

QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

NOVEMBER 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 Dave Kimler, telephone number 309-654-2241, extensions 127 and 192.

## II. SUMMARY OF OPERATING EXPERIENCE

### A. Unit One

November 1-13: Unit One began the month holding load. On November 4, at 0130 hours, load was dropped to 700 MWe for weekly Turbine tests. At 0730 hours, the unit began a normal load increase to full power. On November 8, at 1355 hours, load was dropped to 800 MWe for testing of the Economic Generation Control System. On November 9, at 0000 hours, load was dropped to 680 MWe to perform weekly Turbine tests. At 0230 hours load was increased to 700 MWe to place the unit on EGC. The unit remained on EGC until November 13, at 1545 hours.

November 14-30: On November 15, at 1840 hours, load was dropped to 740 MWe to place the unit in EGC. On November 17, at 2330 hours, the unit was off EGC and load was dropped to 700 MWe for weekly Turbine tests. At 0020 hours, the unit was placed in EGC again. On November 22, at 0000 hours, load was dropped to 700 MWe for weekly Turbine tests. At 0100 hours the unit was placed in EGC. The unit remained in EGC until November 30.

### B. Unit Two

November 1-11: Unit Two began the month increasing load 5 MWe/hour to maximum load. On November 2, at 2150 hours, load was dropped to 700 MWe for weekly Turbine tests. On November 3, at 0000 hours, load was dropped to 200 MWe to repair the 2B Moisture Separator Drain Tank Valve. At 2225 hours the unit began increasing load to full power. On November 11, at 0000 hours, load was dropped to 700 MWe for weekly Turbine tests. At 0300 hours the unit began a normal load increase to full power.

November 12-30: On November 18, at 2315 hours, load was dropped to 700 MWe for weekly Turbine tests. At 0300 hours the unit began a normal load increase to full power. On November 22, at 0000 hours, load was dropped to 700 MWe for weekly Turbine tests. At 0205 hours the unit began a 5 MWe/hour ramp increase to full power.

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 Unit One and Unit Two 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
Q38968		1-2301-48 Valve; Troubleshoot & Found No Problem	Unknown	HPCI remaind operable.	Inspected but no problem was found.

UNIT TWO MAINTENANCE SUMMARY

W.R. NUMBER	LER NUMBER	COMPONENT	CAUSE OF MALFUNCTION	RESULTS & EFFECTS ON SAFE OPERATION	ACTION TAKEN TO PREVENT REPETITION
Q37683		Repaired Operator Stem Connection on MO 2-1001-18A Valve	Mounting bolts between the operator and valve yolk failed.	The Control Room NSO was still capable of lining up a minimum flow path for the RHR pump.	Removed operator to maintenance shop -- repaired and re-installed.
Q37859		Adjusted Limit Switches on the 2-1601-33D Valve	Limit switches out of adjustment.	Indication was not accurate but, valve operation was maintained.	Adjusted limit switches.
Q38214		Replaced CRD K-13 38-51 S/N 3-186 With S/N 1935	LER 84-10 corrective action required this replacement.	CRD K-13 did not immediately insert completely. Core reactivity was under control and Reactor was in SHUTDOWN.	Revised Procedure QGP 2-4. Survey HCU Manual Valves daily; list of corrective action in LER
Q38474		Installed New Relay 2-590	Relay coil wire had lamination degradation causing a short.	Relay failed safe.	Replaced relay with a better coil (Sentury Series). There is a program in progress to retrofit all the RPS HFA-type relays with this improved coil.
Q35347		CRD L-9 Not De-Select When E-9 was Selected	Several K1 Relays were found to be dirty.	Were capable of moving two CRD's; this effected manual operation only. Automatic shutdown was always available.	Replaced K1 Relays.

#### 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>Licensee Event Report Number</u>	<u>Date</u>	<u>Title of Occurrence</u>
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There were no Licensee Event Reports for Unit One for the reporting period.

##### Unit Two

84-11	11-30-84	Unit 2 'B' Fuel Pool Monitor Tripped
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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

# OPERATING DATA REPORT

DOCKET NO. 50-254

UNIT ONE

DATE December 4

COMPLETED BY DAVE KIMLER

TELEPHONE 309-654-2241x192

## OPERATING STATUS

0000 110184

1. Reporting period: 2400 113084 Gross hours in reporting period: 720

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>720.0</u>	<u>4077.9</u>	<u>87633.5</u>
6. Reactor reserve shutdown hours	<u>0.0</u>	<u>0.0</u>	<u>3421.9</u>
7. Hours generator on line	<u>720.0</u>	<u>4028.2</u>	<u>84376.1</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>1665199</u>	<u>9175174</u>	<u>174281880</u>
10. Gross electrical energy generated (MWH)	<u>549782</u>	<u>3035797</u>	<u>56294413</u>
11. Net electrical energy generated (MWH)	<u>529253</u>	<u>2888077</u>	<u>52494044</u>
12. Reactor service factor	<u>100.0</u>	<u>50.7</u>	<u>79.6</u>
13. Reactor availability factor	<u>100.0</u>	<u>50.7</u>	<u>82.7</u>
14. Unit service factor	<u>100.0</u>	<u>50.1</u>	<u>76.6</u>
15. Unit availability factor	<u>100.0</u>	<u>50.1</u>	<u>77.5</u>
16. Unit capacity factor (Using MDC)	<u>95.6</u>	<u>46.7</u>	<u>62.0</u>
17. Unit capacity factor (Using Des. MWe)	<u>93.2</u>	<u>45.5</u>	<u>60.4</u>
18. Unit forced outage rate	<u>0.0</u>	<u>1.1</u>	<u>6.0</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 NA

\*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 December 4

COMPLETED BY DAVE KIMLER

TELEPHONE 309-654-2241x192

## OPERATING STATUS

0000 110184

1. Reporting period: 2400 113084 Gross hours in reporting period: 720

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>720.0</u>	<u>6429.6</u>	<u>84347.1</u>
6. Reactor reserve shutdown hours	<u>0.0</u>	<u>0.0</u>	<u>2985.8</u>
7. Hours generator on line	<u>720.0</u>	<u>6301.0</u>	<u>81510.8</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>1719881</u>	<u>14857745</u>	<u>170239833</u>
10. Gross electrical energy generated(MWH)	<u>560237</u>	<u>4797216</u>	<u>54232996</u>
11. Net electrical energy generated(MWH)	<u>540081</u>	<u>4581910</u>	<u>50915970</u>
12. Reactor service factor	<u>100.0</u>	<u>80.0</u>	<u>77.3</u>
13. Reactor availability factor	<u>100.0</u>	<u>80.0</u>	<u>80.0</u>
14. Unit service factor	<u>100.0</u>	<u>78.4</u>	<u>74.7</u>
15. Unit availability factor	<u>100.0</u>	<u>78.4</u>	<u>75.3</u>
16. Unit capacity factor (Using MDC)	<u>97.5</u>	<u>74.1</u>	<u>60.6</u>
17. Unit capacity factor (Using Des.MWe)	<u>95.1</u>	<u>72.2</u>	<u>59.1</u>
18. Unit forced outage rate	<u>0.0</u>	<u>3.3</u>	<u>8.2</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

APPENDIX B  
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-254

UNIT ONE

DATED December 4

COMPLETED BY DAVE KIMLER

TELEPHONE 309-654-2241x192

MONTH November 1984

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1.	<u>794.6</u>
2.	<u>789.5</u>
3.	<u>786.6</u>
4.	<u>751.8</u>
5.	<u>793.5</u>
6.	<u>785.0</u>
7.	<u>787.8</u>
8.	<u>755.7</u>
9.	<u>682.3</u>
10.	<u>696.8</u>
11.	<u>707.6</u>
12.	<u>710.4</u>
13.	<u>715.7</u>
14.	<u>769.5</u>
15.	<u>806.5</u>
16.	<u>669.8</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17.	<u>698.6</u>
18.	<u>700.8</u>
19.	<u>772.5</u>
20.	<u>698.6</u>
21.	<u>779.6</u>
22.	<u>697.5</u>
23.	<u>706.0</u>
24.	<u>689.5</u>
25.	<u>717.6</u>
26.	<u>697.4</u>
27.	<u>696.2</u>
28.	<u>709.3</u>
29.	<u>687.4</u>
30.	<u>695.9</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

DATED December 4

COMPLETED BY DAVE KIMLER

TELEPHONE 309-654-2241x192

MONTH November 1984

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1.	<u>772.1</u>
2.	<u>758.6</u>
3.	<u>212.2</u>
4.	<u>495.5</u>
5.	<u>698.6</u>
6.	<u>764.9</u>
7.	<u>770.4</u>
8.	<u>767.8</u>
9.	<u>767.4</u>
10.	<u>772.6</u>
11.	<u>762.4</u>
12.	<u>783.6</u>
13.	<u>789.6</u>
14.	<u>782.1</u>
15.	<u>825.0</u>
16.	<u>752.3</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17.	<u>777.7</u>
18.	<u>756.8</u>
19.	<u>796.4</u>
20.	<u>774.5</u>
21.	<u>785.8</u>
22.	<u>713.7</u>
23.	<u>783.9</u>
24.	<u>782.9</u>
25.	<u>785.4</u>
26.	<u>785.7</u>
27.	<u>789.3</u>
28.	<u>789.3</u>
29.	<u>787.8</u>
30.	<u>781.5</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.

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APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-S13

Revision 6

August 1982

DOCKET NO. 050-254

UNIT NAME Quad-Cities Unit 1

COMPLETED BY D. Kimler

DATE December 5, 1984

REPORT MONTH NOVEMBER 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
84-32	841104	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-33	841108	S	0.0	B	5		XX	ZZZZZZ	Reduced load to perform tests on Economic Generation Control System
84-34	841109	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-35	841115	S	0.0	B	5		XX	ZZZZZZ	Reduced load to place the unit in EGC
84-36	841117	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-37	841122	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests

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AUG 16 1982

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APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-S13

Revision 6

August 1982

DOCKET NO. 050-265

UNIT NAME Quad-Cities Unit Two

COMPLETED BY D. Kimler

DATE December 5, 1984

REPORT MONTH NOVEMBER 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
84-53	841102	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-54	841103	S	0.0	B	5		CC	VALVEX	Reduced load to repair the 2B Moisture Separator Drain Tank Valve
84-55	841111	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-56	841118	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests
84-57	841122	S	0.0	B	5		HA	TURBIN	Reduced load to perform weekly Turbine tests

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## 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

\*

1. Unit: Q1 Reload: 7 Cycle: 8
2. Scheduled date for next refueling shutdown: 1-2-86
3. Scheduled date for restart following refueling: 4-2-86
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:  
DECEMBER 19, 1985; IF LICENSING ACTION REQUIRED.
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 PLANNED AT PRESENT TIME.
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 724
  - b. Number of assemblies in spent fuel pool: 2340
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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Q. C. O. S. R.

QUAD-CITIES REFUELING  
INFORMATION REQUEST

QTP 300-S32  
Revision 1  
March 1978

- \*  
1. Unit: 2 Reload: 7 Cycle: 8  
2. Scheduled date for next refueling shutdown: 4-2-85  
3. Scheduled date for restart following refueling: 6-22-85  
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:  
January 18, 1985, if licensing action required.  
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 planned at present time.  
7. The number of fuel assemblies.  
a. Number of assemblies in core: 724  
b. Number of assemblies in spent fuel pool: 0  
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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Q. C. O. 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
PCIMR	-	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-84-367

December 3, 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 November 1984.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis  
Station Superintendent

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Enclosure

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