

QUAD CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

JULY 1998

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY 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 and Steam Turbine/Generators, each with a Maximum Dependable Capacity of 769 MWe Net, located in Cordova, Illinois. The Station is jointly owned by Commonwealth Edison Company and MidAmerican Energy 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 Lynne Hamilton and Debra Kelley, telephone number 309-654-2241, extensions 3114 and 2240, respectively.

## II. SUMMARY OF OPERATING EXPERIENCE

### A. Unit One

Quad Cities Unit One began the month of July 1998 operating at full power with minor interruptions for routine maintenance and surveillance testing. On July 17, 1998 a load drop to 350 MWe occurred to repair a steam leak on the 1B Moisture Separator Drain Tank flex hose (average daily unit power level reduction of 33 percent). Load was increased to full power on July 19, 1998. On July 24, 1998 a load drop to 350 MWe again occurred to repair a steam leak on the 1B Moisture Separator Drain Tank vent pipe (average daily unit power level reduction of 15 percent). On July 25, 1998 load was increased to full power. Unit One operated at full power the remainder of the month.

### B. Unit Two

Quad Cities Unit Two was synchronized to the grid at 1:43 a.m. on July 1, 1998. The Unit began a load increase and reached full power on July 3, 1998 at 5:00 p.m. Unit Two operated throughout the remainder of the month at full power with minor interruptions for routine maintenance and surveillance testing.

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.

#### IV. LICENSEE EVENT REPORTS

The following is a tabular summary of all licensee event reports for Quad Cities Units One and Two submitted during the reporting period.

##### UNIT 1

<u>Licensee Event Report Number</u>	<u>Submission Date</u>	<u>Title of Occurrence</u>
1-98-17	7/22/98	"B" Train CR HVAC Trip
1-98-18	7/28/98	Rx Scram During APRM Surv

##### UNIT 2

<u>Licensee Event Report Number</u>	<u>Submission Date</u>	<u>Title of Occurrence</u>
2-98-03	7/28/98	Rx Scram During Adverse Weather

## V. DATA TABULATIONS

The following data tabulations are presented in this report.

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

**APPENDIX B  
AVERAGE DAILY UNIT POWER LEVEL**

DOCKET NO.: 50-254  
UNIT: ONE  
DATE: August 10, 1998  
COMPLETED BY: Lynne Hamilton  
TELEPHONE: (309)654-2241

MONTH: July 1998

DAY AVERAGE DAILY POWER LEVEL (Mwe-Net)		DAY AVERAGE DAILY POWER LEVEL (Mwe-Net)	
1.	265	17.	745
2.	707	18.	501
3.	760	19.	759
4.	759	20.	760
5.	759	21.	760
6.	763	22.	760
7.	767	23.	762
8.	766	24.	739
9.	766	25.	630
10.	763	26.	764
11.	768	27.	764
12.	763	28.	765
13.	763	29.	764
14.	761	30.	765
15.	761	31.	765
16.	761		

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: August 10, 1998  
COMPLETED BY: Lynne Hamilton  
TELEPHONE: (309)654-2241

MONTH: July 1998

DAY AVERAGE DAILY POWER LEVEL (MWe-Net)		DAY AVERAGE DAILY POWER LEVEL (MWe-Net)	
1.	113	17.	765
2.	613	18.	765
3.	670	19.	761
4.	766	20.	762
5.	768	21.	761
6.	769	22.	762
7.	761	23.	762
8.	769	24.	767
9.	768	25.	767
10.	767	26.	768
11.	771	27.	768
12.	754	28.	767
13.	768	29.	767
14.	765	30.	768
15.	765	31.	768
16.	764		

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 C  
OPERATING DATA REPORT**

				DOCKET NO: 50-254
				UNIT: <b>One</b>
				DATE: August 10, 1998
				COMPLETED BY: Lynne Hamilton
				TELEPHONE: (309) 654-2241
<b>OPERATING STATUS</b>				
9000 070198				
1. REPORTING PERIOD: 2400 073198 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):				
	<b>THIS MONTH</b>	<b>YEAR TO DATE</b>	<b>CUMULATIVE</b>	
5. NUMBER OF HOURS REACTOR WAS CRITICAL	744.00	1438.40	173813.80	
6. REACTOR RESERVE SHUTDOWN HOURS	0.00	0.00	3421.90	
7. HOURS GENERATOR ON LINE	744.00	1354.50	168649.80	
8. UNIT RESERVE SHUTDOWN HOURS	0.00	0.00	909.20	
9. GROSS THERMAL ENERGY GENERATED (MWH)	17933532.00	19254160.80	384691403.40	
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	552086.00	971309.00	119224678.00	
11. NET ELECTRICAL ENERGY GENERATED (MWH)	525668.00	922745.00	107077714.00	
12. REACTOR SERVICE FACTOR	100.00	28.28	75.39	
13. REACTOR AVAILABILITY FACTOR	100.00	28.28	76.87	
14. UNIT SERVICE FACTOR	100.00	26.63	73.15	
15. UNIT AVAILABILITY FACTOR	100.00	26.63	73.54	
16. UNIT CAPACITY FACTOR (Using MDC)	91.88	23.59	60.39	
17. UNIT CAPACITY FACTOR (Using Design Mwe)	89.55	22.99	58.86	
18. UNIT FORCED OUTAGE RATE	0.00	0.03	7.18	
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH): Refuel, 11/07/98, 30 days.				
20. IF SHUTDOWN AT END OF REPORT PERIOD < ESTIMATED DATE OF STARFUP: N/A				
21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): N/A				
	<b>FORECAST</b>	<b>ACHIEVED</b>		
INITIAL CRITICALITY				
INITIAL ELECTRICITY				
COMMERCIAL OPERAITON				

**APPENDIX C  
OPERATING DATA REPORT**

				DOCKET NO: 50-265			
				UNIT: Two			
				DATE: August 10, 1998			
				COMPLETED BY: Lynne Hamilton			
				TELEPHONE: (309) 654-2241			
<b>OPERATING STATUS</b>							
0000 070198							
1. REPORTING PERIOD: 2400 073198 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):							
		<b>THIS MONTH</b>	<b>YEAR TO DATE</b>	<b>CUMULATIVE</b>			
5. NUMBER OF HOURS REACTOR WAS CRITICAL		744.00	1619.25	165986.30			
6. REACTOR RESERVE SHUTDOWN HOURS		0.00	0.00	2985.80			
7. HOURS GENERATOR ON LINE		742.30	1501.60	161471.45			
8. UNIT RESERVE SHUTDOWN HOURS		0.00	0.00	702.90			
9. GROSS THERMAL ENERGY GENERATED (MWH)		180369.60	3513878.40	351870134.72			
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)		552790.00	1083987.00	112846531.00			
11. NET ELECTRICAL ENERGY GENERATED (MWH)		529647.00	1032044.00	106979502.00			
12. REACTOR SERVICE FACTOR		100.00	31.83	72.48			
13. REACTOR AVAILABILITY FACTOR		100.00	31.83	73.79			
14. UNIT SERVICE FACTOR		99.77	29.52	70.51			
15. UNIT AVAILABILITY FACTOR		99.77	29.52	70.82			
16. UNIT CAPACITY FACTOR (Using MDC)		92.57	26.38	60.75			
17. UNIT CAPACITY FACTOR (Using Design Mwe)		90.23	25.71	59.21			
18. UNIT FORCED OUTAGE RATE		0.23	6.46	11.15			
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH): None							
20. IF SHUTDOWN AT END OF REPORT PERIOD < ESTIMATED DATE OF STARTUP: N/A							
21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): N/A							
		<b>FORECAST</b>	<b>ACHIEVED</b>				
INITIAL CRITICALITY							
INITIAL ELECTRICITY							
COMMERCIAL OPERATION							

**APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS**

DOCKET NO. 50-254

COMPLETED BY: Lynne Hamilton

UNIT NAME: One

TELEPHONE: 309-654-2241

DATE: August 10, 1998

REPORT MONTH July 1998

NO	DATE	TYPE FOR S	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN REACTOR	LICENSEE EVENT REPORT NO.	SYSTEM CODE	COMPONENT CODE	CORRECTIVE ACTIONS/COMMENTS
98-07	980718	F	0	A	5	---	---		1B Moisture Separator Drain Tank Repairs (20% Load Reduction)

Legend:

(1) Reason

- A - Equipment Failure (Explain)
- B - Maintenance or Test
- C - Refueling
- D - Regulatory Restriction
- E - Operator Training/License Examination
- F - Administrative
- G - Operational Error (Explain)
- H - Other (Explain)

(2) Method

- 1 - Manual
- 2 - Manual Trip/Scram
- 3 - Automatic Trip/Scram
- 4 - Continuation
- 5 - Other (Explain)

**APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS**

DOCKET NO. 50-265 COMPLETED BY: Lynne Hamilton  
 UNIT NAME: Two TELEPHONE: 309-654-2241  
 DATE: August 10, 1998 REPORT MONTH: July 1998

NO	DATE	TYPE FOR S	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN REACTOR	LICENSEE EVENT REPORT NO.	SYSTEM CODE	COMPONENT CODE	CORRECTIVE ACTIONS/COMMENTS
None									

Legend:

(1) Reason

- A - Equipment Failure (Explain)
- B - Maintenance or Test
- C - Refueling
- D - Regulatory Restriction
- E - Operator Training/License Examination
- F - Administrative
- G - Operational Error (Explain)
- H - Other (Explain)

(2) Method

- 1 - Manual
- 2 - Manual Trip/Scram
- 3 - Automatic Trip/Scram
- 4 - Continuation
- 5 - Other (Explain)

## 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 Relief Valve Operations during the reporting period.

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

The following table is a complete summary of Unit One Control Rod Drive Scram timing for the reporting period. All scram timing was performed with reactor pressure greater than 800 PSIG. Fifteen rods were scram time tested during the month of July 1998. One control rod was for post-maintenance testing. Fourteen rods were tested for trending data on SSPVs.

ROD	DATE	5%	20%	50%	90%
A-6	7/13/98	0.32	0.68	1.43	2.49
E-11	7/18/98	0.32	0.67	1.40	2.45
F-13	7/18/98	0.31	0.68	1.45	2.54
F-7	7/18/98	0.44	0.83	1.59	2.66
B-4	7/18/98	0.30	0.65	1.38	2.45
E-10	7/18/98	0.35	0.72	1.50	2.59
G-15	7/18/98	0.32	0.72	1.54	2.70
N-7	7/18/98	0.36	0.74	1.50	2.56
P-7	7/18/98	0.35	0.72	1.46	2.51
J-13	7/18/98	0.32	0.68	1.44	2.49
K-11	7/18/98	0.49	0.88	1.62	2.69
K-9	7/18/98	0.36	0.71	1.44	2.46
N-5	7/18/98	0.36	0.74	1.53	2.65
L-5	7/18/98	0.30	0.66	1.39	2.42
K-7	7/18/98	0.36	0.74	1.50	2.56

The following table is a complete summary of Unit Two Control Rod Drive Scram timing for the reporting period. All scram timing was performed with reactor pressure greater than 800 PSIG. One control rod was scram time tested for post-maintenance testing.

ROD	DATE	5%	20%	50%	90%
K-14	7/30/98	0.26	0.60	1.35	2.42

Scram time data percent is all in seconds.

## 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: Q2 Reload: 14 Cycle: 15
  
2. Scheduled date for next refueling shutdown: 1/8/2000
  
3. Scheduled date for restart following refueling: 2/17/2000
  
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:  
August, 1999
  
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:  
N/A
  
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 724
  - b. Number of assemblies in spent fuel pool: 2943
  
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: 2002

## 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