



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
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AMS-94-16

June

~~May~~ 7, 1994

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 May 1994.

Respectfully,

ComEd  
Quad-Cities Nuclear Power Station

Anthony M. Scott  
System Engineering Supervisor

AMS/dak

Enclosure

cc: J. Martin, Regional Administrator  
C. Miller, Senior Resident Inspector

JE24/

QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

May 1994

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS & ELECTRIC COMPANY

NRC DOCKET NOS. 50-254 AND 50-265

LICENSE NOS. DPR-29 AND DFR-30

## TABLE OF CONTENTS

- I. Introduction
- II. Summary of Operating Experience
  - A. Unit One
  - B. Unit Two
- III. Plant or Procedure Changes, Tests, Experiments, and Safety Related Maintenance
  - A. Amendments to Facility License or Technical Specifications
  - B. Facility or Procedure Changes Requiring NRC Approval
  - C. Tests and Experiments Requiring NRC Approval
  - D. Corrective Maintenance of Safety Related Equipment
- IV. Licensee Event Reports
- V. Data Tabulations
  - A. Operating Data Report
  - B. Average Daily Unit Power Level
  - C. Unit Shutdowns and Power Reductions
- VI. Unique Reporting Requirements
  - A. Main Steam Relief Valve Operations
  - B. Control Rod Drive Scram Timing Data
- VII. Refueling Information
- VIII. Glossary

## 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 Coedova, 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 50-265. 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 Kristal Moore and Debra Kelley, telephone number 309-654-2241, extensions 3070 and 2240.

## II. SUMMARY OF OPERATING EXPERIENCE

### A. Unit One

Quad Cities Unit One spent the entire month of May 1994 shutdown in Refuel Outage Q1R13. The scheduled startup for Unit One is July 2, 1994.

### B. Unit Two

Quad Cities Unit Two began the month of May 1994 at full capable load and remained on line through out the month.

On May 21, Unit 2 dropped load to 200 MWe for a drywell entry to investigate leakage. Steam leakage was identified coming from HPCI valve. The valve was electrically back seated to reduce leakage and full power was restored.

A few other load drops were performed for administrative reasons but none caused the average daily unit power level to drop by 20% or greater.

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, System Component Description and work performed.

UNIT 1 & 1/2 MAINTENANCE SUMMARY

NWR#	SYSTEM	EPN#	WORK REQUESTED	WORK PERFORMED
Q04172	3900	1-3999-98	Repair packing leak on 1A RHR room cooler inlet valve. Packing cannot be adjusted.	Replaced packing.
Q10326	0020	1-0020 1-1401A	Repair loose conduit going to the 1A core spray pump motor.	Removed old conduit and replaced with new, flexible conduit.
Q10475	0261	1-0261-34A	Replace 2 bolts missing from DP switch on jet pump riser header.	Replaced bolts.
Q10705	4600	1-4615	Repair air leak on diesel generator air start motor air strainer.	Cleaned union and resealed pipe.
Q10746	8350	1-8350	Repair hardware problems with 250 VDC battery cells 81 and 82.	Replaced battery connectors and various other hardware as necessary.
Q11009	0750	1-0750-7H	Repair knob on IRM 18 chassis.	Replaced panel fastener.
Q11419	1600	1-1601-59	Repair actuator to nitrogen makeup to drywell stop valve.	Installed new fittings and tubing.
Q11515	6700	1-6704-13	Replace damaged fuse holder in bus 14, cubicle 13-main feed from transformer 11.	Replaced fuse block.
Q12432	3900	1-3999-218	Repair diesel generator cubicle cooler vent valve. Valve was observed leaking water past its seat.	Replaced globe valve.

NWR#	SYSTEM	EPN#	WORK REQUESTED	WORK PERFORMED
Q13108	5700	1-5741-130 1-5741-43B	Investigate/repair drywell environs temperature recorder.	Tightened terminal screws for point 8. Indication read normally and alarm cleared.
Q14501	0750	1-0750-7B	Repair mode switch on IRM 15 chassis.	Tightened nut on chassis and verified proper operation.
Q14669	7200	1-7200-1C	Repair Bus 19 cubicle 1C door.	Bent door and latch so door could be secured.
Q15433	1600	1-1600-X7B	Repair main steam penetration bellows. Bellows leaked outside the normal range during testing.	Removed, adjusted, and reinstalled bellows cover.
Q15812	7800	1-78192-B1	Replace molded case breaker in MCC 19-2 cubicle B1.	Replaced breaker.
Q15922	0590	1-0590-109B	Replace broken coil on SCRAM relay channel B.	Found separation piece of coil broken. Replaced coil.
Q15923	0590	1-0590-108B	Replace aux contact on SCRAM relay channel B.	Found aux contacts did not move freely. Replaced aux contacts.
Q16099	6700	1-6706-1	Replace secondary disconnects on bus 14-1 cubicle 1 bus tie to bus 24-1.	Found broken secondary disconnect. Replaced with new secondary disconnect.
Q16100	6700	1-6706-1	Replace trip/close switch on bus 14-1 cubicle 1 bus tie to bus 24-1.	Found trip/close switch would not spring return. Cleaned switch until switch worked properly.



NWR#	SYSTEM	EPN#	WORK REQUESTED	WORK PERFORMED
Q16245	0220	1-0220-44	Replace the top cover gasket on the 1B recirc loop stop valve limit switch.	Replaced limit switch gasket.
Q16297	1700	1-1705-16B	Investigate/repair 1B fuel pool radiation monitor spiking hi.	Replaced indicator trip unit and sensor/converter.
Q16348	7300	1/2-7300-S001	Repair charging motor brush cap on ACB 480 VAC breaker.	Installed brush cap.
Q16355	6700	1-6704-11	Adjust/repair bus 14 cubicle 11 fuse holder contact.	Adjusted contact.
Q16393	7800	1-78191-C5	Replace contactor on MCC 19-1 cubicle C5, DG fuel oil transfer pump normal feed.	Replaced cracked contactor with a new one.
Q76824	6700	1-6706	Replace cracked fuse holder on Bus 14-1 cubicle 5.	Installed new fuse holder.

## UNIT 2 MAINTENANCE SUMMARY

NWR#	SYSTEM	EPN#	WORK REQUESTED	WORK PERFORMED
Q15720	8700	2-1640-11 2-8741-30 2-8799-20	Repair nitrogen makeup pressure control valve. Valve does not respond properly in auto.	Found 2-1640-11 controller amplifier low limit potentiometer intermittently open. Replaced potentiometer and proportional amplifier.
Q16256	8700	2-8740-11 2-8741-30	Troubleshoot nitrogen flow control system.	Cleaned potentiometers and reinstalled 2-1640-11 pressure controller.
Q16502	2300	2-2301-4	Electrically backseat HPCI upstream main steam stop valve to reduce steam leakage.	Backseated valve per interim procedure IP-721.

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>
---	-------------	----------------------------

There were no Licensee Event Reports for Unit 1 for this reporting period.

UNIT 2

<u>Licensee Event Report Number</u>	<u>Date</u>	<u>Title of occurrence</u>
94-09	5-22-94	DW Interlock Door Failure.

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 C

OPERATING DATA REPORT

DOCKET NO. 50-254

UNIT One

DATE June 7, 1994

COMPLETED BY Kristal Moore

TELEPHONE (309) 654-2241

OPERATING STATUS

0000 050194

1. REPORTING PERIOD: 2400 053194 GROSS HOURS IN REPORTING PERIOD: 744

2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 2511 MAX > DEPEND > CAPACITY: 769  
DESIGN ELECTRICAL RATING (MWe-NET): 789

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net): N/A

4. REASONS FOR RESTRICTION (IF ANY):

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL	0.00	1706.00	151487.30
6. REACTOR RESERVE SHUTDOWN HOURS	0.00	0.00	3421.90
7. HOURS GENERATOR ON LINE	0.00	1682.90	146979.20
8. UNIT RESERVE SHUTDOWN HOURS	0.00	0.00	909.20
9. GROSS THERMAL ENERGY GENERATED (MWH)	0.00	3865794.10	317558981.30
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	0.00	1265145.00	102963264.00
11. NET ELECTRICAL ENERGY GENERATED (MWH)	0.00	1206708.00	97124706.00
12. REACTOR SERVICE FACTOR	0.00	47.09	78.07
13. REACTOR AVAILABILITY FACTOR	0.00	47.09	79.83
14. UNIT SERVICE FACTOR	0.00	46.45	75.75
15. UNIT AVAILABILITY FACTOR	0.00	46.45	76.22
16. UNIT CAPACITY FACTOR (Using MDC)	0.00	43.31	65.09
17. UNIT CAPACITY FACTOR (Using Design MWe)	0.00	42.21	63.44
18. UNIT FORCED OUTAGE RATE	0.00	1.33	6.25

19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):

20. IF SHUTDOWN AT END OF REPORT PERIOD < ESTIMATED DATE OF STARTUP: 7-2-94

21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION):

	FORECAST	ACHIEVED	
INITIAL CRITICALITY			
INITIAL ELECTRICITY			
COMMERCIAL OPERATION			

APPENDIX C

OPERATING DATA REPORT

DOCKET NO. 50-265

UNIT Two

DATE June 7, 1994

COMPLETED BY Kristal Moore

TELEPHONE (309) 654-2241

OPERATING STATUS

0000 050194

1. REPORTING PERIOD: 2400 053194 GROSS HOURS IN REPORTING PERIOD: 744

2. CURRENTLY AUTHORIZED POWER LEVEL (MWT): 2511 MAX > DEPEND > CAPACITY: 769  
DESIGN ELECTRICAL RATING (MWe-NET): 789

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net): N/A

4. REASONS FOR RESTRICTION (IF ANY):

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL	744.00	3038.40	146939.45
6. REACTOR RESERVE SHUTDOWN HOURS	0.00	0.00	2985.80
7. HOURS GENERATOR ON LINE	744.00	3010.20	143193.35
8. UNIT RESERVE SHUTDOWN HOURS	0.00	0.00	702.90
9. GROSS THERMAL ENERGY GENERATED (MWH)	1771947.50	7074492.40	309855454.30
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	573451.00	2296587.00	99606357.00
11. NET ELECTRICAL ENERGY GENERATED (MWH)	55331.00	1705546.00	93848106.00
12. REACTOR SERVICE FACTOR	100.00	83.86	76.34
13. REACTOR AVAILABILITY FACTOR	100.00	83.86	77.89
14. UNIT SERVICE FACTOR	100.00	83.09	74.40
15. UNIT AVAILABILITY FACTOR	100.00	83.09	74.76
16. UNIT CAPACITY FACTOR (Using MDC)	9.67	61.22	63.40
17. UNIT CAPACITY FACTOR (Using Design MWe)	9.43	59.66	61.80
18. UNIT FORCED OUTAGE RATE	0.00	16.91	8.73

19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):

20. IF SHUTDOWN AT END OF REPORT PERIOD < ESTIMATED DATE OF STARTUP:

21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION):

	FORECAST	ACHIEVED	
INITIAL CRITICALITY			
INITIAL ELECTRICITY			
COMMERCIAL OPERATION			

APPENDIX B  
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO 50-254  
UNIT One  
DATE June 7, 1994  
COMPLETED BY Kristal Moore  
TELEPHONE (309) 654-2241

MONTH May 1994

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1. - 7  
2. - 7  
3. - 7  
4. - 7  
5. - 7  
6. - 7  
7. - 7  
8. - 7  
9. - 7  
10. - 7  
11. - 8  
12. - 8  
13. - 8  
14. - 8  
15. - 8  
16. - 8

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17. - 8  
18. - 8  
19. - 8  
20. - 8  
21. - 8  
22. - 8  
23. - 8  
24. - 8  
25. - 8  
26. - 8  
27. - 8  
28. - 8  
29. - 8  
30. - 8  
31. - 8

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 maximum dependable capacity is used for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.

1.16-8

APPENDIX B  
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO 50-265  
UNIT Two  
DATE June 7, 1994  
COMPLETED BY Kristal Moore  
TELEPHONE (309) 654-2241

MONTH May 1994

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1. 766  
2. 765  
3. 763  
4. 764  
5. 764  
6. 763  
7. 757  
8. 764  
9. 763  
10. 762  
11. 761  
12. 761  
13. 763  
14. 718  
15. 762  
16. 762

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17. 761  
18. 758  
19. 757  
20. 758  
21. 743  
22. 355  
23. 749  
24. 754  
25. 753  
26. 756  
27. 756  
28. 757  
29. 729  
30. 750  
31. 747

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 maximum dependable capacity is used for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.







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

There were no Main Steam Relief Valve Operations for the reporting period.

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

There was no Control Rod Drive scram timing data for Units One and Two for the reporting period.

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

1. Unit: Q1 Reload: 12 Cycle: 13
2. Scheduled date for next refueling shutdown: 3-13-94
3. Scheduled date for restart following refueling: 7-2-94
4. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment:  
YES. Safety Limit MCPR to be changed from 1.06 to 1.07 due to GE10 Fuel.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:  
11-19-93
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:  
144 GE10 Fuel Bundles will be loaded during Q1R13.
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 0
  - b. Number of assemblies in spent fuel pool: 2441
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: 3657
  - 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: 2006

QUAD CITIES REFUELING  
INFORMATION REQUEST

QTP 300-S32  
Revision 2  
October 1989

1. Unit: Q2 Reload: 12 Cycle: 13
2. Scheduled date for next refueling shutdown: 1-29-95
3. Scheduled date for restart following refueling: 4-9-95
4. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment:  
YES - Safety limit MCPR to be changed from 1.06 to 1.07 due to GE10 Fuel.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:  
7-28-94
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:  
144 GE10 fuel bundles will be loaded during Q2R13.
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 724
  - b. Number of assemblies in spent fuel pool: 2583
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: 2006

### 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