

RAR-91-8

February 4, 1991

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

SUBJECT: Quad Cities Nuclear Station Units 1 and 2
Monthly Performance Report
NRC Docket Nos. 50-254 and 50-265

Enclosed for your information is the Monthly Performance Report covering the operation of Quad-Cities Nuclear Power Station, Units One and Two, during the month of January, 1991.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

R. A. Robey
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Technical Superintendent

RAR/CALS/klm

Enclosure

cc: A. B. Davis, Regional Administrator
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QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

JANUARY, 1991

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS & ELECTRIC COMPANY

NRC DOCKET NOS. 50-254 AND 50-265

LICENSE NOS. DPR-29 AND DPR-30

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I. INTRODUCTION

Quad-Cities Nuclear Power Station is composed of two Boiling Water Reactors, each with a Maximum Dependable Capacity of 769 MWe Net, located in Cordova, Illinois. The Station is jointly owned by Commonwealth Edison Company and Iowa-Illinois Gas & Electric Company. The Nuclear Steam Supply Systems are General Electric Company Boiling Water Reactors. The Architect/Engineer was Sargent & Lundy, Incorporated, and the primary construction contractor was United Engineers & Constructors. The Mississippi River is the condenser cooling water source. The plant is subject to license numbers DPR-29 and DPR-30, issued October 1, 1971, and March 21, 1972, respectively; pursuant to Docket Numbers 50-254 and 50-15. The date of initial Reactor criticalities for Units One and Two, respectively were October 18, 1971, and April 26, 1972. Commercial generation of power began on February 18, 1973 for Unit One and March 10, 1973 for Unit Two.

This report was compiled by Cynthia A. Losek-Short and Karen McDearmon, telephone number 309-654-2241, extensions 2938 and 2240.

II. SUMMARY OF OPERATING EXPERIENCE

A. Unit One

Unit One began the month of January with the continuation of the refuel outage. Reloading of the core was completed and verified on January 3rd and 6th respectively. Preliminary testing of the Unit continued throughout the month.

B. Unit Two

Unit Two began the month of December operating in Economic Generation Control (EGC). Normal operational activities were performed for the month of January. The unit remained in EGC or operated near full power with three interruptions to perform routine work and testing. Those three interruptions are as follows: On the 2nd of the month power was dropped to 400 megawatts electric (MWE) for relief valve testing, power was dropped to 200 MWE on the 5th for turbine testing, and on the 19th through the 22nd the Unit was shutdown for a planned maintenance outage.

III. PLANT OR PROCEDURE CHANGES, TESTS, EXPERIMENTS,
AND SAFETY RELATED MAINTENANCE

A. Amendments to Facility License or Technical Specifications

There were no Amendments to the Facility License or Technical Specifications for the reporting period.

B. Facility or Procedure Changes Requiring NRC Approval

There were no Facility or Procedure changes requiring NRC approval for the reporting period.

C. Tests and Experiments Requiring NRC Approval

There were no Tests or Experiments requiring NRC approval for the reporting period.

D. Corrective Maintenance of Safety Related Equipment

The following represents a tabular summary of the major safety related maintenance performed on Units One and Two during the reporting period. This summary includes the following: Work Request Numbers, Licensee Event Report Numbers, Components, Cause of Malfunctions, Results and Effects on Safe Operation, and Action Taken to Prevent Repetition.

UNIT 1 MAINTENANCE SUMMARY

<u>WORK REQUEST</u>	<u>SYSTEM</u>	<u>EID DESCRIPTION</u>	<u>WORK PERFORMED</u>
Q83110	7300	Main Feed Breaker (serial #5001) has oil leaking from gear box repair.	As found: Breaker to be shipped to GE for repair gear box. As left: Received rebuilt breaker from stores went to Bus 19 and put in rack.
Q80044	0030	Outer seal on penetration MK-478 leaks.	As found: Outer and inner seal leaked. As left: Replaced outer seal to fix leak and adjusted inner seal.
Q89350	0202	Repair damaged cover for 202-9B operator.	As found: Found bad lugs and wires for operator EPN 1-0202-9B. As left: Replaced the lugs and wires on operator with new ones and also replaced finger block screws.
Q89527	1402	Valve won't close. Close relay not picking up when c/s is taken to close position.	As found: Aux contacts were hanging up, which causes improper operation. As left: Cleaned aux contacts and lubed.
Q89271	1402	During EQ surveillance on 1-1402-38B, the motor field wires had cracked insulation.	As found: A bad wire on motor leads was found. As left: The part of the wire which was bad was cut off and removed. The lugs on the motor leads were replaced and relanded.
Q89259	6704	Racking screw coupler threads stripped. Breaker can't be racked in.	As found: Breaker would not rack in cubicle, both racking screw on breaker and jack nut on cubicle had damaged threads. As left: Removed and retaped jack nut and after reinstalling it test breaker was racked in. The breaker worked fine. Later breaker #61 was racked in to replace #74.

UNIT 2 MAINTENANCE SUMMARY

<u>WORK REQUEST</u>	<u>SYSTEM</u>	<u>EID DESCRIPTION</u>	<u>WORK PERFORMED</u>
Q89586	1001	Repair valve which is hard to get off its seat.	As left: Valve was in open position and tried to close valve and tripped OL showing dual indication. Meggered A1 to ground and found .7 grounded. A2 was also grounded. Motor 1-1001-47 was removed and replaced with 2-1001-47 U2 motor.
Q89581	1601	Repair breaker which wouldn't show full closed after cycling for test.	As found: Light indication was found closed. After stroking valve one closed light did not come on. As left: Adjusted limits for proper light indication.
Q89216	2301	Repair severe steam leak in packing.	As found: Steam leaking from bottom of packing glands, packing and carbon spacer found steam cut. As left: Repacked valves.
Q89756	8803	Valve would not fully close. Check solenoid and close limit switch.	As found: Valve was leaking air around union supply line. As left: Tightened union which was leaking air.

IV. LICENSEE EVENT REPORTS

The following is a tabular summary of all licensee event reports for Quad-Cities Units One and Two occurring during the reporting period, pursuant to the reportable occurrence reporting requirements as set forth in sections 6.6.B.1. and 6.6.B.2. of the Technical Specifications.

UNIT 1

<u>Licensee Event Report Number</u>	<u>Date</u>	<u>Title of Occurrence</u>
91-001	1/4/91	Partial Group II Actuation from Fuse Removal for OOS Work
91-002	1/8/91	Partial Group II Actuation from CR 120A Replacement Jumper Removal
91-003	1/18/91	Specific Points in ACAD/CAM lines exceed UFSAR allowable stresses

UNIT 2

91-001	1/2/91	HPCI Declared INOP due to significant packing leak on valve MO2-2301-05
91-002	1/19/91	LLRT failure of HPCI Steam Exhaust check valve
91-003	1/22/91	HPCI turbine trip on fast start

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V. DATA TABULATIONS

The following data tabulations are presented in this report:

- A. Operating Data Report
- B. Average Daily Unit Power Level
- C. Unit Shutdowns and Power Reductions

APPENDIX B
AVERAGE DAILY UNIT POWER LEVEL

Docket No. 50-165
Unit Two
Date February 3, 1991
Completed By Cynthia Scott
Telephone 334-694-2241

MONTH JANUARY

DAY AVERAGE DAILY POWER LEVEL
(Mwe-Net)

1	729
2	607
3	797
4	776
5	243
6	639
7	776
8	802
9	802
10	800
11	196
12	756
13	744
14	751
15	749
16	761

DAY AVERAGE DAILY POWER LEVEL
(Mwe-Net)

17	767
18	687
19	1
20	-4
21	-5
22	2
23	369
24	771
25	760
26	780
27	757
28	770
29	800
30	795
31	760

INSTRUCTIONS

On this form, list the average daily unit power level in Mwe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

These figures will be used to plot a graph for each reporting month. Note that when various dependence capacity is used for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 1001 line for the restricted power level line. In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.

**APPENDIX D
UNIT SHUTDOWNS AND POWER REDUCTIONS**

DOCKET NO. 50-254 COMPLETED BY Cynthia A. Losek-Short

UNIT NAME Quad Cities Unit One TELEPHONE 309-654-2241

DATE February 4, 1991 REPORT MONTH January, 1991

NO.	DATE	TYPE 4 OR 5	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN REACTOR	LICENSEE EVENT REPORT NO.	SYSTEM CODE	COMPONENT CODE	CORRECTIVE ACTIONS/COMMENTS
	900101	S	744	C	2	- - -	RC	FUELXX	Unit One Shutdown for Continuation of Cycle Eleven Refuel Outage.

**APPENDIX D
UNIT SHUTDOWNS AND POWER REDUCTIONS**

DOCKET NO. 50-265

UNIT NAME Quad Cities Unit Two

COMPLETED BY Cynthia A. Losek-Short

DATE February 4, 1991

REPORT MONTH January, 1991

TELEPHONE 309-654-2241

NO.	DATE	TYPE F OR S	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN REACTOR	LICENSEE EVENT REPORT NO.	SYSTEM CODE	COMPONENT CODE	CORRECTIVE ACTIONS/COMMENTS
	910102	S	10.4	B	5	- - - -	- -	- - - -	Unit Two Power Reduction for Emergency Relief Valve Testing.
	910105	S	36	B	5	- - - -	- -	- - - -	Unit Two Power Reduction for Turbine Testing.
	910119	F	84	A	2	- - - -	- -	- - - -	Unit Two Shutdown for Weekend Planned Maintenance Outage.

VI. UNIQUE REPORTING REQUIREMENTS

The following items are included in this report based on prior commitments to the commission:

A. Main Steam Relief Valve Operations

Relief valve operations during the reporting period are summarized in the following table. The table includes information as to which relief valve was actuated, how it was actuated, and the circumstances resulting in its actuation.

Unit: Two

Date: 1-2-91

<u>Valves Actuated:</u>	<u>No. & Type of Actuation:</u>
2-203-3A, 3B, 3C, 3D	1 Manual
2-203-3E	2 Manual

Plant Conditions: 450 MWe

Description of Events: HPCI was declared inoperable on 1-2-91 at 0143. Per Tech. Spec. 3.5/4.5.C.2, the APR system was required to be tested for operability. While performing the manual operation of the relief valves (QOS 201-1), the 3E relief valve failed to actuate on the first attempt. The 3E relief valve was then retested and operated satisfactorily on the second attempt. We have scheduled a shutdown to replace the valve.

Tech Spec Reference 3.5/4.5.D.1.b

Unit: Two

Date: 1-22-91

Valves Actuated:
2-203-3B, 3D, 3E
2-203-3C

No. & Type of Actuation:
1 Manual
2 Manual

Plant Conditions: Startup 920 lbs.

Description of Events: The 3C, 3D, and 3E Electromatic relief valves were changed out during the preceding weekend's scheduled maintenance outage. The pilot valves on the 3B, 3C, 3D & 3E ERVs were also replaced. The four ERVs were manually actuated (QOS 201-1) upon startup. The 3B, 3D & 3E ERVs operated satisfactorily. The 3C ERV actuated satisfactorily. However, the thermocouple on the tailpipe of the 3C ERV indicated a high temperature after the valve reseated. The 3C ERV was manually actuated a second time, but the high temperature indication remained. The tailpipe temperature was closely monitored until it was observed that the temperature returned to normal.
Tech Spec Reference 3.5/4.5.D.1.b

Unit: Two

Date: 1-23-91

Valves Actuated:
2-203-3A

No. & Type of Actuation:
1 Manual

Plant Conditions: Startup 920 lbs.

Description of Events: HPCI was declared inoperable on 1-23-91 at 1730. Per Tech. Spec. 3.5/4.5.C.2, an operability test of the APR system is required. The 3A Target Rock Safety/Relief Valve was manually actuated (QOS 201-1) and operated satisfactorily. The 3B, 3C, 3D, and 3E ERVs were proven operable when tested on 1-22-91.
Tech Spec Reference 3.5/4.5.D.1.b

B. Control Rod Drive Scram Timing Data for
Units One and Two

The basis for reporting this data to the Nuclear Regulatory Commission are specified in the surveillance requirements of Technical Specifications 4.3.C.1 and 4.3.C.2.

The following table is a complete summary of Units One and Two Control Rod Drive Scram Timing for the reporting period. All scram timing was performed with reactor pressure greater than 800 PSIG.

RESULTS OF SCRAM TIMING MEASUREMENTS
 PERFORMED ON UNIT 1 & 2 CONTROL
 ROD DRIVES, FROM 1-1-91 TO 12/31/91

DATE	NUMBER OF RODS	AVERAGE TIME IN SECONDS AT % INSERTED FROM FULLY WITHDRAWN				MAX. TIME FOR 90% INSERTION	DESCRIPTION
		5	20	50	90		
		0.375	0.900	2.00	3.5	7 sec.	Technical Specification 3.3.C.1 & 3.3.C.2 (Average Scram Insertion Time)
1-30-91	1	0.28	0.63	1.37	2.45	H-7 (2.45)	U2 scram timing for accumulator replacement on H-7
1-30-91	1	0.30	0.72	1.53	2.67	F-6 (2.67)	U2 scram timing for accumulator replacement on F-6

VII. REFUELING INFORMATION

The following information about future reloads at Quad-Cities Station was requested in a January 26, 1978, licensing memorandum (78-24) from D. E. O'Brien to C. Reed, et al., titled "Dresden, Quad-Cities and Zion Station--NRC Request for Refueling Information", dated January 18, 1978.

QUAD CITIES REFUELING
INFORMATION REQUEST

QTP 300-S32
Revision 2
October 1989

1. Unit: 01 Reload: 10 Cycle: 11
2. Scheduled date for next refueling shutdown: 11-12-90
3. Scheduled date for restart following refueling: 1-28-91
4. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment:
Yes, a proposed change to Technical Specification has been made to relax the Minimum Critical Power Ratio (MCPR) safety limit. This proposal is based on the Unit One Reload 11 Cycle 12 fuel loading, and has received approval.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:

AUGUST 31, 1990
6. Important licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures:

NONE AT PRESENT TIME.
7. The number of fuel assemblies.
 - a. Number of assemblies in core: 724
 - b. Number of assemblies in spent fuel pool: 1681
8. The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned in number of fuel assemblies:
 - a. Licensed storage capacity for spent fuel: 2657
 - b. Planned increase in licensed storage: 0
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: 2008

QUAD CITIES REFUELING
INFORMATION REQUEST

1. Unit: Q2 Reload: 10 Cycle: 11
2. Scheduled date for next refueling shutdown: 9-7-91
3. Scheduled date for restart following refueling: 12-9-91
4. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment:
NOT AS YET DETERMINED.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:

NOT AS YET DETERMINED.
6. Important licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures:

NONE AT PRESENT TIME.
7. The number of fuel assemblies.
 - a. Number of assemblies in core: 724
 - b. Number of assemblies in spent fuel pool: 2011
8. The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned in number of fuel assemblies:
 - a. Licensed storage capacity for spent fuel: 3897
 - b. Planned increase in licensed storage: 0
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: 2008

VIII. GLOSSARY

The following abbreviations which may have been used in the Monthly Report, are defined below:

ACAD/CAM	- Atmospheric Containment Atmospheric Dilution/Containment Atmospheric Monitoring
ANSI	- American National Standards Institute
APRM	- Average Power Range Monitor
ATWS	- Anticipated Transient Without Scram
BWR	- Boiling Water Reactor
CRD	- Control Rod Drive
EHC	- Electro-Hydraulic Control System
EOF	- Emergency Operations Facility
GSEP	- Generating Stations Emergency Plan
HEPA	- High-Efficiency Particulate Filter
HPCI	- High Pressure Coolant Injection System
HRSS	- High Radiation Sampling System
IPCLRT	- Integrated Primary Containment Leak Rate Test
IRM	- Intermediate Range Monitor
ISI	- Inservice Inspection
LER	- Licensee Event Report
LLRT	- Local Leak Rate Test
LPCI	- Low Pressure Coolant Injection Mode of RHRS
LPRM	- Local Power Range Monitor
MAPLHGR	- Maximum Average Planar Linear Heat Generation Rate
MCPR	- Minimum Critical Power Ratio
MFLCPR	- Maximum Fraction Limiting Critical Power Ratio
MPC	- Maximum Permissible Concentration
MSIV	- Main Steam Isolation Valve
NIOSH	- National Institute for Occupational Safety and Health
PCI	- Primary Containment Isolation
PCIOMR	- Preconditioning Interim Operating Management Recommendations
RBCCW	- Reactor Building Closed Cooling Water System
RBM	- Rod Block Monitor
RCIC	- Reactor Core Isolation Cooling System
RHRS	- Residual Heat Removal System
RPS	- Reactor Protection System
RWM	- Rod Worth Minimizer
SBGTS	- Standby Gas Treatment System
SBLC	- Standby Liquid Control
SDC	- Shutdown Cooling Mode of RHRS
SDV	- Scram Discharge Volume
SRM	- Source Range Monitor
TBCCW	- Turbine Building Closed Cooling Water System
TIP	- Traversing Incore Probe
TSC	- Technical Support Center

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