, 2, and 3 and operability of the HPCS System is not required for compliance with LCO 3.5.2, there is no need for additional operability of the Division 3 and 4 inverters, batteries, battery chargers, or an additional offsite circuit or the Division 3 DG in order for the loads powered by the Division 3 and 4 power distribution systems to perform their safety functions. These loads will still be required to be capable of being supplied by a qualified offsite circuit per LCO 3.8.2 item a.

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 changes do not involve a change to plant design and are limited to requirements for operability of electrical power sources when the plant is not operating in MODES 1, 2, or 3. The proposed changes will still ensure that sufficient electrical power is required to be operable to mitigate the consequences of postulated accidents. As described previously, and except for the SRMs, the reduced redundancy of electrical power sources to non-HPCS System loads is not safety significant due to the fail-safe nature of those loads. With respect to the SRMs, the SRMs are not assumed to function to mitigate any design basis accidents or transients. The SRMs provide monitoring during plant startup and refueling operations. In addition, there are no accidents postulated to occur as a result of a malfunction of electrical power sources with the plant shut down. As a result, the proposed changes will not result in an increase in the probability or consequences of any accident previously evaluated.
- (2) The proposed changes do not involve a change to plant design and are limited to requirements for operability of electrical power sources when the plant is not operating in MODES 1, 2, or 3. In addition, there are no accidents postulated to occur as a result of a malfunction of electrical power sources with the plant shut down. As discussed above, the components which receive power from the Division 3 and 4 electrical power distribution subsystems do not require electrical power to perform their safety functions when the High Pressure Core Spray (HPCS) System is not required to be operable for compliance with LCO 3.5.2, "ECCS-Shutdown." As a result, the proposed changes cannot create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) As described in the Bases for LCO 3.8.2, "AC Sources - Shutdown," the TS requirements ensure that the plant has the capability to mitigate the consequences of postulated accidents. However, as also described in these Bases, a single failure and a concurrent loss of all offsite power or loss of all onsite power is not required to be assumed. The proposed changes only affect the requirements for electrical power sources when the plant is operating outside MODES 1, 2, and 3, and only affect the requirements for the electrical power sources for Divisions 3 and 4. Except when the HPCS System is operable for compliance with LCO 3.5.2, the requirements for the Division 1 and 2 electrical power sources are adequate to mitigate postulated accidents, assuming a single failure or loss of offsite or onsite power. The proposed changes will ensure that both Division 3 and 4 inverters, batteries, battery chargers, and a second qualified offsite circuit or the Division 3 diesel generator is operable when the HPCS System is required to be operable for compliance with LCO 3.5.2. As a result, the proposed changes do not result in a significant reduction in the margin of safety.

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