RAR-90-86

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December 3, 1990

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 November, 1990.

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Respectfully,

COMMONWEALTH EDISON COMPANY QUAD-CITIES NUCLEAR POWER STATION

ger for

RAR/LFD/klm

Enclosure

cc: A. B. Davis, Regional Administrator T. Taylor, Senior Resident Inspector

> 9012130383 901130 PDR ADOCK 05000254 PDC PDC

R. A. Robey Technical Superintendent

QUAD-CITIES NUCLEAR POWER STATION

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UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

NOVEMBER, 1990

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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1. 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/Enginee: 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 Karen McDearmon, telephone number 309-654-2241, extensions 2185 and 2240.

11. SUMMARY OF OPERATING EXPERIENCE

A. Unit One

Unit One began the month of November operating in Economic Generation Control (EGC). From November 1 through November 11, five unit remained in EGC or operated near full power with brief interruptions to perform a statue surveillances.

On November 11 at 1900 hours, normal unit shutdown commenced. At 0248 hours on November 12, the main tubine was tripped, and at 0315 hours, Unit One Reactor was manually scrammed to begin the End of Cycle Eleven Refueling Outage. Normal refueling activities were performed including the removal of the reactor head and steam dryer and core unloading. Core unloading was completed on Nomveber 26 at 1110 hours. Normal refueling activities continued throughout the remainder of the month.

B. Unit Two

Unit Two Legan the month of November operating in Economic Generation Control (ECG). Normal operational activities were performed for the month of November for Unit Two. The unit remained in EGC or operated near full power with minor interruptions to perform routine surveillances. Power levels were adjusted accordingly.

III. PLANT OR PROCEDURE CHANGES, TESTS, EXPERIMENTS, AND SAFETY RELATED MAINTENANCE

A. Amendments to Facility License or Technical Specifications

Technical Specification Amendment No. 127 was issued on November 6, 1990 to Facility Operating License DPR-29 for Quad Cities Nuclear Power Station. This amendment revises the Technical Specifications to reflect the use of generically approved fuel type GE BxBNB by changing the Minimum Critical Power Ratio (MCPR) safety limit from 1.07 to 1.06.

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 peformed on Units One and Two during the reporting period. This summary includes the following: Work Request Numbers, Licensee Event Report Numbers, Components, Cause of Malfunctions, Results and Effects on Safe Operation, and Action Taken to Prevent Repetition.

UNIT 1 MAINTENANCE SUMMARY

WORK REQUEST	SYSTEM	EID DESCRIPTION	WORK PERFORMED
Q87992	7506	Damper, 1/2A SBGT Fan Backdraft	As found: Damper counter weight had come loose from damper shaft. The set screws on the counter weight were loose and the tack weld between the counter weight and the shaft had broken. As left: Removed counter weight from shaft, tapped chased set screw holes, inspected louvers for damage and proper operation, re-installed counter weight, installed manual positioning arm, closed access door and resealed with mastik and tape.
Q86931	0756	LPRM 24-09	As found: LPRM bypassed and spiking high. As left: checked LPRM card, high voltage power supply and TDR detector were good. Ran I/V curves as per QIP 756-1. Left card in the bypass position.

UNIT 2 MAINTENANCE SUMMARY

WORK REQUEST

SYSTEM

0756

EID DESCRIPTION

LPRM 32-25A

WORK PERFORMED

Q84822

As found: LPRM was spiking. As left: Exchanged LPRM card with same type LPRM card, for test. Found no problem with original LPRM card and exchanged back with test card. Cleaned connectors.

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 6.6.8.1. and 6.6.8.2. of the Technical Specifications.

	UNIT 1	
Licensee Event		
Report Number	Date	Title of Occurrence
90-23 *	10/31/90	Back Leakage through 1A Core Spray Floor Drain
90-27	11/4/90	Failure of CMC Auto Demand Mode
90-28	11/2/90	Spurious Closure of N2 Make-up Valve 1-1601-57
90-29	11/15/90	1-220-628 (outboard) Feedwater Check Valve Failed LLRT
90-30	11/8/90	Recirc Piping Outside Seismic Design Analysis
90-31	11/20/90	HPCI Temperature Switch Calibration Found High
	UNIT 2	
90-12	11/24/90	U-2 HPCI INOP Due to Flow Controller Malfunction

* 90-23 report for the previous month of October has been cancelled.

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

AFFENDIX C

Docket No. 50+254 Unit Doe Date December 4, 1990 Completed By Lynne Hamilton Telephone 309-854-2241

DEFRATING STOTUS

- 0000 110190
- 1. Reporting Period 2400 (13090 Bross Hours in Report Periods 720
- Currently Authorized Power Level (MHt): <u>2511</u> Max. Depend. Cepacity (MWe-Net): <u>769</u> Design Electrical Rating (MWe-Net): <u>789</u>

3. Power Level to Which Restricted (14 Any) (Mwe-Net): W/A

4. Reasons For Restriction (If anvic

	THIS HONTH	YR TO DATE	CUMULATIVE
5. Number of Kours Reactor Was Critical	267.3	7318-1	131481.9
6. Reactor Reserve Shutdown Hours		0.0	3421.9
7. Hours Generator On Line	267.8	7279,7	127370.3
8. Unit Reserve Shutdown Hours			909,2
9. Gross Thermal Energy Generated (MWh)	602287.0	17049079.0	272731440.0
10. Gross Electrical Energy Separated (MWh)	199301.0	5542297.0	68393854.0
11. Net Electrical Energy Generated (MWh)	189947.0	\$339708.0	83180094.0
12. Reactor Service Factor	37.1	91.7	80.5
13. Reactor Availability Factor	37.1	91.3	82.6
14. Unit Service Factor	37.2	90,8	78.0
15. Unit Availability Factor	\$7.2	90.B	78,5
16. Unit Capacity Factor (Using MDC)	34.3	85.6	66.2
17. Unit Capacity Factor (Using Design MWe)	33.4	84.4	64.5
18, Unit Forced Dutage Rate		1,5	5.2

19. Shutdowns Scheduled Over Next & Months (Type, Date, and Duration of Each):

ALC: 1 1	and the second second				and the second s	and the second s		
20.000	Shot Bout	5 温泉 最好得 的第三	い适力 四丁子 一回	08783786	1212 10	いんだいがありれ	8. I	
网络花花 计关注	1971 S. L. STAFFEL	1 8 1 9 1 9 1 9	THE REAL REAL PROPERTY AND		2612 V	N. F. S. L. N. N.	A commenced internal	

211 Units in Test Status (Frior to Connercial Operation): Forecast Achieved

Initial	Criticality	
Initial	Electricity	
Country	(a) Ceration	

HFFRMIA V DPERATING DATA REPORT Docket No. 50-265 Unit Two Date December 4, 1990 Completed By Lynne Hamilton Telephone 309-654-2241

DRENATING STATUS

9999 110190

1, Keporting Keriod 2423, 113090 pross Hours in Report Periodi 720

 Currently Authorized Power Level (MWt): <u>2311</u> Max. Depend. Capacity (MWe-Net): <u>769</u> Design Electrical Rating (MWe-Net): <u>789</u>

3. Power Level to Which Restricted (14 Any) (MWe-Net): N/A

4. Reasons For Restriction (14 any)/

	THIS MONTH	VR TO DATE	CUMULATIVE
5. Number of Hours Reactor Wes Critical	726.0	5560.6	124945.2
6. Reactor Reserve Shutdown Hours		0.0	2985.8
7. Hours Generator On Line	720.0	5444.5	121543.0
8. Unit Reserve Shutdown Hours			702.9
R. Sross Thernal Energy Generated (MWh)	1678181.0	12102507.0	261499224.0
10. Gross Electrical Energy Generated (MWh)	553919.0	3950509.0	83889693.0
11. Net Electrical Energy Semerated (MWh)	537647.0	3797260.0	79276909.0
12. Reactor Service Factor		69.4	17.2
13. Reactor Availability Factor		69.4	
14, Unit Bervice Factor		57.8	75.1
15. Unit Availability Factor		67.9	75.6
16. Unit Capacity Factor (Using MSC)	97.1	61.6	63.7
17. Unit Capacity Factor (Deing Design MWe)	94.6		
18. Unit Forced Outage Rate		2.0	

19. Shutdowns Scheduled Over Next & Months (Type, Date, and Duration of Each):

20. If Shut Down at End of Report Period, Estimated Date of Startup:

21. Units in Test Status (Prior to Consercial Operation): Forecast Achieved

Initial Criticality		service of service in the service
Initial Electricit)		*****

APPENDIX B AVERAGE DAILY UNIT POWER LEVEL

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MONTH NOVEMBER

DAY AV	RAGE DAILY POWER LEVEL (Mwe-Net)	DAY AVERA	SE DAILY POWER LEVEL (MWe-Net)
1	744	17	
1.1	741	18-	-8
. 3.	716	19	
4	733	20	
5	753	21.0	-8
6	747	22	
7	752	23	
8	735	24	-8
1.1.1	731	15	-4
	719	28	-8
11	671		-8
12	1.6	22	-8
13	-8	29	-8
	-8	30	
15	-8		

INSTRUCTIONS

On this form, list the average daily unit power level in "We-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 for the restricted power level line). In such cases, the average faily unit power output sheet should be footnoted to explain the apparent anomaly.

APPENDIX B AVERASE DAILY UNIT POWER LEVEL

Docket	No.	50-265
	linit -	Two
	Date	December 3, 1990
Complete	d By	Lynne Hamilton
Telep	none	309-654-2241

MONTH NOVEMEE!

16 755

DAY AVE	AGE DAILY POWER LEVEL (Nwe-Net)	DAY AVER	AGE DAILY POWER (Mwe-Net)	R LEVEL
	163	17	744	
2	763	18	719	
- 3	743	19	745	
14	682	20	731	
5	767	21	723	
1	785	22	726	
. 1	801	23	750	
8	764	24	724	
	753	25	704	
	741	26	748	
100	770		741	
12	778	28	744	
- 13	740	29	738	
54	758	30	732	
15	767			

INSTRUCTIONS

On this form, list the average daily unit power level in MWa-Net for each day in the reporting month. Compute to the mearest 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 for the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent enomaly.

DATE UNIT NAME DOCKET NO. 90-11 NO. Quad Cities Unit One 901112 DATE December 3, 50-254 TYPE F OR S 03 1990 452.2 DURATION (HOURS) \bigcirc REASON METHOD OF SHUTTING DOWN REACTOR 150 REPORT MONTH EVENT REPORT NO. LICENSEE -1-(final) November, SYSTEM RC CODE FUELXX 1990 COMPONENT . CODE Refueli vg Outage Unit One Shutdown for TELEPHONE COMPLETED BY Lynne Hamilton CORRECTIVE ACTIONS/COMMENTS End of Cycle Eleven 309-654-2241

APPENDIX D UNIT SHUTDOWNS AND POWER REDUCTIONS

		NO.	DATE	UNIT NAME	BOCKET NO.
		DATE	Decemb	Quad Ci	50-26
		TYPE FOR S	er 3,	ties U	S ale
		DURATION (HOURS)	0661	nit Two	
T		REASON			
	D	METHOD OF SHUTTING DOWN REACTOR	REP		UNIT
		LICENSEE EVENT REPORT NO.	ORT MONTH		APP SHUTDOWNS
16:2011	``````````````````````````````````````	SYSTEM CODE	November		AND POWE
		COMPONENT CODE	c, 1990		IR REDUCTIO
	None	CORRECTIVE ACTIONS/COMMENTS	TELEPHONE 309-654-2241	COMPLETED BY Lynne Hamilton	SNO

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

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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 were 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

OTP 300-532 Revision 2 October 1989

1.	Unit:Q1		Reload:10	Cycle:11
2.	Scheduled date	for next	refueling shutdown:	11-12-90
3.	Scheduled date	for rest	art following refueling:	1-28-91

- Will refueling or resumption of operation thereafter require a Technical 4. Specification change or other license amendment: Yes, a proposed change to Technical Specification will be made to relax the Minimum Critical Power Ratio (MCPR) safety limit. This proposal is based on the Unit One Reload 11 Cycle 12 fuel loading.
- Scheduled date(s) for submitting proposed licensing action and 5. supporting information:

AUGUST 31, 1990

Important licensing considerations associated with refueling, e.g., new 6. or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures:

NONE AT PRESENT TIME.

7. The number of fuel assemblies.

a.	Number	of	assemblies	tn	core:	724
b.	Number	of	assemblies	in	spent fuel pool:	1537

The present licensed spent fuel pool storage capacity and the size of 8. 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

- b. Planned increase in licensed storage:
- 9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: 2008

* 144 new fuel bundles have arrived on site and will be stored in the Unit One new fuel storage vault.

> APPROVED OCT 3 0 1989 0.C.O.S.R.

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QUAD CITIES REFUELING INFORMATION REQUEST

QTP 300-532 Revision 2 October 1989

1,	Unit: Q2	Reload:10	Cycle:11
2.	Scheduled date f	or next refueling shutdown:	9-7-91
3.	Scheduled date f	or restart following refueling:	12-9-91

- Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment: NOT AS YET DETERMINED.
- Scheduled date(s) for submitting proposed licensing action and supporting information:

NOT AS YET DETERMINED.

 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 AT PRESENT TIME.

7. The number of fuel assemblies.

a.	Number	of	assemblies	In	core:	724
b.	Number	of	assemblies	tn	spent fuel pool:	2011

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:
- 9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: 2008

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VIII. GLOSSARY

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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	ż	Generating Stations Emergency Plan
HEPA	k	High-Efficiency Particulate Filter
HPC1		High Pressure Coolant Injection System
HRSS	÷	High Radiation Sampling System
IPCLRT	18	Integrated Primary Containment Leak Rate Test
1 RM	+	Intermediate Range Monitor
151	+	Inservice Inspection
LER	×	Licensee Event Report
LLRT	×	Local Leak Rate Test
LPC1		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	ż	Main Steam Isolation Valve
NIOSH	*	National Institute for Occupational Safety and Health
PCI		Primary Containment Isolation
PCIOMR	k	Preconditioning Interim Operating Management Recommendations
RBCCW	k	Reactor Building Closed Cooling Water System
RBM	÷	Rod Block Monitor
RCIC		Peactor Core Isolation Cooling System
RHRS	×	Residual Heat Removal System
RPS		Reactor Protection System
RWM	ł	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 Cocling Water System
TIP		Traversing Incore Probe
TSC		Technical Support Center