Docket File

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 2 1 1989

Docket No. 50-461

Mr. D. P. Hall
Senior Vice President
Illinois Power Company
P. O. Box 678
Clinton, Illinois 61727

Dear Mr. Hall:

SUBJECT: TECHNICAL SPECIFICATION REQUIREMENTS

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Sincerely,

James H. Sniezek /for

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Enclosure:
NRR Staff Analysis

cc w/enclosure:
See next page

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Mr. D. P. Hall
Illinois Power Company

Clinton Power Station
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Clinton, Illinois 61727

NRR Staff Analysis
Technical Specification Requirements
Clinton Power Station

Staff Position

The Clinton Technical Specifications (TS) include the standard definition of OPERABLE-OPERABILITY that exists in the TS for most plants. This definition establishes the principle that a system* is operable when it is capable of performing its specified function and when all necessary support systems are also capable of performing their related support functions. The corollary is that a system is inoperable when it is not capable of performing its specified function or when a necessary support system is not capable of performing its related support function.

The definition of operability affects the manner in which the requirements for a Limiting Condition for Operation (LCO) and its associated remedial actions are applied when a support system is inoperable. If the licensee determines that a TS system is capable of performing its intended function with an inoperable support system, then no additional action is needed. If the licensee determines that a TS system could not perform its intended safety function with an inoperable support system, then the TS LCO must be entered and appropriate remedial actions taken. This action shall occur regardless of whether or not the support system is covered by TS.

Moreover, other TS systems similarly affected by the inoperable support system must be treated likewise. Though the most limiting or restrictive action would influence the licensee's action, all other TS system LCO's must be reviewed for applicability and entered, if appropriate, and necessary remedial actions taken for those systems affected. This may include entering TS 3.0.3 as deemed necessary.

Licensee Concerns

The licensee's concerns with the remedial actions that apply when support systems are inoperable were summarized as follows:

1. Plant shutdowns would be required in circumstances which do not justify such action in order to maintain plant safety.

2. The time to perform preventative maintenance on support system is reduced or eliminated.

3. Some support system TS requirements will be meaningless because supported system LCO's will require more restrictive remedial actions.

4. Unnecessary test starts of diesel generators are required.

*System as used herein includes a system, subsystem, train, component, or device.

Two examples were cited to support the licensees concerns and are summarized as follows:

Example 1

If the essential switchgear heat removal system is removed from service for planned maintenance, the associated DC battery charger, which occupies the same cooled space, must be declared inoperable. The battery charger has a 2-hour allowed outage time (AOT) after which the unit must shutdown. Shutdown on such a schedule is unnecessary because neither AC or DC power has been lost and cooling of this equipment is provided by other equipment. The AOT with AC power de-energized is 8 hours, which is moot because it supports the battery charger that has a 2-hour AOT. Concerns 1, 2, and 3 above were identified as being applicable for this example.

Example 2

A diesel generator may be taken out of service to perform planned preventive maintenance or testing without requirements for test starts of the other diesel generators. However, if a support system for a diesel is removed from service for maintenance, the diesel generator would have to be declared inoperable and other diesel generators tested within 24 hours. Concern 4 above was identified as being applicable for this example.

Staff Response to Licensee Concerns

Some support systems play an indirect role in ensuring that a system is capable of performing its specified function. The Clinton switchgear heat removal system, noted in example 1, is a case in point where a support system maintains an acceptable environment for that equipment which is directly involved in performing functions that ensure plant safety. The question of whether a HVAC system performs a necessary support function, in any particular application, is a matter which licensees must consider in a manner that is consistent with the plant design basis. For the Clinton example, the FSAR states that the switchgear cooling (VX) system performs a necessary support function under conditions that normal cooling for the switchgear areas would not be available. Thus, this system is encompassed by the TS definition of operability and the remedial actions for the supported equipment, including the battery charger, apply when this system is not capable of performing its specified function. It should be noted that credit cannot be taken for the cooling of support systems by the non-essential switchgear cooling that is normally in operation. In a design basis accident under loss-of-offsite-power conditions, this cooling source would be unavailable.

There may be some cases where a support system could be removed from service for preventive maintenance or testing, and it would not be necessary to treat all systems that are dependent upon that support function as being inoperable. Such cases could involve the closure of a valve that would preclude a support system from performing its support function, yet there could be sufficient time for an operator to respond and restore that support system to service such that it would be capable of fulfilling its specified function. This approach, which could be identified and evaluated as part of an operability determination of the supported system is not applicable in situations where the

plant design and licensing bases rely upon the support function being performed automatically or where there is insufficient assurance that the support system could be returned to service at the required time to perform its specified function consistent with the assumptions of the safety analysis.

With regard to the concerns that were identified based on the TS requirements that apply when the switchgear cooling system is inoperable, there are two potential solutions to these concerns. The first would be a proposed TS amendment to modify the TS such that a longer AOT would be available when equipment is inoperable solely due to the inoperability of the switchgear area cooling system. The second would be the potential for an analysis under 10 CFR Part 50.59 or through a license amendment to provide a technical justification for revising the design basis, through an FSAR revision, that demonstrates the switchgear area cooling system is not a necessary support function; i.e., there may be alternatives to assure an acceptable environment for the affected equipment in the absence of the operability of this system under design basis accident conditions.

In response to concern regarding excessive diesel generator start tests, it is the staff's position that when a support system for a diesel generator is inoperable due to planned preventive maintenance or testing, the associated diesel generator is also inoperable for the very same reason, i.e., for planned preventive maintenance or testing. Hence, consistent with the requirements of the current TS, this is not a case where start testing of the remaining diesel generators is mandatory.

With respect to the generic aspects of the concerns that were identified, the staff recognizes that the need for understanding the design basis and conservatively applying the remedial actions of LCO's for the supported systems places a burden upon the licensee management and plant operators. However, as noted above, an inoperable support system may lead to either multiple or redundant supported systems being inoperable and the need to implement forced shutdown requirements. This could occur when a condition exists that one supported system is inoperable and its redundant counterpart system becomes inoperable due to an inoperable support system. Therefore, any guidance that a licensee can develop to aid operator decisions related to design bases and inoperable support systems will help to ensure that the appropriate actions are taken, and will reduce the burden on operators when support systems are inoperable.

Finally, a goal of the industry's and the NRC's TS improvement program is to remove inconsistencies in TS requirements. TS which include remedial actions for systems that are more restrictive than those that exist for their associated support systems are an example of such inconsistencies and are unintended as well as undesirable. These will be addressed to the extent practical in the new STS being developed by industry. If licensees encounter situations where unnecessary plant shutdowns would occur due to the implementation of remedial actions that apply when support systems are inoperable, they should discuss the matter with the Resident Inspector or the Director of the Division of Reactor Projects at the NRC Regional Office for their facility. Relief from TS requirements may be granted for situations that could result in unnecessary plant shutdowns provided that the appropriate administrative processes are followed and adequate technical justification is provided.

Summary

The definition of OPERABLE-OPERABILITY embodies a principle that a system can perform its function(s) only if necessary support systems are capable of performing their related support functions. When a support system is inoperable, licensees must evaluate the impact that this has upon systems whose operability is dependent upon that support function. This clarification of required actions does not constitute a new or different staff position on the proper application of TS requirements for support systems.

Furthermore, as part of the TS improvement program, the dependency between support systems and the systems they support will be re-examined to arrive at AOT's for support systems. The established AOT's will be consistent, assuring that the capability of the system they support would not be degraded below an unacceptable level when the support system is out of service.

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Vice President
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NRR Staff Analysis

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