

QUAD-CITIES NUCLEAR POWER STATION
UNITS 1 AND 2
MONTHLY PERFORMANCE REPORT
JANUARY 1984
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 50-265. 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 Becky Brown and Alex Misak, telephone number 309-654-2241, extensions 127 and 194.

II. SUMMARY OF OPERATING EXPERIENCE

A. Unit One

January 1-10: Unit One began the month dropping load for a Drywell entry to determine the cause of excessive leakage in the Drywell. At 0045 hours on January 1, the unit held load at 320 MWe while Operating Department personnel entered the Drywell. At 0200 hours, a leak was located from an isolation valve on the bonnet leak-off line of the 1B Recirculation pump discharge valve and was repaired. At this time, the unit began a normal load increase to full power. At 0045 hours on January 8, the unit dropped load to 600 MWe to perform weekly Turbine tests and Control Rod Pattern adjustments. At 0600 hours, the Control Rod adjustments were completed, and a normal load increase was initiated.

January 11-20: At 0055 hours, on January 12, the unit dropped load to 700 MWe to perform weekly Turbine tests. At 0530 hours, testing was completed and the unit began a normal load increase. At 0001 hours on January 15, the unit dropped load to 700 MWe for Turbine tests. Following completion of the tests at 0215 hours, the unit began a normal load increase.

January 21-31: At 2100 hours, on January 21, the unit dropped load to 550 MWe to adjust the Control Rod Pattern. At 0100 hours, on January 22, the adjustments were completed and the unit began a normal load increase. At 0005 hours on January 29, the unit dropped load to 720 MWe for Turbine tests. At 0230 hours, the tests were completed and the unit began a normal load increase.

B. Unit Two

Unit Two remained shutdown throughout the month for End of Cycle Six Refueling and maintenance.

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 during 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 Unit 1 and Unit 2 during the reporting period. This summary includes the following headings: Work Request Numbers, LER Numbers, Components, Cause of Malfunctions, Results and Effects on Safe Operation, and Action Taken to Prevent Repetition.

UNIT ONE MAINTENANCE SUMMARY

W.R. NUMBER	LER NUMBER	COMPONENT	CAUSE OF MALFUNCTION	RESULTS & EFFECTS ON SAFE OPERATION	ACTION TAKEN TO PREVENT REPETITION
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There were no Safety Related Work Requests for Unit One for the reporting period.

UNIT TWO MAINTENANCE SUMMARY

W.R. NUMBER	LER NUMBER	COMPONENT	CAUSE OF MALFUNCTION	RESULTS & EFFECTS ON SAFE OPERATION	ACTION TAKEN TO PREVENT REPETITION
Q31191	83-15/03L	Check Valve 2-1301- 41	Valve seat wear.	Leakage thru valve was not excessive.	Valve seat was polished and gaskets were replaced; the valve was successfully leak rate tested.
Q30850	83-18/01T	Reactor Water Clean-up Elbow	Stress corrosion cracking.	The crack was not thru wall and thus did not leak. Any leakage would have been isolated by MO 2- 1201-2.	Elbow was cut out and replaced. It was then successfully hydro- static tested.
Q30186		Three RIIR Service Water Vault Penetrations	Seal deteriora- tion.	None. Leaks were small. Vault's sumps would have removed any leakage.	The penetrations were repaired, and successfully leak rate tested.
Q31077	83-15/03L	MO 2-1301-17 Valve		Any leakage would have been controlled by in- line MO 2-1301-16 valve.	The valve's seat was cleaned, its disc was lapped, and the valve was successfully leak rate tested.

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 ONE

<u>License Event Report Number</u>	<u>Date</u>	<u>Title of Occurrence</u>
There were no Licensee Event Reports for Unit One for the Reporting Period.		

UNIT TWO

83-25/03L	12-29-83	RHR Service Water Vault Sump Check Valves Failed
84-01/03L	1-3-84	Reactor Scram While Shutdown
84-02-03L	1-6-84	Reactor Scram While Shutdown

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

OPERATING DATA REPORT

DOCKET NO. 50-254

UNIT ONE

DATE February 7

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

OPERATING STATUS

0000 010184

1. Reporting period: 2400 013184 Gross hours in reporting period: 744

2. Currently authorized power level (MWt): 2511 Max. Depend capacity (MWe-Net): 769* Design electrical rating (MWe-Net): 789

3. Power level to which restricted (if any) (MWe-Net): NA

4. Reasons for restriction (if any):

	This Month	Yr. to Date	Cumulative
5. Number of hours reactor was critical	<u>744.0</u>	<u>744.0</u>	<u>84299.6</u>
6. Reactor reserve shutdown hours	<u>0.0</u>	<u>0.0</u>	<u>3421.9</u>
7. Hours generator on line	<u>744.0</u>	<u>744.0</u>	<u>81091.9</u>
8. Unit reserve shutdown hours.	<u>0.0</u>	<u>0.0</u>	<u>909.2</u>
9. Gross thermal energy generated (MWH)	<u>1763203</u>	<u>1763203</u>	<u>166869909</u>
10. Gross electrical energy generated (MWH)	<u>584462</u>	<u>584462</u>	<u>53843078</u>
11. Net electrical energy generated (MWH)	<u>555374</u>	<u>555374</u>	<u>50161341</u>
12. Reactor service factor	<u>100.0</u>	<u>100.0</u>	<u>82.0</u>
13. Reactor availability factor	<u>100.0</u>	<u>100.0</u>	<u>85.3</u>
14. Unit service factor	<u>100.0</u>	<u>100.0</u>	<u>78.9</u>
15. Unit availability factor	<u>100.0</u>	<u>100.0</u>	<u>79.8</u>
16. Unit capacity factor (Using MDC)	<u>97.1</u>	<u>97.1</u>	<u>63.5</u>
17. Unit capacity factor (Using Des. MWe)	<u>94.6</u>	<u>94.6</u>	<u>61.8</u>
18. Unit forced outage rate	<u>0.0</u>	<u>0.0</u>	<u>6.2</u>
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			<u>NA</u>

*The MDC may be lower than 769 MWe during periods of high ambient temperature due to the thermal performance of the spray canal.

UNOFFICIAL COMPANY NUMBERS ARE USED IN THIS REPORT

OPERATING DATA REPORT

DOCKET NO. 50-265

UNIT TWO

DATE February 7

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

OPERATING STATUS

0000 010184

1. Reporting period: 2400 013184 Gross hours in reporting period: 744

2. Currently authorized power level (MWt): 2511 Max. Depend capacity (MWe-Net): 769* Design electrical rating (MWe-Net): 789

3. Power level to which restricted (if any) (MWe-Net): NA

4. Reasons for restriction (if any):

	This Month	Yr. to Date	Cumulative
5. Number of hours reactor was critical	<u>0.0</u>	<u>0.0</u>	<u>77917.5</u>
6. Reactor reserve shutdown hours	<u>0.0</u>	<u>0.0</u>	<u>2985.8</u>
7. Hours generator on line	<u>0.0</u>	<u>0.0</u>	<u>75209.8</u>
8. Unit reserve shutdown hours.	<u>0.0</u>	<u>0.0</u>	<u>702.9</u>
9. Gross thermal energy generated (MWH)	<u>0</u>	<u>0</u>	<u>155382088</u>
10. Gross electrical energy generated (MWH)	<u>0</u>	<u>0</u>	<u>49435780</u>
11. Net electrical energy generated (MWH)	<u>-524</u>	<u>-524</u>	<u>46333536</u>
12. Reactor service factor	<u>0.0</u>	<u>0.0</u>	<u>76.5</u>
13. Reactor availability factor	<u>0.0</u>	<u>0.0</u>	<u>79.4</u>
14. Unit service factor	<u>0.0</u>	<u>0.0</u>	<u>73.8</u>
15. Unit availability factor	<u>0.0</u>	<u>0.0</u>	<u>74.5</u>
16. Unit capacity factor (Using MDC)	<u>-.1</u>	<u>-.1</u>	<u>59.1</u>
17. Unit capacity factor (Using Des. MWe)	<u>-.1</u>	<u>-.1</u>	<u>57.6</u>
18. Unit forced outage rate	<u>0.0</u>	<u>0.0</u>	<u>8.6</u>

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 2-16-84

*The MDC may be lower than 769 MWe during periods of high ambient temperature due to the thermal performance of the spray canal.

#UNOFFICIAL COMPANY NUMBERS ARE USED IN THIS REPORT

APPENDIX B
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-254

UNIT ONE

DATE February 7

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

MONTH January 1984

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1.	<u>559.8</u>
2.	<u>710.8</u>
3.	<u>784.9</u>
4.	<u>783.1</u>
5.	<u>784.9</u>
6.	<u>774.9</u>
7.	<u>791.4</u>
8.	<u>624.9</u>
9.	<u>725.7</u>
10.	<u>775.4</u>
11.	<u>784.8</u>
12.	<u>747.8</u>
13.	<u>789.6</u>
14.	<u>780.9</u>
15.	<u>765.8</u>
16.	<u>780.8</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17.	<u>773.8</u>
18.	<u>772.0</u>
19.	<u>773.7</u>
20.	<u>757.7</u>
21.	<u>747.0</u>
22.	<u>552.6</u>
23.	<u>668.5</u>
24.	<u>763.6</u>
25.	<u>776.9</u>
26.	<u>786.1</u>
27.	<u>777.1</u>
28.	<u>787.7</u>
29.	<u>747.2</u>
30.	<u>784.1</u>
31.	<u>789.8</u>

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.

APPENDIX B
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-265

UNIT TWO

DATE February 7

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

MONTH January 1984

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1.	<u>-3.3</u>
2.	<u>-2.8</u>
3.	<u>-1.9</u>
4.	<u>-2.4</u>
5.	<u>-3.0</u>
6.	<u>-3.2</u>
7.	<u>-3.0</u>
8.	<u>-4.1</u>
9.	<u>-4.3</u>
10.	<u>-4.5</u>
11.	<u>-4.4</u>
12.	<u>-4.9</u>
13.	<u>-4.3</u>
14.	<u>-4.5</u>
15.	<u>-4.4</u>
16.	<u>-8.6</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17.	<u>-1.3</u>
18.	<u>-6.3</u>
19.	<u>-8.1</u>
20.	<u>-7.3</u>
21.	<u>-6.6</u>
22.	<u>-7.4</u>
23.	<u>-7.4</u>
24.	<u>-6.8</u>
25.	<u>-7.4</u>
26.	<u>-7.4</u>
27.	<u>-6.8</u>
28.	<u>-4.4</u>
29.	<u>-4.6</u>
30.	<u>-4.4</u>
31.	<u>-4.3</u>

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.

ID/5A

APPENDIX D
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-S13

Revision 6

August 1982

DOCKET NO. 050-254

UNIT NAME Quad-Cities Unit One

COMPLETED BY Alex Misak

DATE February 6, 1984

REPORT MONTH JANUARY 1984

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
84-1	840108	S	0.0	B	5		RC	CONROD	Reduced load for Control Rod Pattern adjustment
84-2	840112	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests
84-3	840115	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests
84-4	840121	S	0.0	B	5		RC	CONROD	Reduced load for Control Rod Pattern adjustment
84-5	840129	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests

APPROVED

AUG 16 1982

ID/5A

APPENDIX D
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-313

Revision 6

August 1982

DOCKET NO. 050-265

UNIT NAME Quad-Cities Unit Two

COMPLETED BY Alex Misak

DATE February 6, 1984

REPORT MONTH JANUARY 1984

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
83-66	830904	S	744.0	C	4		RC	FUELXX	Unit Two remains shutdown for End of Cycle Six Refueling and Maintenance

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AUG 16 1982

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

QTP 300-S32
Revision 1
March 1978

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1. Unit: Q1 Reload: 7 Cycle: 8
2. Scheduled date for next refueling shutdown: 3-11-84
3. Scheduled date for restart following refueling: 5-21-84
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment: Yes. Preparatory Technical Specification changes will be submitted to include MAPLHGR curve for one of the reload fuel types and extending MAPLHGR curve for BLTA to 45,000 MWD/t.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:

Technical Specification change will be submitted February 15, 1984.
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:
 - 1) All new fuel assemblies will be GE7B-type (barrier clad, extended exposure design).
 - 2) A generic methodology was used for the analysis of the Control Rod Drop Accident and Rod Withdrawal Error events.
 - 3) The two Zirconium Barrier Lead Test Assemblies will be re-inserted to gather information on the effects of extended exposures.
7. The number of fuel assemblies.
 - a. Number of assemblies in core: 724
 - b. Number of assemblies in spent fuel pool: 1730
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: 2003

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APR 20 1978

Q. C. O. S. R.

QUAD-CITIES REFUELING
INFORMATION REQUEST

QTP 300-S32
Revision 1
March 1978

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1. Unit: Q2 Reload: 6 Cycle: 7
2. Scheduled date for next refueling shutdown: 9-5-83
3. Scheduled date for restart following refueling: 11-12-83
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment:
No, however, a change to the Technical Specifications is being submitted (see below).
5. Scheduled date(s) for submitting proposed licensing action and supporting information:

June 14, 1983 (Scheduled)
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:
- 1) All new fuel assemblies will be of barrier design; MAPLHGR curves will be relabeled to include the barrier designation.
 - 2) The use of improved assumptions in the load reject without bypass analysis resulted in a much improved MCPR operating limit. Technical Specifications are being changed to provide this additional operating margin.
7. The number of fuel assemblies.
- a. Number of assemblies in core: 724
 - b. Number of assemblies in spent fuel pool: 412
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: 2003

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APR 20 1978

Q. C. J. S. R.

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
PCOMR	-	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



Commonwealth Edison

Quad Cities Nuclear Power Station
22710 206 Avenue North
Cordova, Illinois 61242
Telephone 309/654-2241

NJK-84-43

February 1, 1984

Director, Office of Inspection & Enforcement
United States Nuclear Regulatory Commission
Washington, D. C. 20555
Attention: Document Control Desk

Gentlemen:

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 1984.

Very truly yours,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis
Station Superintendent

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Enclosure

IE24
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