UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

MAR 22 1990

Docket No. 50-461 AMS No. RIII-89-A-0042

Illinois Power Company
ATTN: Mr. J. S. Perry
Vice President
Clinton Power Station
Mail Code V-275
P. O. Box 678
Clinton, IL 61727

Gentlemen:

The NRC has completed the review of Illinois Power (IP) Company letter dated September 18, 1989, which concerned the potential safety implications of the Clinton Power Station (CPS) rolling maintenance schedule, Allegation RIII-89-A-0042.

Allegation RIII-89-A-0042 was forwarded to IP by a June 21, 1989, Region III letter to analyze the impact on plant risk of performing maintenance on safety systems while operating and to resolve an apparent conflict between actual plant maintenance practices and the CPS Updated Safety Analysis Report (USAR).

You determined that the twelve week rolling schedule provided two distinct advantages: a coordinated means for performing preventive maintenance tasks which improved equipment and plant reliability, and total safety system out of service time was effectively minimized and safety system availability was maximized by coordinating Technical Specifications (TS) surveillance requirements with a twelve week rolling schedule.

Further discussions between the IP licensing staff and Region III during the week of November 6, 1989, ensured that careful planning was incorporated into the scheduling system. The planning ensured that redundant systems and their appropriate support equipment were not affected by a scheduled rolling maintenance outage of safety systems. A final check by the Operations Department Shift Supervisor ensured that all redundant safety systems were available prior to a scheduled rolling maintenance outage being implemented.

Because there was no quantitative data to support the benefits of the rolling maintenance schedule or to prove or disprove that the rolling maintenance schedule does not increase plant risk by simultaneously removing equipment from service, we encourage you to consider the schedule's impact on plant risk, as well as compliance with your Technical Specifications. Other licensees are using plant risk calculations for guidance as to what equipment may be allowed to be simultaneously inoperable in order to control plant risk. We urge you to use the quantitative analysis methods you are developing for the IPE response to evaluate the risk impacts of your rolling maintenance



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activities. The NRC will continue to analyze scenarios, which could increase plant risk from TS required surveillances and limiting conditions for operation through the TS Improvement Program. In view of the benefits you listed in your September 18, 1989 letter Region III supports the IP twelve week rolling maintenance schedule.

Your September 18, 1989 letter stated that the apparent conflict in the USAR regarding the twelve week rolling maintenance schedule would be resolved in the next revision of the CPS USAR. Region III believes that the USAR revision is an appropriate resolution of the concern. Allegation RIII-89-A-0042 is considered closed since both aspects of the allegation have been adequately addressed.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter with enclosure will be placed in the NRC Public Document Room.

Your cooperation in the resolution of this allegation was appreciated. We will gladly discuss any questions you may have concerning this matter.

Sincerely,

William L. Forney

for Edward G. Greenman, Director
Division of Reactor Projects

Enclosure:
Illinois Power Company
09/18/89 letter

See Attached Distribution

Distribution:
cc w/o enclosure:
R. D. Freeman, Manager
Nuclear Station Engineering
Department
F. A. Spangenberg, Manager
Licensing and Safety Department
Resident Inspector RIII

cc w/enclosure:
DCD/DCB (R[illegible])
Licensing Fee Management Branch
J. W. McCaffrey, Chief, Public
Utilities Division
H. S. Taylor, Quality Assurance
Division, Sargent & Lundy
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Office of Consumer Services
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Schiff, Hardin, & Waite
L. Larson, Project Manager,
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D. Schopfer, Project Manager,
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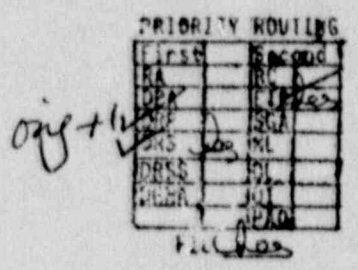
ILLINOIS POWER COMPANY

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727



September 18, 1989

Docket No. 50-461

Mr. A. B. Davis
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Clinton Power Station
Response to Concerns Regarding Twelve-Week Rolling Maintenance Schedule

Dear Mr. Davis:

This letter provides the Illinois Power Company (IP) response to two concerns (NRC Allegation RIII-89-A-0042) regarding potential safety implications of the twelve week rolling maintenance schedule at Clinton Power Station (CPS). These concerns were transmitted to IP via Mr. E. G. Greenman's letter of July 21, 1989.

The first concern relates to the practice of performing routine corrective and preventive maintenance (PM) on a twelve-week rolling schedule which requires that safety-related equipment be taken out of service periodically for maintenance to be conducted. The twelve-week rolling schedule is followed while the plant is operating, thus, Technical Specification Limiting Condition for Operation (LCO) action statements are entered during plant operations. This concern was discussed with the NRC Region III staff in a meeting on August 23, 1989. The NRC advised IP that a probabilistic risk assessment was not required to support this practice at CPS (only a qualitative discussion of the benefits of the twelve-week rolling schedule should be provided) and, the NRC requested IP to provide a discussion of the basis used to establish the twelve-week rolling schedule. The following information is provided in response to the NRC staff request.

IP established the twelve-week (quarterly) rolling maintenance schedule based on the Technical Specification requirements to take Emergency Core Cooling Systems (ECCS) out of service on a quarterly basis to perform surveillances. IP's experience has shown that the twelve-week rolling schedule offers the following benefits:

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- A planned structure for performing maintenance which precludes taking a system out of service multiple times per quarter for performing individual PMs.

- Required PMs can be collectively performed on a system each quarter in less time than allowed in the Technical Specification LCO Action Statements. Controls are in place to preclude redundant trains being made inoperable simultaneously during PM performance.

- A significant decrease has been observed in the number of PMs which are not completed by the schedule date (i.e., late PMs). This provides for improved reliability and safety system performance. Preventive maintenance reduces the need for corrective maintenance on a system.

- Distractions for Control Room personnel are reduced because shift personnel are not required to prioritize scheduled system outages.

- Approximately 230 systems/trains are scheduled for PMs each quarter. This number includes Balance of Plant (BOP) systems. This structured approach to scheduling allows a licensee to perform PMs on all plant systems thereby improving overall plant performance.

- Necessary support systems are scheduled for maintenance at the same time as the systems they support. This scheduling method reduces the time that Technical Specification required systems are unavailable (inoperable), and improves the integrated safety system reliability.

- Corrective maintenance and preventive maintenance are performed during a system outage before the system is operated for surveillance testing. The surveillance test thus provides additional assurance that all maintenance has been performed correctly.

In summary, the twelve-week rolling schedule was adopted by IP as a coordinated means for performing preventive maintenance tasks which serve to increase equipment and plant reliability. By coordinating Technical Specification surveillance requirements with the twelve-week rolling schedule, the total system out-of-service time for safety-related equipment is effectively minimized, and the system availability is potentially maximized.

The NRC's second concern related to the fact that the twelve-week rolling maintenance schedule appears to be in conflict with Section 15A.5.3 (Repair Time Rule) of the Nuclear Safety Operational Analysis (NSOA) in the Updated Safety Analysis Report (USAR). The NSOA states that in order to maintain the validity of the assumptions used to establish the repair time rule of the NSOA, the allowable repair time should only be used as needed to restore failed equipment to operation, not for routine preventive maintenance. The following information highlights the purpose of the NSOA and defines IP's resolution of the

apparent conflict between the NSOA repair time rule and the twelve-week rolling maintenance practice.

The repair time rule given in Section 15A.5.3 was not intended to direct or reflect individual plant maintenance practices. The NSOA was developed in the late 1960s as a basis for showing compliance with the NRC's draft General Design Criteria, and for the purpose of generating technical specifications. The NSOA identified on a generic system level basis, those systems which should be the subject of technical specifications, and the safety systems utilized during the different modes of plant operation. With the later issuance of Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants", this generic failure modes and effects analysis (NSOA) was then included in the Final Safety Analysis Reports (FSAR) of many plants. The NSOA was never a plant unique document in the sense of specific equipment requirements. The NRC Standard Technical Specifications (NUREG-0123) and NRC issued plant specific Technical Specifications which were developed subsequent to the NSOA stipulate equipment/system requirements for a plant.

To resolve the apparent conflict between the NSOA and the practice of utilizing a twelve-week rolling maintenance schedule, IP will supplement the NSOA description so that the next revision of the USAR will include the purpose of the NSOA described above.

Sincerely yours,

D. L. Holtzscher
Acting Manager -
Licensing and Safety

JDW/krm

cc: NRC Clinton Licensing Project Manager
NRC Resident Office
NRC Document Control Desk
Illinois Department of Nuclear Safety