

ZION GENERATING STATION
ANNUAL OPERATING REPORT
1982
DOCKETS 50-295 AND 50-304
COMMONWEALTH EDISON COMPANY

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PDR ADOCK 05000295
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INTRODUCTION

This Annual Report by Commonwealth Edison Company, Zion Station transmits environmental data, near-site airport expansion plans, facility modifications, tests, experiments, occupational exposures, and challenges to the primary systems PORV or safety valves. Although the Annual Report is no longer required by Zion Technical Specifications, the annual reporting of certain items is required. The following areas are addressed in this report:

- I. Environmental Report Regarding Chemical and Temperature Discharges
- II. Expansion Plans for Waukegan Memorial Airport
- III. Modifications, Tests and Experiments Conducted at the Plant
- IV. Occupational Exposure Report
- V. Challenges to Primary System PORV or Safety Valves

I
ENVIRONMENTAL REPORT

A. UNIT 1 INTAKE AND DISCHARGE TEMPERATURE DATA

MONTH 1982	ΔT °F (AVG)	INLET TEMP °F (AVG)	DISCHARGE TEMP °F (AVG)
JAN	24.2	37.1	61.3
FEB	23.8 (12 days)	37.3	61.1
MAR	Outage	Outage	Outage
APR	Outage	Outage	Outage
MAY	Outage	Outage	Outage
JUNE	Outage	Outage	Outage
JULY	19.7 (24 days)	55.4	75.1
AUG	20.3	64.1	84.4
SEPT	24.1	59.8	83.9
OCT	20.1 (26 days)	52.1	72.2
NOV	19.2	46.7	65.9
DEC	19.3	42.2	61.5
	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM THE TECH STAFF DAILY LOG WHICH IS TAKEN FROM THE STRIP CHART.	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM SUBTRACTING THE ΔT AVG FROM THE DISCHARGE TEMP AVG.	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM THE TECH STAFF DAILY LOG WHICH IS TAKEN FROM THE STRIP CHARTS.

A. UNIT 2 INTAKE AND DISCHARGE TEMPERATURE DATA

MONTH 1982	ΔT °F (AVG)	INLET TEMP °F (AVG)	DISCHARGE TEMP °F (AVG)
JAN	18.4 (22 days)	36.2	54.6
FEB	20.1 (5 days)	35.5	55.6
MAR	15.5 (10 days)	38.1	53.6
APR	26.4 (18 days)	36.7	63.1
MAY	20.0 (30 days)	47.2	67.2
JUNE	15.8 (25 days)	52.1	67.9
JULY	18.3 (30 days)	55.9	74.2
AUG	22.7	64.7	87.4
SEPT	20.0 (7 days)	62.5	82.5
OCT	16.2 (10 days)	48.4	64.6
NOV	24.6	45.6	70.2
DEC	31.3 (28 days)	40.0	71.3
	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM THE TECH STAFF DAILY LOG WHICH IS TAKEN FROM THE STRIP CHART.	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM SUBTRACTING THE ΔT AVG FROM THE DISCHARGE TEMP AVG.	THE INFORMATION IN THIS COLUMN WAS DERIVED FROM THE TECH STAFF DAILY LOG WHICH IS TAKEN FROM THE STRIP CHARTS.

B. UNIT 1 RATES OF CIRCULATING WATER ΔT CHANGE UNDER
NORMAL STARTUP AND SHUTDOWN (1982)

DATE	RATE OF CHANGE °F/HR
1-8-82	- 2.6
1-9	+ 1.2
2-12-82	- 5.2
7-2-82	+ .8
7-12	+ .6
7-14	+ .6
7-18	+ .7
7-20	+ .9
9-11-82	- 2.0
9-13	+ .5
9-14	- 3.3/+ 1.9
10-2	+ 3.3
10-5	+ 1.9
10-15	- 6.5
10-19	+ 2.2
10-20	+ 2.3/+ 5.0
11-5	- 1.7
11-25	- 2.3
11-29-82	+ 2.6
12-24	- 2.6
12-27	+ 1.3

NOTE: The rate of change for ΔT was calculated by noting ΔT at the beginning and end of normal startup and shutdown. The difference in ΔT was then divided by the number of elapsed minutes giving an average rate per minute. This was multiplied by 60 giving an average rate per hour.

B. UNIT 2 RATES OF CIRCULATING WATER ΔT CHANGE UNDER
NORMAL STARTUP AND SHUTDOWN (1982)

DATE	RATE OF CHANGE °F/HR
1-1-82	- 1.9
1-6	+ 1.3
1-11	+ 1.9
1-13-	- 2.6
1-25	- 2.6
1-26-	+ 3.9
1-31	+ 2.6
2-5	+ 2.6/- 1.3
2-6	- 2.6
3-21	+ 1.9
3-22	- 2.6
4-8	+ 2.2
4-9	- 5.2
4-14	+ 2.2
4-17	+ .9
4-20	+ 1.6/- 2.3
5-16	+ 1.1
5-28	- 2.9
5-29	+ 1.1
5-30	+ 2.2
6-7	+ 2.2

NOTE: The rate of change for ΔT was calculated by noting ΔT at the beginning and end of normal startup and shutdown. The difference in ΔT was then divided by the number of elapsed minutes giving an average rate per minute. This was multiplied by 60 giving an average rate per hour.

B. UNIT 2 RATES OF CIRCULATING WATER ΔT CHANGE UNDER
NORMAL STARTUP AND SHUTDOWN (1982)

<u>DATE</u>	<u>RATE OF CHANGE °F/HR</u>
6-21-82	+ 1.6
6-29	+ 2.2
7-5	+ 2.6
7-9	+ 2.2
7-12	+ 2.2
8-2	+ 2.6
8-3	+ 2.2
9-7	- 3.3
10-19	+ 3.5
10-25	+ 3.0
10-26	+ 2.2
12-4	+ 2.2

C. DE-ICING

Zion Station operated in the De-icing Mode during the first three months of 1982.

D. VIOLATIONS OF THE ENVIRONMENTAL TECHNICAL SPECIFICATIONS

There were no violations of the Environmental Technical Specifications during 1982.

E. MALFUNCTION OF ENVIRONMENTAL MONITORING EQUIPMENT

There were no malfunctions of the environmental equipment in 1982.

F. HYPOCHLORIDE USAGE

There was no sodium hypochlorite used at the Station in 1982.

G. SHORELINE EROSION STATUS

Commonwealth Edison Company continues to take monthly photographic surveys of the Zion Shoreline. No action is necessary at this time.

SYSTEM: CHEMICAL:	Waste Neut. Tank Sulfuric Acid (Gal.)	Waste Neut. Tank Sodium Hydroxide (Gal.)	Component Cooling Potassium Hydroxide (Lbs.)	Component Cooling Potassium Dichromate (Lbs.)	Lake Dis. Tank Boric Acid (Lbs.)	Lake Dis. Tank Detergents (Lbs.)
January	*	*	13.0	23.0	2330.5	--
February	*	*	2.0	10.0	1880.5	--
March	*	*	12.0	15.0	5522.6	--
April	*	*	1.0	9.0	5118.4	--
May	*	*	7.5	16.0	3715.5	--
June	*	*	11.5	17.0	5851.4	--
July	*	*	0.0	0.0	3541.4	--
August	*	*	2.0	4.0	2053.8	--
September	*	*	0.0	0.0	2024.2	--
October	*	*	0.0	0.0	3398.3	--
November	*	*	0.5	1.0	1502.7	--
December	*	*	0.0	0.0	1439.0	--
Yearly Total:	**** 4499	**** 7264	*** 49.5	*** 95.0	38,378.3	** <100

Comments:

- * Monthly totals not available yearly totals below.
- ** Normal clothing dry cleaned, rubber goods washed.
- *** This amount reflects the chemicals added to this system. This amount is not necessarily what is discharged.
- **** This amount is known to be discharged. The acid tank volume is 10,000 gal. and the caustic tank is 15,000 gal. The difference in gallons has been used in other plant systems, and the amount discharged is undetermined.

II WAUKEGAN MEMORIAL AIRPORT EXPANSION PLANS

The Airport Master Record (Form 5010-1) has been updated with the only change being a change in the airport manager. This job is currently being filled by Bruce H. Lawson.

The airport's Environmental Impact Assessment Report, submitted in 1978, has been approved.

Acquisition of land is still in progress for the Expansion Project.

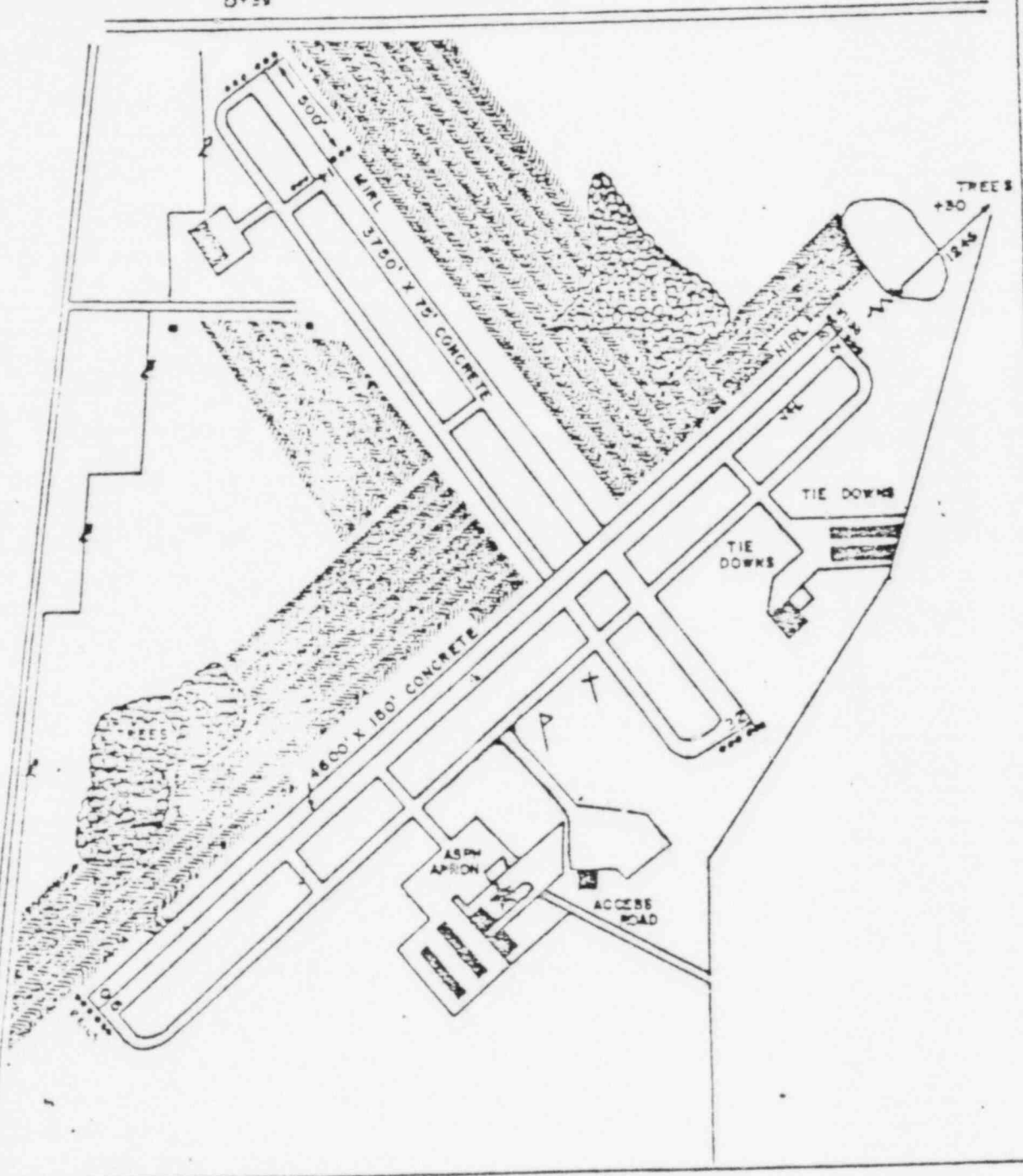
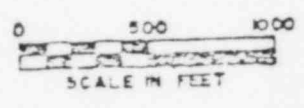
GENERAL		SERVICES	BASED AIRCRAFT
18 OWNERSHIP: PUBLIC		578 FUEL: 188 A	98 SINGLE ENGI: 196
19 OWNER: WAUKEGAN PORT DISTRICT		579 AIRFRAME RPRS: MAJOR	91 MULTI ENGI: 54
12 ADDRESS: 3588 MCAREE RD		572 PWR PLANT RPRS: MAJOR	92 JET:
WAUKEGAN IL 68885		573 BOTTLE OXYGEN: NONE	TOTAL 258
13 PHONE NR:		574 RULK OXYGEN: NONE	
14 MANAGER: VICTOR G. WHITE <i>Brant K. L...</i>		75 TSNT STORAGE: MCM	93 HELICOPTERS:
15 ADDRESS: 3588 MCAREE RD		76 OTHER SERVICES:	94 GLIDERS:
WAUKEGAN IL 68885			95 MILITARY:
16 PHONE NR: 312-244-8855			
17 ATTENDANCE SCHEDULE:			
MONTHS ALL	DAYS ALL	HOURS DUSK-DAWN	
18 AIRPORT USED: PUBLIC		588 ARPT BCN: CG	188 AIR CARRIER:
19 ARPT LAT: 42-25-15N	ESTIMATED	581 BCN SCHEDULE: DUSK-DAWN	181 COMMUTE:
20 ARPT LONG: 87-52-89W		582 UNICOM: +123.888	182 AIR TAXI: 2888
21 ARPT-ELEV: 88727 ESTIMATED		583 WIND INDICATOR: YES	183 G & LOCAL: 152791
22 ACFTAGE: 88888		84 SEGMENTED CIRCLE: NONE	184 G & ITHRPT: 48122
23 RIGHT TRAFFIC:		85 CONTROL TWR: NO	185 MILITARY: 3588
24 NON-COMM LANDING FEE: NO		86 FSS: CHICAGO	TOTAL: 286413
25 NASP/FEDERAL AGREEMENT: NBY		87 FSS ON ARPT: NO	
26 FAR 179 INDEX: N		88 FSS PHONE NR: 312-584-5818	OPERATIONS FOR 12
		89 TOLL FREE NR: 249-4244	MOS ENDING 22MAY81

RWY DATA		85/23	14/32			
28 RWY IDENT						
29 LENGTH:		4688	3758			
30 WIDTH:		158	75			
31 SURF TYPE-COND		CONC	CONC			
32 SURF TREATMENT						
33 BRKLYN		96	14			
34 (IN THOUS) DW		128	03			
35 DTW		288				
36 ILLUM						
LIGHTING/APCH AIDS		85/23	14/32			
37 EDGE INTENSITY		HIGH	MED			
38 EDGE SCHEDULE		*RDC REG	RDC REG			
39 RWY MARK TYPE-COND		NPI-P /NPI-P	SSC-F /BSC-F	/	/	/
40 VASI		YAL /YAL	N /N	/	/	/
41 THR CROSSING HGT		77 /38	/	/	/	/
42 VISUAL GLIDE ANGLE		3.88 /3.88	/	/	/	/
43 CNTRLN-TDZ		N-N /N-N	N-N /N-N	/	/	/
44 RLS-RVV		N-N /N-N	N-N /N-N	/	/	/
45 REIL		Y /Y	N /N	/	/	/
46 APCH LIGHTS		/	/	/	/	/
OBSTRUCTION DATA		85/23	14/32			
47 FIR 77 CATEGORY		B(V) /C	B(V) /B(V)	/	/	/
48 DISPLACD THR		/	588 /	/	/	/
49 CTLG OBSTN		TREE /TREES	ROAD /	/	/	/
50 OBSTN MARKED/LGTD		/	/	/	/	/
51 HGT ABOVE RWY END		38 /	/	/	/	/
52 DIST FROM RWY END		351 /1246	285 /	/	/	/
53 CNTRLN OFFSET		258L /	125R /	/	/	/
54 OBSTN ELNK: SLOPE		14:1 /33:1	8:1 /33:1	/	/	/
55 CLOSE-IN OBSTN		N /N	N /N	/	/	/
2ND LANDING LENGTH		85/23	14/32			
56 LANDING RWY-LENGTH		/	/	/	/	/
57 CTLG OBSTACLE		/	/	/	/	/
58 HGT-ABOVE THR		/	/	/	/	/
59 DIST FROM THR		/	/	/	/	/
60 CNTRLN OFFSET		/	/	/	/	/

(X) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY X
 018 REMARKS:
 8841 RWY 85 /23 ACTIVATE MRL/REIL RWY 85/23 & MRL RWY 14/32 123.8.
 8857 RWY 14 APCH RATIO 14:1 AT DSPLCD THR.
 8882 FREQ 122.85 AVBL ON REG.

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NAME: VALERIO MEMORIAL		34 0000 P.A.	
PLANNED	ON	181	77
EXISTING			
CONNECTED			
LENGTH			
AIRPORT ACREAGE			
NOTES			



III-MODIFICATIONS, TESTS AND EXPERIMENTS

MODIFICATIONS

There were two modifications and two reactor fuel reloads completed in 1982 which involved a change to the facility as described in the FSAR. These modifications did not raise an unreviewed safety question as defined in 10CFR50.59(a)(2). There are no changes required.

Cut and cap lines 1PP2DI and 1PP161 for containment integrated leak rate test. (M1-80-19)

Install isolation valves in sensing line of VCT M2-80-26.

TESTS AND EXPERIMENTS

There were no testing or experiments performed during 1982 that involved a change in the technical specifications or an unreviewed safety question.

IV ANNUAL OCCUPATIONAL EXPOSURE DATA

This data for 1982 was submitted to the Nuclear Regulatory Commission by a letter from K.L. Graesser, Zion Station Superintendent, to Mr. James G. Keppler, Regional Director dated March 2, 1983.

V CHALLENGES TO PRIMARY SYSTEM PORV AND SAFETY VALVES

The Unit 1 pressurizer power operated relief valves (PORV's) lifted on 9-30-82 at approximately 1655 hours, following a Control Rod system and steam dump malfunction and manual reactor trip from 50% reactor power.

Pressurizer pressure increased to 2355 PSIG and the PORV's lifted. Pressurizer pressure decreased to 2040 PSIG, at which time the PORV's close, and RCS pressure increased to within its normal range. The pressurizer PORV's lifted and reseated normally according to their intended function, with minimal seat leakage observed.