QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

JULY 1979

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS & ELECTRIC COMPANY

NRC DOCKET NOS. 50-254 and 50-265

LICENSE NOS. DPR-29 and DPR-30

TABLE OF CONTENTS

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 Commonwelath 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, Inc. and the primary construction contractor was United Engineers & Constructors. The condenser cooling method is a closed-cycle spray canal, and 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 1 and 2 respectively were October 18, 1971 and April 26, 1972. Commercial generation of power began on February 18, 1973 for Unit 1 and March 10, 1973 for Unit 2.

This report was compiled by David Hannum, telephone number 309-654-2241, ext. 179.

II. SUMMARY OF OPERATING EXPERIENCE

A. Unit One

July 1: Unit One began the reporting period operating at 547 MWe. Load was increased to 650 MWe immediately after the main condenser flow reversal was completed.

July 2 - 3: Load was steadily increased to 791 MWe and held.

July 4: Unit One was reduced to 550 MWe for main condenser flow reversal. Load was subsequently increased to 750 MWe.

July 5 - 20: Unit One held an average load of 791 MWe. On July 8 load was reduced to 700 MWe for main condenser flow reversal. On July 14 load was reduced to 691 MWe for weekly turbine testing.

July 21: Electrical load was reduced to 150 MWe for an on-line control rod sequence exchange. Upon successful completion of the sequence exchange, load was increased at a rate of 100 MWe/hr to 400 MWe.

July 22 - 31: Load was steadily increased to 790 MWe and the unit held an average load of 775 MWe. Electrical load was reduced on July 27 and 28 to 685 MWe in order to remove a condensate demineralizer from service to change the filter elements.

B. Unit Two

July 1: Unit Two began the reporting period operating at 625 MWe.

July 2 - 24: Unit Two held an average load of 575 MWe. On July 4 load was reduced 100 MWe due to low system electrical load demand.

July 25: The drywell was deinerted and load was reduced to 290 MWe for a drywell entry. The torque switch on the MO 2-1301-16 RCIC steam supply valve operator malfunctioned and had to be replaced.

July 26 - 31: Unit Two held an average load of 550 MWe. On July 28 load was reduced to 350 MWe for main condenser flow reversal.

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

A. Amendments to Facility License or Technical Specification

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 during the reporting period.

C. Tests Experiments Requiring NRC Approval

There were no tests or experiments performed during the reporting period requiring NRC approval.

D. Other Changes, Tests, and Experiments

1. There were no facility modifications completed this month which require reporting to the NRC.

2. Special Tests

Special Test 1-44

Unit One Reactor Feed Pump Minimum

Flow Line Isolation and Valve Leakage Test

Purpose:

The purpose of this test was to qualitatively determine the magnitude of feedwater leakage back to the main condenser through the minimum flow lines and its impact on plant performance.

Summary of Safety Evaluation:

Basic feedwater operation was not altered during the test. No safety related systems, structures, or componenets were involved in the test.

The normal feedwater flow path was not changed and in the event of a feedwater problem, all ECCS was available to supply water to the vessel. No Technical Specification items were affected.

Special Test 2-15

MSIV Limit Switch Investigation

Purpose:

The purpose of this test was to outline the method used to investigate the performance of the new 740 series MSIV limit switches, along with the relocated MSIV limit switches on outboard valve AO 2-203-2C.

Summary of Safety Evaluation:

The design function and intent of the MSIV's were not altered by this test. The new switches and relocation have been previously evaluated, and no new additions were made to complicate the indicating or protective functions of the valves. The 10% closure RPS setpoint was not changed and no LLRT or PCI closure time values were reduced.

E. Corrective Maintenance of Safety Related Equipment

The following represents a tabular summary of the safety-related maintenance performed on Unit One and Unit Two during the reporting period. The headings indicated in this summary include 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
3306-79	79-22/03L	Diesel Gen. Oil Line (1-6600)	The fuel oil filter gasket was worn.	The line was leaking. The diesel was operable.	The gasket was replaced. DG was tested satisfactory.
364-79		Rx Bldg Crane (1/2-5800)	The digital weight monitor was defective.	The digital weight indicator was inoperable.	The monitor was replaced and calibrated.
3620-79		Core Spray Test Valve (1-1402-4A)	An aux. contact was defective.	The valve would not open. Core spray was operable.	The aux. contact was replaced.
3550-79		Off Gas High Pressure Switch (PIS-1-5441-16A & B)	Pressure switch needed calibration.	The operator received the off gas high pressure alarm. The off gas system was operating properly.	The switch was calibrated and tested.

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UNIT TWO MAINTENANCE SUMMARY

W.R. NUMBER	LER NUMBER	COMPONENT	CAUSE OF MALFUNCTION	RESULTS & EFFECTS ON SAFE OPERATION	ACTION TAKEN TO PREVENT REPETITION
734-79		IRM Ch. 13 (2-700)	The pre-amp and power supply were out of calibration.	Channel 13 was reading incorrectly. Other IRM channels were operable.	The pre-amp and power supply were re-calibrated.
2076-75		CRD 34-15 (2-300)	The accumulator was defective.	The water level was excessive. Scram operability was unaffected.	The accumulator was replaced.
3551-79	79-13/03L	RHR Suction Valve (2-1001-7C)	The thermals tripped.	The valve would not open. This made the 2C RHR pump inoperable. The 2A, 2B and 2D pumps were operable and available if needed.	The thermals were reset. Amperage checks were made and the valve test operated 3 times.
3598-79		RHR HX Bypass Valve (2-1001-16B)	The thermals tripped.	The bypass valve failed closed. RHR was still operable with flow through the HX.	The thermals were reset. Amperage checks were made and the valve was cycled 3 times.

IV. LICENSEE EVENT REPORTS

The following is a tabular summary of all license 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

Licensee Event Report Number	Date of Occurrence	Title of Occurrence
79-23/03L	7-18-79	Electromatic Relief Valve 203-3A Controller Inoperable
79-24/03L	7-24-79	Suppression Chamber - Reactor Building Pressure Switch PS 1-1622B Drift

Unit Two

Licensee Event Report Number	Date of Occurrence	Title of Occurrence
79-13/03L	7-12-79	RHR Pump Suction Valve MO 2-1001-7C Breaker Failure
79-14/03L	7-23-79	RCIC Steam Supply Valve MO 2-1301-16 Failed to Close
79-15/01T	7-24-79	Suppression Chamber - Reactor Building Pressure Switch PS 2-1622A and B Drift

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

POOR ORIGINAL

DOCKET NO. 050-254
UNIT One
DATE 8-6-79
COMPLETED BY D. Hannum
TELEPHONE (309) 654-2241, Ext. 179

OPERATING STATUS

1. Reporting period: 0000 070179 2400 073179 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	744.0	4022.8	51355.7
6.	Reactor reserve shutdown hours	0.0	0.0	3329.6
7.	Hours generator on line	744.0	3893.9	48836.8
8.	Unit reserve shutdown hours.	0.0	19.8	909.2
9.	Gross thermal energy generated (MWH)	1755294	8344962	97152838
10.	Gross electrical engergy generated (MWH)	558445	2642274	31234769
11.	Net electrical Energy Generated	532587	2489725	29122298
12.	Reactor service factor	100.0	79.1	81.1
13.	Reactor availabilify factor	100.0	79.1	86.4
14.	Unit service factor	100.0	76.5	77.1
15.	Unit availability factor	100.0	76.9	78.6
16.	Unit capactiy factor (Using MDC)	93.1	63.6	59.8
17.	Unit capacity factor (Using Des. MWe)	90.7	62.0	58.3
18.	Unit forced outage rate	0.0	3.7	7.9

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 ambiant temperature due to the thermal performance of the spray canal.

784222

OPERATING DATA REPORT

DOCKET NO. 050-265
UNIT Two
DATE 8-6-79
COMPLETED BY D. Hannum
TELEPHONE (309) 654-2241, Ext. 179

OPERATING STATUS

1. Reporting period: 0000 070179 2400 073179 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	744.0	4984.9	50361.3
6.	Reactor reserve shutdown hours	0.0	0.0	2985.8
7.	Hours generator on line	744.0	4938.7	48041.6
8.	Unit reserve shutdown hours.	0.0	0.0	702.9
9.	Gross thermal energy generated (MWH)	1400204	10191972	98934096
10.	Gross electrical engergy generated (MWH)	424099	3168662	31657039
11.	Net electrical Energy Generated	382556	2929367	29690827
12.	Reactor service factor	100.0	98.0	80.7
13.	Reactor availabilify factor	100.0	98.0	85.5
14.	Unit service factor	100.0	97.1	77.0
15.	Unit availability factor	100.0	97.1	78.1
16.	Unit capactiy factor (Using MDC)	66.9	74.9	61.9
17.	Unit capacity factor (Using Des. MWe)	65.2	73.0	60.3
18.	Unit forced outage rate	0.0	0.7	9.7

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 ambiant temperature due to the thermal performance of the spray canal.

APPENDIX B
AVERAGE DAILY UNIT POWER LEVEL

Docket No. 050-254
Unit One
Date 8-6-79
Completed by D. Hannum
Telephone (309) 654-2241, Ext. 179

MONTH July, 1979

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1.	585	17.	755
2.	720	18.	751
3.	756	19.	760
4.	617	20.	741
5.	748	21	371
6.	751	22.	587
7.	769	23.	722
8.	728	24.	743
9.	741	25.	749
10.	744	26.	745
11.	749	27.	678
12.	742	28.	718
13.	752	29.	734
14.	750		761
15.	734	3..	746
16.	744		

APPROVE

784224

JUN 20 1976

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.

1 (final)

APPENDIX B
AVERAGE DAILY UNIT POWER LEVEL

Revision 4
June 1976

Docket No. 050-265
Unit Two
Date 8-6-79
Completed by D. Hannum
Telephone (309) 654-2241, Ext. 179

MONTH July, 1979

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1.	562	17.	510
2.	554	18.	513
3.	555	19.	513
4.	498	20.	501
5.	548	21	500
6.	550	22.	488
7.	552	23.	494
8.	519	24.	518
9.	531	25.	476
10.	524	26.	503
11.	526	27.	507
12.	522	28.	496
13.	518	29.	428
14.	522	30.	505
15.	507	31.	489
16.	513		

APPROVED
784225 JUN 28 1976
O. C. O. S. R.

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 D
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-S13
Revision 5
March 1978

DOCKET NO. 050-254
UNIT NAME Quad-Cities One
DATE 8-6-79
REPORT MONTH July, 1979
COMPLETED BY D. Hannum
TELEPHONE (309) 654-2241, Ext. 179

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
15	790704	F	--	H	NA	NA	NA	NA	Load was reduced to 550 MWe for main condenser flow reversal.
16	790721	F	--	H	NA	NA	NA	NA	Load was reduced to 150 MWe for an on-line control rod sequence excnange.

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-1-(final)

APPENDIX D
UNIT SHUTDOWNS AND POWER REDUCTIONS

QTP 300-S13
Revision 5
March 1978

DOCKET NO. 050-265
UNIT NAME Quad-Cities Two
DATE 8-6-79
REPORT MONTH July, 1979
COMPLETED BY D. Hannum
TELEPHONE (309) 654-2241, Ext. 179

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
	8228A								None

-1-(final)

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 actuations during the reporting period.

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

There were no control rod drive scram timing exercises performed during the reporting period.

QTP 300-S32
Revision 1
March 1978

QUAD-CITIES REFUELING INFORMATION REQUEST

1. Unit: 1 Reload: 4 Cycle: 5

2. Scheduled date for next refueling shutdown: January 12, 1979 (Shutdown EOC4)

3. Scheduled date for restart following refueling: April 12, 1979 (Startup BOC5)

4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment: Yes; See attached checklist for Tech. Spec. and License Amendment.

5. Scheduled date(s) for submitting proposed licensing action and supporting information: The QC1 R4 licensing submittal is scheduled for Nov. 11, 1978.

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:

   New fuel designs: Retrofit 8 x 8 fuel (192)

   a) nat. U at bundle top and bottom,
   b) two larger water rods,
   c) new enrichment distribution.

   Last Test Assemblies (4)

   for GE PCI-resistant design development program.

7. The number of fuel assemblies.

   a. Number of assemblies in core: 724

   b. Number of assemblies in spent fuel pool: 486

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: 1460

   b. Planned increase in licensed storage: None

9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: Last refueling date with present capacity: March, 85. (end of batch discharge capability)

PRELIMINARY CHECKLIST FOR RELOAD LICENSE AMENDMENTS

UNIT: Quad Cities 1
RELOAD: 4
CYCLE: 5

	Item	Page	Require Changes
X	Scram Reactivity	4	Generalize wording and ref. the submit, NEDO-24063.
	Safety Valve Setpoints		
NA	LSSS	1.2/2.2-1	None. Adequate pressure margin.
X	Bases	1.2/2.2-2,3	Clarify and add bounding peak pressure.
	RBM Setpoints		
X	LCO	3.2/4.2-14 3.2/4.2-7 3.2/4.2-8	Change to (.652+42) Change operability to 30% Change reference 1 to NEDO-24063
X	Bases		
	Auto Flow Control		
NA	LCO	3.3/4.3-5	None. Stability analysis not limiting.
NA	Bases	3.3/4.3-11	None.
	MAPLHGR		
X	LCO	Fig. 3.5-1 (shts. 1 to 3)	*Revise curves to reflect new analyses.
X	Bases	3.5/4.5-14	*Change references to reflect new analyses of NEDO-24046
	MCPR	3.5/4.5-10	New values:**1.33 (7x7) 1.35 (8x8)
X	LCO		
	Bases	3.5/4.5-14	Generalize description of limiting transient (s).

* MAPLHGR changes are being handled under separate cover.
** Includes additional 0.XX CPR penalty for Fuel Loading Error Accident (NRC interim licensing position).

Values unknown at this time are indicated as "XX..."

784230

UNIT Q1
RELOAD 4
CYCLE 5

RELOAD LICENSING PACKAGE PREPARATION SCHEDULE

QTP 300-S33
Revision 1
March 1978

* DATE	RESPONSIBILITY CENTER	ACTIVITY
9/15/78	GE NFS	NFS receives draft Licensing Submittal from GE Transmit copy of draft to Station for Comments
9/29/78	NFS NFS	Transmit NFS and Site comments/questions to GE Begin Tech. Spec. changes, Safety Evaluation and Cover letter
10/30/78	GE NFS	NFS receives final Licensing Submittal and answers to CECo questions from GE Complete final NFS review of Licensing Submittal and answers to CECo questions
11/1/78	NFS	Transmit complete package for on/off site review
11/3/78	Station	On-site review completed
11/6/78	PSA	Off-site review completed
11/11/78	NLA	Completed licensing package received by NRC
1/12/79	-	Anticipated unit shutdown
2/9/79	-	Receipt of operating License
3/9/79	-	Anticipated Unit Startup - Assumes 56 day outage / 8 weeks

28 days

90 days

Prepared by MC NFS/BWR

Date 12/23/77

QTP 300-S32
Revision 1
March 1978

QUAD-CITIES REFUELING INFORMATION REQUEST

1. Unit: 2 Reload: 3 Cycle: 4 (outage in progress)

2. Scheduled date for next refueling shutdown: January 15, 1978 (shutdown EOC 3)

3. Scheduled date for restart following refueling: March 15, 1978
(Startup BOC4) (In progress; See below for next outage)

4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment: Yes; See attached checklist for Tech. Spec. and License Amendments.

5. Scheduled date(s) for submitting proposed licensing action and supporting information: The QC2 R3 licensing package was transmitted on Dec. 2, 1977.

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. (180 2.62 w/0% 8 x 8's).

7. The number of fuel assemblies.

a. Number of assemblies in core: 724 (before EOC4 discharge)

b. Number of assemblies in spent fuel pool: 230 (before EOC4 discharge)

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: 1460

b. Planned increase in licensed storage: None.

9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: Last refueling date with present capacity: September, 85.

PRELIMINARY CHECKLIST FOR RELOAD LICENSE AMENDMENTS

UNIT: Quad-Cities 2
RELOAD: 3
CYCLE: 4

	Item	Page	Require Changes
X	Scram Reactivity	4	Generalize wording and reference the submit, NEDO-24063.
	Safety Valve Setpoints		
NA	LSSS	1.2/2.2-1	None. Adequate pressure margin.
X	Bases	1.2/2.2-2,3	Clarify and add bounding peak pressure.
	RBM Setpoints		
X	LCO	3.2/4.2-14 3.2/4.2-7	Change to (.65w+42) Change operability to 30%.
X	Bases	3.2/4.2-8	Change Reference 1 to NEDO-24063.
	Auto Flow Control		
NA	LCO	3.3/4.3-5	None. Stability analysis not limiting.
NA	Bases	3.3/4.3-11	None.
	MAPLHGR		
X	LCO	Fig. 3.5.1 (shts. 1 to 3)	*Revise curves to reflect new analyses.
X	Bases	3.5/4.5-14	*Change references to reflect new analyses of NEDO-24046.
	MCPR	3.5/4.5-10	New values: **1.33 (7 x 7) 1.35 (8 x 8)
X	LCO		
	Bases	3.5/4.5-14	Generalize description of limiting transient(s).

* MAPLHGR changes are being handled under separate cover.
** Includes additional 0.XX CPR penalty for Fuel Loading Error Accident (NRC interim licensing position).

Values unknown at this time are indicated as "XX..."

7841233

UNIT OC 2
RELOAD 3
CYCLE 4

RELOAD LICENSING PACKAGE PREPARATION SCHEDULE

QTP 300-S33
Revision 1
March 1978

DATE	RESPONSIBILITY CENTER	ACTIVITY
10/6/77	GE NFS	NFS receives draft Licensing Submittal from GE Transmit copy of draft to Station for comments.
10/20/77	NFS NFS	Transmit NFS and Site comments/questions to GE Begin Tech. Spec. changes, Safety Evaluation and Cover Letter.
11/3/77	GE NFS	NFS receives final Licensing Submittal and answers to CECo questions from GE. Complete final NFS review of Licensing Submittal and answers to CECo question.
11/8/77	NFS	Transmit complete package for on/off site review
11/16/77	Station	On-site review completed
11/18/77	PSA	Off/site review completed
12/1/77	NLA	Completed Licensing package received by NRC 90 days
1/16/78	-	Anticipated unit shutdown 28 days
3/5/78	-	Receipt of operating License
3/15/78	-	Anticipated Unit Startup - Assumes ____ Day outage 8 Weeks

8233

Prepared by JAS NFS/BWR

Date 2/23/78