Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

August 17, 1993

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

Subject: Dresden Nuclear Power Station Unit 3
Request for Regional Enforcement Discretion Regarding
Facility Operating License DPR-25, Appendix A,
Technical Specification 3.5.B
NRC Docket No. 50-249

References: (a) J. A. Zwolinski letter to M. J. Wallace, dated July 12, 1993

(b) J. F. Stang letter to Commonwealth Edison, dated July 22, 1993

Dear Mr. Martin:

This letter documents the results of the teleconference held on August 16, 1993, between Commonwealth Edison (CECo) and the NRC Staff, in which Commonwealth Edison requested a Notice of Enforcement Discretion from Technical Specification 3.5.B for Dresden Unit 3.

At 0831 on August 16, 1993, Dresden Unit 3 entered Technical Specification 3.5.B.4 due to the inability of either Containment Cooling (CCSW) subsystem to attain the 7000 gpm design flow rate required by FSAR Table 6.2.4.1. LCO 3.5.B.4 requires the Unit to placed in a Cold Shutdown condition within 24 hours.

CECo requested that Unit 3 be allowed to continue to operate until August 25, 1993, in order to allow time to procure, install, and test the flow control valve component causing the degraded flow condition. A Notice of Enforcement Discretion was verbally approved by Region III at 1620 CDT on August 16, 1993.

The basis of the request is provided in Attachment 1 and includes:

- The Technical Specification that will be violated;
- The circumstances surrounding the condition, including the need for prompt action;
- The safety basis for the request that enforcement discretion be exercised, including an evaluation of the safety significance and potential consequences of the proposed course of action;

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- Any proposed compensatory measure(s);
- The justification for the duration of the request;
- The basis for the conclusion that the request will not have a potential adverse impact on the public health and safety and that a significant safety hazard is not involved;
- The basis for the conclusion that the request will not involve adverse consequences to the environment.

If the degraded flow condition on both Dresden Unit 3 CCSW subsystems is not corrected by 1600 CDT on August 25, 1993, the Unit will be placed in Cold Shutdown within 24 hours in accordance with Technical Specification 3.5.B.4. If post-maintenance testing shows that the flow control valve repairs were not successful in restoring flow to 7000 gpm, the plant will be placed in Cold Shutdown within 24 hours of the time of discovery.

Dresden Unit 2 is unaffected by this request, as testing has shown both Unit 2 CCSW loops are capable of meeting design flow rates.

This request for Enforcement Discretion has been reviewed and approved by the Dresden On-Site Review Committee, in accordance with Dresden Station procedures.

CECo sincerely appreciates the NRC staff's effort and participation in the review of this request. Please direct any questions or comments to Peter Piet, Nuclear Licensing Administrator, at (708) 663-7286.

Very truly yours,

Peter L. Piet
Nuclear Licensing Administrator

Attachment

cc: M. N. Leach, Senior Resident Inspector - Dresden
B. Clayton, Branch Chief - RIII
J. F. Stang, Project Manager - NRR
NRC Document Control Desk

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ATTACHMENT 1

REQUEST FOR ENFORCEMENT DISCRETION
DRESDEN STATION
UNIT 3
AUGUST 16, 1993

1. TECHNICAL SPECIFICATION OR LICENSING CONDITION THAT WILL BE VIOLATED.

Dresden Unit 3 (DPR-25) Technical Specification Section 3.5.B.1 states that "...both containment cooling subsystem loops shall be operable whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F."

The Technical Specification further states (3.5.B.3) that if one containment cooling subsystem is made or found to be inoperable for any reason, reactor operation is permitted only for the succeeding seven days. If both subsystems are inoperable, Technical Specification 3.5.B.4 requires the reactor to be in a Cold Shutdown condition within 24 hours.

Surveillance Requirement 4.5.B.1.b requires a flow rate test of the containment cooling service water (CCSW) pumps. Pump operability is demonstrated by verifying that each pump will deliver at least 3500 gpm against a pressure of 180 psig. This is the only Technical Specification surveillance requirement for system flow rate.

2. CIRCUMSTANCES SURROUNDING THE SITUATION:

Relief is requested to eliminate the need to bring Unit 3 to cold shutdown by 8:31 AM on Tuesday, August 17, 1993.

Unit 2 CCSW minimum 7000 gpm flow in both loops was confirmed by performance of MOV dP testing during D2R13. This testing was performed to support the requirements of generic letter 89-10, with intent to demonstrate the capability of the 2-1501-3A and 2-1501-3B valves to stroke open and closed against test dP under system flow conditions. There was no reason to assume

at that time that Unit 3 valves would perform differently.

Special Test Procedure, 93-6-61, has been performed on 'A' loop of the Unit 3 Containment Cooling Subsystem. This test confirmed that the subsystem can deliver a maximum flowrate of 6000 gpm. The flow control valve for the 'B' Loop has been stroked and it has been determined that expected flow would be approximately 6000 gpm for that loop. Although this test is not required by the Technical Specifications, Dresden Station has administratively entered the limiting condition for Operation (LCO) for 2 CCSW subsystems inoperable. This requires the Reactor to be in cold shutdown within 24 hours.

The Dresden Station, Unit 3 Containment Cooling Service Water (CCSW) subsystem is designed to provide cooling to the containment with a design basis flow of 7000 gpm from 2 CCSW pumps. Enforcement Discretion is requested to allow relief from TS 3.5.B.4 which requires the Reactor to be in cold shutdown condition within 24 hours. Each Unit 3 Containment Cooling Subsystem will deliver a flow of 6000 gpm minimum on either loop through valves 3-1501-3A or 3-1501-3B. There are two redundant subsystems, each subsystem consists of 2 LPCI pumps, 2 CCSW pumps and a heat exchanger. The design basis configuration has been determined to be 1 LPCI pump at a nominal flow of 5000 gpm and 2 CCSW pumps with a combined nominal flow of 7000 gpm. The primary cooling function is required following a DBA LOCA/LOOP occurrence. Technical Specification Sections 3.5.B./4.5.B require testing of each individual pump to demonstrate a flow of 3500 gpm minimum at a minimum discharge pressure of 180 psig.

On August 11, 1993, while performing Special Procedure 93-6-61, flow through the "A" loop of Unit 3 was measured at 6000 gpm. Following this observation, the 3-1501-3A valve which indicated "full open" appeared to be only 3/4 open. Subsequently, the MOV was electrically racked out and the valve was manually opened to its full open position. This reposition of the valve yielded a flow of 7050 gpm. A PIF was initiated and a work request was written to repair the actuator for the 3-1501-3A valve. Additionally, Tech Spec operability for the 3A and 3B CCSW pumps was verified.

The July 12, 1993 Letter from John Zwolinski to Michael Wallace clearly interprets Dresden's Design Basis for Containment Cooling Subsystem as requiring 2 CCSW pumps for adequate containment cooling. Due to this clarification, the Shift Control Room Engineer (SCRE) classified this event as

being outside of FSAR requirements (7000 gpm) and an ENS notification was made. Additionally, the "A" loop of Unit 3 CCSW was Administratively declared inoperable and placed on a administrative 7 day LCO until further review was conducted. On August 16, 1993 valve stroke on the 3-1501-3B valve was determined to be similar to that of the 3-1501-3A valve, and the "B" loop was also declared inoperable initiating a 24 hour clock to achieve cold shutdown. The 3C and 3D pumps were verified operable per the Technical Specification during the last scheduled surveillance.

Preliminary investigation shows that the root cause of the flow not reaching 7000 gpm is the Mechanical Dial Position Indicator (MDPI) in the MOV which drives a potentiometer that gives a signal to the valve controller. This MDPI is sized for a maximum valve travel of 2 inches. The full travel of the 3-1501-3A and 3-1501-3B valves is 2 1/2 inches. In the past, surveillance and operating conditions have not necessitated full valve travel and therefore this condition was not identified. The effort to repair the valves involves parts procurement. Delivery time of these parts will result in exceeding the 24 hour administrative LCO. The Station is aggressively expediting this procurement and valve repair. Relief is requested to eliminate the need to bring the Unit to cold shutdown by 8:31 AM on Tuesday, August 17, 1993.

This situation could not have been avoided because 7000 gpm was never previously verified (including pre-operational testing) on Unit 3, nor has 7000 gpm been a testing requirement on either Unit. The Station has demonstrated that the present degraded flow condition is due to a mechanical problem and not a design problem and once repaired, 7000 gpm will be achieved as was demonstrated after hand cranking the 3-1501-3A valve.

3. EVALUATION OF SAFETY SIGNIFICANCE AND CONSEQUENCES:

The safety significance of the degraded flow is minimal. This determination is based on the containment analysis performed in December 1992 and submitted to NRR for review in March of 1993. In addition, during a meeting with NRR on April 7, 1993, "The staff indicated that 2 CCSW pump operation, even with degraded flow, would provide adequate heat removal capability". This position was documented in the transmittal from John F. Stang (NRC), Project Manager to Commonwealth Edison Company, Docket Nos. 50-237 and 50-249, dated July 22, 1993.

The potential consequences to subsystem operation with less than design basis flow is a slightly higher long term peak containment temperature and pressure. The August 17, 1993 service water inlet temperature is 77 ° F and Suppression pool temperature is 83 ° F, which are significantly below the analysis input values of 95 ° F. The resultant temperatures and pressures are below those used in the calculations for determining atmospheric release and leakage across the LPCI heat exchanger tubes. Therefore, this temperature and pressure provide sufficient margin to containment design temperature and pressure limits, provide for adequate NPSH for the ECCS pumps and provide sufficient differential pressure across the heat exchanger to preclude contaminant release to the public waterways. The probability of a LOCA/LOOP in the 10 day discretionary period is minimal.

4. COMPENSATORY ACTIONS:

Compensatory actions as indicated below will be in place to support the request:

a. A reading package will be provided to the Shift Engineers consisting of the OSR with the full details of the existing condition. The Load Dispatcher will also be informed of the current status of Dresden Unit 3 to minimize requests which could unnecessarily challenge Unit operation.

b. The station will avoid unnecessary maintenance work both in the plant and the switchyard until both CCSW subsystems are declared operable.

c. Technical Specification surveillances will not be impacted. However, these surveillances will only be performed if the critical date will be reached prior to declaring the CCSW subsystems operable.

5. JUSTIFICATION FOR THE DURATION OF THE REQUEST:

The requested duration for the enforcement discretion is until August 25, 1993 at 16:00 hours CDT, or until 24 hours after the replacement part is installed and tested. This time frame is commensurate with the safety significance of the degraded flow condition. It also will provide sufficient time for receipt, installation and testing of the MOV. The parts procurement, installation and

testing work will be expedited, including the use of overtime and extra shifts, as needed, to ensure system operability is restored as soon as possible.

6. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION:

Based on information contained in the March 1993 submittal, the operation of the CCSW system at a 2 pump flow of 5600 gpm:

a.1 Does not create a significant increase in the probability of a LOCA/LOOP. The compensatory measure as indicated in item 3 b and c will also decrease challenges to the plant which could initiate a LOCA or LOOP. Less than design flow for the subsystem and the current condition of the 3-1501- 3A & B valves has no impact of the initiating events which would constitute a LOCA/LOOP. The subsystem functions to mitigate the consequences of this event and does not contribute to the initiation.

a.2 The analysis performed and submitted in March 1993 utilized a CCSW flow of 3071 gpm and demonstrated that the system, with that flow, provided sufficient protection to prevent atmospheric release of contamination and/or containment failure. The currently available minimum of 5600 gpm 2 CCSW pump flow provides additional margin above that of the reference analysis, and therefore ensures that the consequences of LOCA/LOOP with respect to off site dose are not impacted.

b. The change of flow does not change or add any active component which would be subject to a new failure mechanism. Therefore, less than design basis flow does not create the possibility of a new or different kind of accident from those previously evaluated.

c. Operation of the Unit with 2 CCSW pump flow of 5600 gpm does not significantly reduce the margin to safety. The long term peak containment pressure will be below 8 pounds with a temperature value which provides ample margin to containment failure and subsequent release of contamination.

ATTACHMENT 1

7. ENVIRONMENTAL ASSESSMENT:

The request will not produce irreversible environmental consequences based on the above discussions which demonstrate that there is no increase in the release to atmosphere following a LOCA event.

8. APPROVAL BY ON SITE REVIEW

The request has been presented and approved by a Dresden Senior Station Management and On-Site Review (OSR) as controlled by Station procedures.