

QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

DECEMBER 1983

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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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 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

December 1-10: Unit One began the month operating at full power and maintained this level until 0030 hours on December 4 when the unit dropped load to 700 MWe to perform weekly Turbine tests. At 0045 hours, the tests were completed and the unit began a normal load increase to full power. At 0115 hours, on December 10, the unit dropped load to 550 MWe for Control Rod Pattern adjustments. At 0400 hours the adjustments were completed and the unit began a normal load increase.

December 11-20: At 0020 hours, on December 17, the unit dropped load to 700 MWe for weekly Turbine tests. At 0140 hours the tests were completed and a normal load increase to full power was initiated. At 1315 hours, on December 17, the unit dropped load to 690 MWe to switch Condensate pumps due to excessive leakage from the inboard seal on the 1D Condensate pump. At 1340 hours, the switch was completed and the unit began increasing load normally.

December 21-31: At 0030 hours, on December 25, the unit dropped load to 700 MWe for weekly Turbine tests and following their completion, at 0320 hours, the unit began increasing load normally. The unit maintained full power until 2215 hours on December 31 when the unit began dropping load at 200 MWe/hour in preparation for a Drywell entry to investigate the cause of increased leakage monitoring values.

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 for the reporting period.

B. Facility or Procedure Changes Requiring NRC Approval

There were no Facility or Procedure changes 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 for 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
Q30385	83-47/03L	1-737-1 TIP Ball Valve	There was excess friction about the valve stem.	The possibility of an uncontrolled release was limited by giving the Unit 1 NSO the key to the switch for the in-line shear valve and sending an Operator to close the in-line manual valve.	The valve was replaced and stroked three times.

UNIT TWO MAINTENANCE SUMMARY

W.R. NUMBER	LER NUMBER	COMPONENT	CAUSE OF MALFUNCTION	RESULTS & EFFECTS ON SAFE OPERATION	ACTION TAKEN TO PREVENT REPETITION
Q24837		RPS Relay Power Breaker 590-306B	This was a mis- application of the breaker.	The insulation on the wire was deteriorated.	The breaker was replaced with one of the correct size.
Q28216	83-14/03L	2-203-2A MSIV Outboard	The seat was worn.	The valve failed the LLRT. The in-line 2- 203-1A valve would have provided isolation.	The seat was ground and the valve was successfully LLRT'd.
Q28235		PCI-Atmos. Control Out- board Fuse	The seal-tight was broken.	The fuse blew twice.	The seal-tight conductors and connectors were repaired & replaced.
Q28445	83-16/03L	HPCI Area High Temp. Switch 2- 2371D	The switch failed in the closed position, partially due to excessive heat applied during testing.	Because of the one-out- of-two-taken-twice" logic, this situation (2 switches failed closed) would not have prevented HPCI isolation, nor caused spurious HPCI isola- tion.	A new switch was calibrated and installed. The procedure for testing the switch was changed to reduce the heat applied.
Q28446	83-16/03L	HPCI Area High Temp. Switch 2- 2370D	See Above. (Q28445)	See Above. (Q28445)	See Above. (Q28445)
Q28447	83-16/03L	HPCI Area High Temp. Switch 2- 2370A	There was excessive instrument drift.	The other three switches in this area were operable and would have tripped the alarm.	A new switch was calibrated and installed.

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>
83-48/03L	12-29-83	Chimney Monitor System Inoperable

UNIT TWO

83-24/03L	12-1-83	Mechanical Snubbers Failed Functional Test
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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 January 6

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

OPERATING STATUS

0000 120183

1. Reporting period: 2400 123183 Gross hours in reporting period: 744

2. Currently authorized power level (MW+): 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>8384.4</u>	<u>83555.6</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>8261.2</u>	<u>80347.9</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>1806327</u>	<u>18893715</u>	<u>165106706</u>
10. Gross electrical energy generated (MWH)	<u>597065</u>	<u>6136735</u>	<u>53258616</u>
11. Net electrical energy generated (MWH)	<u>566248</u>	<u>5777059</u>	<u>49605967</u>
12. Reactor service factor	<u>100.0</u>	<u>95.7</u>	<u>81.9</u>
13. Reactor availability factor	<u>100.0</u>	<u>95.7</u>	<u>85.2</u>
14. Unit service factor	<u>100.0</u>	<u>94.3</u>	<u>78.7</u>
15. Unit availability factor	<u>100.0</u>	<u>94.3</u>	<u>79.6</u>
16. Unit capacity factor (Using MDC)	<u>98.6</u>	<u>85.6</u>	<u>63.2</u>
17. Unit capacity factor (Using Des. MWe)	<u>96.1</u>	<u>83.4</u>	<u>61.6</u>
18. Unit forced outage rate	<u>0.0</u>	<u>2.0</u>	<u>6.3</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. 50-285

UNIT TWO

DATE January 6

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

OPERATING STATUS

0000 120183

1. Reporting period: 2400 123183 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>5654.1</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>5621.7</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>10790594</u>	<u>155382088</u>
10. Gross electrical energy generated (MWH)	<u>0</u>	<u>339845</u>	<u>49435780</u>
11. Net electrical energy generated (MWH)	<u>-836</u>	<u>3150493</u>	<u>46334060</u>
12. Reactor service factor	<u>0.0</u>	<u>64.5</u>	<u>77.0</u>
13. Reactor availability factor	<u>0.0</u>	<u>64.5</u>	<u>80.0</u>
14. Unit service factor	<u>0.0</u>	<u>64.2</u>	<u>74.4</u>
15. Unit availability factor	<u>0.0</u>	<u>64.2</u>	<u>75.1</u>
16. Unit capacity factor (Using MDC)	<u>-.2</u>	<u>46.8</u>	<u>59.6</u>
17. Unit capacity factor (Using Des. MWe)	<u>-.2</u>	<u>45.7</u>	<u>58.1</u>
18. Unit forced outage rate	<u>0.0</u>	<u>1.8</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 1-19-84

*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 January 6

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

MONTH December 1983

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1.	<u>767.0</u>
2.	<u>770.5</u>
3.	<u>768.8</u>
4.	<u>751.6</u>
5.	<u>760.4</u>
6.	<u>779.7</u>
7.	<u>768.2</u>
8.	<u>770.5</u>
9.	<u>768.8</u>
10.	<u>555.0</u>
11.	<u>658.8</u>
12.	<u>766.7</u>
13.	<u>755.9</u>
14.	<u>759.4</u>
15.	<u>769.6</u>
16.	<u>775.2</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17.	<u>741.3</u>
18.	<u>771.8</u>
19.	<u>771.9</u>
20.	<u>769.9</u>
21.	<u>771.8</u>
22.	<u>777.7</u>
23.	<u>779.2</u>
24.	<u>790.0</u>
25.	<u>735.0</u>
26.	<u>776.7</u>
27.	<u>794.3</u>
28.	<u>764.8</u>
29.	<u>776.1</u>
30.	<u>778.0</u>
31.	<u>766.9</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

DATE January 6

COMPLETED BY Alex Misak

TELEPHONE 309-654-2241x194

MONTH December 1983

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1.	<u>-1.7</u>
2.	<u>-1.6</u>
3.	<u>-1.5</u>
4.	<u>-1.5</u>
5.	<u>-1.5</u>
6.	<u>-1.5</u>
7.	<u>-1.5</u>
8.	<u>-1.5</u>
9.	<u>-1.6</u>
10.	<u>-1.8</u>
11.	<u>-2.0</u>
12.	<u>-1.2</u>
13.	<u>-1.6</u>
14.	<u>-1.5</u>
15.	<u>-1.3</u>
16.	<u>-1.4</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17.	<u>-1.5</u>
18.	<u>-2.0</u>
19.	<u>-2.5</u>
20.	<u>-2.6</u>
21.	<u>-2.7</u>
22.	<u>-2.5</u>
23.	<u>-1.8</u>
24.	<u>-1.6</u>
25.	<u>-1.8</u>
26.	<u>-1.9</u>
27.	<u>-2.0</u>
28.	<u>-2.7</u>
29.	<u>-2.2</u>
30.	<u>-2.3</u>
31.	<u>-2.6</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 One

COMPLETED BY Alex Misak, ext 194

DATE January 9, 1984

REPORT MONTH DECEMBER 1983

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
83-87	831204	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests
83-88	831210	S	0.0	B	5		RC	CONROD	Reduced load to adjust control rod pattern
83-89	831217	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests
83-90	831217	F	0.0	A	5		HH	PUMPXX	Reduced load to switch Condensate pumps due to leakage from the inboard seal of the 1D Condensate pump
83-91	831225	S	0.0	B	5		HA	XXXXXX	Reduced load to perform weekly Turbine tests
83-92	831231	F	0.0	A	5		CB	VALVEX	Reduced load for entering Drywell to investigate cause of increased leakage. Leakage found to be from isolation valve packing on 1B Recirculation pump discharge valve bonnet leak-off line.

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AUG 16 1982

ID/5A

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 Alex Misak, ext 194

DATE January 9, 1984

REPORT MONTH DECEMBER 1983

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 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: 6 Cycle: 7
2. Scheduled date for next refueling shutdown: 9-6-82
3. Scheduled date for restart following refueling: 12-18-82
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment: Yes
5. Scheduled date(s) for submitting proposed licensing action and supporting information: 8-19-82: Techn. Spec. changes submitted to the NRC.
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:
- a) All 7x7 fuel assemblies will be removed from the core.
 - b) MAPLHGR curves for fuel types in the core are being extended to 40,000 MWD/ST.
 - c) MCPR limits will be determined by GE's ODYN computer code.
 - d) The vessel pressure safety limit is being modified to accommodate the potential for higher reactor pressures as calculated by ODYN.
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

- *
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:
a) All new fuel assemblies will be of barrier design; MAPLHGR curves will be re-labeled to include the barrier designation.
b) 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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Q. C. C. 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-84-1

January 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 December 1983.

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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1/1