



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

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(CRIDS)*

January 5, 1993

PRIORITY ROUTING	
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<i>FILE</i>	

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

Subject: Zion Station Unit 1
Request for Regional Temporary Waiver of Compliance to
Facility Operating License DPR-39
Safety Injection Pump Action Requirement
NRC Docket No. 50-295

Dear Mr. Davis:

The purpose of this letter is to confirm the results of the teleconference between Commonwealth Edison Company (CECo) and the NRC Staff held on January 4, 1993, at approximately 5:00 p.m., in which CECo requested a Regional Temporary Waiver of Compliance (TWOC) from the shutdown required by the Zion Technical Specification 3.8.2.D for 24 hours. Unit 1 is currently in Mode 1. Unit 2 is currently defueled for refueling outage Z2R12. Unit 2 is unaffected by the Technical Specification shutdown requirements for the Unit 1 safety injection pump.

The basis for the requested TWOC was discussed between members of the NRC Region III Staff, NRC Headquarters, NRC Resident Inspector, Zion Station Management, and Corporate Management during the teleconference. At approximately 5:30 p.m., verbal approval was granted by NRC Region III of CECo's request and was based on the following measures:

- Transmittal of this formal request for TWOC to Region III by close of business on January 5, 1993;
- Performance of all compensatory actions as provided in the enclosure to this letter;
- Commencement of an additional 24 hour period to allow completion of critical maintenance on the 1B safety injection pump recirculation line check valve occurred at 5:30 p.m. on January 4, 1993, concurrent with verbal approval granted by NRC;

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- The Regional TWOC expires at 5:30 p.m. on January 5, 1993. At that time, should the 1B Safety Injection Pump remain inoperable, the following measures shall be initiated:
 - The Plant Operating Staff will place the unit in shutdown per Technical Specification 3.8.2.D.

The enclosure provides a discussion of the overall basis for the request for Regional Temporary Waiver of Compliance as well as the determination of No Significant Hazards Consideration and Environmental Consideration.

This request for Regional Temporary Waiver of Compliance has been reviewed and approved by Commonwealth Edison Senior Management, and has been subject to On-Site Review in accordance with Commonwealth Edison procedures.

Please direct any questions to this office.

Respectfully,



S. F. Stimac
Nuclear Licensing Administrator

Enclosure

cc: Office of NRR Document Control Desk
J.E. Dyer, Director PD I-II-2 - NRR
C.Y. Shiraki, Project Manager - NRR
J.D. Smith, Senior Resident Inspector - Zion
Office of Nuclear Facility Safety - IDNS

REQUEST FOR REGIONAL TEMPORARY WAIVER OF COMPLIANCE

1. REQUIREMENTS FOR WHICH THE TEMPORARY WAIVER OF COMPLIANCE IS REQUESTED

Zion Station is requesting a Regional Temporary Waiver of Compliance (TWOC) from the Zion Technical Specifications in order to avoid placing Zion Unit 1 in an unnecessary shutdown condition, and cycling Unit 1 through an unnecessary thermal transient. The integrity of the reactor vessel and other components of the primary system of a nuclear plant can be adversely affected by the number of thermal transients that they are subjected to during their lifetime. As each additional thermal transient can affect this integrity, it is prudent to avoid such transients as long as the health and safety of the public is preserved.

Zion Station is requesting a Regional TWOC of the requirement to shutdown per Technical Specification 3.8.2.D on Unit 1. Unit 1 is currently in Mode 1. Unit 2 is currently defueled for refueling outage Z2R12. In order to prevent completion of the shutdown required by Specification 3.8.2.D, and creating an undesirable transient on the unit, a one-time 24 hour extension to the shutdown requirements of Specification 3.8.2.D is proposed.

2. CIRCUMSTANCES LEADING TO THE REQUEST

Unit 1 was in Mode 1. On the evening of January 3, 1993, preparations were made to take the 1B safety injection (SI) pump out of service for planned repair work on the pump recirculation line check valve. Preparations included verifying operability of the charging pumps by performance of PT-2I. PT-2I requires vibration readings be taken on the pump, motor and gear box bearings. The procedure specifies acceptable, alert and action ranges for the vibration readings.

During the performance of PT-2I by Operating shift personnel, the gearbox bearings were found to have vibration readings in the "alert" range. The acceptance criteria section of PT-2I states that readings in either the "acceptable" or "alert" ranges meet the criteria for acceptability. The procedure requires that for readings in the alert range, a work request must be issued. This was completed by shift personnel and all requirements of the procedure were fully met.

Previous experience at Zion Station is that the vibration readings taken by the Operating shift personnel have been consistently more conservative than those vibration readings obtained by the Technical Staff engineer. The resultant expectation by Operating shift personnel was that the vibration readings obtained should not prevent taking the 1B SI pump out-of-service. Accordingly, at 2220 on January 3, 1993, the 1B SI pump was taken out-of-service.

In addition to generating the procedurally required work request for an alert range vibration reading, the expectation at Zion Station is that the Technical Staff ISI engineer responsible for vibration testing will promptly follow up with further investigation. On the morning of January 4, 1993, the Technical Staff ISI engineer promptly analyzed the vibration

data and decided that reperformance of the vibration testing was warranted. This was done to ensure the accuracy of the analysis, provide additional diagnostic information and to minimize the chance of performing unnecessary repairs to the equipment.

The readings obtained by the Technical Staff engineer showed vibration for the 1A centrifugal charging pump gearbox bearings to be greater than 0.47 inches per second and therefore in the action required range. Based on this information, at 1430 on January 4, 1993, the 1A centrifugal charging pump was declared inoperable.

3. DISCUSSION OF COMPENSATORY ACTIONS

During the period of time that this Regional TWOC is in effect, Zion Station will take the following compensatory actions to ensure that Unit 1 is maintained in a safe and stable condition:

- a. At power conditions will be maintained for Unit 1.
- b. Other than required by Technical Specifications, additional testing or preventative maintenance will not be performed on Diesel Generators 1A, 1B, or O.
- c. Electrical distribution equipment, either normal, standby or reserve, will not be taken out-of-service on Unit 1 except for emergency requirements.
- d. The Northern Division Load Dispatcher will be notified to not take out of service any incoming transmission lines to Zion Station except for emergency requirements.
- e. To preclude unnecessary challenges being made to safety systems, other safety-related equipment will not be taken out-of-service or tested unless required by Technical Specifications.
- f. Appropriate operating personnel will be notified to ensure these actions are maintained.
- g. If another SI or charging pump is found to be inoperable while this TWOC is in effect, this TWOC will be terminated and the applicable Technical Specification Action Statements for unit shutdown and subsequent cooldown will be adhered to.
- h. If a Diesel Generator or off-site power source is lost, Technical Specification 3.0.5 will be applied and the appropriate actions will be taken.

4. EVALUATION OF SAFETY SIGNIFICANCE AND POTENTIAL CONSEQUENCES

The Zion Emergency Core Cooling Systems (ECCS) consists of three systems: centrifugal charging (high head), safety injection (SI) (intermediate head), and residual heat removal (RHR) (low head). The ECCS is divided into two redundant, 100% capacity subsystems. Due to the redundancy of ECCS subsystems, the inoperability of one component in a subsystem does not render the ECCS incapable of performing its function. Neither does the inoperability of two different components, each in a different subsystem, necessarily result in a loss of function for the ECCS.

The minimum equipment OPERABILITY requirements of the proposed Regional TWOC have been changed such that continued operation is extended for 24 hours with the 1B SI pump and 1A centrifugal charging pump inoperable since at least 100% of the ECCS flow equivalent to a single OPERABLE ECCS subsystem is available. If the OPERABLE ECCS components can provide 100% of the flow, equivalent to a single OPERABLE ECCS subsystem, the ECCS safety function can be provided assuming no single failure, during design basis transients and accidents. The acceptability of a loss of redundancy without loss of safety function as described above is not currently recognized in the Zion Technical Specifications governing ECCS operability. This condition is currently allowed to exist for 72 hours in NUREG - 1431 "Standard Technical Specifications Westinghouse Plants", Rev. 0.

5. A DISCUSSION WHICH JUSTIFIES THE DURATION OF THE REQUEST

The request for a 24 hour extension to remain in MODE 1 for Unit 1 is not only a relatively short time duration, but also this relatively short time duration is judged to result in an insignificant change in the overall effect on plant risk.

Specifically, the 24 hour extension is needed to allow for sufficient time to complete the repairs on the 1B SI pump recirculation line check valve and to return it to OPERABLE status. The following activities/estimated time durations were/are necessary:

- Replace the recirculation line check valve (4-8 hours).
- Perform non-destructive examination of the welds (6 hours).
- Partial clear the 1B SI pump out-of-service (1 hour).
- Return to service the 1B SI pump (2 hours).
- Perform Surveillance Test and post maintenance verification on the 1B SI pump (2 hours).
- Contingency (5 hours).

The following specific commencement and expiration times/dates will be utilized for controlling the 24 hour Regional TWOC period:

Commencement of the 24 hour Regional TWOC to allow for critical maintenance on the 1B Safety Injection Pump recirculation line check valve occurred at 5:30 p.m. on January 4, 1993, concurrent with verbal approval granted by the NRC.

Expiration of the 24 hour extension will occur at 5:30 p.m. on January 5, 1993. At this time, should the 1B SI pump remain inoperable, the following measures shall be initiated:

The plant Operating staff will place the unit in shutdown per Technical Specification 3.8.2.D.

If another safety injection or centrifugal charging pump is found to be inoperable while this Regional TWOC is in effect, this TWOC will be terminated and the applicable Technical Specification Action Statements for unit shutdown and subsequent cooldown will be adhered to.

6. **BASIS FOR CONCLUDING THAT THE REQUEST DOES NOT INVOLVE A SIGNIFICANT HAZARDS CONSIDERATION**

Commonwealth Edison has evaluated this proposed temporary waiver and has determined that it involves no significant hazards considerations. According to 10CFR 50.92(c), a proposed change to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed change would not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- 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.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. With respect to an increase in the probability of previously evaluated accidents, providing an extension for the two inoperable ECCS components of 24 hours is not only a relatively short time duration, but also this relatively short time duration is judged to result in an insignificant change in the overall effect on plant risk. This extension will, therefore, not alter or change initiating aspects of previously evaluated accidents, since this extension will not initiate or create a precursor to a previously evaluated accident. With regard to the consequences of accidents previously evaluated, this extension will have no significant impact since at least 100% of the ECCS flow equivalent to a single OPERABLE ECCS subsystem continues to be available. If the OPERABLE ECCS components can provide 100% of the flow, equivalent to a single OPERABLE ECCS subsystem, the ECCS safety function can be provided assuming no single failure, during design basis transients and accidents. Therefore, since the ability to perform the ECCS function is not adversely affected, this change does not involve a significant increase in the consequences of an accident previously evaluated.

The proposed change does not create the possibility of a new or different kind of accident from any previously analyzed. The proposed change does not result in plant operations or configurations that could create a new or different type of accident. Any compensatory measures which have been implemented have been evaluated to ensure they do not result in any component or system being placed in an unanalyzed configuration.

The proposed change does not involve a significant reduction in a margin of safety. The proposed time allowed to operate with two ECCS pumps inoperable, prior to requiring a unit shutdown, is acceptable based on the small probability of a failure of a remaining operable ECCS component concurrent with an event requiring the ECCS. This also will minimize unit thermal transients. The requested extension time will provide a reasonable time to restore one of the ECCS pumps. The exposure of the unit to the small probability of an event requiring ECCS during the increased time is insignificant and offset by the benefit of avoiding an unnecessary plant transient. Therefore, this change does not involve a significant reduction in a margin of safety.

7. **BASIS FOR CONCLUDING THAT THE REQUEST DOES NOT INVOLVE IRREVERSIBLE ENVIRONMENTAL CONSEQUENCES**

This proposed TWOC does not involve a change in the installation or use of the facilities or components located within the restricted areas as defined in 10CFR20. Commonwealth Edison has determined that this proposed TWOC does not involve a significant increase in the amount, or a significant change in the types, of any effluent that may be released off-site, and that there is no significant increase in individual or cumulative occupational radiation exposure. Accordingly, this proposed TWOC meets the eligibility criteria for categorical exclusion set forth in 10CFR Section 51.22(c)(9). Pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with granting of this proposed TWOC.