



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

October 15, 1982

MEMORANDUM FOR: R. D. Walker, Chief, Reactor Projects Section 2C

FROM: N. J. Chrissotimos, Senior Resident Inspector,
Quad-Cities Nuclear Power Station

SUBJECT: TECHNICAL SPECIFICATION INTERPRETATION

Recently I have been involved with a response to an Iowa Electric Light and Power Company's denial of a noncompliance involving operability of an emergency system.

In responding to the denial, it appears that Technical Specification requirements allow unit operation to continue for seven days with two emergency systems concurrently inoperable.

Specifically, (a) when a diesel generator is inoperable, continued reactor operation is permissible for seven days provided that all of the low pressure core and containment cooling subsystems and the remaining diesel generator are operable. If this requirement cannot be met, an orderly shutdown shall be initiated and the reactor be placed in cold shutdown within 24 hours.
(Duane Arnold Technical Specification 3.5.6.1)

(b) When the high pressure coolant injection (HPCI) system is inoperable, reactor operation is permissible for seven days provided that all active components of the ADS subsystem - the RCIC system, the LPCI subsystem and both core spray subsystems - are operable. If this requirement is not met, the same 24 hour shutdown requirement is applied. (Technical Specification 3.5.D.2)

The situation was that the diesel generator was unknowingly inoperable for 17 days and within this time frame, HPCI was also inoperable for approximately 33 hours. The licensee was cited for violating the 24 hour LCO because it was felt that the equipment powered by the inoperable diesel generator (core spray, LPCI subsystem) was also considered to be inoperable and thus the HPCI LCO was violated.

The licensee believed that the inoperability of diesel generator 1G-21 did not render the B core spray subsystem inoperable for purposes of the seven day LCO in effect based on the following:

Under Amendment 77, the definition of OPERABLE is clarified to read: A system, subsystem, train, component or device shall be OPERABLE or have

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OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

Amendment 77 also clarified the definition of Limiting Condition for Operation as follows: When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. (emphasis added)

Thus, under the foregoing interpretation of Technical Specification 3.5.D.2 on March 5-6, 1982, the B core spray subsystem was OPERABLE for the purpose of satisfying the then applicable seven day Limiting Condition for Operation because its normal power source was operable and its redundant subsystem (Core Spray Subsystem A) was OPERABLE.

Since the B core spray subsystem was not inoperable for the purposes of Technical Specification 3.5.D.2, this Technical Specification was not violated.

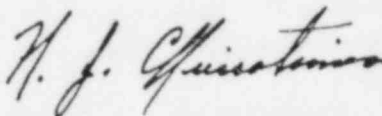
By interpreting the specifications in this manner, we would be allowing a licensee to operate for seven days with both a HPCI system and diesel generator inoperable. It should be realized that in this situation, under an accident condition with loss of offsite power, there would only be the minimal ECCS systems available to cope with the accident. (One core spray pump and two LPCI pumps would not have power.)

When considering both the HPCI and diesel generator LCO's together, it is difficult for me to interpret that the core spray and LPCI pumps associated with the inoperable diesel can be considered operable to satisfy the HPCI LCO.

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I am requesting a position from the Office of Nuclear Reactor Regulation on the applicability of the definition of operable with respect to this matter.

Although this is a specific problem, it may also apply to other BWR's which do not have standard Technical Specifications and thus should be looked at generically.

A handwritten signature in cursive script, reading "N. J. Chrissotimos".

N. J. Chrissotimos
Senior Resident Inspector
Quad-Cities Nuclear Power Station