

RAR-91-19

May 3, 1991

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 April 1991.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

*R. A. Robey*  
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Technical Superintendent

RAR/CALS/dak

Enclosure

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

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QUAD-CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

MONTHLY PERFORMANCE REPORT

APRIL 1991

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 Cynthia A. Losek-Short and Debra Kelley, telephone number 309-654-2241, extensions 2938 and 2240.

## II. SUMMARY OF OPERATING EXPERIENCE

### A. Unit One

Unit One began the month of April with the continuation of the refuel outage. Preliminary testing of the Unit continued throughout the month. On April 26th at 1537 hours Unit One Generator went on-line signifying the end of Refuel Outage Q1R11. The unit was shutdown on April 27th due to problems with RCIC. On April 29th the unit was made critical and the generator was brought on-line the following day. Load was held at 156 MWe for scram timing for the rest of the month.

### B. Unit Two

Unit Two began the month of April operating in Economic Generation Control (EGC). The unit remained in EGC for the month with the only interruption being on April 5th. On the 5th of April Unit power was dropped to 240 Megawatt Electric (MWe) for a Primary Containment leak inspection. The unit was returned to full power on the same day. On the 7th of April Unit Two was shutdown due to Technical Specification LCO 3.9.A.3. The unit was made critical on April 19th, but was shutdown due to problems with the turbine stop valves on April 20th. Following repairs to the turbine stop valves, the unit was made critical and generator went on-line on April 23rd. Full power was achieved on April 24th and normal operations continued for the rest of April.

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 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

<u>WORK REQUEST</u>	<u>SYSTEM</u>	<u>EID DESCRIPTION</u>	<u>WORK PERFORMED</u>
Q87342	0912	Investigate and repair alarm for Category I.	As Found: Two batteries on B4520-529 circuit board were bad. As Left: Removed old batteries and replaced them with new batteries.
Q91209	5727	Repair 1/2 DG vent fan.	As Found: Unable to get vent fan to run from either unit feed. As Left: Removed HGA Relay using QCEM 700-14 replace with new relay.
Q91295	0020	Repair gasket on Bottom HPCI inner South door is loose-protruding from keeper.	As Found: The rubber piece for the door sweep was halfway out and was missing a couple of screws. As Left: Installed new door sweep and raised it 1/4" on the one end.
Q76624	0261	Replace missing washer on setpoint locking screw on low side switch.	As Found: Washers were gone from locking screws due to partially stripped threads in case. As Left: Removed DPIS and modified old face plate. Installed new DPIS body only to DPV on rack.
Q91212	2599	Inspect ACAD valve 1-2599-5B when stroked seems to have a slow response time.	As Found: Diaphragm was excessively worn. As Left: Replaced diaphragm and stem seal.
Q91236	8193	Breaker (19-3 E-4) tripped 2X's investigate further.	As Found: Looked like L2 on breaker got hot, coil on main contractor is cracked in several places. As Left: Millohmed motor all reading read .245 meggered and millohmed breaker which read ok. Replace old breaker with new breaker.

UNIT 2 MAINTENANCE SUMMARY

<u>WORK REQUEST</u>	<u>SYSTEM</u>	<u>EID DESCRIPTION</u>	<u>WORK PERFORMED</u>
Q86091	1053	Replace test fittings on press switches 2-1053E and 2-1053F which were bad.	As Found: The 1/2" male pipe thread 90 degrees to 1/4" tubing SS fittings had galled threads. As Left: Replaced with like for like fittings using safety-related pipe seal and after installation checked for leaks.
Q88613	2401	Upgrade the 2B CAM heat trace output for 280 degrees DW CAM inlet temperature as designed.	As Found: Heat trace cable unable to maintain specified temperature. As Left: OAD tested new heat trace per ECTP #8 Doc. 11. The CAM Heat Trace circuit #7 on Line #2-2401B-1/2 was replaced.

#### 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 1

<u>Licensee Event Report Number</u>	<u>Date</u>	<u>Title of Occurrence</u>
91-009	04/26/91	RCIC Inoperable
91-010	04/27/91	Plant Shutdown due to RCIC INOP Ref. T.S. 3.5.E.4.
91-011	04/29/91	RCIC oscillation during performance of QCOS 1300-7 RCIC manual initiation test

##### UNIT 2

91-005	04/16/91	Unit 2 Shutdown per T.S. 3.9.A.3 Unusual Event
91-006	04/20/91	HPCI INOP

## 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

# APPENDIX B AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-254

UNIT One

DATE May 3, 1991

COMPLETED BY Cynthia Short

TELEPHONE 309-654-2241

MONTH APRIL

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>0</u>
5	<u>0</u>
6	<u>0</u>
7	<u>0</u>
8	<u>0</u>
9	<u>0</u>
10	<u>0</u>
11	<u>0</u>
12	<u>0</u>
13	<u>0</u>
14	<u>0</u>
15	<u>0</u>
16	<u>0</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>0</u>
23	<u>0</u>
24	<u>0</u>
25	<u>0</u>
26	<u>26</u>
27	<u>0</u>
28	<u>0</u>
29	<u>0</u>
30	<u>106</u>
31	<u></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 May 3, 1991

COMPLETED BY Cynthia Short

TELEPHONE 309-654-2241

MONTH APRIL

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>764</u>
2	<u>819</u>
3	<u>818</u>
4	<u>774</u>
5	<u>638</u>
6	<u>806</u>
7	<u>61</u>
8	<u>0</u>
9	<u>0</u>
10	<u>0</u>
11	<u>0</u>
12	<u>0</u>
13	<u>0</u>
14	<u>0</u>
15	<u>0</u>
16	<u>-</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>0</u>
23	<u>43</u>
24	<u>618</u>
25	<u>821</u>
26	<u>813</u>
27	<u>755</u>
28	<u>763</u>
29	<u>776</u>
30	<u>785</u>
31	<u></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 C** **OPERATING DATA REPORT**

DOCKET NO. 50-254  
UNIT One  
DATE May 3, 1991  
COMPLETED BY Cynthia Losek-Short  
TELEPHONE 309-654-2241

## **OPERATING STATUS**

1. REPORTING PERIOD: 0000 040191 GROSS HOURS IN REPORTING PERIOD: 720  
2400 043091  
2. CURRENTLY AUTHORIZED POWER LEVEL (MWe): 2511 MAX. DEPEND. CAPACITY (MWe-Net): 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):

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL	115.6	115.6	131597.5
6. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	3421.9
7. HOURS GENERATOR ON LINE	27.9	27.9	127397.2
8. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	909.2
9. GROSS THERMAL ENERGY GENERATED (MWH)	33072.0	33072.0	272764512.0
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	3185.0	3185.0	88397039.0
11. NET ELECTRICAL ENERGY GENERATED (MWH)	-1726.0	-18720.0	83155521.0
12. REACTOR SERVICE FACTOR	16.1	4.0	78.8
13. REACTOR AVAILABILITY FACTOR	16.1	4.0	80.9
14. UNIT SERVICE FACTOR	3.9	1.0	76.3
15. UNIT AVAILABILITY FACTOR	3.9	1.0	76.8
16. UNIT CAPACITY FACTOR (Using MDC)	-0.3	-0.8	64.8
17. UNIT CAPACITY FACTOR (Using Design MWe)	-0.3	-0.8	63.1
18. UNIT FORCED OUTAGE RATE	0.0	0.0	5.2

19. SHUTDOWNS SCHEDULED OVER NEXT 6 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 COMMERCIAL OPERATION):

	FORECAST	ACHIEVED
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

# APPENDIX C OPERATING DATA REPORT

DOCKET NO. 50-265  
UNIT Two  
DATE May 3, 1991  
COMPLETED BY Cynthia Leseck-Short  
TELEPHONE 309-654-2241

OPERATING STATUS 0000 040191

1. REPORTING PERIOD: 2400 043091 GROSS HOURS IN REPORTING PERIOD: 720

2. CURRENTLY AUTHORIZED POWER LEVEL (MWh): 2511 MAX. DEPEND. CAPACITY (MWh-Net): 769  
DESIGN ELECTRICAL RATING (MWh-Net): 789

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWh-Net): N/A

4. REASONS FOR RESTRICTION (IF ANY):

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL	337.5	2423.0	128112.2
6. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	2985.8
7. HOURS GENERATOR ON LINE	324.3	2392.5	124679.5
8. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	702.9
9. GROSS THERMAL ENERGY GENERATED (MWH)	744734.0	5597301.0	268828622.0
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	241371.0	1832566.0	86293773.0
11. NET ELECTRICAL ENERGY GENERATED (MWH)	231484.0	1773608.0	81604160.0
12. REACTOR SERVICE FACTOR	46.9	84.1	77.1
13. REACTOR AVAILABILITY FACTOR	46.9	84.1	79.2
14. UNIT SERVICE FACTOR	45.0	83.1	75.4
15. UNIT AVAILABILITY FACTOR	45.0	83.1	75.8
16. UNIT CAPACITY FACTOR (Using MDC)	41.8	80.1	64.1
17. UNIT CAPACITY FACTOR (Using Design MWh)	40.7	78.1	62.5
18. UNIT FORCED OUTAGE RATE	54.1	16.5	6.0

19. SHUTDOWNS SCHEDULED OVER NEXT 6 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 COMMERCIAL OPERATION):

	FORECAST	ACHIEVED
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

**APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS**

**DOCKET NO.** 50-256

**UNIT NAME** Quad Cities Unit One

**COMPLETED BY** Cynthia A. Losek-Short

**DATE** May 3, 1991

**REPORT MONTH** April, 1991

**TELEPHONE** 309-654-2241

NO.	DATE	TYPE T OR S	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN REACTOR	LICENSEE EVENT REPORT NO.	SYSTEM CODE	COMPONENT CODE	CORRECTIVE ACTIONS/COMMENTS
91-01	910401	S	692.1	C	2	- - -	7C	FUELXX	Unit One Shutdown for Continuation of Cycle Eleven Refuel Outage.

APPENDIX D  
UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-265

UNIT NAME Quad-Cities Unit Two

COMPLETED BY Cynthia A. Losek-Short

DATE May 3, 1991

REPORT MONTH April, 1991

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
91-06	910405	S	0	B	4	- - -	- - -	- - -	Unit 2 Power Reduction for Drywell entry.
91-07	910407	F	395.7	D	2	- - -	- - -	- - -	Unit 2 Shutdown due to LOO 3.9.A.3

## 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

Relief valve operations during the reporting period are summarized in the following table. The table includes information as to which relief valve was actuated, how it was actuated and the circumstances resulting in its actuation.

Unit: One

Date: April 26, 1991

<u>Valves Actuated</u>	<u>No. &amp; Type of Actuation</u>
1-203-3A	1 Manual
1-203-3B	1 Manual
1-203-3C	1 Manual
1-203-3D	1 Manual
1-203-3E	1 Manual

Plant Conditions: Reactor Pressure - 924 PSIG

Description of Events: Post Maintenance and Routine Surveillance  
Semi-annual, Manual Operation of Electromatic  
Relief Valves (QCOS 203-3),  
Tech Spec: Ref. 3.5/4.5.D.1.a

Unit: Two

Date: April 7, 1991

<u>Valves Actuated</u>	<u>No. &amp; Type of Actuation</u>
2-203-3A	1 Manual
2-203-3B	1 Manual
2-203-3C	1 Manual
2-203-3D	1 Manual
2-203-3E	1 Manual

Plant Conditions: Reactor Pressure - 924 PSIG

Description of Events: Routine Surveillance  
Semi-annual, Manual Operation of Electromatic Relief Valves (QCOS 203-3),  
Tech Spec: Ref. 3.5/4.5.D.1.a

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

The basis for reporting this data to the Nuclear Regulatory Commission are specified in the surveillance requirements of Technical Specifications 4.3.C.1 and 4.3.C.2.

The following table is a complete summary of Units One and Two Control Rod Drive Scram Timing for the reporting period. All scram timing was performed with reactor pressure greater than 800 PSIG.

RESULTS OF SCRAM TIMING MEASUREMENTS  
PERFORMED ON UNIT 1 & 2 CONTROL  
ROD DRIVES, FROM 1-1-91 TO 12/31/91

DATE	NUMBER OF RODS	AVERAGE TIME IN SECONDS AT % INSERTED FROM FULLY WITHDRAWN				MAX. TIME FOR 90% INSERTION	DESCRIPTION
		5	20	50	90		
		0.375	0.900	2.00	3.5	7 sec.	Technical Specification 3.3.C.1 & 3.3.C.2 (Average Scram Insertion Time)
1-30-91	1	0.28	0.63	1.37	2.45	H-7 (2.45)	U2 scram timing for accumulator replacement on H-7
1-30-91	1	0.30	0.72	1.53	2.67	F-6 (2.67)	U2 scram timing for accumulator replacement on F-6
4-30-91	22/177	0.29	0.67	1.46	2.57	H-11 (3.0)	U1, Hot Scram Timing during Start Up Sequence A&B, Cycle 12 (Paritial)

scramtim

## 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 300-532  
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 restart following refueling: 04-24-91
4. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment:  
Yes, a proposed change to Technical Specification has been 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, and has received approval.
5. Scheduled date(s) for submitting proposed licensing action and supporting information:  
  
August 31, 1990
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 AT PRESENT TIME.
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 724
  - b. Number of assemblies in spent fuel pool: 1681
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: 2009

QUAD CITIES REFUELING  
INFORMATION REQUEST

QTP 300-S32  
Revision 2  
October 1989

1. Unit: Q2 Reload: 10 Cycle: 11
2. Scheduled date for next refueling shutdown: 9-7-91
3. Scheduled date for restart following refueling: 12-9-91
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:  
NOT AS YET DETERMINED.
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 AT PRESENT TIME.
7. The number of fuel assemblies.
  - a. Number of assemblies in core: 724
  - b. Number of assemblies in 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: 0
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: 2009

## 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