Illinois Power Company

U-0605
L30-83(03-01)6

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Docket Number 50-461

March 1, 1983

Director of Nuclear Reactor Regulation
Attention Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C 20555

Dear Mr. Schwencer:

References: (1) IP Letter U-0355 from J. D. Geier to J. R. Miller, December 1, 1981; "IE Bulletin 80-06, Engineered Safety Feature Reset Controls."

(2) IP Letter U-0481 from G. E. Wuller to J. R. Miller, May 17, 1982; "Update of Earlier Submittal to Include Results of the Balance of Plant Review."

(3) NRC Letter from C. O. Thomas to G. E. Wuller, October 29, 1982. "Question Relating to the Loose Parts Monitoring System and IE Bulletin 80-06."

Clinton Power Station Unit #1
Engineered Safety Function Reset Controls (IE Bulletin 80-06)
(SER Outstanding Issue #12)

Illinois Power Company's (IP) original response to IE Bulletin 80-06 was provided in reference 1. Reference 2 was a follow-up letter to include the results of the Balance of Plant (BOP) review. Reference Letter 3 provided IP with four questions from the staff regarding their review of our earlier submittals. The purpose of this letter is to transmit IP's responses to these four questions.

The first three questions deal with NSSS valves in the General Electric (GE) scope of design. Of the nine valves covered in this category, IP is committing to make logic modifications for eight valves, requiring the operator to take deliberate operator action to open the valve after an isolation signal reset. For the remaining valve, justification is provided for the existing logic design. The last question deals with BOP equipment. In response to this question, IP is committing to revise the logic for 32 valves to bring them in compliance with IE Bulletin 80-06. In addition, justification is provided for the existing design for 14 valves that do not have a logic seal-in function.

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It is believed that the above information and commitments are adequate to close CPS-SER Outstanding Issue #12 in the next SER Supplement. Please let us know at your earliest convenience if you have any additional questions or concerns.

Sincerely,

G. E. Wuller
Supervisor-Licensing
Nuclear Station Engineering

AJH/jmm

enclosure

cc: H. Abelson, NRC Clinton Project Manager
R. Kendall, NRC ICSB
H. H. Livermore, NRC Resident Inspector
Illinois Department of Nuclear Safety

Response to Questions on
CPS-SER Outstanding Issue No. 12
Engineering Safety Features Reset Controls

1. Question:

Item 4f of letter U-0481 dated May 17, 1982 indicates that the RCIC inboard/outboard isolation valves (1E51-F063 and 1E51-F064) reopen on a RCIC isolation signal reset. Will these valves be modified to require operator action to open them subsequent to the reset of a RCIC isolation signal (consistent with the LRG-II response to item 4-ICSB; Volume 4 of the LRG-II Position Papers dated March 12, 1982)? If not, justify the existing design.

Response:

Under the existing design, the RCIC inboard/outboard isolation valves (E51-F063 and E51-F064) reopen on a RCIC isolation signal reset. This design has been evaluated against IE Bulletin 80-06 and it has been determined that in order to gain compliance, these valves should be modified to require operator action to open them subsequent to the reset of the RCIC isolation signal. This modification is consistent with the LRG-II response in Position Paper 4-ICSB.

2. Question:

Why is it acceptable for RCIC suppression pool suction valve 1E51-F031 to reopen on a RCIC isolation reset?

Response:

It is acceptable for the RCIC suppression pool suction valve 1E51-F031 to reopen as the result of RCIC isolation reset, because the only time the valve will open is when needed to meet an emergency situation. The operator will not reset the RCIC isolation reset unless the RCIC system is needed, and the valve will not open except to facilitate use of the RCIC system. 1E51-F031 will not open unless the RCIC/HPCS storage tank level is at the low level setpoint or the suppression pool water level is at the high level setpoint. This logic is necessary for proper operation of the RCIC system. Requiring the operator to perform additional actions to open this valve is undesirable because of the delay it would cause in making the RCIC system available for use. This delay is further increased by the fact that this valve is slow opening (approximately 30 seconds).

3. Question:

The LRG-II response to item 4-ICSB identifies valves E12-F060A, B and E12-F075A, B (RHR Sample Line Valves) and B33-F019 and B33-F020 (Reactor Water Sample Valves) as reopening on an isolation signal reset. The LRG-II position is to modify the subject valve control circuits to require operator action to reopen these valves following a reset. These same valves exist at Clinton. Describe the corrective actions planned to modify these valves or justify the existing design.

Response:

Under the existing design valves E12-F060A, B and E12-F075A, B (RHR Sample Line Valves) and B33-F019 and B33-F020 (Reactor Water Sample Valves) reopen upon an isolation reset signal if they were opened originally. This design has been evaluated against IE Bulletin 80-06 and it has been determined that in order to gain compliance, these valves should be modified to require operator action to open them subsequent to the appropriate reset. This modification meets the requirements of NUREG-0737 Item II.E.4.2 and is consistent with the LRG-II response in Position Paper 4-ICSB.

4. Question:

Item 5 (BOP ESF) of letter U-0481 indicates that BOP safety-related equipment which has a prescribed mode during normal conditions may revert to this mode upon the ESF actuation condition returning to normal and the ESF actuation signal being reset. The staff is concerned that the protective actions of this equipment may be compromised once the associated actuation signal is reset. For example, although an initiating parameter may return to normal following an accident condition, equipment which changes state automatically on a reset could still lead to an unsafe condition. Therefore, identify each case where safety-related BOP equipment reverts to its normal mode on an ESF reset and either propose corrective actions to require operator action to realign this equipment following the reset, or justify the existing design.

4. Response:

Table 1 lists the Class IE non-NSSS electrical equipment that automatically reverts to the pre-LOCA condition after a general LOCA reset. The status of this equipment is contained in the following descriptions:

The logic for Component Cooling Valves 1CC071, 1CC072, 1CC073, 1CC074, and Process Sampling Valves 1PS003, 1PS004, 1PS005, 1PS009, 1PS010, 1PS016, 1PS017, 1PS022, 1PS031, 1PS032, 1PS034, 1PS035, 1PS037, 1PS038, 1PS043A, 1PS043B, 1PS044A, 1PS044B, 1PS047, 1PS048, 1PS055, 1PS056, 1PS069, 1PS070
will be modified to provide a seal-in on a LOCA signal.

The logic for Containment Combustible Gas Control Valves 1HG001, 1HG004, 1HG005, and 1HG008 will be modified such that when the HG system is in either normal or test, the valves will close and seal-in on a LOCA signal. However, when the HG system is running, the valves will not close and seal-in on a LOCA signal, since the HG system is designed to operate under LOCA conditions.

Reactor Feedwater Valves 1B21-F032A and 1B21-F032B do not require a seal-in since these check valves are held in their LOCA position by system back-pressure, even if the LOCA signal is reset. No logic modification is necessary.

Fuel Pool Cooling Valves 1FC004A and 1FC004B automatically return to their pre-LOCA position after a general LOCA reset. During normal operations one of these valves is open and the other is closed. A LOCA signal causes the closed valves to open, and a LOCA reset causes it to close again. The valve previously open remains open. Since during and after a LOCA only one open valve is required to provide sufficient fuel pool cooling, no logic modification is necessary.

Fuel Pool Cooling and Cleanup Valve 1FC038 isolates a safety related system from a non-safety related system. It closes on a LOCA signal, and if the LOCA signal resets, it automatically reopens. If the non-safety related system fails during the LOCA and valve 1FC038 subsequently reopens, the non-safety related system remains isolated by means of a check valve on the downstream safety related side of valve 1FC038. No logic modification is necessary.

Fuel Pool Cooling and Cleanup Valves 1FC017 and 1FC023 close but do not seal-in on a LOCA signal. These valves isolate a safety related system from a non-safety related system. This same function is accomplished by valves 1FC016A, 1FC016B, 1FC024A, and 1FC024B which close on a LOCA signal and must be manually reset via a control switch after a general LOCA reset. Therefore valves 1FC017 and 1FC023 require no logic modification.

Suppression Pool Makeup Valves 1SM001A, 1SM001B, 1SM002A, and 1SM002B do not seal-in on a LOCA signal only. However on LOCA plus low suppression pool level signals these valves perform their safety function by sealing-in to dump the upper fuel pool into the suppression pool. Therefore, no logic modification is necessary.

Valves 1VQ001A & 1VQ001B are the drywell purge supply valves and valve 1VQ005 is the drywell head exhaust valve. These valves are closed and have administrative controls placed upon them during normal plant operating modes (Operating conditions 1, 2 and 3). A seal-in feature in the logic for these valves is <u>not</u> needed since the valves would stay closed upon a LOCA signal and would stay closed following a general LOCA reset.

TABLE 1

EQUIPMENT WHICH RETURNS TO THE PRE-LOCA STATE

AFTER A GENERAL LOCA RESET

Equipment Number	Schematic Diagram E02-___99 SH___	Equipment Number	Schematic Diagram E02-___ 99 SH___
1B21-F032A	1FW-24 *	1PS031	1PS-16
1B21-F032B	1FW-24	1PS032	1PS-17
1CC071	1CC-10	1PS034	1PS-16
1CC072	1CC-11	1PS035	1PS-17
1CC073	1CC-11	1PS037	1PS-16
1CC074	1CC-10	1PS038	1PS-17
1FC004A	1FC-9	1PS043A	1PS-16
1FC004B	1FC-9	1PS043B	1PS-16
1FC017	1FC-10	1PS044A	1PS-17
1FC023	1FC-10	1PS044B	1PS-17
1FC038	1FC-10	1PS047	1PS-16
1HG001	1HG-4	1PS048	1PS-17
1HG004	1HG-5	1PS055	1PS-17
1HG005	1HG-6	1PS056	1PS-16
1HG008	1HG-7	1PS069	1PS-17
1PS003	1PS-17	1PS070	1PS-16
1PS004	1PS-16	1SM001A	1SM-1
1PS005	1PS-17	1SM001B	1SM-2
1PS009	1PS-16	1SM002A	1SM-1
1PS010	1PS-17	1SM002B	1SM-2
1PS016	1PS-16	1VQ001A	1VQ-6
1PS017	1PS-17	1VQ001B	1VQ-4
1PS022	1PS-16	1VQ005	1VQ-4

*The schematic diagram number would be read as E02-1FW99 sheet 24.