



Commonwealth Edison
72 West Adams Street, Chicago, Illinois
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~~10 CFR 2.790 INFORMATION
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June 16, 1988

WB 6-21-89

~~"10CFR 2.790 INFORMATION MARKING
DOES NOT APPLY WHEN THIS LETTER
IS SEPARATE FROM THE ENCLOSURE"~~

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

Subject: Zion Nuclear Power Station Units 1 and 2
Response to Allegation No. RIII-89-A-0004
License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

Reference: May 3, 1989 letter from E.G. Greenman to Cordell Reed.

Dear Mr. Davis:

The referenced letter transmitted Allegation No. RIII-89-A-0004 which contained four separate allegations. An extension of the due date for the response until June 16, 1989 was granted on June 3, 1989, through a telephone conversation between J. Hinds and R. Chrzanowski. The Attachment to this letter provides the response to the allegations.

The Attachment to this letter contains information which is considered to be exempt from public disclosure in accordance with Title 10, Code of Federal Regulations, Part 2.790(a).

Please direct any questions that you may have regarding this matter to this office.

Very truly yours,

Glenn E. Szynka
for T. J. Kovach

Nuclear Licensing Administrator

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PDR ADDCK 05000295
Q PNU

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Attachment

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ORIGINAL TO J.M. HINDS
COPY TO REGISTRATION FILE *WB 6/19/89*

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ATTACHMENT

ALLEGATION NO. 1 AND RELATED SPECIFIC NRC QUESTIONS

From December 25, 1988 through January 1, 1989, personnel upgrades were made from auxiliary operators to equipment attendants, unqualified upgraded individuals were not accompanied on rounds by a foreman, and this action resulted in safety related tasks being performed by unqualified individuals.

To adequately resolve this issue, the following should be addressed. Related to Allegation No. 1, determine whether auxiliary operators ("B" men) were upgraded to equipment attendants ("A" men) during the December 25, 1988 through January 1, 1989 period; and if unqualified "A" men performed safety related tasks without supervision by an accompanying shift foreman. Contact "B" men upgraded to "A" men and shift foremen responsible for supervising the rounds. Review logs, shift manning charts, Shift Engineer's logs and training records.

RESPONSE TO ALLEGATION 1

For purposes of clarification, Auxiliary Operators are termed "C" men and Equipment Attendants are termed "B"-men, and will be referred to as such in this response.

Zion Station procedure PT-0 "Surveillance Check Lists and Periodic Tests" is the document which governs the "round" referred to in this allegation. Various appendices to this procedure contain specific checklists (rounds) to be performed by the Operators. Each appendix describes in detail specific parameters (equipment to be checked, temperatures to record, flows to measure, etc.) and prescribes limits or ranges of acceptability. Operators, while making their "rounds", will have a copy of this checklist in hand as required by the procedure. Rounds sheets (PT-0 checklists) are reviewed and signed by shift management upon completion; whether or not the Operator was accompanied by a foreman. Additional work required of "B" Operators include performance of Out Of Service (OOS) manipulations of Safety Related Equipment.

In response to this allegation, a review was conducted of shift engineer's logs, shift manning charts, training records and equipment operator checklists for the period December 25, 1988 through January 1, 1989.

This review concluded that this allegation is substantiated in that on seven occasions during this time period "unqualified C" men performed "B" man rounds as documented on equipment operator checklists without being accompanied by a shift foreman or other qualified management person.

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By contractual agreement "C" Operators must satisfactorily complete 9 months of On The Job (OJT) training prior to promotion to "B". Portions of this training include performance of "rounds" checklists in the presence of qualified "B" Operators. These requirements are documented in OJT procedure TI-102-29. Per this procedure, the trainees were required to demonstrate the ability to read, record and evaluate readings, maintain records and perform routine monitoring and checks on running and Out of Service (OOS) equipment as well as performing duties of the position during the entire shift. This training is mandatory before receiving signoff from a certified "B" man.

The "C" Operators referred to in this allegation had satisfactorily completed this portion of their OJT and had been "signed off" by qualified "B" men, however, they had not completed the requisite 9 months for promotion. Because these Operators had successfully completed this portion of their training, shift management chose to allow these upgraded "C" Operators to perform their rounds without the accompaniment of a foreman. *reasonable*

In reference to the concern of upgraded "B" men performing safety related tasks (Out Of Service Manipulations or Boric Acid Batching) without supervision, Zion Station procedures require that independent verification of these tasks are performed by shift foremen. *union problem*

For this reason, it was felt that no impairment of safety would have resulted from upgrading unqualified "C" men to cover the "B" men positions during this time period.

Manpower shortages are the primary reason for upgrading personnel to fill vacant positions. Zion recognizes the need to fill these positions with adequately trained personnel. As such, one class of new "C" Operators began training in August 1988; another class began in February 1989 and a class of 10 B-men are in training at this time and will be qualified by March 1990. This will provide a sufficient number of qualified B-men which should alleviate the need for most future upgrade situations.

It is Zion Station's position that unqualified personnel will perform "rounds" only when accompanied by shift management. Operators who have satisfactorily completed OJT but have not yet reached promotional status may perform unaccompanied rounds. This position will be reemphasized to all shift management by June 30, 1989.

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ALLEGATION NO. 2 AND RELATED SPECIFIC NRC QUESTIONS

That during the end of the 1988 Unit 2 outage, the overtime guidelines of ZAP-0 were violated with at least one NSO working 20 consecutive hours (ZAP-0 limit is 16 hours).

To adequately resolve this issue, the following should be addressed. Related to Allegation No. 2, determine whether actual hours worked by operators and key maintenance personnel met the limits of ZAP-0 overtime guidelines and the NRC limits of Generic Letter (GL) 82-12. Review payroll records for affected personnel during this period and include shift Engineer's logs from October through December 1988.

RESPONSE TO ALLEGATION 2

In response to this allegation, a review was conducted of overtime worked by Operations personnel during the time period of October 1 through December 31, 1988. As required by ZAP-0 section 5.2.9, overtime deviations for this period were documented and submitted to the Operations Manager, Nuclear Stations Division.

This allegation is substantiated in that this report identified 3 cases where equipment attendants exceeded 16 hours worked in a 24 hour time period.

One additional overtime deviation was not reported during this period. This instance was missed due to the way overtime variations are reported on the daily sheet. One NSO was allowed to work 22 consecutive hours from 12-22-88 thru 12-23-88 with approval of the Shift Engineer. The excess overtime was deemed necessary because of shift coverage and Unit 2 refueling outage testing requirements. The overtime deviation was missed on the report to Operations Management because no shift is designated on the daily sheets and an assumption was made that the overtime was split between two days rather than worked consecutively.

Zion Station does not routinely allow Operations personnel to work in excess of ZAP-0 guidelines. ZAP-0 does give the guidance that there may be short term requirements for exceeding the guidelines due to unusual circumstances which, at the time, shift supervision assumed to be the case. ZAP-0, also requires review of the deviations by the Station (Production) Superintendent or his designee as soon as practicable following the occurrence. This review had been overlooked by the scheduler and consequently not brought to the attention of Station management.

For the time period January 1, 1989 through May 31, 1989, there have been no occurrences of Operations personnel working in violation of ZAP-0 overtime requirements.

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Zion Station is in the process of increasing its Operations personnel manpower which will help alleviate overtime deviations. In addition, modifications are being made to the overtime deviation reports to include the "shift" worked to better identify hours worked for reporting purposes. The modification to the Operating Department overtime report will be complete by July 30, 1989.

In addition to reviewing overtime records for Operations personnel Zion Station was asked by NRC to review overtime records for key Maintenance personnel.

An interview was conducted between the Assistant Superintendent of Maintenance and Regulatory Assurance concerning overtime schedules during the time period in question as well as overtime policies and practices in general.

During the Fall 1988 Refueling Outage the Mechanical, Electrical and Instrument Maintenance shops were on scheduled 9 hour shifts extending 7 days per week 3 shifts per day. The purpose of this schedule was to preclude excessive overtime worked by bargaining unit personnel. A small sample of bargaining unit overtime records were reviewed. This review concluded that no violations of ZAP-0 overtime guidelines occurred.

Such scheduling however, did not occur for management individuals in the Maintenance shops.

Because specific overtime limitations were not imposed on Maintenance Department management personnel a closer review was performed.

Overtime records for 6 individuals (2 from each Maintenance discipline) were reviewed in detail.

There were no violations of the limit for greater than 16 hours in a 24 hour period or 24 hours in a 48 hour period. However, overtime records for these 6 individuals indicated 5 violations of the limit imposed for not working more than 72 hours in a 7 day period. One individual exceeded this limit 3 times, 2 others 1 time each. The remaining 3 individuals, while not violating the 72 hour limit did approach or reach the limit 7 times. (70.5 hrs, 71.5 hrs, 70.5 hrs, 70 hrs, 69 hrs, 69 hrs, 72 hrs). *Reg. How? Not?*

To alleviate this concern, Maintenance will implement a policy similar to that employed by the Operating Department for reviewing and reporting overtime deviations. This will be complete by August 31, 1989. ←

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ALLEGATION NO. 3 AND RELATED SPECIFIC NRC QUESTIONS

The ESF pump room coolers, cooled by service water, have flow meters which have been abandoned and outstanding work requests cancelled resulting in log readings which are meaningless.

To adequately resolve this issue, the following should be addressed. Related to concern 3, determine the minimum Service Water (SW) flow needed to assure that the ESF pump room temperatures remain within an acceptable range; and the actual flow rates through the ESF pump room coolers. Review the design basis statements and/or calculations, SW flow meter calibration data and logs of SW flow readings to the ESF pump room coolers for the period of 1988.

RESPONSE TO ALLEGATION 3

This allegation is substantiated in that there are abandoned flow meters in the ESF pump room coolers. The only coolers with meters in place are the Charging Pump room coolers. These flow meters indicate flow but the reliability of the readings is questionable. Work requests have been written and subsequently canceled due to the difficulty in the work required to repair the flow meters.

Based upon a review of the cubicle cooler design specifications and the FSAR, the minimum Service Water flows needed to assure that the ESF pump room temperatures remain within an acceptable range are as follows:

Reciprocal Charging Pump Room Coolers	1 cooler @ 12 GPM
Centrifugal Charging Pump Room Coolers	2 coolers @ 36 GPM
Residual Heat Removal Pump Room Coolers	2 coolers @ 24 GPM
Safety Injection Pump Room Coolers	2 coolers @ 24 GPM
* Containment Spray Pump Room Coolers	44 GPM each

* NOTE: The CS diesel engine cooler is in series with the two motor driven CS pump room coolers. During or after an accident, the minimum flow required for the diesel is 125 GPM. Therefore, the expected flow for the motor driven CS pumps would then be 125 GPM.

By design, the only coolers that experience constant flow are the Charging Pump room coolers. The flow meters for these coolers are not calibrated because they are in-line flow meters which are welded in place and would require a unit outage before they could be removed from calibration. The other ESF pump room coolers experience flow during the performance of Periodic Tests for the associated pump or when operating during a design basis accident. A review of PT-14 (Inoperable Equipment Surveillance tests) logs from January, 1988 to May 1989, and the System Engineer's log from February 26, 1987 through November 1, 1988, indicates that the Station has not experienced high room temperatures in these rooms or had Deviation Reports written relating to failure for associated rooms to receive adequate cooling.

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The Station recognizes the need to measure flow across ESF pump room coolers. As such, prior to this allegation, an investigation was begun to determine an acceptable method for determining accurate flow. Zion will take initial flow measurements using an ultrasonic flowmeter. The schedule for these flow measurements is described in Attachment 1. It must be noted that preliminary in-house tests performed with the ultrasonic flowmeter resulted in an accuracy of approximately plus or minus 10% of the indicated reading. Due to the apparent inaccuracy of this flowmeter, once Zion is satisfied that at least minimum flow has been achieved, the inlet and outlet valves to the room coolers will be adjusted such that the ultrasonic flowmeter indicates an additional 10% flow. Upon achieving the additional 10% flow, these valves will be locked in place. Once the desired flows have been achieved, the ultrasonic flowmeter will be recalibrated by Commonwealth Edison System Operations Analysis Department (SOAD). Zion will review the "post calibration" report received from SOAD to ensure minimum flow has been achieved.

Subsequent to determining minimum flows, Zion will continue its investigation of permanent replacement flowmeters to be installed on the ESF pump room coolers.

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ALLEGATION NO. 3

ATTACHMENT 1

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PERIODIC TEST SCHEDULE

FOR THE MONTH OF JUNE

Centrifugal Charging Pump Room Cooler	Unit 1	6/3 - 6/13
	Unit 2	6/23 - 6/30
Residual Heat Removal Pump Room Cooler	Unit 1	6/15 - 6/25
	Unit 2	6/25 - 6/30
Safety Injection Pump Room Cooler	Unit 1	6/10 - 6/20
	Unit 2	6/4 - 6/14
Containment Spray Pump Room Cooler	Unit 1	6/13 - 6/26
	Unit 2	6/11 - 6/21

FOR THE MONTH OF JULY

Centrifugal Charging Pump Room Cooler	Unit 1	7/4 - 7/14
	Unit 2	7/24 - 7/31
Residual Heat Removal Pump Room Cooler	Unit 1	7/16 - 7/26
	Unit 2	7/26 - 8/1
Safety Injection Pump Room Cooler	Unit 1	7/11 - 7/21
	Unit 2	7/3 - 7/13
Containment Spray Pump Room Cooler	Unit 1	7/14 - 7/27
	Unit 2	7/12 - 7/22

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ALLEGATION NO. 4 AND RELATED SPECIFIC NRC QUESTIONS

In the ESF pump rooms, open electrical conduits exist which communicate across the fire barriers and no corrective actions have been taken to resolve this problem.

In order to adequately resolve the issue, the following should be addressed. Related to Allegation No. 4, determine whether open electrical conduits exist in the ESF pump room, whether any open conduits found render the associated fire barriers degraded or inoperable and what, if any, corrective action was taken for open conduits found during the period of January 1 through 31, 1989.

RESPONSE TO ALLEGATION 4:

Zion Station has sixteen ESF pump rooms, eight of which contain open ended conduit not internally sealed and communicating across fire barriers. (See Attachment 1)

In January 1989 the conduit in question was brought to the attention of the Station Fire Marshall and Fire Protection Systems Engineer. (This conduit contains wires from the ESF pump room temperature control thermostat to the thermocouple). The Station Fire Marshall and Fire Protection Systems Engineer, conducted an immediate investigation by consulting with Corporate Engineering. The Station was advised that this configuration was adequate per the respective fire protection submittals. Zion Station, therefore, concluded that these fire barriers were neither degraded nor inoperable.

The fire barrier penetrations through which the conduit communicates were examined and found to be acceptable. Licensing documents were reviewed to determine existence of regulatory commitments to seal the interior of conduit. None were found.

In conclusion Zion stations finds that the conduit seals as found are acceptable; the fire barriers in question are neither degraded nor inoperable; and as such this allegation is not substantiated. X

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ALLEGATION NO. 4

ATTACHMENT 1

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ESF Pump Rooms	No Internal Conduit Seals	Internal Seals On At Least One Side Of Fire Barrier	External Seals At Fire Barrier Penetration
1A Safety Injection Pump Room	X		X
1B Safety Injection Pump Room	X		X
2A Safety Injection Pump Room	X		X
2B Safety Injection Pump Room		X	X
1A Charging Pump Room		X	X
1B Charging Pump Room	X		X
1C Charging Pump Room		X	X
1A RHR Pump Room		X	X
1B RHR Pump Room	X		X
2A RHR Pump Room		X	X
2B RHR Pump Room		X	X
U-1 Cont. Spray Pump Room	X		X
U-2 Cont. Spray Pump Room	X		X
2A Charging Pump Room	X		X
2B Charging Pump Room		X	X
2C Charging Pump Room		X	X

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