RECEIVED
APR 0 1 1981
U.S. NUCLEAR REGULATORY COMMISSION

NRC Report to
Commonwealth Edison Company
Chicago, Illinois

OPERATIONAL ENVIRONMENTAL MONITORING IN THE MISSISSIPPI RIVER NEAR QUAD-CITIES STATION

Prepared and Submitted by
ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.

February 1980 through
December 1980

8104020140

Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

March 24, 1981

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Quad Cities Station Units 1 and 2
Semi-Annual Non-Radiological
Environmental Report
NRC Docket Nos. 50-254 and 50-265

Dear Mr. Denton:

Attached is the Semi-Annual Non-Radiological Environmental Report for Quad Cities Station Units 1 and 2 as required by the Technical Specifications. This report covers the period from February 1, 1980 through December, 1980.

One (1) signed original and thirty-nine (39) copies of this report are provided for your use.

Very truly yours,

T. J. Rausch

T. J. Rausch
Nuclear Licensing Administrator
Special Projects

Attachment

cc: NRC RIII Inspector - Quad Cities (w/o Att.)

1687B

TABLE OF CONTENTS

	Page
PREFACE	II
1.0 TOTAL CHLORINE MONITORING	1-1
2.0 TEMPERATURE MONITORING	2-1
3.0 CHEMICAL USAGE	3-1
4.0 IMPINGEMENT INVESTIGATION	4-1

APPENDICES

A. Summary of Daily Minimum, Maximum and Mean Water Temperatures

B. Summary of Daily Temperature Differences

C. Weekly Temperatures in the Wapsipinicon and Mississippi Rivers

D. Chronology of Changes in Station Operating Conditions

E. Daily Megawatt Power Output (Percent of Capacity)

F. Percent Recovery of Temperature Data and Explaination of Data Losses

G. Hourly Water Temperature Data

PREFACE

The Quad-Cities Station is a nuclear fueled steam electric generating facility located near Cordova, Illinois, adjacent to Pool 14 of the Mississippi River, about 21 miles north of the Davenport-Moline-Rock Island area.

This report is presented as required by the Nuclear Regulatory Commission Operating Licenses DPR-29 and DPR-30 non-radiological technical specifications for Quad-Cities Station Units 1 and 2. These specifications require the submission of reports describing the results of environmental monitoring for the total chlorine used in condenser chlorination, temperature monitoring, station chemical usage, and fish impingemert.

The monitoring results for the eleven-month period of February through December 1980 are herein reported. Prior to this report, results were presented on a semi-annual basis. Subsequent reports will cover the 12 month calendar year.

CHAPTER 1

TOTAL CHLORINE MONITORING

Operational Environmental Monitoring In The

Mississippi River Near Quad-Cities Station

February 1980 through December 1980

TABLE OF CONTENTS

	Page
LIST OF TABLES	ii
1.1 Introduction	1-1
1.2 Field and Analytical Procedures	1-1
1.3 Results and Discussions	1-2
1.4 Summary and Conclusions	1-2
1.5 References Cited	1-3

LIST OF TABLES

No.	Title	Page
1-1	Description of sampling locations monitored, February 1980 through December 1980	1-4
1-2	Sampling locations monitored for total residual chlorine during condenser chlorination, February 1980 through December 1980	1-5
1-3	Nuclear Regulatory Commission surveillance requirements for total chlorine concentrations	1-6
1-4	Average detectable chlorine concentrations, Quad-Cities Station, February 1980 through December 1980	1-7
1-5	Sampling dates for total residual chlorine monitoring during condenser chlorination and Quad-Cities Station operating conditions, February 1980 through December 1980	1-9
1-6	Total residual chlorine concentrations measured during condenser chlorination, February 1980	1-13
1-7	Total residual chlorine concentrations measured during condenser chlorination, March 1980	1-17
1-8	Total residual chlorine concentrations measured during condenser chlorination, April 1980	1-21
1-9	Total residual chlorine concentrations measured during condenser chlorination, May 1980	1-25
1-10	Total residual chlorine concentrations measured during condenser chlorination, June 1980	1-28
1-11	Total residual chlorine concentrations measured during condenser chlorination, July 1980	1-31
1-12	Total residual chlorine concentrations measured during condenser chlorination, August 1980	1-34
1-13	Total residual chlorine concentrations measured during condenser chlorination, September 1980	1-37
1-14	Total residual chlorine concentrations measured during condenser chlorination, October 1980	1-39

LIST OF TABLES (CONTINUED)

No.	Title	Page
1-15	Total residual chlorine concentrations measured during condenser chlorination, November 1980	1-42
1-16	Total residual chlorine concentrations measured during condenser chlorination, December 1980	1-45

1.0 TOTAL CHLORINE MONITORING

1.1 Introduction

Total residual chlorine monitoring during Quad-Cities condenser chlorination began on July 27, 1972 and has continued through this study period, February through December 1980. During this time, the Station operated mainly on a combination open and closed cycle mode of condenser cooling, with only limited closed cycle operation (see Appendix D for details).

The objectives of this study were:

1. to document total residual chlorine concentrations in the Mississippi River upstream and downstream from the Quad-Cities Station and at the point of discharge to the diffuser and/or blowdown pipes;

2. to monitor variations in chlorine concentration during condenser chlorination in the station's discharge bay during the open or combination open and closed cycle mode of condenser cooling or in the spray canal during the closed cycle mode; and

3. to compare all chlorine concentrations determined during this study to the surveillance requirements approved in the technical specifications by the U.S. Nuclear Regulatory Commission (1974).

1.2 Field and Analytical Procedures

Total residual chlorine concentrations were determined during condenser chlorination four times per month in compliance with the non-radiological technical specifications for the Quad-Cities Station (USNRC 1974). Measurements were made in the Mississippi River before, during and after condenser chlorination and in either the discharge bay or spray canal of the station at frequent time intervals during chlorination. Sampling locations are described in Tables 1-1 and 1-2.

Since all samples were taken during combination cycle cooling mode, only the discharge bay (Location 7) was sampled for total residual chlorine during this report period. Chlorine concentrations were determined at three minute intervals starting at the time of condenser chlorination and ending approximately twenty minutes after termination or when chlorine levels were below the analytical limit of 0.01 mg/l.

Samples in the river were collected at a depth of one meter using a Kemmerer sampler, except during cold weather when the sampler was rendered inoperable. At these times, bottles were filled directly, as they were at the Station location (7). Samples were analyzed immediately after collection by method 409C (A.P.H.A. et al. 1976). A Fisher and Porter Amperometric Titrator having an analytical detection limit of 0.01 mg/l was used for analysis of all samples.

1.3 Results and Discussion

Throughout this study period all chlorine concentrations were within the U.S. Nuclear Regulatory Commission 1974 surveillance requirements as summarized in Tables 1-3 and 1-4.

Station operation data during the chlorination cycles monitored from February through December 1980 area listed in Table 1-5.

Total residual chlorine data from February through December 1980 are presented in Tables 1-6 through 1-16.

1.4 Summary and Conclusions

1. Chlorine monitoring was conducted 44 times during operation of the Quad-Cities condenser chlorination system from February 1980 through December 1980. No detectable levels of total residual chlorine were found in the Mississippi River, either

upstream or downstream from the plant, indicating complete dissipation of chlorine and compliance with Commonwealth Edison Company - U.S. Environmental Protection Agency (1976) recommended limit of 0.20 mg/l.

2. Total chlorine concentrations in the discharge bay and spray canal were within limits approved by the U.S. Nuclear Regulatory Commission.

1.5 References Cited

A.P.H.A., A.W.W.A., and W.P.C.F. 1976. Standard methods for the examination of water and wastewater. 14th Ed. Amer. Public Health Assn., Washington, D.C. 1193 pp.

Commonwealth Edison Company. 1976. Chlorine reduction study for Quad-Cities Station. Proposed literature by the U.S.E.P.A. and Commonwealth Edison Company letter dated 29 January 1976.

U.S. Nuclear Regulatory Commission. 1974. Appendix B to operating license DPR-29 and DPR-30: Non-radiological technical and specifications and basis for Quad-Cities Station Units 1 and 2 Rock Island, Illinois. Commonwealth Edison Company. Docket numbers 50-254 and 50-265. Washington, D.C. 15 pp.

TABLE 1-1

DESCRIPTION OF SAMPLING LOCATIONS MONITORED,
FEBRUARY THROUGH DECEMBER 1980

Sampling Location	Description
6	At the intake forebay of the station.
7	At the entrance to the diffuser pipe in the discharge canal of the station.
9	At the entrance to the blowdown pipe in the spray canal.
21	Downstream from the diffuser pipes.
22	Downstream from the blowdown pipe.
23	Upstream from the diffuser pipe.
24	At the point of discharge from the diffuser pipe.
26	Upstream from the blowdown pipe.
30	South edge of intake.

TABLE 1-2

SAMPLING LOCATIONS MONITORED FOR TOTAL RESIDUAL CHLORINE DURING CONDENSER CHLORINATION, FEBRUARY THROUGH DECEMBER 1980

Station Operating Condition	Sampling Frequency	Sampling Locations	Replicates	Depth
Open and Combination Cycle	4 times per month	Discharge bay (7)	Single	Tap
		Upstream discharge pipe (23)	Single	One meter
		Discharge pipe (24)	Single	One meter
		Downstream discharge pipe (21)	Single	One meter
		Intake forebay (6)	Single	One meter
Closed cycle	4 times per month	Spray canal (9)	Single	Tap
		Upstream blowdown pipe (26)	Single	One meter
		Downstream blowdown pipe (22)	Single	One meter
		Intake forebay (6)	Single	One meter
		South end of Intake (30)	Single	One meter

TABLE 1-3: U.S. NUCLEAR REGULATORY COMMISSION SURVEILLANCE REQUIREMENTS FOR TOTAL CHLORINE CONCENTRATIONS

Circulating water pumps operating	Allowable[1] (mg/1)	Observed[2] (mg/1)	
		Discharge Bay	Spray Canal
2	1.50	Not applicable[3]	Not applicable
3	1.00	0.01	Not applicable
4	0.75	Not applicable	Not applicable
5	0.60	Not applicable	Not applicable
6	0.50	0.13	0.17

[1] Maximum total chlorine concentration (mg/1) allowable in the discharge bay or spray canal as averaged over the injection cycle according to U.S. Nuclear Regulatory Commission (1974).

[2] The maximum detectable total chlorine concentration determined as averaged over the injection cycle for the number of circulating pumps operating is defined according to Commonwealth Edison (1976) as the arithmetic mean of detectable chlorine concentrations (0.01 mg/1 or higher) during any particular monitoring period during a sodium hypochlorite injection cycle.

[3] Not applicable because monitoring was not conducted when the specified number of pumps was operating.

TABLE 1-4

AVERAGE DETECTABLE CHLORINE CONCENTRATIONS, QUAD-CITIES STATION,
FEBRUARY THROUGH DECEMBER 1980

Sampling Date	No. Circulating Water Pumps Operating	USNRC Allowable Limit[1] (mg/l)	Observed Average Detectable Concentration[2] (mg/l)	Location Monitored
Feb 5, 1980	3	1.0	<0.01	Discharge Bay (7)
Feb 11, 1980	3	1.0	<0.01	Discharge Bay (7)
Feb 19, 1980	3	1.0	0.02	Discharge Bay (7)
Feb 28, 1980	3	1.0	0.02	Discharge Bay (7)
Mar 10, 1980	3	1.0	0.01	Discharge Bay (7)
Mar 17, 1980	3	1.0	<0.01	Discharge Bay (7)
Mar 24, 1980	3	1.0	0.15	Discharge Bay (7)
Mar 28, 1980	3	1.0	0.09	Discharge Bay (7)
Apr 2, 1980	3	1.0	0.05	Discharge Bay (7)
Apr 11, 1980	3	1.0	0.10	Discharge Bay (7)
Apr 18, 1980	5	0.6	<0.01	Discharge Bay (7)
Apr 30, 1980	6	0.5	<0.01	Discharge Bay (7)
May 6, 1980	6	0.5	<0.01	Discharge Bay (7)
May 13, 1980	6	0.5	0.02	Discharge Bay (7)
May 21, 1980	6	0.5	<0.01	Discharge Bay (7)
May 27, 1980	6	0.5	<0.01	Discharge Bay (7)
June 3, 1980	6	0.5	0.02	Discharge Bay (7)
June 10, 1980	6	0.5	0.01	Discharge Bay (7)
June 17, 1980	6	0.5	0.02	Discharge Bay (7)
June 24, 1980	6	0.5	<0.01[3]	Discharge Bay (7)
July 1, 1980	6	0.5	0.17	Discharge Bay (7)
July 8, 1980	6	0.5	<0.01	Discharge Bay (7)
July 17, 1980	6	0.5	<0.01	Discharge Bay (7)
July 31, 1980	6	0.5	0.07	Discharge Bay (7)
August 5, 1980	6	0.5	0.04	Discharge Bay (7)
August 12, 1980	6	0.5	<0.01	Discharge Bay (7)
August 21, 1980	6	0.5	<0.01	Discharge Bay (7)
August 28, 1980	6	0.5	<0.01	Discharge Bay (7)

TABLE 1-4 (CONTINUED)

Sampling Date	No. Circulating Water Pumps Operating	USNRC Allowable Limit[1] (mg/l)	Observed Average Detectable Concentration[2] (mg/l)	Location Monitored
September 2, 1980	3	1.0	<0.01	Discharge Bay (7)
September 9, 1980	5	0.6	<0.01	Discharge Bay (7)
September 17, 1980	3	1.0	0.12	Discharge Bay (7)
September 24, 1980	3	1.0	<0.01	Discharge Bay (7)
October 1, 1980	3	1.0	.07	Discharge Bay (7)
October 9, 1980	3	1.0	<0.01	Discharge Bay (7)
October 22, 1980	3	1.0	<0.01	Discharge Bay (7)
October 29, 1980	3	1.0	<0.01	Discharge Bay (7)
November 20, 1980	3	1.0	<0.01	Discharge Bay (7)
November 21, 1980	3	1.0	<0.01	Discharge Bay (7)
November 24, 1980	3	1.0	<0.01	Discharge Bay (7)
November 25, 1980	3	1.0	<0.01	Discharge Bay (7)
December 4, 1980	3	1.0	<0.01	Discharge Bay (7)
December 10, 1980	6	0.5	0.03	Discharge Bay (7)
December 16, 1980	6	0.5	<0.01	Discharge Bay (7)
December 30, 1980	6	0.5	<0.01	Discharge Bay (7)

[1] Maximum total chlorine concentration (mg/l) allowable in the discharge bay or spray canal as averaged over the injection cycle according to the U.S. Nuclear Regulatory Commission (1979).

[2] The maximum detectable total chlorine concentration determined as averaged over the injection cycle for the number of circulating pumps operating as defined according to Commonwealth Edison (1976) as the arithmetic mean of detectable chlorine concentrations (0.01 mg/l or higher) during any particular monitoring period during a sodium hypochlorite injection cycle.

[3] After chlorination sampling was completed it was determined that the supply of chlorine was low resulting in a lower than expected injection rate.

TABLE 1-5

SAMPLING DATES FOR TOTAL RESIDUAL CHLORINE MONITORING DURING CONDENSER CHLORINATION AND QUAD-CITIES OPERATING CONDITIONS FEBRUARY THROUGH DECEMBER 1980

Date	Station Operation	Number of Circulating Water pumps Operating	Number of Lift pumps Operating	Injection Period of Station Condenser Chlorination (hour)	Locations Monitored at Station	Mississippi River Locations Monitored	Number of Total Chlorination Determinations Performed
Feb 4, 1980	Combination Cycle	3	2	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	44
Feb 11, 1980	Combination Cycle	3	2	1045 to 1145	Discharge Bay (7)	upstream (6,23) downstream (21,24)	45
Feb 19, 1980	Combination Cycle	3	2	1040 to 1140	Discharge Bay (7)	upstream (6,23) downstream (21,24)	48
Feb 28, 1980	Combination Cycle	3	2	1230 to 1455	Discharge Bay (7)	upstream (6,23) downstream (21,24)	72
Mar 10, 1980	Combination Cycle	3	2	1030 to 1130	Discharge Bay (7)	upstream (6,23) donwstream (24,21)	75
Mar 17, 1980	Combination Cycle	3	2	1245 to 1525	Discharge Bay (7)	upstream (6,23) downstream (24,21)	58
Mar 24, 1980	Combination Cycle	3	2	1030 to 1310	Discharge Bay (7)	upstream (6,23) downstream (24,21)	64
Mar 28, 1980	Combination Cycle	3	2	1030 to 1230	Discharge Bay (7)	upstream (6,23) downstream (24,21)	63
Apr 2, 1980	Combination Cycle	3	2	1030 to 1300	Discharge Bay (7)	upstream (6,23) downstream (24,21)	54
Apr 11, 1980	Combination Cycle	3	2	1030 to 1310	Discharge Bay (7)	upstream (6,23) downstream (24,21)	67
Apr 18, 1980	Combination Cycle	5	4	1030 to 1215	Discharge Bay (7)	upstream (6,23) downstream (24,21)	42
Apr 30, 1980	Combination Cycle	6	4	1355 to 1530	Discharge Bay (7)	upstream (6,23) downstream (24,21)	32
May 6, 1980	Combination Cycle	6	4	1030 to 1200	Discharge Bay (7)	upstream (6,23) downstream (21,24)	35

TABLE 1-5 (CONTINUED)

Date	Station Operation	Number of Circulating Water pumps Operating	Number of Lift pumps Operating	Injection Period of Station Condens[illegible] Chlorination (hour[illegible]	Locations Monitored at Station	Mississippi River Locations Monitored	Number of Total Chlorination Determinations Performed
May 13, 1980	Combination Cycle	6	4	1030 to 1200	Discharge Bay (7)	upstream (6,23) downstream (21,24)	39
May 21, 1980	Combination Cycle	6	4	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	37
May 27, 1980	Combination Cycle	6	3	1030 to 1200	Discharge Bay (7)	upstream (6,23) downstream (21,24)	36
June 3, 1980	Combination Cycle	6	3	1030 to 1200	Discharge Bay (7)	upstream (6,23) downstream (21,24)	43
June 10, 1980	Combination Cycle	6	3	1030 to 1200	Discharge Bay (7)	upstream (6,23) downstream (21,24)	35
June 17, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	35
June 24, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	36
July 1, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	34
July 8, 1980	Combination Cycle	6	3	1105 to 1230	Discharge Bay (7)	upstream (6,23) downstream (21,24)	35
July 17, 1980	Combination Cycle/ Open Cycle[1/]	6	3-0	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	35
July 31, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	upstream (6,23) downstream (21,24)	42
Aug 5, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	34
Aug 12, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	34
Aug 21, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	33

TABLE 1-5 (CONTINUED)

Date	Station Operation	Number of Circulating Water pumps Operating	Number of Lift pumps Operating	Injection Period of Station Condenser Chlorination (hour)	Locations Monitored at Station	Mississippi River Locations Monitored	Number of Total Chlorination Determinations Performed
Aug 28, 1980	Combination Cycle	6	3	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	33
Sep 2, 1980	Combination Cycle	3	2	1100 to 1130	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	18
Sep 9, 1980	Combination Cycle	5	3	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	33
Sep 17, 1980	Combination Cycle	3	2	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	33
Sep 24, 1980	Combination Cycle	3	2	1030 to 1150	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	33
Oct 1, 1980	Combination Cycle	3	2	1030 to 1130	Discharge Bay	Upstream (6,23) Downstream (21,24)	29
Oct 9, 1980	Combination Cycle	3	2	1030 to 1200	Discharge Bay	Upstream (6,23) Downstream (21,24)	40
Oct 22, 1980	Combination	3	2	1030 to 1200	Discharge Bay	Upstream (6,23) Downstream (21,24)	37
Oct 29, 1980	Combination	3	2	1030 to 1200	Discharge Bay	Upstream (6,23) Downstream (21,24)	36
Nov 20, 1980	Combination Cycle	3	2	1100 to 1230	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	41
Nov 21, 1980	Combination Cycle	3	2	1030 to 1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	38
Nov 24, 1980	Combination Cycle	3	2	1030 to 1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	43
Nov 25, 1980	Combination Cycle	3	2		Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	38

TABLE 1-5 (CONTINUED)

Date	Station Operation	Number of Circulating Water pumps Operating	Number of Lift pumps Operating	Injection Period of Station Condenser Chlorination (hour)	Locations Monitored at Station	Mississippi River Locations Monitored	Number of Total Chlorination Determinations Performed
Dec 4, 1980	Combination Cycle	3	2	1030-1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	43
Dec 10, 1980	Combination Cycle	6	3	1030-1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	39
Dec 16, 1980	Combinations Cycle	6	3	1030-1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	36
Dec 30, 1980	Combination Cycle	6	4	1030-1200	Discharge Bay (7)	Upstream (6,23) Downstream (21,24)	27 2/

1/ During chlorination (1100 hrs) station went to open cycle.

2/ Water from the discharge bay was not sampled during the first 30 minutes of the chlorine inspection period.

TABLE 1-6

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, FEBRUARY 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
February 4, 1980	1028	<0.01								
Combination Cycle			1029	<0.01	1030		1031		1030	<0.01
1030 - 1150						<0.01			1033	<0.01
								<0.01	1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
	1123	<0.01							1124	<0.01
			1124	<0.01					1127	<0.01
					1125	<0.01			1130	<0.01
							1126	<0.01	1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
	1216	<0.01								
			1217	<0.01						
					1218	<0.01				
							1219	<0.01		
February 11, 1980	0950	<0.01	0955		0957		1000			
Combination Cycle				<0.01		<0.01		<0.01	1030	<0.01
1030 - 1150									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01

TABLE 1-6 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
	1050	<0.01							1051	<0.01
			1054	<0.01					1054	<0.01
					1057	<0.01			1057	<0.01
							1059	<0.01	1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
	1150	<0.01							1151	<0.01
			1156	<0.01					1154	<0.01
					1159	<0.01			1157	<0.01
							1200	<0.01	1200	<0.01
February 19, 1980 Combination Cycle 1040 - 1140	1000	<0.01	1003	<0.01	1005	<0.01	1007	<0.01	1020	<0.01
									1023	<0.01
									1026	<0.01
									1029	<0.01
									1032	<0.01
									1035	<0.01
									1038	<0.01
									1041	<0.01
									1044	<0.01
									1047	<0.01
									1050	<0.01
									1053	<0.01
									1056	0.01
									1059	0.02
	1101	<0.01							1102	0.03
			1104	<0.01					1105	0.03
					1106	<0.01			1108	0.05
							1107	<0.01	1111	0.05
									1114	0.03
									1117	0.04
									1120	0.03
									1123	0.04
									1126	0.04
									1129	0.03
									1132	0.03
									1135	0.03
									1138	0.03
									1141	0.03
									1144	0.03

TABLE 1-6 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
	1145	<0.01							1147	0.02
			1147	<0.01					1150	0.02
					1148	<0.01			1153	0.01
							1150	<0.01	1156	0.01
									1159	<0.01
									1202	<0.01
									1205	<0.01
February 28, 1980 Combination Cycle 1040 - 1140							1240	<0.01		
					1241	<0.01			1230	<0.01
			1242	<0.01					1233	<0.01
	1243	<0.01							1236	<0.01
									1242	<0.01
									1245	<0.01
									1248	<0.01
									1251	<0.01
									1254	<0.01
									1257	<0.01
									1300	<0.01
									1303	<0.01
									1306	<0.01
									1309	<0.01
									1312	<0.01
									1315	<0.01
									1318	<0.01
									1321	<0.01
							1325	<0.01	1324	<0.01
			1326	<0.01					1327	<0.01
					1327	<0.01			1330	<0.01
	1328	<0.01							1333	<0.01
									1336	0.02
									1339	0.02
									1342	<0.01
									1345	<0.01
									1347	<0.01
									1351	<0.01
									1354	<0.01
									1357	<0.01
									1400	<0.01
									1403	<0.01
									1406	<0.01
									1409	<0.01
									1412	<0.01
									1415	0.02
									1418	0.03
									1421	0.02
									1424	0.02
									1427	0.01
									1430	0.02
									1433	0.03
									1436	0.02
									1439	0.08
									1442	0.05
									1445	0.08
									1448	0.09
									1451	0.05
									1454	0.07
									1457	0.05
									1500	0.06
									1503	0.05
									1509	0.05
									1512	0.05

TABLE 1-6 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
							1520	<0.01	1515	0.05
					1521	<0.01			1518	0.03
			1523	<0.01					1521	0.01
	1524	<0.01							1524	<0.01
									1527	<0.01

TABLE 1-7

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, MARCH 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
March 10, 1980 Combination Cycle 1030 - 1130	1000	<0.01	1006	<0.01	1005	<0.01	1004	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
			1050	<0.01					1048	<0.01
									1051	<0.01
					1053	<0.01			1054	<0.01
	1057	<0.01					1055	<0.01	1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	0.01
									1109	0.01
									1112	0.01
									1115	0.01
									1118	0.01
									1121	0.01
									1123	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
	1131	<0.01	1130	<0.01	1128	<0.01	1127	<0.01		
March 17, 1980 Combination Cycle 1245 - 1525	1239	<0.01	1242	<0.01	1243	<0.01	1245	<0.01	1239	<0.01
									1242	<0.01
									1245	<0.01
									1248	<0.01
									1251	<0.01
									1254	<0.01
									1257	<0.01
									1300	<0.01
									1303	<0.01
									1306	<0.01
									1309	<0.01
									1312	<0.01
									1315	<0.01
									1318	<0.01
									1321	<0.01
									1324	<0.01
									1330	<0.01
									1333	<0.01
									1336	<0.01
									1339	<0.01
									1342	<0.01
									1345	<0.01
									1348	<0.01
									1351	<0.01
									1354	<0.01
									1357	<0.01

TABLE 1-7 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
1400	<0.01									
1403	<0.01									
1406	<0.0									
1409	<0.01									
1412	<0.01									
1415	<0.01									
1418	<0.01									
1421	<0.01									
1424	<0.01									
1427	<0.01									
	1430	<0.01							1430	<0.01
									1433	<0.01
			1434	<0.01	1435	<0.01			1436	<0.01
							1438	<0.01	1439	<0.01
									1442	<0.01
									1445	<0.01
									1448	<0.01
									1451	<0.01
									1454	<0.01
									1457	<0.01
									1500	<0.01
									1503	<0.01
									1506	<0.01
									1509	<0.01
									1512	<0.01
									1515	<0.01
									1518	<0.01
									1521	<0.01
									1524	<0.01
									1527	<0.01
									1530	<0.01
									1533	<0.01
	1545	<0.01	1547	<0.01	1549	<0.01	1551	<0.01		
March 24, 1980 Combination Cycle 1030 - 1310	1005	<0.01	1008	<0.01	1010	<0.01	1012	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	0.02
									1103	0.04
									1106	0.06
									1109	0.10
									1112	0.10
									1115	0.10
									1118	0.11
									1121	0.15
									1124	0.20
									1127	0.22

TABLE 1-7 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1130	0.22
									1133	0.23
									1136	0.22
									1139	0.23
									1142	0.23
									1145	0.17
									1148	0.14
									1151	0.13
									1154	0.15
									1157	0.16
	1201	<0.01							1200	0.16
			1203	<0.01					1203	0.17
					1205	<0.01			1206	0.21
							1208	<0.01	1209	0.20
									1212	0.19
									1215	0.20
									1218	0.20
									1221	0.21
									1224	0.21
									1227	0.20
									1230	0.22
									1233	0.21
									1236	0.18
									1239	0.20
									1242	0.19
									1245	0.17
									1248	0.15
									1251	0.13
									1254	0.13
									1257	0.16
									1300	0.16
									1303	0.15
									1306	0.16
									1309	0.15
									1312	0.18
									1315	0.12
									1318	0.04
									1321	0.07
									1324	0.06
									1327	0.02
									1330	<0.01
									1333	<0.01
	1335	<0.01	1338	<0.01	1339	<0.01	1341	<0.01		
March 28, 1980	1022	<0.01	1020	<0.01	1018	<0.01	1015	<0.01		
Combination Cycle									1024	<0.01
1030 - 1230									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	0.02
									1100	0.05
									1103	0.08

TABLE 1-7 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1106	0.06
									1109	0.08
									1112	0.10
									1115	0.06
									1118	0.08
									1121	0.06
									1124	0.10
									1127	0.10
					1130	<0.01			1130	0.12
	1132	<0.01	1134	<0.01					1133	0.13
							1137	<0.01	1136	0.14
									1139	0.13
									1142	0.13
									1145	0.13
									1148	0.14
									1151	0.16
									1154	0.13
									1157	0.12
									1200	0.13
									1203	0.12
									1206	0.12
									1209	0.10
									1212	0.10
									1215	0.11
									1218	0.10
									1221	0.12
									1224	0.08
									1227	0.08
									1230	0.09
									1233	0.09
									1236	0.11
									1239	0.10
									1242	0.08
									1245	0.04
									1248	0.07
									1251	0.05
									1254	0.05
									1257	0.05
									1300	0.07
									1303	0.05
									1306	0.06
									1309	0.05
									1312	0.04
									1315	0.02
									1318	0.01
									1321	0.01
									1324	<0.01
									1327	<0.01
									1330	<0.01
	1341	<0.01	1339	<0.01	1338	<0.01	1337	<0.01		

TABLE 1-8

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, APRIL 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississipp. River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
April 2, 1980 Combination Cycle 1030 - 1330	1011	<0.01	1013	<0.01	1014	<0.01	1015	<0.01	1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1123	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	0.02
	1200	<0.01	1201	<0.01	1202	<0.01			1200	0.03
							1203	<0.01	1203	0.04
									1206	0.05
									1209	0.06
									1212	0.06
									1218	0.05
									1221	0.04
									1224	0.04
									1227	0.03
									1230	0.06
									1233	0.05
									1236	0.05
									1239	0.06
									1242	0.07
									1245	0.05
									1248	0.07
									1251	0.06
									1254	0.06
									1257	0.06
									1300	0.06
									1303	0.06
									1306	0.04
									1309	0.05
									1312	0.06
									1315	0.05
									1318	0.06
									1321	0.03

TABLE 1-8 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
April 2, 1980 (continued)									1324	0.01
									1327	0.01
									1330	<0.01
									1333	<0.01
	1340	<0.01								
			1343	<0.01						
					1344	<0.01	1345	<0.01		
April 11, 1980 Combination Cycle 1030 - 1310	1012	<0.01	1011	<0.01	1014	<0.01	1018	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	0.03
									1123	0.05
									1127	0.04
									1130	0.05
									1133	0.06
									1136	0.07
									1139	0.08
									1142	0.08
									1145	0.04
									1148	0.04
									1151	0.04
									1154	0.03
									1157	0.21
									1200	0.27
									1203	0.20
									1206	0.18
									1209	0.15
									1212	0.16
									1215	0.14
									1218	0.14
									1221	0.12
									1224	0.12
									1227	0.12
	1230	<0.01							1230	0.12
			1233	<0.01	1234	<0.01			1233	0.14
							1236	<0.01	1236	0.13
									1239	0.11
									1242	0.13
									1245	0.11
									1248	0.12
									1251	0.13
									1254	0.10
									1257	0.11
									1300	0.12

TABLE 1-8 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
April 11, 1980 (continued)									1303	0.12
									1306	0.12
									1309	0.13
									1312	0.09
									1315	0.09
									1318	0.07
									1321	0.08
									1324	0.09
									1327	0.07
									1330	0.05
									1333	0.03
									1336	0.02
									1339	<0.01
									1342	<0.01
									1345	<0.01
April 18, 1980 Combination Cycle 1030 - 1215	1019	<0.01	1021	<0.01	1022	<0.01	1023	<0.01	1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1123	<0.01
									1127	<0.01
	1135	<0.01	1132	<0.01	1131	<0.01	1130	<0.01	1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
									1212	<0.01
									1215	<0.01
									1218	<0.01
									1221	<0.01
									1224	<0.01
									1227	<0.01
	1230	<0.01	1232	<0.01						
					1235	<0.01	1237	<0.01		

TABLE 1-8 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
April 30, 1980 Combination Cycle 1355 - 1530	1359	<0.01	1357	<0.01	1355	<0.01	1353	<0.01		
									1400	<0.01
									1403	<0.01
									1406	<0.01
									1409	<0.01
									1412	<0.01
									1415	<0.01
									1418	<0.01
									1421	<0.01
									1424	<0.01
									1427	<0.01
									1430	<0.01
									1433	<0.01
									1436	<0.01
									1439	<0.01
									1442	<0.01
					1446	<0.01	1444	<0.01	1445	<0.01
			1448	<0.01					1448	<0.01
	1451	<0.01							1451	<0.01
									1454	<0.01
									1457	<0.01
									1500	<0.01
									1503	<0.01
									1506	<0.01
									1509	<0.01
									1512	<0.01
									1515	<0.01
									1518	<0.01
									1521	<0.01
									1524	<0.01
									1527	<0.01
									1530	<0.01
									1533	<0.01
	1535	<0.01	1538	<0.01	1540	<0.01	1542	<0.01		

TABLE 1-9

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, MAY, 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
May 6, 1980 Combination Cycle 1030 - 1200	1002	<0.01	1005	<0.01	1007	<0.01	1009	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
	1143	<0.01	1141	<0.01	1140	<0.01	1139	<0.01	1139	<0.01
									1142	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
	1220	<0.01	1215	<0.01	1216	<0.01	1217	<0.01		
May 13, 1980 Combination Cycle 1030 - 1200	1015	<0.01	1018	<0.01	1020	<0.01	1021	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01

TABLE 1-9 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
	1132	<0.01							1130	0.06
			1135	<0.01	1137	<0.01			1133	0.03
									1136	0.03
							1139	<0.01	1139	0.03
									1142	0.02
									1145	<0.01
									1148	0.01
									1151	<0.01
									1154	0.01
									1157	0.02
									1200	0.01
									1203	0.01
									1206	0.03
									1209	0.01
									1212	0.02
									1215	<0.01
									1218	<0.01
									1221	<0.01
	1227	<0.01	1230	<0.01	1232	<0.01	1234	<0.01		
May 21, 1980 Combination Cycle 1030 - 1150	1012	<0.01	1015	<0.01	1016	<0.01	1017	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
	1130	<0.01							1130	<0.01
			1132	<0.01	1133	<0.01	1134	<0.01	1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1157	<0.01
									1200	<0.01

TABLE 1-9 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(m_g/l)
									1203	<0.01
									1206	<0.01
									1209	<0.01
	1215	<0.01							1212	<0.01
			1217	<0.01	1218	<0.01	1219	<0.01	1215	<0.01
May 27, 1980 Combination Cycle 1030 - 1200	1038	<0.01	1040	<0.01	1041	<0.01	1042	<0.01	1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0 01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
	1127	<0.01							1124	<0.01
			1129	<0.01	1130	<0.01	1131	<0.01	1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1157	<0.01
									1200	<0.01
	1207	<0.01							1203	<0.01
			1209	<0.01	1210	<0.01			1206	<0.01
							1211	<0.01	1209	<0.01

TABLE 1-10

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, JUNE 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
June 3, 1980 Combination Cycle 1024 - 1230	1028	<0.01	1030	<0.01	1031	<0.01	1032	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	0.02
									1127	0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	0.02
									1148	0.02
									1151	0.03
									1154	0.04
	1156	<0.01	1158	<0.01					1157	0.05
					1159	<0.01	1200	<0.01	1200	0.02
									1203	0.02
									1206	0.01
									1209	0.02
									1212	0.03
									1215	0.03
									1218	0.01
									1221	<0.01
									1224	<0.01
									1227	<0.01
									1230	<0.01
	1230	<0.01	1233	<0.02	1234	<0.01	1235	<0.01		
June 10, 1980 Combination Cycle 1030-1200	1029	<0.01	1027	<0.01	1026	<0.01	1025	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01

TABLE 1-10 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
	1130	<0.01	1128	<0.01	1127	<0.01	1126	<0.01	1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1211	<0.01	1213	<0.01	1214	<0.01	1215	<0.01		
June 17, 1980 Combination Cycle 1030-1150	1010	<0.01	1012	<0.01	1013	<0.01	1014	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	0.01
					1122	<0.01	1121	<0.01	1121	0.02
	1125	<0.01	1123	<0.01					1124	0.02
									1127	0.02
									1130	0.02
									1133	0.02
									1136	0.02
									1139	0.01
									1142	0.01
									1145	0.02
									1148	0.02
									1151	0.01
									1154	0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1209	<0.01
	1210	<0.01	1212	<0.01	1213	<0.01	1214	<0.01		

TABLE 1-10 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
June 24, 1980 Combination Cycle 1030-1150	1031	<0.01	1029	<0.01	1028	<0.01	1027	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1118	<0.01	1119	<0.01	1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
									1212	<0.01
	1210	<0.01	1212	<0.01	1213	<0.01	1214	<0.01		

TABLE 1-11

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, JULY 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
July 1, 1980	1029	<0.01	1025	<0.01	1024	<0.01	1022	<0.01		
Combination Cycle									1027	<0.01
1030 - 1150									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	0.02
									1100	0.08
									1103	0.09
									1106	0.12
									1109	0.19
									1112	0.21
									1115	0.21
									1118	0.22
									1121	0.24
									1124	0.24
									1127	0.27
	1129	<0.01	1130	<0.01	1131	<0.01			1130	0.28
							1132	<0.01	1133	0.24
									1136	0.19
									1139	0.20
									1142	0.22
									1145	0.13
									1148	0.05
									1151	0.02
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1209	<0.01	1210	<0.01	1211	<0.01	1212	<0.01		
July 8, 1980	1047	<0.01	1150	<0.01	1052	<0.01	1054	<0.01		
Combination Cycle									1057	<0.01
1105-1230									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
					1148	<0.01	1147	<0.01	1148	<0.01
			1152	<0.01					1151	<0.01
	1154	<0.01							1154	<0.01
									1157	<0.01

TABLE 1-11 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
July 8, 1980 (continued)									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
									1212	<0.01
									1215	<0.01
									1218	<0.01
									1221	<0.01
									1224	<0.01
									1227	<0.01
									1230	<0.01
									1233	<0.01
									1236	<0.01
									1239	<0.01
	1234	<0.01	1235	<0.01	1236	<0.01	1237	<0.01		
July 17, 1980 Combination Cycle 1030-1150	1015	<0.01	1017	<0.01	1023	<0.01	1024	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
	1130	<0.01							1130	<0.01
			1132	<0.01					1133	<0.01
					1135	<0.01			1136	<0.01
							1138	<0.01	1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1152	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1205	<0.01	1209	<0.01	1212	<0.01	1216	<0.01		
July 31, 1980 Combination Cycle 1030-1150	1012	<0.01	1015	<0.01	1016	<0.01	1018	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01

TABLE 1-11 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
July 31, 1980 (continued)									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	0.02
			1117	<0.01	1119	<0.01			1118	0.08
							1121	<0.01	1121	0.08
									1124	0.09
									1127	0.09
									1130	0.02
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	0.02
									1145	0.05
									1148	0.07
									1151	0.07
									1154	0.03
									1157	0.06
									1200	0.08
									1203	0.12
									1206	0.09
									1209	0.10
									1212	0.15
									1215	0.04
									1218	0.02
									1221	<0.01
									1224	<0.01
									1227	<0.01
									1230	<0.01
	1226	<0.01	1228	<0.01	1230	<0.01	1232	<0.01		

TABLE 1-12

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, AUGUST 1980.

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
August 5, 1980	1020	<0.01	1022	<0.01	1024	<0.01	1025	<0.01		
Combination Cycle									1027	<0.01
1030-1150									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	0.02
									1051	0.02
									1054	0.04
									1057	0.06
									1100	0.04
									1103	0.02
									1100	<0.01
									1109	<0.01
									1112	<0.01
									1115	0.04
									1118	0.03
	1120	<0.01	1122	<0.01					1121	0.05
					1124	<0.01			1124	0.07
							1126	<0.01	1127	0.06
									1130	0.06
									1133	0.06
									1136	0.05
									1139	0.03
									1142	0.03
									1145	0.02
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1210	<0.01	1212	<0.01	1216	<0.01				
August 12, 1980	1015	<0.01	1018	<0.01	1021	<0.01	1024	<0.01		
Combination Cycle									1027	<0.01
1030-1150									1130	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01

TABLE 1-12 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
	1120	<0.01	1122	<0.01					1118	<0.01
					1124	<0.01			1121	<0.01
									1124	<0.01
							1126	<0.01	1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
	1209	<0.01	1212	<0.01	1215	<0.01	1217	<0.01	1206	<0.01
August 21, 1980 Combination Cycle 1030-1150	1009	<0.01	1013	<0.01	1015	<0.01				
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
	1120	<0.01	1122	<0.01					1118	<0.01
					1124	<0.01			1121	<0.01
									1124	<0.01
							1126	<0.01	1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01

TABLE 1-12 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
	1205	<0.01	1203	<0.01	1200	<0.01	1159	<0.01		
August 28, 1980 Combination Cycle	1015	<0.01	1017	<0.01	1019	<0.01			1021	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.02
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
	1200	<0.01	1202	<0.01	1206	<0.01				

TABLE 1-13

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, SEPTEMBER 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
September 3, 1980 Combination Cycle 1100-1130	1045	<0.01	1047	<0.01	1049	<0.01	1051	<0.01		
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
	1155	<0.01	1157	<0.01	1159	<0.01	1201	<0.01		
September 9, 1980 Combination Cycle 1030-1150	1015	<0.01	1017	<0.01	1019	<0.01	1021	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
		1117	<0.01	1119	<0.01				1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
	1200	<0.01	1202	<0.01	1204	<0.01	1206	<0.01		

TABLE 1-13 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1143	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
	1150	<0.01	1152	<0.01	1154	<0.01	1156	<0.01		

TABLE 1-14

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, OCTOBER 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
October 1, 1980 Combination Cycle 1027-1151	1015	<0.01	1017	<0.01	1019	<0.01	1021	<0.01		
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
					1109	<0.01			1109	.05
							11.11	<0.01	1112	.09
	1115	<0.01							1115	.07
			1117	<0.01					1118	.10
									1121	.12
									1124	.05
									1127	.02
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
	1145	<0.01	1147	<0.01	1149	<0.01	1151	<0.01		
October 9, 1980 Combination Cycle 1010-1207	1015	<0.01	1017	<0.01	1019	<0.01	1021	<0.01		
									1010	<0.01
									1013	<0.01
									1016	<0.01
									1019	<0.01
									1022	<0.01
									1025	<0.01
									1028	<0.01
									1031	<0.01
									1034	<0.01
									1037	<0.01
									1040	<0.01
									1043	<0.01
									1046	<0.01
									1049	<0.01
									1052	<0.01
									1055	<0.01
									1058	<0.01
									1101	<0.01
									1104	<0.01
									1107	<0.01
									1110	<0.01
									1113	<0.01

TABLE 1-14 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
					1117	<0.01	1115	<0.01	1116	<0.01
			1119	<0.01					1119	<0.01
	1123	<0.01							1122	<0.01
									1125	<0.01
									1128	<0.01
									1131	<0.01
									1134	<0.01
									1137	<0.01
									1140	<0.01
									1143	<0.01
									1146	<0.01
									1149	<0.01
									1152	<0.01
									1155	<0.01
									1158	<0.01
									1201	<0.01
									1204	<0.01
	1207	<0.01	1210	<0.01	1213	<0.01	1215	<0.01	1207	<0.01
October 22, 1980 Combination Cycle 1018-1206	1026	<0.01	1020	<0.01	1029	<0.01	1032	<0.01		
									1018	<0.01
									1021	<0.01
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
	1110	<0.01							1109	<0.01
									1112	<0.01
									1115	<0.01
			1119	<0.01					1118	<0.01
					1121	<0.01			1121	<0.01
							1125	<0.01	1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01

TABLE 1-14 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
	1200	<0.01	1202	<0.01	1204	<0.01	1206	<0.01		
October 29, 1980 Combination Cycle 1024-1209	1026	<0.01	1027	<0.01	1028	<0.01	1030	<0.01		
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
			1122	<0.01	1121	<0.01	1120	<0.01	1121	<0.01
	1123	<0.01							1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
	1212	<0.01	1214	<0.01	1215	<0.01	1216	<0.01		

TABLE 1-15

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, NOVEMBER 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6) (hour)	(mg/l)	Upstream of Diffuser Pipe (Location 23) (hour)	(mg/l)	Diffuser Pipe (Location 24) (hour)	(mg/l)	Downstream of Diffuser Pipe (Location 21) (hour)	(mg/l)	Discharge Bay (Location 7) (hour)	(mg/l)
November 20, 1980 Combination Cycle 1048-1248		<0.01		<0.01		<0.01		<0.01		
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
									1115	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
									1212	<0.01
									1215	<0.01
									1218	<0.01
									1221	<0.01
									1224	<0.01
									1227	<0.01
									1230	<0.01
									1233	<0.01
									1236	<0.01
									1239	<0.01
									1242	<0.01
									1245	<0.01
									1248	<0.01
	1215	<0.01	1215	<0.01	1215	<0.01	1215	<0.01		
November 21, 1980 Combination Cycle 1015-1206	1015	<0.01	1017	<0.01	1019	<0.01	1020	<0.01		
									1015	<0.01
									1018	<0.01
									1021	<0.01
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01

TABLE 1-15 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1120	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1200	<0.01	1202	<0.01	1204	<0.01	1205	<0.01		
November 24, 1980 Combination Cycle 1015-1221	1015	<0.01	1017	<0.01	1018	<0.01	1019	<0.01		
									1015	<0.01
									1018	<0.01
									1021	<0.01
									1024	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1118	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01

TABLE 1-15 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1106	<0.01
									1209	<0.01
									1212	<0.01
									1215	<0.01
									1218	<0.01
									1221	<0.01
	1200	<0.01	1202	<0.01	1204	<0.01	1205	<0.01		
November 25, 1980 Combination Cycle 1015-1296	1015	<0.01	1017	<0.01	1018	<0.01	1019	<0.01		
									1015	<0.01
									1018	<0.01
									1021	<0.01
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									0013	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1205	<0.01	1207	<0.01	1209	<0.01	1211	<0.01		

TABLE 1-16

TOTAL RESIDUAL CHLORINE CONCENTRATIONS MEASURED DURING CONDENSER CHLORINATION, DECEMBER 1980

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
December 4, 1980 Combination Cycle 1015-1209	1015	<0.01	1017	<0.01	1018	<0.01	1019	<0.01		
									1015	<0.01
									1018	<0.01
									1021	<0.01
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1118	<0.01	1119	<0.01	1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1200	<0.01	1202	<0.01	1203	<0.01	1204	<0.01	1209	<0.01
December 10, 1980 Combination Cycle 1015-1209	1015	<0.01	1017	<0.01	1018	<0.01	1019	<0.01		
									1015	<0.01
									1018	<0.01
									1021	<0.01
									1021	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01

TABLE 1-16 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
	1205	<0.01	1207	<0.01	1208	<0.01	1209	<0.01		
December 16, 1980 Combination Cycle 1021-1206	1015	<0.01	1017	<0.01	1018	<0.01	1019	<0.01		
									1201	<0.01
									1024	<0.01
									1027	<0.01
									1030	<0.01
									1033	<0.01
									1036	<0.01
									1039	<0.01
									1042	<0.01
									1045	<0.01
									1048	<0.01
									1051	<0.01
									1054	<0.01
									1057	<0.01
									1100	<0.01
									1103	<0.01
									1106	<0.01
									1109	<0.01
									1112	<0.01
	1115	<0.01							1115	<0.01
			1117	<0.01	1119	<0.01			1118	<0.01
							1121	<0.01	1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01

TABLE 1-16 (CONTINUED)

Sampling date Station Operating Cycle Hours of Chlorination	Mississippi River Upstream Near Intake (Location 6)		Upstream of Diffuser Pipe (Location 23)		Diffuser Pipe (Location 24)		Downstream of Diffuser Pipe (Location 21)		Discharge Bay (Location 7)	
	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)	(hour)	(mg/l)
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
	1205	<0.01	1207	<0.01	1208	<0.01	1209	<0.01		
December 30, 1980	1015	<0.01	1017	<0.01	1018	<0.01	1020	<0.01		
Combination Cycle	1100	<0.01	1102	<0.01	1104	<0.01			1103	<0.01
1103-1221							1106	<0.01	1106	<0.01
									1109	<0.01
									1117	<0.01
									1118	<0.01
									1121	<0.01
									1124	<0.01
									1127	<0.01
									1130	<0.01
									1133	<0.01
									1136	<0.01
									1139	<0.01
									1142	<0.01
									1145	<0.01
									1148	<0.01
									1151	<0.01
									1154	<0.01
									1157	<0.01
									1200	<0.01
									1203	<0.01
									1206	<0.01
									1209	<0.01
									1212	<0.01
									1215	<0.01
									1218	<0.01
									1221	<0.01
	1200	<0.01	1203	<0.01	1205	<0.01	1207	<0.01		

CHAPTER 2

TEMPERATURE MONITORING

Operational Environmental Monitoring In The

Mississippi River Near Quad-Cities Station

February 1980 through December 1980

TABLE OF CONTENTS

	Page
LIST OF TABLES	ii
LIST OF FIGURES	iii
2.1 Introduction	2-1
2.2 Field and Analytical Procedures	2-1
2.3 Results and Discussion	2-2
2.3.1 Natural Variations in River Water Temperature	2-2
2.3.2 Station Related Variation in Water Temperature	2-3
2.4 Summary and Conclusions	2-4
2.5 References Cited	2-4

LIST OF TABLES

No.	Title	Page
2-1	Monthly mean, minimum and maximum temperatures, Quad-Cities Station, February 1980-December 1980	2-5
2-2	Monthly maximum and mean temperatures differences (ΔT), and average megawatt power output, Quad-Cities Station, February 1980 through December 1980	2-6

LIST OF FIGURES

No.	Title	Page
2-1	Temperature Sensor Locations at Quad-Cities Station	2-7

2.0 TEMPERATURE MONITORING

2.1 Introduction

This report presents results of continuous monitoring of water temperature in the Mississippi River near the Quad-Cities Station from February 1980 through December 1980.

The objectives of this study were:

1. to provide an hourly record of the temperature regime of the Mississippi River in the vicinity of the Quad-Cities Station including the observation of any downstream thermal changes resulting from station operation; and

2. to identify diurnal, seasonal and other normal or periodic variations in river water temperature

2.2 Field and Analytical Procedures

Eight sensors were used to record temperatures hourly near the Quad-Cities Station (Figure 2-1). One sensor was located upstream near the Illinois shore. Four sensors were placed along a transect 600 ft downstream from the diffuser pipes. One sensor was placed at the entrance to the intake bay in the center of the opening. The discharge bay temperature sensor was located near the port to the diffuser pipes, and a sensor was placed in the cold end (return side) of the cooling canal. All sensors were approximately two feet above the bottom. Temperatures were also manually measured on a weekly basis, upstream in the mid-channel of the Mississippi River and in the Wapsipinicon River.

Water temperatures at the continuous monitoring locations were measured in situ with ultralinear silicon sensitors having a range of 32 to 100F (0 to 38C) and an accuracy of ±1.0% of full scale. The sensors were wired to the station control room. The output of the analyzers was continuously recorded by a Honeywell class 15 multipoint recorder.

Ground truth data were taken at weekly intervals with a calibrated YSI tele-thermometer to evaluate the accuracy of the continuous monitoring system. Adjustments were made when necessary so chart and ground truth temperatures would agree. Prior to temperature sensor installation, the 32F and 100F points on the analyzer scale were set using individual resistance (ohm) inputs for the cable and sensor. On occasions when discharge temperatures exceeded 100F, adjustments were performed on the analyzer to permit recording.

Minimum, maximum and mean values for temperature were calculated on a daily basis throughout the study period. To facilitate interpretation of the data downstream from the diffusers, temperatures recorded from sensors A, B, C and D were averaged. Daily and monthly maximum and mean temperature differences were computed by averaging data from each 24 hr period. Daily temperature differentials were obtained by subtracting each day's mean temperature at the Station's intake from that of the discharge, and daily mean upstream temperature from the downstream average (A-D, over 24 hrs). In determining the maximum daily ΔT values, the highest hourly upstream temperature (or intake) was subtracted from the highest hourly downstream (or discharge) temperature.

2.3 Results and Discussion

2.3.1 Natural Variations in River Water Temperature

Upstream temperatures in the Mississippi River near the Quad-Cities Station during February through December 1980 followed typical seasonal trends and ranged from 32.9 to 81.4 (Table 2-1; see also Appendix A).

Upstream and downstream temperatures of the Mississippi River exhibited fluctuations attributable to climatic and hydrological parameters rather than to station operation. The Wapsipinicon River, for example, caused significant temperature variation near its confluence with the Mississippi River. Temperatures at the upstream sensor, located in relatively shallow water, further reflected the influence of natural factors on water temperature. Temperatures at the two upstream locations usually were similar, however, the effects of solar absorption, changes in atmospheric temperature, and surface runoff, more pronounced in shallow water (i.e. upstream sensor), occasionally led to temperature differences between these locations (Appendices C and G). In addition, warming of shallow water by solar radiation and/or surface runoff periodically resulted in negative ΔT values between upstream and downstream locations (Appendix B). Findings similar to those discussed above were observed in Langford's (1972) study which indicated that significant variations in water temperature may occur due to changing hydrological and meterological conditions unrelated to station operation.

2.3.2 Station Related Variations in Water Temperature

The maximum monthly temperature differences in the river upstream and downstream from the station ranged from 3.3F to -2.0F between February and December 1980; monthly mean ΔT values ranged from 0.4F to -0.7F. A summary of temperature differences between the discharge and intake, as well as between sensors downstream and upstream from the station is presented in Table 2-2 along with power output. Daily maximum and mean ΔT values are shown in Appendix B. Temperature

differences between downstream and upstream sensors for the February to December period compiled with the standard for thermal discharge in the Mississippi River promulgated by the Illinois Pollution Control Board (1972). On some occasions the downstream sensors exhibited temperature changes greater than 20°F per hour.

2.4 Summary and Conclusions

1. Monthly mean differences in the Mississippi River water temperature downstream and upstream from the Quad-Cities Station during the February through December 1980 study period ranged from 0.4F to -0.7F.

2. Temperature differences between upstream and downstream sensor were in compliance with Illinois' thermal standards during the February through December 1980 period of study.

3. Occasionally temperature changes greater than 20°F per hour were observed.

4. Natural hydrological and meterological factors resulted in significant temperature differences among sensors that were unrelated to station operation.

2.5 References Cited

Illinois Pollution Control Board. 1972. Illinois pollution control board rules and regulations Chapter 3; water pollution. Part II: Water Quality Standards. Rule 203 General Standards. March 7, 1972. Including amendments adopted on or before March 6, 1975. 36 pp.

Langford, T. E. 1972. A comparative assessment of thermal effects in some British and North American rivers. Pages 319-351. In R. T. Oglesby, C. A. Carlson, and J. A. McCann, eds. River ecology and man. Academic Press, New York.

TABLE 2-1

MONITORING MEAN, MINIMUM, AND MAXIMUM TEMPERATURES, QUAD-CITIES STATION, FEBRUARY THROUGH DECEMBER 1980

Month	Min - Max[1/]	Temperature (°F) Upstream	Intake	Cooling Canal	Discharge Bay	Downstream
February	mean	32.9	33.2	64.5	81.2	32.9
	min - max.	31.8-35.3	31.8-42.4	46.8-74.2	57.4-98.5	31.1-36.2
March	mean	34.0	34.4	67.8	85.9	34.4
	min - max.	31.2-40.9	31.8-41.5	48.5-75.8	72.7-98.0	30.9-42.0
April	mean	48.7	51.9	79.9	92.4	48.9
	min - max	39.4-58.9	40.0-66.8	60.2-98.9	66.4-106.1	40.0-58.6
May	mean	63.9	64.0	87.2	99.9	64.1
	min - max	55.6-75.4	58.3-74.0	74.3-95.6	76.3-109.9	51.6-78.0
June	mean	73.2	73.7	91.1	103.4	73.7
	min - max	69.4-80.9	68.7-82.1	82.4-100.9	87.4-113.0	68.4-81.2
July	mean	81.4	81.3	95.2	105.5	81.5
	min - max	76.3-88.6	76.0-86.0	84.9-102.4	89.9-113.5	75.3-86.6
August	mean	77.9	77.6	93.5	104.9	78.1
	min.-max.	71.7-89.0	69.4-82.6	82.8-99.2	88.9-110.6	69.4-87.7
September	mean	69.8	68.6	87.5	101.5	69.3
	min.-max.	61.4-76.8	59.2-76.5	80.5-95.5	89.5-109.3	59.9-77.7
October	mean	54.8	52.9	74.7	89.0	54.1
	min.-max.	41.8-63.7	39.9-64.6	47.8-90.0	54.5-120.0	41.7-63.2
November	mean	41.8	40.7	68.8	74.8	42.0
	min.-max.	36.2-45.2	35.1-45.0	45.5-84.4	40.4-96.2	43.0-48.5
December	mean	34.1	35.7	56.0	65.8	34.3
	min-max.	31.8-39.1	3.2-53.8	38.1-88.6	34.3-109.0	20.2-39.3

[1/] Minumum and maximum hourly temperatures recorded during each month.

TABLE 2-2

MONTHLY MAXIMUM AND MEAN TEMPERATURE DIFFERENCES AND MEAN MEGAWATT OUTPUT, QUAD-CITIES STATION, FEBRUARY 1980 THROUGH DECEMBER 1980

Month and Year	Temperature Difference (°F)				Average Megawatt Output (percent of capacity)		
	Discharge Minus Intake		Downstream Minus Upstream				
	Max.	Mean	Max.	Mean	Unit 1	Unit 2	Total Station
February 1980	56.1	48.0	0.9	0.0	86.4	0	42.2
March 1980	56.5	51.5	1.1	0.4	90.0	0	45.0
April 1980	39.3	40.5	-0.3	0.2	90.0	8	49.0
May 1980	35.9	35.9	2.6	0.2	75.1	74.7	74.9
June 1980	30.9	29.7	0.3	0.0	63.0	88.0	76.0
July 1980	27.5	24.2	-2.0	0.1	51.0	75.0	63.0
August 1980	28.0	27.3	-1.3	0.2	53.3	82.6	68.0
September 1980	32.8	32.9	0.9	-0.5	0[1/]	90	45
October 1980	55.4	36.1	-0.5	-0.7	0[1/]	71.2	35.4
November 1980	51.2	34.1	3.3	0.2	0.0	70.7	35.4
December 1980	55.2	30.1	0.2	0.2	13.6	69.9	41.8

[1/] Unit 1 was shut down for refueling.

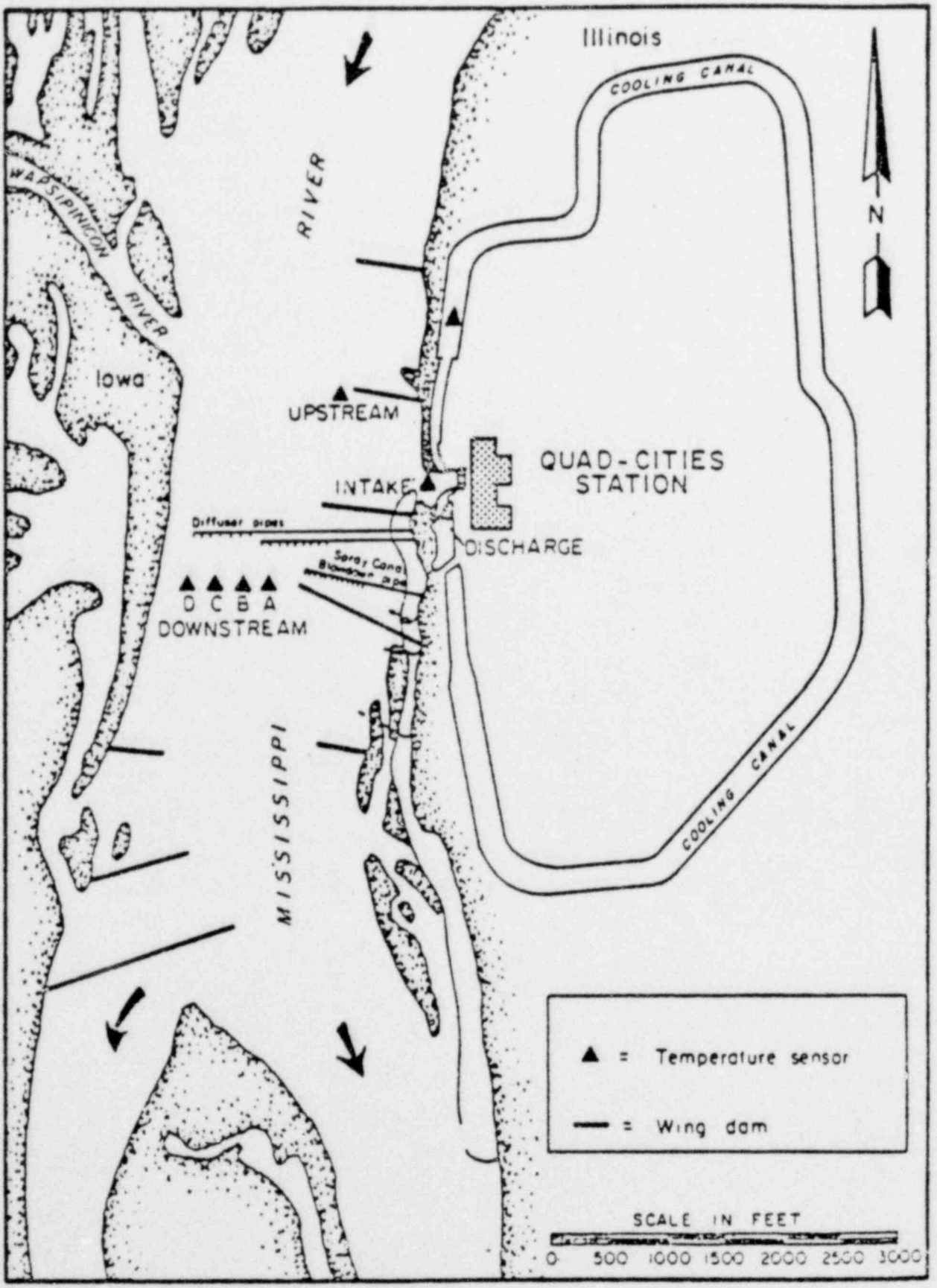


Figure 2-1. Temperature Sensor Locations at Quad-Cities Station, August 1979 through January 1981

CHAPTER 3

CHEMICAL USE

Operational Environmental Monitoring In The

Mississippi River Near Quad-Cities Station

February 1980 through December 1980

TABLE OF CONTENTS

	Page
LIST OF TABLES	ii
3.1 Introduction	3-1
3.2 Field and Analytical Procedures	3-1
3.3 Results and Discussion	3-1
3.4 References Cited	3-2

LIST OF TABLES

		Page
3-1	Chlorine dose, free chlorine residual, free chlorine consumption and sodium hypochlorite injection flow rate into condensers at the Quad-Cities Station, February 1980 through December 1980	3-3
3-2	Chemical usage and consumption at the Quad-Cities Station, February 1980 through December 1980	3-6

3.0 CHEMICAL USAGE

3.1 Introduction

The purpose of this section is to document chemical usage at the Quad-Cities Station including chlorine consumption (chlorine demand). A monthly log of chemicals used in connection with demineralizers and circulating and service water is tabulated in compliance with U.S. Nuclear Regulatory Commission (1974) requirements. Data for this chapter were provided by personnel from the Station.

3.2 Field and Analytical Procedures

Water samples for chlorine analysis were collected at the Station's inlet water box approximately 2-3 times per week. Free chlorine consumption was determined in accordance with surveillance requirements approved by the U.S. Nuclear Regulatory Commission (1974). These samples were collected through a bypass value located at the inlet water box and were representative of intake cooling water used by the Station.

All samples were collected by Quad-Cities personnel and analyzed using a Wallace and Tiernan or Fischer and Porter Amperometric Titrator by method 409C (A.P.H.A. et al. 1976), which has an analytical detection limit of 0.01 mg/l.

3.3 Results and Discussion

The results of chlorine analyses have been compiled in Table 3-1. A summary of monthly chemical use and consumption at the station has been tabulated in Table 3-2 to comply with U.S. Nuclear Regulatory Commission Specifications (1974).

3.4 References Cited

A.P.H.A., A.W.W.A., and W.P.C.F. 1976. Standard methods for the examination of water and wastewater. 14th ed. Amer. Public Health Assn., Washington, D.C. 1193 pp.

U.S. Nuclear Regulatory Commission. 1974. Appendix B to operating license DPR-29 and DPR-30: Non-radiological technical specifications and basis for Quad-Cities Station Unit 1 and Unit 2 Rock Island, Illinois. Commonwealth Edison Company and Iowa-Illinois Gas and Electric Company. Docket numbers 50-254 and 50-265. Washington, D.C. 15 pp.

TABLE 3-1

CHLORINE DOSE, FREE CHLORINE RESIDUAL, FREE CHLORINE CONSUMPTION AND SODIUM HYDROCHLORITE INJECTION FLOW RATE INTO CONDENSERS AT THE QUAD-CITIES STATION FEBRUARY 1980 THROUGH DECEMBER 1980 AS PROVIDED BY QUAD-CITIES STATION PERSONNEL

Date	Chlorine dose (mg/1-NAOCI)	Free Chlorine Residue (mg/1)	Free Chlorine Consumption (mg/1)	Sodium Hypochlorite Injection Flow rate into Condensers (gal./min.)
February 4, 1980	2.48	0.50	1.98	9.09
6,	2.48	0.40	2.08	9.25
11,	2.83	0.65	2.18	8.18
15,	2.55	1.11	1.44	8.26
18,	2.62	0.95	1.67	8.63
20,	2.62	0.79	1.83	8.88
28,	2.71	2.00	0.71	8.90
29,	2.71	2.50	0.21	8.14
March 3, 1980	2.84	2.00	1.26[1/]	9.78[1/]
7,	2.84	1.16		
13,	2.84	1.20	1.64	8.57
14,	2.84	1.60	1.24	7.94
17,	2.70	2.32	0.38	6.98[2/]
19,	2.70	1.84	0.86	
24,	2.70	0.80	1.90	6.37
28,	2.55	0.20	2.35	11.50
31,	2.48	1.83	0.65	12.48[3/]
April 2, 1980	2.48	1.80	0.68	
4,	2.62	1.40	1.23	
7,	2.26	0.96	1.29	5.58
8,	2.15	1.36	0.80	4.81
9,	2.08	1.56	0.53	4.39
11,	2.36	1.37	0.99	5.11
15,	2.36	1.04	1.32	7.25
18,	2.84	1.52	1.32	8.06
21,	2.12	2.05	0.07	6.11
23,	2.12	1.97	0.15	6.23
25,	2.12	1.92	0.20	6.30
28,	1.98	1.88	0.10	6.16
30,	3.26	1.99	1.27	11.11
May 1, 1980	3.40	2.00	1.40	8.20
7,	2.48	1.50	0.98	8.13[4/]
8,	2.48	1.50	1.73	
12,	2.84	2.33	0.51	7.38[5/]
14,	2.84	0.56	2.28	
21,	2.98	1.64	1.34	8.09
23,	2.98	1.64	1.34	8.09
28,	2.72	0.40	2.32	9.63
30,	2.72	0.66	2.06	9.22

TABLE 3-1 (CONTINUED)

Date	Chlorine dose (mg/l-NAOCI)	Free Chlorine Residue (mg/l)	Free Chlorine Consumption (mg/l)	Sodium Hypochlorite Injection Flow rate into Condensers (gal./min.)
June 4, 1980	2.65	2.10	2.06	9.22
6,	2.72	2.00	0.72	13.68
11,	2.34	2.00	0.34	6.86
13,	2.97	2.04	0.93	7.45
19,	2.15	1.94	0.21	6.33
23,	2.84	2.20	0.64	6.22
27,	2.84	2.81	0.03	5.27
30,	2.50	2.25	0.25	4.64[6/]
July 2, 1980	2.50	1.84	0.66	
14,	2.51	1.78	0.73	7.14
16,	2.51	2.29	0.22	6.34
28,	2.77	2.00	0.77	16.10
August 1, 1980	2.77	2.14	0.63	10.40
4,	2.77	0.33	2.44	9.80
6,	2.77	2.29	0.48	6.80
11,	2.77	2.05	0.72	7.20
12,	2.77	2.14	0.63	7.00
13,	2.63	2.19	0.44	6.70
18,	2.2	1.24	0.96	7.50
19,	2.62	2.00	0.62	7.00
26,	2.18	1.67	0.42	6.70
29,	2.22	1.76	0.55	6.90
September 3, 1980	2.27	1.55	0.72	7.14
5,	2.27	1.24	1.03	7.00
8,	2.62	2.15	0.47	6.60
10,	2.62	1.94	0.68	7.00
15,	2.62	2.53	0.01	6.00
17,	2.13	2.47	0.34	6.50
23,	2.48	1.52	0.96	7.50
24,	2.48	1.57	0.91	7.40
29,	2.48	1.57	0.91	7.40
October 1, 1980	2.48	1.57	0.91	7.40
6,	2.41	1.00	1.41	8.20
8,	2.41	1.50	0.91	7.40
13,	2.15	0.50	1.65	8.60
15,	2.15	1.20	0.95	7.50
20,	2.48	1.40	1.10	7.70
24,	2.56	1.45	1.11	8.00
28,	2.56	1.70	0.86	7.30
31,	2.56	1.60	0.96	7.50

TABLE 3-1 (CONTINUED)

Date	Chlorine dose (mg/1-NAOCI)	Free Chlorine Residue (mg/1)	Free Chlorine Consumption (mg/1)	Sodium Hypochlorite Injection Flow rate into Condensers (gal./min.)
November 3, 1980	2.49	1.15	1.34	8.10
5,	2.49	1.65	0.84	7.30
10,	2.99	0.95	2.04	9.20
12,	2.99	0.55	2.04	9.80
17,	2.49	0.10	2.39	9.70
19,	2.49	0.90	1.59	8.50
26,	2.48	0.65	1.83	8.90
28,	2.48	1.70	0.78	7.20
December 1, 1980	2.48	1.20	1.30	8.00
8,	2.41	2.12	0.29	6.50
10,	2.41	1.96	0.45	6.70
12,	2.41	1.80	0.61	7.00
17,	2.41	0.81	1.60	8.50
19,	2.41	1.92	0.49	3.80
22,	2.34	1.44	0.90	7.40
24,	2.27	2.00	0.27	6.40
29,	2.55	1.35	1.00	9.70
31,	2.00	1.60	0.76	9.00

1/ Average for March 3 & 7

2/ Average for March 17 & 19

3/ Average for March 31, April 2 & 4

4/ Average for May 7 & 8

5/ Average for May 12 & 14

6/ Average for June 30 & July 2

TABLE 3-2

CHEMICAL USAGE AND CONSUMPTION AT THE QUAD-CITIES STATION
FEBRUARY 1980 THROUGH DECEMBER 1980 AS PROVIDED BY
QUAD-CITIES STATION PERSONNEL

Usages and Chemicals	Feb. 1980	March 1980	April 1980	May 1980	June 1980	July 1980
Demineralizers						
Sulfuric acid (H_2SO_4) (pounds)	12,701	19,456	15,752	8,841	8,841	12,857
Sodium hydroxide (NaOH) (pounds)	4,027	7,027	5,954	2,721	2,827	4,500
Circulating and Service Water						
Sodium hypoclorite (NaOCI) (pounds)	299,768	343,885	260,176	970	802	784
Domestic Water & Sewage						
Sodium hypoclorite (NaOCI)	20	20	20	20	20	20
Close Cooling Water						
Sodium nitrate ($NaNO_2$) (pounds)	0	5	10	45	140	0

TABLE 3-2 (CONTINUED)

Usages and Chemicals	Aug. 1980	Sep. 1980	Oct. 1980	Nov. 1980	Dec. 1980
Demineralizers					
Sulfuric acid (H_2SO_4) (pounds)	8,685	16,064	7,720	12,545	14,475
Sodium hydroxide (NaOH) (pounds)	2,100	5,908	3,300	3,300	5,400
Circulating and Service Water					
Sodium hypoclorite (NaOCI) (pounds)	48,844	50,419	40,335	18,487	20,168
Domestic Water & Sewage					
Sodium hypoclorite (NaOCI)	20	20	20	20	20
Close Cooling Water					
Sodium nitrate ($NaNO_2$) (pounds)	0	0	35	19	35

CHAPTER 4

IMPINGEMENT INVESTIGATION

Operational Environmental Monitoring In The

Mississippi River Near Quad-Cities Station

February 1980 through December 1980

TABLE OF CONTENTS

	Page
LIST OF TABLES	ii
LIST OF FIGURES	iii
4.1 Introduction	4-1
4.2 Field and Analytical Procedures	4-2
4.3 Results and Discussion	4-2
4.4 Summary and Conclusions	4-3
4.5 References Cited	4-3

LIST OF TABLES

No.	Title	Page
4-1	Number, total weight, average weight per fish, relative abundance and total length range of fishes removed from the traveling intake screens collected from trash baskets at Quad-Cities Station, February 1980 through December 1980	4-4
4-2	External parasites of impinged fishes enumerated during impingement studies at Quad-Cities Station, February 1980 through December 1980	4-8

LIST OF FIGURES

No.	Title	Page
4-1	Schematic representation of the Quad-Cities intake bay	4-10

4.0 IMPINGEMENT INVESTIGATION

4.1 Introduction

Evaluation of the nature and magnitude of fish impingement at the Quad-Cities Nuclear Power Station began in 1973, and has continued through this report period of February 1980 to December 1980.

Quad-Cities Station employs three protective structures to prevent submerged and floating debris and fishes from entering the plant intake pumps and condenser tubes. The first of these structures is a floating boom at the mouth of the intake forebay designed to prevent the entrance of logs or large floating materials into the forebay. The second protective structure is a series of vertical bar grills with three-inch spacings which are located in front of the crib house entrance. Directly behind the bar grills are the standard traveling screens with 3/8 inch square openings which are employed to further reduce the entrainment of fishes and debris. Materials that are trapped on the vertical bar grills are removed by a mechanical lift and dumped into a trash basket. Small materials impinged by the intake current onto the traveling screens are retained on the screens until washed into trash baskets at pre-set time intervals or when screens are activated by a reduction in intake water volume due to the collection of debris. A schematic representation of the intake structure is present in Figure 4-1.

No threatened or endangered species listed by the State of Illinois or the U.S. Fish and Wildlife Service (Miller 1972, Smith 1979) were observed in impingement collections.

4.4 Summary and Conclusions

The most abundant fishes impinged during February through December 1980 were juvenile and young-of-the-year gizzard shad and freshwater drum. The majority of additional species impinged also consisted of young-of-the-year and juveniles.

4.5 References Cited

Bailey, R. M. 1979. A list of common and scientific names of fishes from the United States and Canada. 3rd. ed. Am. Fish. Soc. Spec. Publ. 6, 150 pp.

Miller, R. R. 1972. Threatened freshwater fishes of the United States. Trans. Am. Fish. Soc. Vol. 101, No. 2, 239-252.

Smith, W. P. 1979. The fishes of Illinois. University of Illinois Press, Urbana, Illinois, 314 p.

Roosa, D. M. 1977. Endangered and threatened fish of Iowa. Special report of the Preserves Board No. 1, Des Moines, Iowa. 25 pp.

TABLE 4-1

NUMBER, TOTAL WEIGHT, AVERAGE WEIGHT PER FISH, RELATIVE ABUNDANCE, AND TOTAL LENGTH RANGE OF FISH REMOVED FROM TRAVELING INTAKE SCREENS AND COLLECTED FROM TRASH BASKETS AT QUAD-CITIES STATION, FEBRUARY 1980 THROUGH DECEMBER 1980

Taxa	February[1]	March[1]	May[2]	April[2]	June[2]	July[2]	August[2]	September[2]	October[2]	November[2]	December[3]
Chestnut lamprey				1							
Silver lamprey	2	10	5	1	1						1
Lepisosteus sp.						1					
Longnose gar		9	4	19	1				1	4	4
Shortnose gar	1	17	11	33	3	1	2		1	3	4
Bowfin			28	8	61	77	6	3			
Gizzard shad	2933	642	228	542	6		83	442	60	6,919	12,947
Mooneye	15	450	11	168	5	1	6	3		1	21
Brown trout			1								
Central mudminnow		4		3							
Grass pickeral				1							
Northern pike	17	51	9	168	24	23					
Cyprinidae							1				
Carp		1		4	1	1	4	2	5		
Hybopsis sp.		1									
Silver chub				1			6	3			2
Golden shiner		2			2						
Notropis sp.											1
Emerald shiner	6	102		16	1	1	3	2		1	
Spottail shiner			3	11		1	14				
Creek chub		4									
Pimephales sp.			1								
Catostomidae						1					
Carpiodes sp.					6	4					
River carpsucker	1	12	1	2	4	1	2		1		5
Quillback	4	2	1	5							11
Highfin carpsucker											1
Smallmouth buffalo	14	41	4	13	2		3				
Bigmouth buffalo		1			1		4			3	16
Moxostoma sp.	1		1	1	11						
Ictalurus sp.					2						
Black bullhead	5	8	3	18	2		1				
Yellow bullhead	2			1							
Channel catfish	251	342	4	65	15	4	32	7		7	23
Stone cat		1					1	1			
Tadpole madtom		5	1	1						1	1
Flathead catfish	35	52		2	2		4	1		2	12
White bass	25	49	26	57	7	21	126	14	26	27	84
Lepomis sp.		1	82	5	63		4				
Green sunfish		2	2					1			
Orange spotted sunfish			3	3	2	4	3			2	1
Bluegill	2	4	24	11	69	14	30	6	129	9	11
Largemouth bass			2	4	2		1		1		1

TABLE 4-1 (CONTINUED)

Taxa	February[1/]	March[1/]	May[2/]	April[2/]	June[2/]	July[2/]	August[2/]	September[2/]	October[2/]	November[2/]	December[3/]
White crappie	7	18	35	21	29	73	36	9	24	6	45
Black crappie	2		6	30	9	24	21		6	6	11
Percina sp.											
Mud darter	1										
Yellow perch				5							
Logperch	4	7	2	3							
River darter		4	1	2							
Sauger	2	39	2	1	5	3	3				6
Walleye		1		6		2					
Freshwater drum	1,118	2,009	151	933	181	4	525	264	337	346	558
Total Number	4,448	3,906	653	2,164	517	259	921	759	589	7,337	13,767
Total species	22	34	30	35	28	20	25	15	12	15	23
Total weight	124,094	103,854	25,816	92,112	32,676	20,738	16,100	10,750	10,655	81,184	268,087
Sampling days	17	16	9	10	8	10	8	9	8	8	13

TABLE 4-1 (CONTINUED)

Taxa	Total weight (g)	Average weight	Total Number	Percent of Total Catch	Total length range
Chestnut lamprey	71	71.0	1	<0.1	320
Silver lamprey	789	39.5	20	0.1	203 - 362
Lepisosteus sp.	1	1.0	1	<0.1	87
Longnose gar	6,979	166.2	42	0.1	210 - 600
Shortnose gar	17,329	228.0	76	0.2	117 - 615
Bowfin	30,128	164.6	183	0.5	94 - 535
Gizzard shad	466,584	18.8	24,802	70.2	36 - 367
Mooneye	24,604	36.1	681	1.9	103 - 329
Brown trout	59	59.0	1	<0.1	199
Central mudminnow	70	10.0	7	<0.1	78 - 115
Grass pickeral	32	32.0	1	<0.1	182
Northern pike	31,374	108.2	290	0.8	145 - 545
Cyprinidae	2	2.0	1	<0.1	60
Carp	8,117	541.1	15	0.1	58 - 499
Hybopsis sp.	11	11.1	1	<0.1	107
Silver chub	224	18.7	12	<0.1	89 - 172
Golden shiner	63	15.8	4	<0.1	83 - 137
Notropis sp.	14	14.1	1	<0.1	128
Emerald shiner	509	3.9	132	0.4	56 - 151
Spottail shiner	86	3.0	29	0.1	54 - 88
Creek chub	7	7.0	1	<0.1	107
Pimephales sp.	219	54.8	4	<0.1	136 - 216
Catostomidae	4	4.0	1	<0.1	83
Carpiodes sp.	67	6.7	10	<0.1	46 - 102
River carpsucker	3,087	106.4	29	0.1	64 - 432
Quillback	2,255	98.0	23	0.1	87 - 340
Highfin carpsucker	122	122.0	1	<0.1	223
Smallmouth buffalo	9	3.0	3	<0.1	58 - 71
Bigmouth buffalo	4,527	46.7	97	0.3	57 - 318
Moxostoma sp.	424	106.0	4	<0.1	70 - 270
Ictalurus sp.	15	7.5	2	<0.1	112 - 113
Black bullhead	858	23.2	37	0.1	54 - 223
Yellow bullhead	101	33.7	3	<0.1	62 - 185
Channel catfish	12,265	16.4	750	2.1	30 - 437
Stone cat	66	22.0	3	<0.1	62 - 145
Tadpole madtom	43	4.8	9	0.1	61 - 98
Flathead catfish	5,094	46.3	110	0.3	55 - 555
White bass	12,137	26.3	462	1.3	48 - 345
Lepomis sp.	781	5.0	155	0.4	34 - 137
Green sunfish	80	16.0	5	<0.1	54 - 130
Orange spotted sunfish	93	5.2	18	<0.1	49 - 175
Bluegill	5,873	19.0	309	0.9	37 - 195
Largemouth bass	1,829	166.3	11	<0.1	67 - 307

TABLE 4-1 (CONTINUED)

Taxa	Total weight (g)	Average weight	Total Number	Percent of Total Catch	Total length range
White crappie	9,134	30.1	303	0.9	42 - 272
Black crappie	6,204	50.4	123	0.3	54 - 235
Percina sp.	3	3.0	1	<0.1	63
Mud darter	350	29.2	12	0.1	80 - 240
Yellow perch	1	1.0	1	<0.1	56
Logperch	75	4.7	16	0.1	59 - 91
River darter	22	3.1	7	0.1	61 - 77
Sauger	2,382	39.0	61	0.2	82 - 340
Walleye	3,145	349.4	9	0.1	57 - 544
Freshwater drum	127,175	19.8	6,426	18.2	32 - 385
Total number			35,320		
Total weight	786,066				

1/ Numbers based on 4 collections per week

2/ Numbers based on 2 collections per week

TABLE 4-2

EXTERNAL PARASITES OF IMPINGED FISHES ENUMERATED DURING IMPINGEMENT IMPINGEMENT SAMPLING, FEBRUARY THROUGH DECEMBER 1980

Month	Infected Species	Disorder	Number Afflicted
February	Gizzard shad	bacterial infection	2
	Northern pike	black grub	12
	Freshwater drum	abnormal eye - ½ normal size	1
	Freshwater drum	bacterial infection	2
	Freshwater drum	fungus	1
	Freshwater drum	leeches	7
March	Gizzard shad	red eye	2
		fungus	2
		bacterial infection	4
	Freshwater drum	red eye	38
		bacterial infection	7
		fungus	21
		leech	6
		bug eye	2
	Mooneye	red eye	4
	Northern pike	fungus	1
		black spot	24
	Emerald shiner	black spot	1
April	Northern pike	black spot	2
	Emerald shiner	black spot	1
	Black bullhead	bacterial infection	1
May	Bowfin	bacterial infection	2
	Mooneye	red eye	1

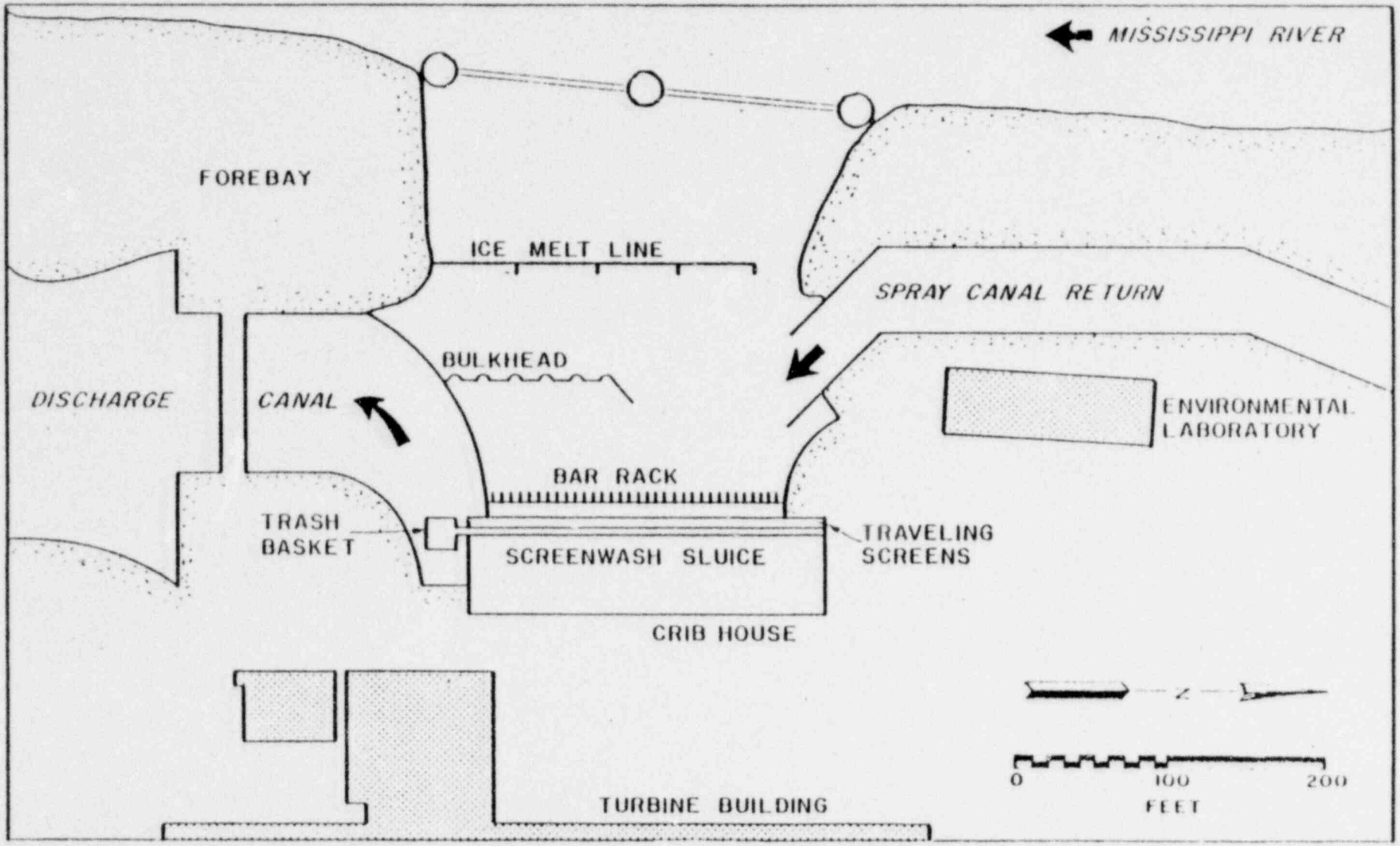


Figure 4-1. Schematic representation of the Quad-Cities Station intake forebay.

APPENDIX A

(Related to Chapter 2 of Text)

SUMMARY OF DAILY MINIMUM, MAXIMUM AND
MEAN WATER TEMPERATURES

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F),
QUAD-CITIES STATION, FEBRUARY, 1980

Day	Upstream			Intake			Cooling Canal Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	32.0	32.5	32.3	32.2	32.5	32.4	56.4	59.9	58.5	71.3	79.6	77.2	31.5	33.8	33.1
2	32.3	32.5	32.4	32.3	32.5	32.4	46.8	60.0	52.2	57.4	69.1	62.9	32.0	33.8	32.9
3	32.4	32.5	32.5	32.4	32.7	32.5	49.6	56.9	52.5	67.3	75.1	70.5	32.0	33.4	33.0
4 1/	31.8	32.6	32.2	31.8	32.7	32.3	57.0	64.8	60.1	75.2	84.4	80.2	31.5	33.9	32.8
5	32.2	32.5	32.4	32.2	32.6	32.4	63.1	64.3	63.8	80.2	84.8	83.2	32.1	33.1	32.8
6	32.0	32.5	32.3	32.0	32.6	32.3	62.0	67.6	64.7	80.2	85.9	83.8	31.8	33.4	32.7
7	32.0	32.2	32.1	32.0	39.1	34.1	65.3	67.4	66.4	84.9	87.0	85.8	31.9	33.2	32.6
8	31.8	32.1	32.0	32.0	36.1	32.7	62.9	67.0	66.0	80.5	86.1	83.8	31.8	33.2	32.5
9	31.9	32.1	32.0	32.1	32.6	32.3	62.4	65.8	64.3	80.3	84.7	83.2	31.9	33.1	32.5
10 1/	31.8	32.1	32.0	32.2	38.3	34.2	60.9	65.1	63.3	79.1	85.3	82.8	31.7	32.8	32.3
11 1/	31.8	32.0	31.9	31.9	38.5	33.5	62.2	65.0	64.0	80.0	85.2	83.8	31.6	32.8	32.3
12	31.8	32.4	32.1	31.9	37.9	32.8	57.1	63.5	60.2	74.0	84.3	79.4	31.6	33.3	32.5
13	32.2	32.6	32.3	32.3	39.5	34.7	63.4	69.1	66.1	83.8	87.7	85.6	32.0	33.5	32.8
14	32.3	32.4	32.3	32.3	38.0	32.8	65.5	69.3	66.8	82.0	87.8	84.0	32.2	33.6	33.0
15	32.0	32.4	32.2	32.0	36.5	32.7	60.9	71.7	66.0	82.8	94.8	85.7	31.4	33.6	32.8
16	32.1	32.3	32.2	32.1	32.7	32.3	60.8	65.7	63.1	73.3	84.6	81.1	31.2	33.6	32.6
17	32.0	32.3	32.1	32.1	32.7	32.4	56.2	63.5	60.0	72.8	82.0	78.0	31.1	33.6	32.3
18	31.9	32.3	32.2	32.4	42.4	34.2	63.0	73.3	66.0	80.7	98.5	88.3	31.3	33.7	32.5
19 1/	32.0	32.5	32.2	32.5	32.9	32.7	65.4	73.3	68.8	82.0	87.5	84.8	31.8	34.0	32.9
20	31.9	32.6	32.2	32.3	38.0	33.0	69.2	74.2	70.9	86.2	90.1	87.6	32.2	33.7	33.1
21	31.8	32.0	31.9	32.2	33.8	32.7	69.0	72.8	70.9	85.3	89.4	87.1	32.1	33.6	32.9
22	33.9	34.4	34.2	32.7	34.2	33.2	70.2	72.9	71.8	85.7	88.9	87.7	32.5	36.2	33.7
23	32.8	34.6	34.3	32.5	33.2	32.8	68.3	72.7	70.7	81.0	88.7	86.7	31.8	35.8	33.6
24	34.4	35.2	34.7	32.5	34.8	33.2	65.3	68.2	61.6	65.3	74.0	68.0	31.8	35.6	33.7
25	34.1	34.7	34.4	32.0	33.5	32.6	50.1	57.1	52.3	62.9	67.1	65.0	31.5	35.0	33.3
26	34.1	34.5	34.3	32.0	33.8	32.5	50.8	59.9	54.1	67.4	79.3	72.6	31.4	35.0	33.2
27	34.2	34.9	34.5	32.0	38.9	36.1	60.2	68.6	64.8	80.2	87.9	84.3	31.4	35.8	33.5
28 1/	33.2	35.3	34.4	32.7	41.9	36.7	66.9	69.1	68.5	87.3	89.3	88.2	31.9	36.0	33.8
29	33.0	33.5	33.2	32.3	37.2	34.8	60.9	66.4	62.8	82.0	87.7	83.9	31.7	35.8	33.5

1/ Instruments zeroed to ground truth data

TABLE 2

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F),
QUAD-CITIES STATION, MARCH, 1980

Day	Upstream			Intake			Cooling Canal Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	33.2	33.6	33.3	32.2	35.6	33.3	60.2	63.1	61.7	78.2	83.6	82.7	31.7	35.8	34.2
2	33.0	33.4	33.2	31.9	32.4	32.2	57.5	62.8	60.0	73.0	77.3	75.7	32.6	35.9	34.2
3	32.8	33.7	33.2	31.9	33.0	32.4	58.9	68.1	62.4	77.3	86.6	81.4	32.7	36.2	34.3
4	32.5	34.8	33.3	32.1	33.2	32.5	68.2	71.9	70.2	80.2	89.6	87.6	32.7	36.6	34.6
5	32.7	33.7	33.2	31.9	32.7	32.3	62.5	70.5	65.3	82.7	88.4	84.5	32.4	36.1	34.3
6	32.9	33.4	33.1	32.0	32.7	32.4	62.9	68.4	65.4	83.2	86.5	84.8	32.3	36.2	34.3
7	32.9	33.2	33.1	32.2	32.9	32.5	67.7	68.8	68.3	82.0	87.6	85.9	32.5	36.2	34.5
8	33.0	34.2	33.4	32.1	33.8	32.7	64.7	68.8	67.8	80.2	87.0	84.2	32.5	36.7	34.8
9	32.9	33.5	33.2	32.0	35.5	32.8	62.2	71.2	65.6	77.2	90.5	83.3	32.3	36.4	34.4
10[1/]	33.0	33.9	33.3	31.8	39.5	33.2	58.5	72.8	67.1	77.6	91.4	85.2	32.5	36.2	33.9
11	32.8	34.1	33.4	31.8	39.3	33.1	48.5	64.9	58.1	57.0	81.2	72.3	31.9	33.9	33.1
12	33.0	34.0	33.4	32.2	33.8	32.9	56.4	63.3	58.3	72.8	78.3	75.3	31.3	33.6	32.7
13	33.2	34.0	33.6	32.5	33.4	33.0	60.2	64.3	61.3	74.0	83.5	77.9	30.9	33.7	32.6
14	33.3	34.7	33.7	32.4	35.8	33.6	64.7	73.2	69.0	83.7	91.2	87.3	30.7	34.3	32.8
15	33.1	34.5	33.7	32.7	41.3	34.4	68.7	74.8	71.6	83.8	91.3	87.2	30.7	34.0	32.4
16	33.9	35.9	34.1	33.6	40.2	35.5	72.5	75.5	74.4	86.0	90.7	88.7	31.6	33.8	32.7
17[1/]	33.7	34.7	34.2	33.3	34.5	33.7	68.4	72.7	69.8	84.6	87.4	86.5	31.2	33.4	32.4
18	32.6	34.8	33.7	32.8	40.0	34.2	69.4	72.8	71.0	86.3	96.0	88.2	30.9	33.5	32.1
19	31.7	32.7	32.3	33.2	38.3	34.4	71.0	73.9	72.4	93.5	96.7	95.5	32.0	33.9	33.1
20	31.7	32.3	32.0	32.9	40.6	35.0	72.1	75.8	74.3	94.6	98.0	96.5	31.9	33.5	32.8
21	31.2	32.9	31.9	31.9	33.6	32.8	68.3	71.8	69.3	92.4	94.0	93.4	31.8	34.9	33.0
22	31.3	32.5	31.8	32.0	39.4	33.9	62.3	71.4	69.2	72.7	96.5	92.8	32.0	34.6	33.7
23	32.2	32.6	32.4	33.5	36.3	34.3	67.7	71.6	69.9	87.7	93.8	91.3	33.2	36.5	34.1
24[1/]	32.2	34.6	33.1	33.2	33.8	33.4	65.8	69.7	67.5	84.5	92.6	89.3	33.5	34.5	33.9
25	31.9	32.8	32.4	33.2	35.0	33.9	63.1	71.3	69.5	81.6	88.7	86.4	33.2	34.6	33.6
26	32.2	33.2	32.9	33.5	35.0	34.5	68.0	70.8	70.2	85.2	87.9	87.0	33.8	34.8	34.1
27	33.4	35.8	34.1	34.5	40.0	36.4	69.0	75.2	72.5	84.9	91.1	88.2	34.3	37.1	35.6
28[1/]	35.4	40.9	37.8	37.4	40.7	39.6	70.7	75.2	72.8	85.4	91.5	89.9	36.9	40.6	38.8
29	39.3	40.2	39.8	38.9	42.0	40.5	67.5	71.8	69.8	81.0	84.6	82.1	38.8	41.5	39.9
30	39.5	40.8	40.2	38.9	41.4	39.4	65.2	67.5	66.1	80.9	84.4	82.8	38.5	41.6	40.1
31	39.1	40.6	39.8	38.6	41.5	40.2	66.1	74.9	71.1	84.6	94.0	90.2	38.6	42.0	40.1

[1/] Instruments zeored to ground truth data

TABLE 3

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F),
QUAD-CITIES STATION, APRIL, 1980

Day	Upstream			Intake			Cooling Canal Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1 1/	40.7	45.0	42.2	40.0	43.8	42.2	73.3	75.5	74.7	92.5	95.0	93.9	40.0	43.5	41.8
2 1/	42.4	43.0	42.6	41.8	44.0	43.0	75.8	77.2	76.5	94.1	96.0	95.1	41.3	43.9	42.8
3 1/	42.4	43.2	42.7	43.0	46.0	44.8	71.8	77.6	74.6	89.2	95.8	92.7	42.1	43.4	42.7
4	42.5	44.4	43.4	44.3	46.9	45.5	71.9	74.8	73.4	91.3	93.6	92.3	42.4	44.6	43.6
5	43.2	45.3	44.5	44.6	49.1	46.6	74.3	82.9	74.4	76.3	100.0	95.1	43.2	45.6	44.6
6	45.0	46.9	46.4	45.8	49.6	48.0	68.9	81.7	77.5	88.4	96.4	95.2	45.3	47.1	46.5
7	46.6	49.0	47.9	47.7	53.2	50.2	78.0	84.1	81.2	96.8	101.7	99.8	46.7	49.5	48.3
8	48.1	49.7	48.9	50.2	58.0	52.5	73.6	86.7	82.0	77.7	101.7	95.9	48.4	50.3	49.3
9	44.7	48.0	46.4	45.8	57.5	49.9	67.2	79.0	72.6	74.1	101.3	88.1	45.1	48.4	46.7
10	43.9	44.9	44.3	45.5	58.3	47.8	67.0	75.0	72.4	77.4	97.6	88.1	44.3	45.2	44.7
11 1/	42.0	44.0	43.2	43.0	46.6	44.9	68.8	74.6	70.6	68.9	91.2	87.0	40.8	44.5	43.2
12	41.6	43.7	42.4	42.0	43.8	43.0	60.9	66.2	62.4	66.5	71.5	67.8	41.0	44.4	42.7
13	43.2	44.3	43.8	43.8	49.8	45.8	60.2	68.5	63.9	66.4	77.1	71.6	43.6	45.6	44.3
14	39.8	44.5	42.1	41.3	48.0	44.7	66.9	68.9	67.7	76.2	77.7	76.8	39.4	44.9	42.4
15	39.4	42.5	40.9	40.8	45.7	43.7	68.8	76.8	73.6	77.7	84.0	81.3	38.7	42.9	41.0
16	42.1	43.9	42.7	43.3	47.2	44.9	76.2	79.5	77.7	83.6	35.9	84.7	42.2	44.1	43.0
17	43.7	44.2	44.0	45.3	48.5	46.6	77.6	78.7	78.0	84.3	85.1	84.6	43.7	44.3	44.1
18 1/	44.5	47.9	46.2	47.0	54.0	50.6	79.6	83.6	82.2	85.3	89.8	88.5	44.6	48.3	46.5
19	47.6	50.7	48.7	50.3	57.0	53.0	80.7	83.8	82.2	88.3	91.2	89.7	48.0	51.4	49.2
20	50.3	53.2	51.5	53.2	60.5	56.1	82.4	89.4	85.8	87.5	97.0	93.1	50.5	53.7	52.5
21	52.7	55.5	53.8	55.8	61.0	58.3	88.2	98.9	93.9	98.2	110.0	104.3	52.9	56.5	54.3
22 1/	55.1	58.1	56.3	59.3	65.6	62.8	88.3	96.3	91.6	96.8	105.8	99.5	55.6	59.3	57.0
23	57.7	58.9	58.1	62.0	66.8	63.6	86.4	93.1	89.7	96.0	106.1	101.4	57.9	59.6	58.6
24	56.5	58.5	57.4	61.5	65.5	63.1	88.3	96.2	92.6	104.0	111.0	107.2	57.2	59.2	58.0
25	57.0	57.6	57.3	60.6	65.3	62.8	85.2	94.5	88.6	94.2	104.5	97.5	57.2	58.9	58.0
26	56.6	57.8	57.4	60.2	65.2	62.5	83.8	86.0	85.1	93.0	95.0	94.2	56.8	58.6	57.8
27	56.7	57.6	57.3	60.5	64.9	62.0	85.3	86.4	85.6	93.2	95.5	94.5	54.3	85.5	57.3
28	55.5	57.5	56.9	58.9	63.2	60.8	85.4	89.0	86.7	94.9	103.5	100.1	52.6	57.5	56.1
29	54.0	55.9	55.3	58.4	59.8	59.0	86.3	89.8	87.7	100.7	106.5	102.7	53.5	55.7	54.9
30 1/	55.0	56.2	55.6	58.0	59.9	59.0	88.7	95.3	92.6	106.1	111.5	109.6	53.4	59.6	55.8

1/ Instruments zeroed to ground truth data

TABLE 4

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F), QUAD-CITIES STATION, MAY, 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	55.6	57.6	56.6	58.3	59.7	58.8	89.0	95.6	93.7	89.4	109.2	100.3	51.6	58.3	53.9
2	56.7	59.8	58.2	57.6	61.8	59.6	89.4	91.9	91.0	90.8	105.4	99.5	54.7	60.1	57.6
3	58.7	61.8	60.2	59.8	64.0	61.8	87.3	92.8	90.8	99.8	107.1	103.4	59.1	64.5	62.1
4[2/]	60.6	63.8	62.2	62.0	66.1	64.0	85.2	88.6	87.1	98.1	100.9	99.6	58.5	64.3	61.4
5	62.0	64.6	63.4	63.5	66.8	65.3	84.8	89.7	86.7	98.3	102.8	100.5	59.7	65.1	62.5
6	63.0	64.6	63.7	64.4	67.0	65.6	82.1	86.2	84.4	99.3	101.7	100.6	60.6	66.0	63.6
7	61.1	63.0	62.3	63.0	64.7	64.0	81.0	82.0	81.5	93.3	99.2	98.2	61.4	64.5	63.3
8	59.0	60.7	59.7	60.4	62.6	61.2	76.2	85.0	79.8	89.4	98.4	92.8	59.2	64.4	61.0
9	58.0	62.2	60.5	59.2	62.1	60.9	80.8	90.7	86.6	92.0	108.0	101.4	58.3	62.9	61.2
10[2/]	61.2	62.8	61.9	60.9	62.6	61.8	85.6	91.2	88.4	99.8	108.5	104.0	61.2	64.1	62.4
11[2/]	61.4	62.9	62.2	61.2	63.4	62.2	78.4	86.0	82.1	88.2	97.3	93.6	61.5	64.1	62.7
12	61.2	62.9	62.1	61.2	62.7	62.1	80.3	88.4	83.9	91.4	103.2	97.6	61.4	64.3	62.6
13	61.0	62.4	61.7	60.4	62.3	61.5	82.0	89.5	86.7	95.6	105.5	101.2	61.0	63.5	62.0
14	59.5	61.4	60.6	59.2	61.8	60.7	80.5	85.7	83.2	94.3	99.6	97.3	59.2	62.0	60.6
15	58.6	63.1	60.8	59.8	63.5	61.6	84.4	87.0	85.7	97.5	100.2	98.3	58.2	65.5	61.8
16	60.6	64.0	62.6	60.7	62.7	61.5	84.2	80.5	82.1	91.6	98.4	96.2	60.3	64.6	62.3
17	58.0	60.2	59.1	58.8	61.9	60.0	74.3	80.8	78.2	76.3	94.1	86.2	54.8	61.6	59.2
18	58.5	59.4	58.9	58.8	61.4	59.9	***	***	***[1/]	99.2	106.8	104.6	55.3	60.4	57.7
19[2/]	58.7	61.0	59.8	58.4	62.0	59.9	***	***	***[1/]	83.0	106.7	90.7	56.8	61.7	59.8
20	60.1	63.3	61.5	60.1	63.5	61.6	89.1	91.7	90.9	92.1	105.1	99.8	60.5	64.3	62.0
21	62.4	65.7	64.1	62.4	66.5	64.3	89.5	95.1	92.2	101.7	109.9	105.3	61.8	67.1	64.0
22	64.5	67.4	65.9	64.6	68.4	66.5	87.0	89.2	88.1	99.9	101.4	100.7	63.0	68.7	66.4
23	66.0	67.3	66.3	66.7	67.6	67.0	86.8	88.1	87.6	99.6	101.4	100.7	65.0	68.5	67.2
24	66.6	68.1	67.3	66.6	68.9	67.3	86.4	88.9	88.1	98.3	101.8	100.4	64.1	69.0	67.7
25	67.1	69.7	68.4	67.4	70.7	69.0	87.4	91.0	89.3	99.5	103.1	101.4	63.0	70.4	68.6
26	68.3	70.7	69.5	69.0	71.8	70.4	85.0	88.6	86.6	99.0	101.8	100.6	68.3	71.0	69.7
27[2/]	68.5	71.1	70.4	69.5	72.4	70.9	84.8	90.8	87.8	99.0	105.5	102.0	68.5	72.3	70.2
28[2/]	70.0	72.8	71.3	70.8	74.0	72.4	89.8	93.5	91.8	103.4	108.0	105.5	69.5	74.2	71.2
29	72.6	74.0	73.5	73.4	73.5	73.4[1/]	90.4	93.0	91.8	106.5	108.4	107.5	71.0	75.2	73.6
30	73.2	75.4	73.9	***	***	***[1/]	89.4	92.7	91.4	***	***	108.1[1/]	73.5	78.0	74.5
31	72.8	74.0	73.5	***	***	***[1/]	89.3	92.3	91.0	***	***	***[1/]	73.0	75.6	73.8

1/Sensor malfunction - no data.

2/ Instruments zeroed to ground truth data

TABLE 5

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, JUNE 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	72.5	73.7	73.2	**.*	**.*	**.*[1]	88.3	92.5	90.5	**.*	**.*	**.*	71.6	74.2	73.5
2[2]	71.7	72.9	72.3	**.*	**.*	**.*	90.0	91.9	91.1	**.*	**.*	**.*	71.2	74.4	72.7
3[2]	71.2	72.7	72.1	71.8	72.7	72.4[2]	89.0	93.0	91.2	**.*	**.*	**.*	71.4	73.9	72.6
4	72.2	72.7	72.3	70.9	72.3	71.4	88.0	91.5	89.3	**.*	**.*	**.*	72.4	73.6	72.9
5[3]	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*	**.*
6[2]	73.6	74.1	73.9	73.4	74.0	73.9	94.0	97.2	96.0	107.8	110.5	109.5	73.5	74.8	74.1
7	73.5	74.5	74.0	73.4	74.8	73.9	90.9	97.0	95.1	106.2	110.0	108.7	73.4	75.1	74.3
8	70.7	73.4	72.4	70.3	73.2	72.3	86.4	89.8	87.5	102.4	105.5	103.4	70.5	74.6	72.8
9	70.5	71.2	70.7	69.6	71.0	70.2	86.4	89.2	87.[illegible]	101.0	103.8	102.7	70.0	73.1	71.3
10	70.6	71.5	71.0	69.9	71.7	70.6	86.7	89.0	88.2	102.3	104.2	103.3	70.0	73.4	71.5
11	70.7	72.0	71.4	70.0	72.4	71.1	87.3	91.4	89.4	102.5	105.9	104.2	70.2	73.9	72.0
12	71.5	72.4	72.1	71.0	72.6	71.8	88.2	90.5	89.5	103.6	105.2	104.4	70.9	74.5	72.5
13	70.4	71.9	71.0	70.0	71.2	70.7	89.1	92.0	90.3	98.6	105.0	103.3	69.9	73.5	70.4
14	71.2	73.0	72.0	70.0	72.3	71.3	86.0	93.4	94.0	95.2	104.9	100.3	68.4	74.6	71.7
15	70.2	73.6	72.3	70.1	72.8	72.0	86.5	93.4	89.0	102.2	105.1	103.4	69.9	74.5	72.2
16[2]	69.4	71.3	70.1	68.7	70.4	69.5	84.2	88.3	86.9	100.5	102.6	101.7	68.6	73.2	70.5
17[2]	70.5	71.5	70.9	69.9	70.5	70.3	86.6	89.5	88.2	101.8	103.6	102.7	69.8	73.3	71.0
18	71.0	72.8	71.7	70.0	71.9	71.1	88.6	92.6	90.7	103.0	105.9	104.5	70.5	73.0	71.5
19	72.0	73.5	72.7	71.5	72.7	72.3	88.5	91.4	89.8	103.5	105.3	104.5	71.2	73.4	72.3
20	71.2	72.5	72.0	70.8	72.5	71.6	87.6	91.4	89.7	96.0	105.9	103.3	70.6	73.0	71.7
21	72.5	74.5	73.5	71.5	74.7	73.1	82.4	91.5	85.4	91.2	96.2	93.6	71.9	73.7	73.2
22	73.4	75.2	74.3	72.7	75.5	74.1	82.6	86.0	84.7	89.3	94.3	91.7	72.7	74.0	73.8
23	74.0	76.5	75.3	73.7	77.0	75.3	85.2	91.6	87.9	93.5	105.0	98.3	73.5	76.0	74.7
24[2]	74.9	75.9	73.3	74.7	76.3	75.4	91.8	97.8	94.5	104.6	110.4	107.2	74.1	77.4	75.1
25	74.9	77.4	76.1	74.7	77.7	76.3	96.9	99.9	98.5	107.6	110.7	109.5	73.7	77.9	75.9
26	76.7	79.8	78.1	76.8	80.5	78.5	96.2	100.3	98.2	106.5	113.0	109.6	75.4	80.2	78.1
27	79.0	80.9	79.8	79.2	82.0	80.5	98.9	100.6	100.1	110.4	112.9	112.1	77.5	71.2	79.4
28	**.*	**.*	**.*[1]	79.3	82.1	80.7	97.6	100.9	99.5	109.0	111.2	110.1	78.6	80.9	79.8
29	**.*	**.*	**.*	79.3	80.8	80.0	85.8	99.6	92.1	89.3	109.8	98.5	78.6	80.0	79.5
30[2]	77.4	78.2	77.8	76.3	78.7	77.6	83.4	91.8	86.9	87.4	101.0	94.2	76.2	78.7	77.4

[1] Sensor malfunction - No data

[2] Instruments zeroed to ground truth data

[3] Wires cut from junction box to plant - No data

TABLE 6

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, JULY 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	76.7	78.6	77.6	76.3	79.1	77.5	90.5	98.6	94.3	99.9	109.6	105.2	75.7	79.4	77.7
2	77.0	78.0	77.5	76.5	78.0	77.4	94.8	97.9	96.0	96.5	109.0	106.3	76.1	79.4	77.8
3	76.3	78.0	77.2	76.0	78.4	77.1	86.5	94.5	90.7	94.0	99.8	96.7	75.3	79.0	77.2
4	76.7	79.5	78.0	76.6	79.8	78.1	85.0	91.7	88.5	90.0	97.4	92.1	76.0	80.1	81.4
5	78.0	80.8	79.6	78.0	81.6	79.9	84.9	90.2	87.6	89.9	97.1	93.7	77.0	81.5	79.4
6	78.7	80.5	79.7	78.6	81.3	80.6	85.6	90.0	87.9	94.0	97.7	96.0	78.0	81.3	79.6
7	78.7	81.1	79.9	79.0	82.0	80.6	89.0	94.4	91.7	96.2	101.3	98.7	78.1	81.9	79.9
8[2]	80.4	82.2	81.3	81.0	83.1	81.9	92.7	96.5	94.7	100.0	110.5	106.2	79.4	83.6	81.5
9[2]	81.1	82.0	81.5	80.0	82.5	81.5	92.8	99.9	96.4	109.5	112.5	111.3	77.4	82.5	80.3
10	81.5	82.1	81.8	81.1	82.3	81.7	97.9	100.6	99.5	109.5	112.0	111.2	80.5	83.5	81.9
11	81.8	82.8	82.3	81.2	83.2	82.1	96.5	100.7	98.8	108.3	112.3	110.6	81.3	83.8	82.3
12	83.3	84.8	84.0	83.4	85.7	84.5	98.0	101.3	99.6	103.4	113.5	110.5	83.3	85.7	82.9
13	83.4	84.9	84.2	83.5	86.0	84.8	90.5	98.1	92.3	95.5	100.5	97.0	82.8	86.6	83.4
14[2]	83.6	84.7	84.2	83.7	85.6	84.8	88.9	97.5	93.4	95.5	109.0	104.3	82.6	86.6	83.1
15[2]	83.5	84.5	84.1	83.4	84.9	84.3	95.2	103.2	99.4	107.8	110.7	108.8	82.4	86.4	65.4
16	83.5	84.6	84.1	82.6	85.0	83.8	97.1	102.0	99.4	106.8	109.4	108.4	82.9	86.3	84.4
17	83.0	84.2	83.6	82.4	83.9	82.9	97.2	99.0	97.9	105.9	108.2	107.0	83.0	86.0	84.0
18	82.3	83.6	83.1	81.2	82.9	82.2	91.7	100.8	97.3	103.0	109.4	106.8	82.9	86.5	84.4
19	83.0	84.2	83.5	82.0	84.6	82.9	99.6	102.4	101.1	108.5	110.8	109.5	82.5	86.1	84.2
20[2]	82.5	88.6	83.7	82.3	83.8	83.1	97.0	101.6	99.5	103.6	109.5	107.5	82.3	85.0	83.7
21[2]	82.7	86.6	84.2	82.2	82.6	82.5	96.5	99.0	98.0	108.1	110.7	109.4	79.6	83.9	80.6
22	82.0	82.8	82.5	**.*	**.*	**.*[1]	93.8	96.2	94.8	107.7	109.3	108.4	81.7	84.0	83.2
23	80.8	82.6	81.8	**.*	**.*	**.*[1]	93.5	96.3	94.9	103.7	109.6	107.7	79.9	83.9	82.4
24	80.7	82.8	81.8	**.*	**.*	**.*[1]	89.7	95.5	93.0	100.2	108.4	104.9	80.0	84.8	82.6
25	81.0	82.0	82.0	82.0	83.3	82.7	93.4	97.3	95.3	107.3	109.9	108.7	81.0	83.5	82.2
26	79.8	83.6	81.4	80.0	82.2	81.5	92.7	96.5	95.2	106.2	109.0	108.3	78.4	82.5	81.2
27	79.2	80.0	79.6	79.1	80.5	79.7	91.5	93.7	92.7	105.0	106.8	106.0	78.2	81.7	80.3
28[2]	78.5	79.2	78.9	78.3	79.0	78.7	92.0	95.0	93.7	105.2	107.0	106.1	76.7	81.5	79.7
29[2]	79.1	80.2	79.6	78.9	80.0	79.5	93.5	95.3	94.6	106.2	108.0	107.2	78.2	81.8	80.1
30	79.7	80.5	80.2	79.1	81.0	79.8	93.1	97.6	95.0	106.5	109.4	107.8	79.3	81.1	79.3
31	80.0	81.5	80.8	79.7	81.5	80.7	96.2	98.0	97.3	108.5	110.5	109.6	79.5	81.5	80.7

[1] Sensor malfunction - no data

[2] Instruments zeroed to ground truth data

TABLE 7

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) FOR QUAD-CITIES STATION, AUGUST, 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	80.0	81.2	80.6	79.5	81.5	80.5	94.7	98.9	96.8	107.7	110.6	109.3	78.7	82.0	80.4
2	79.9	81.1	80.5	79.3	81.1	80.5	94.6	97.7	96.0	107.4	110.0	108.7	78.4	82.1	80.4
3	79.7	81.1	80.4	79.3	81.2	80.1	90.5	95.4	91.2	101.0	107.5	104.8	78.3	81.3	80.4
4[1/]	79.9	80.6	80.2	78.0	80.2	79.2	92.1	96.5	93.6	105.0	107.6	106.0	76.3	81.0	79.5
5	79.2	79.7	79.5	78.6	80.3	79.4	92.7	96.7	94.7	105.7	108.0	107.0	77.2	82.0	80.2
6	78.4	79.8	79.2	78.3	79.9	79.3	94.0	97.0	95.8	105.7	108.0	107.2	77.7	81.7	79.6
7	79.5	80.2	79.8	79.9	80.9	80.3	96.0	98.4	97.0	107.6	109.2	108.3	78.8	82.5	80.3
8	80.0	80.8	80.3	80.5	81.8	81.1	95.0	99.2	97.2	107.3	110.0	108.7	79.7	82.5	80.7
9	80.5	81.3	81.0	81.0	82.6	81.8	96.0	99.2	97.8	108.3	110.1	109.2	79.4	83.0	81.3
10	86.8	89.0	87.6	80.4	81.8	81.2	93.4	96.0	94.8	105.7	108.5	107.1	84.0	87.7	85.5
11[1/]	77.9	88.2	82.2	78.8	80.7	79.7	93.6	95.4	94.2	105.4	107.0	106.1	78.0	84.0	80.8
12	76.7	77.8	77.3	77.0	79.3	78.1	91.3	94.3	93.0	103.7	105.8	104.8	76.9	80.5	78.0
13	76.	77.6	77.2	76.6	78.7	77.5	89.8	95.0	92.6	101.8	105.8	104.1	76.2	77.8	77.0
14	75.8	77.3	76.7	76.0	77.7	76.7	92.0	94.4	93.6	102.6	105.2	104.4	75.6	77.3	76.6
15	75.4	76.8	76.3	74.8	76.8	76.0	90.6	93.5	92.0	102.7	104.5	103.6	74.5	79.2	76.2
16	72.3	75.5	74.6	70.4	74.5	72.8	85.3	90.2	87.1	98.8	102.6	100.1	72.0	76.4	74.2
17	72.1	73.6	72.7	69.4	70.7	70.1	82.8	91.0	86.8	89.7	100.5	96.0	71.1	74.7	72.6
18[1/]	71.7	74.2	72.6	69.9	73.0	71.4	89.5	94.0	91.8	99.7	103.7	101.8	69.4	74.7	72.7
19	72.1	74.5	73.7	72.0	76.0	74.0	92.2	06.5	94.5	102.7	106.2	104.4	71.0	76.3	74.3
20	74.1	76.0	74.9	74.4	78.3	76.2	94.6	96.8	95.7	104.7	107.4	106.0	74.0	79.5	76.3
21	77.0	77.7	77.3	75.7	77.7	76.7	93.0	94.0	93.5	104.8	106.2	105.4	76.2	79.4	77.2
22	76.5	77.5	76.9	75.1	77.7	76.3	91.7	94.6	93.3	104.0	106.6	105.3	75.5	78.3	76.8
23	76.5	77.8	77.1	75.0	78.0	76.3	91.2	94.5	93.1	104.0	106.6	105.3	75.3	78.8	76.9
24	76.5	77.6	77.1	75.2	77.8	76.4	90.8	94.7	93.0	103.7	106.5	105.1	75.4	78.9	76.7
25[1/]	75.5	76.7	76.2	74.3	77.9	76.2	91.5	94.8	93.2	103.5	106.8	105.4	75.0	78.8	76.7
26	75.5	76.7	76.0	75.5	78.3	76.8	92.4	96.6	94.5	104.9	108.3	106.6	75.8	82.0	78.1
27	75.5	78.3	77.0	76.5	79.4	77.9	93.4	97.5	95.6	105.8	109.4	107.7	77.0	81.5	78.9
28	77.2	78.3	77.7	77.3	79.7	78.6	93.1	97.7	95.3	106.2	109.5	107.9	76.8	80.5	78.6
29	77.4	78.7	78.0	77.8	80.2	79.0	95.0	97.5	96.2	101.7	109.3	108.0	77.2	81.5	79.2
30	77.2	78.0	77.6	77.3	79.3	78.1	86.2	94.8	89.1	93.8	101.3	96.5	77.0	80.0	78.4
31	76.5	77.0	76.7	75.7	77.1	76.2	82.8	87.2	84.6	88.9	93.5	90.5	75.4	78.0	75.6

[1/] Instrument zeroed to ground truth data

TABLE 8

SUMMARY OF DAILY MININUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, SEPTEMBER 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1 1/	75.7	76.8	76.3	74.3	75.7	74.9	81.3	88.2	84.0	89.5	105.0	97.4	74.3	77.7	75.8
2 1/	75.0	76.0	75.5	73.2	75.6	74.4	88.2	92.2	90.4	105.0	109.0	107.5	73.5	76.7	75.0
3	75.0	75.7	75.3	73.6	76.2	74.7	89.7	95.5	92.8	95.5	108.2	105.0	73.4	76.0	74.9
4	74.7	75.7	75.2	73.4	75.0	74.1	87.7	93.5	90.9	96.3	104.2	99.9	73.7	76.2	75.0
5	74.4	75.2	74.7	72.5	74.7	73.5	84.5	88.5	86	94.3	97.7	96.0	73.5	75.8	74.7
6	74.3	75.7	75.0	72.6	75.4	74.0	86.1	89.5	88.1	96.0	98.5	97.3	73.7	76.5	75.2
7	74.9	75.7	75.2	73.5	75.7	74.4	83.6	88.0	86.2	91.5	97.3	94.6	74.4	76.3	75.4
8 1/	74.7	76.1	75.4	73.4	76.5	74.9	86.0	92.2	89.0	96.0	100.7	98.1	74.2	76.7	75.7
9 1/	75.4	76.5	76.0	74.4	76.5	75.5	84.3	91.5	88.0	95.2	100.0	97.8	74.8	77.6	76.4
10	74.4	75.2	74.7	72.3	74.0	73.3	81.8	84.4	83.3	93.4	106.5	96.4	72.8	75.6	73.6
11	73.8	74.7	74.4	71.8	73.4	72.6	80.5	90.0	87.1	101.5	107.5	105.8	72.4	75.8	74.2
12	73.5	74.0	73.9	71.2	72.7	71.9	88.9	92.7	90.4	104.5	109.3	106.8	71.5	74.3	73.3
13	73.0	73.6	73.4	70.5	72.7	71.5	88.7	92.6	90.8	103.5	106.8	105.3	71.7	74.1	72.8
14	71.9	73.5	72.8	68.8	72.4	70.7	85.5	91.2	87.8	101.7	106.2	103.4	69.7	74.4	72.1
15	71.2	72.0	71.5	67.0	68.5	67.8	84.5	87.7	86.0	101.4	105.8	103.9	68.4	73.0	70.4
16 1/	70.1	71.5	71.1	65 3	67.7	66.9	84.8	89.7	87.6	104.0	107.5	105.9	67.3	72.7	69.8
17 1/	64.6	70.1	67.5	63.7	65.5	64.5	83.0	87.0	85.1	101.6	103.8	102.7	62.9	71.3	66.3
18	64.7	76.4	65.1	63.7	66.4	64.8	84.9	90.2	87.4	99.9	105.0	102.7	63.3	67.1	64.9
19	65.1	65.6	65.4	64.4	66.2	65.3	87.7	89.9	89.0	103.4	105.1	104.2	63.3	67.1	65.1
20	65.4	66.0	65.8	65.3	67.5	66.4	88.7	93.7	91.2	103.7	107.6	105.8	63.8	67.7	65.6
21	66.0	66.5	66.3	67.1	68.1	67.5	86.7	91.0	89.3	96.3	105.5	102.4	64.1	68.5	66.3
22	65.9	66.5	66.2	66.6	68.7	67.7	87.0	92.3	90.5	103.4	107.0	105.7	64.7	68.6	66.3
23 1/	64.7	66.0	65.2	64.3	66.7	65.5	84.2	86.7	85.5	99.3	103.0	101.6	62.5	67.4	64.8
24 1/	64.5	65.2	64.9	63.6	65.0	64.5	84.0	87.8	86.0	101.0	103.2	102.1	62.5	67.0	64.7
25	64.0	64.8	64.4	62.7	64.6	64.0	82.5	87.6	85.8	99.6	102.8	97.9	62.9	65.7	64.1
26	63.0	63.8	63.3	60.5	62.8	61.6	81.5	85.0	83.3	98.7	100.8	99.8	61.2	64.2	62.2
27	62.5	63.6	63.0	59.6	61.6	60.6	83.6	86.6	84.7	97.7	101.0	100.0	60.0	63.4	61.5
28	61.4	62.6	62.4	59.2	60.2	59.8	83.0	85.7	84.0	93.5	98.4	96.1	60.0	62.2	60.9
29	62.3	63.2	62.6	59.3	61.7	60.2	83.2	88.2	85.5	97.6	102.9	100.0	59.9	62.7	61.1
30	62.8	63.7	63.2	60.6	62.8	61.6	86.5	90.7	88.9	101.0	103.5	102.3	59.9	63.0	61.7

1/ Instruments zeroed to ground truth data

TABLE 9

SUMMARY OF DAILY MININUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, OCTOBER 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1[1]	62.2	63.7	63.0	62.0	64.3	63.1	85.7	90.0	88.1	100.4	102.7	101.8	60.6	63.2	62.2
2	61.0	62.3	61.5	60.7	64.6	62.3	80.5	85.5	83.2	96.3	100.2	98.5	59.5	63.0	60.4
3	59.7	61.5	60.3	58.0	61.4	59.5	79.4	80.4	79.9	95.1	96.4	95.6	57.7	62.2	59.3
4	59.4	59.8	59.6	56.9	58.0	57.5	79.4	81.1	80.3	94.8	96.5	95.6	57.0	60.4	58.4
5	58.6	59.9	59.2	55.5	57.2	56.5	64.0	80.5	74.8	59.0	94.9	76.1	56.1	60.5	57.7
6	58.7	59.4	59.0	55.2	56.3	55.4	56.8	63.7	59.3	54.5	61.4	57.4	56.1	60.1	57.6
7	58.9	60.2	59.7	55.2	58.6	57.5	70.2	80.0	76.2	81.1	91.6	87.2	56.9	60.7	58.5
8	59.7	61.0	60.2	57.0	59.9	58.2	80.0	87.1	83.8	91.9	100.6	96.4	57.0	61.4	59.0
9[1]	57.7	60.2	59.2	57.7	59.9	58.7	84.5	87.2	85.7	98.7	100.9	99.8	57.6	61.5	59.1
10	57.0	58.1	57.6	57.5	59.5	58.4	81.2	84.3	82.7	77.0	110.6	99.8[1]	56.5	59.7	58.3
11	55.9	57.6	56.7	55.0	57.8	56.2	76.5	81.0	77.7	80.7	100.8	92.9	55.0	58.3	56.8
12	54.5	55.8	55.2	52.7	54.8	53.7	76.7	79.7	78.2	72.0	86.3	79.4	53.0	55.5	54.5
13	54.4	55.6	55.0	52.2	54.1	53.3	77.7	79.6	78.7	76.4	96.7	85.6	52.7	56.0	54.4
14	54.7	55.7	55.2	52.9	54.5	53.7	75.3	78.5	77.2	83.7	99.6	92.0[1]	53.0	55.8	54.6
15	54.8	55.4	55.0	52.9	54.0	53.2	73.4	79.5	77.0	96.7	117.0	111.6	52.9	55.2	53.8
16	54.5	55.4	54.9	52.6	54.5	53.3	79.3	84.9	82.4	108.0	120.0	115.4	52.7	55.5	52.8
17[1]	55.2	56.5	55.8	54.3	56.5	55.1	75.6	84.7	82.7	76.4	117.1	97.5	53.9	57.1	55.5
18	55.7	56.3	56.0	54.0	55.8	54.8	60.3	73.8	65.4	70.6	79.2	74.8	54.2	56.7	55.5
19	54.5	55.4	54.9	52.4	53.7	53.0	57.0	61.0	59.2	66.9	79.8	74.5	52.7	54.7	53.8
20	54.1	55.0	54.6	51.5	53.6	52.5	56.3	61.8	58.7	73.2	84.6	78.6	51.9	54.8	53.5
21	54.4	55.5	54.9	52.0	53.9	52.9	53.3	59.0	56.9	75.0	80.7	77.4	52.0	55.2	54.1
22[1]	53.2	54.7	54.0	51.6	53.1	52.5	47.8	63.6	54.2	58.8	81.0	70.2	51.7	54.6	53.6
23	52.6	53.5	53.1	50.6	52.3	51.6	63.8	79.0	70.8	60.0	92.7	81.9	51.3	54.2	53.5
24	52.0	53.4	53.0	49.9	52.2	51.1	73.4	81.3	77.3[1]	87.3	94.7	91.2[1]	51.4	54.1	53.1
25	50.7	52.7	51.0	46.5	49.8	48.4	66.8	73.3	69.5	79.2	85.8	80.6	48.7	53.5	51.2
26	49.5	50.5	50.1	44.5	46.3	45.4	66.7	69.7	68.0	79.9	85.5	82.4	47.0	51.2	48.6
27	48.8	49.4	49.1	42.3	44.3	43.3	69.8	76.7	72.8	85.7	91.9	98.1	45.6	49.5	47.4
28	47.8	48.8	48.3	41.2	42.9	42.1	76.9	80.9	79.3	92.0	94.7	93.7	44.2	48.5	45.7
29[1]	42.2	47.9	45.3	40.0	42.5	41.3	79.9	82.1	81.1	93.5	94.8	94.2	43.9	48.2	44.9
30	41.8	43.4	42.7	39.9	43.2	41.5	80.8	82.7	81.5	93.0	94.8	93.9	41.7	45.5	44.1
31	42.6	44.0	43.3	41.1	43.7	42.7	82.2	85.0	83.6	94.4	96.7	95.5	41.7	45.8	44.4

[1] Instruments zeroed to ground truth data

TABLE 10

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, NOVEMBER 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	43.2	43.9	43.5	41.8	43.7	42.6	83.4	84.4	83.8	93.7	96.2	95.4	42.0	45.8	44.5
2	43.0	43.7	43.3	41.0	42.6	41.9	63.0	83.3	75.5	57.5	90.9	73.4	42.0	45.1	44.1
3	43.0	43.7	43.4	41.3	42.7	42.1	55.1	62.7	58.3	51.5	62.5	57.3	42.0	45.3	44.3
4	43.5	44.2	43.7	42.0	43.5	42.7	52.2	56.3	54.2	40.9	45.0	41.9	42.8	46.0	44.6
5	43.2	43.7	43.4	41.6	43.1	42.3	50.0	54.3	51.8	40.4	41.9	41.1	42.2	45.6	43.8
6[1]	43.1	44.1	43.6	41.5	43.6	42.6	49.3	53.6	51.6	40.4	45.8	43.2	42.3	46.5	44.7
7	43.5	44.9	44.3	42.8	44.7	43.7	45.5	62.4	54.0	45.4	70.2	59.0	42.9	47.7	45.0
8	44.5	45.0	44.7	43.9	44.9	44.4	62.5	72.7	68.2	61.5	81.1	73.5	43.7	47.6	46.4
9	44.5	45.2	44.9	43.9	45.4	44.7	70.1	72.8	71.7	66.4	83.0	78.6	42.9	48.3	46.3
10	44.5	45.1	44.8	42.9	45.0	44.5	69.5	71.8	70.6	80.7	86.2	83.4	43.9	48.5	45.6
11	44.0	44.7	44.3	43.1	44.1	43.6	72.0	76.1	74.1	68.7	82.3	75.6	43.4	47.4	46.0
12	43.7	44.5	44.2	42.5	43.7	43.3	75.2	77.2	76.0	62.9	82.1	73.4	43.2	47.0	45.8
13[1]	44.3	44.9	44.5	42.6	44.1	43.8	75.3	79.0	77.2	64.0	92.5	77.4	43.7	47.5	47.1
14[1]	43.9	44.5	44.2	42.6	44.0	43.2	75.8	78.0	76.5	84.7	92.5	90.2	43.2	47.4	44.9
15	42.8	43.9	43.4	40.6	42.5	41.7	75.3	76.2	75.8	91.1	92.5	92.0	41.9	45.2	42.6
16	42.0	42.8	42.5	39.6	40.5	40.1	66.4	76.1	71.8	76.6	91.7	81.7	41.1	44.0	42.4
17	41.9	42.9	42.4	38.9	39.7	39.2	68.3	71.2	69.7	79.4	89.9	84.6	40.9	43.7	42.2
18	41.8	42.5	42.1	37.8	39.3	38.7	70.1	71.9	71.2	89.2	90.7	90.0	39.8	43.0	40.9
19[1]	41.1	42.0	41.5	36.7	38.1	37.4	70.5	73.5	71.8	89.0	91.1	90.1	39.2	41.7	40.0
20[1]	40.3	41.5	41.1	36.8	41.9	39.2	71.9	72.7	72.2	85.2	90.7	88.2	39.2	41.7	40.0
21	40.4	41.5	41.0	40.5	41.5	41.0				83.1	86.7	84.6	39.5	41.2	40.3
22	40.1	41.0	40.7	40.1	41.2	40.7				42.4	80.0	55.9	39.1	40.1	39.8
23	40.5	41.0	40.7	40.5	41.0	40.7				41.3	63.2	53.4	39.0	40.0	39.7
24[1]	40.2	40.8	40.5	39.2	40.6	40.2				63.5	69.4	66.5	38.4	39.8	39.4
25[1]	36.8	40.2	38.5	36.2	39.5	37.8				69.8	80.0	74.5	34.9	39.0	37.2
26	36.2	37.0	36.6	35.1	36.1	35.7				79.9	84.5	82.1	34.0	38.0	36.4
27	36.4	36.7	36.6	35.1	36.0	35.6				83.5	84.4	82.8	35.3	37.7	36.6
28	36.5	36.9	36.6	35.4	36.0	35.7				83.2	84.8	84.2	35.7	37.9	36.1
29	36.5	37.0	36.8	35.2	36.5	35.8				81.9	85.1	83.5	35.7	38.3	36.8
30	36.5	37.1	36.9	35.7	37.1	36.4				81.8	87.4	84.2	36.0	38.5	36.7

[1] Instruments zeroed to ground truth data

[2] Sensor malfunction - no data

TABLE 11

SUMMARY OF DAILY MINIMUM, MAXIMUM, AND MEAN WATER TEMPERATURES (°F) QUAD-CITIES STATION, DECEMBER 1980

Day	Upstream			Intake			Cooling Canal, Cold End			Discharge			Downstream		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
1	37.0	39.1	37.7	36.5	37.6	37.0	2/								
2	36.4	39.0	37.2	34.2	36.9	35.7	59.6[1/]	63.0	61.1	80.1	88.1	85.3	36.6	39.3	37.7
3	34.8	36.3	35.6	32.8	34.3	33.8	47.5	62.0	59.4	73.4	79.7	76.2	35.5	39.3	37.3
4	34.7	35.1	34.9	32.5	33.0	32.7	39.4	47.3	44.0	40.5	74.0	62.6	33.3	36.7	35.0
5	35.0	36.0	35.5	32.9	34.7	33.6	38.2	39.2	38.7	34.3	41.4	37.8	33.1	34.7	34.0
6	36.1	36.5	36.3	34.5	35.6	35.2	38.4	39.0	38.7	36.5	37.5	36.8	33.6	36.0	34.5
7	2/			35.1	36.2	35.5	38.4	38.7	38.5	37.3	38.1	37.7	34.4	37.4	35.2
8	36.4[1/]	37.0	36.7	36.1	36.9	36.3	38.1	57.9	45.3	37.6	38.6	38.0	35.1	37.4	36.4
9	36.2	36.9	36.5	35.0	36.1	35.5	49.9	58.8	52.2	39.1	66.1	55.3	35.0[1/]	37.9	36.7
10	35.7	36.2	35.9	33.0	34.8	33.7	49.6	53.0	51.2	55.3	61.1	58.3	35.8	37.6	36.6
11	35.0	35.7	35.3	31.7	32.8	32.1	50.5	51.3	50.9	55.1	60.0	57.8	35.0	37.0	36.0
12	35.0	35.3	35.2	31.6	34.1	43.3	38.5	51.6	42.7	50.2	59.1	58.1	33.4	35.6	34.8
13	35.2	35.5	35.3	31.4	32.6	32.0	45.4	56.2	51.8	37.8	56.6	44.6	33.4	36.1	34.8
14	35.0	35.2	35.1	31.2	32.1	31.6	56.5	60.4	58.8	57.2	67.4	63.2	33.6	36.0	34.7
15	35.0	35.8	35.4	31.5	32.3	31.9	54.0	67.2	60.6	62.6	70.6	68.4	33.2	36.0	34.8
16	32.4[1/]	36.0	34.6	31.9	48.4	37.9	53.1	62.8	55.4	49.5	67.2	62.0	33.1	37.2	35.2
17	32.3	32.7	32.5	36.8	48.2	40.3	53.5	63.4	57.1	38.5	65.9	56.2	20.2	36.7	35.2
18	32.0	32.6	32.3	35.9	37.1	36.6	49.4[1/]	65.0	57.7	59.5	105.5	82.9	32.0	35.4	32.8
19	31.8	32.1	32.0	35.8	36.2	36.0	40.1	52.4	45.5	58.6[1/]	109.0	88.4	31.8	35.2	32.4
20	31.8	32.1	32.0	36.0	36.3	36.1	40.8	46.5	43.0	46.2	59.9	52.0	31.7	34.6	32.3
21	31.9	32.3	32.0	36.1	36.6	36.3	47.0	50.7	48.7	48.5	56.6	51.8	31.8	34.5	32.7
22	32.0	32.4	32.2	36.3	36.8	36.5	48.9	56.5	52.2	54.9	63.6	57.3	32.0	34.6	33.1
23	32.2	32.4	32.3	36.3	42.6	37.5	57.2	82.4	64.6	57.3	67.3	62.2	32.0	35.3	32.8
24	32.1	32.7	32.4	42.6	53.8	49.2	80.2	88.4	86.5	49.0	100.2	76.8	31.9	35.4	32.9
25	32.1	32.8	32.4	36.2	51.0	37.2	54.3	88.6	67.8	100.8	108.2	105.3	31.8	35.5	32.8
26	32.1	32.8	32.5	36.3	36.8	36.6	53.7	57.3	54.7	63.8	109.0	89.3	32.1	46.3	33.6
27	32.3	33.0	32.6	36.2	37.0	36.5	58.5	67.1	63.2	64.9	70.4	67.6	32.1	35.8	33.3
28	32.4	33.0	32.6	36.3	37.0	36.6	63.5	73.8	68.9	71.2	78.6	75.4	32.1	36.6	33.6
29	32.4	33.0	32.7	36.4	37.5	36.9	71.3	75.7	74.2	75.1	86.2	81.5	32.1	36.9	33.8
30	32.4[1/]	33.0	32.7	33.4	37.0	35.2	62.1	73.0	69.6	83.4	87.5	85.9	32.2	37.4	34.3
31	32.6	32.9	32.7	33.1	33.5	33.3	70.5	79.4	75.9	68.8	84.4	79.4	26.8	36.8	32.8
										84.2	88.6	87.0	26.7	35.0	31.2

1/ Instruments zeroed

2/ Sensor malfuntion - no data

APPENDIX B

(Related to Chapter 2 of Text)

SUMMARY OF DAILY TEMPERATURE DIFFERENCES

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),

QUAD-CITIES STATION, FEBRUARY, 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	47.1	44.8	1.3	0.8
2	36.6	30.5	1.3	0.5
3	42.4	38.0	0.9	0.5
4	51.7	47.9	1.3	0.6
5	52.2	50.8	0.6	0.4
6	53.3	51.5	0.9	0.7
7	47.9	51.7	1.0	0.6
8	50.0	51.1	1.1	0.5
9	52.1	50.9	1.0	0.4
10	47.0	48.6	0.7	0.1
11	46.7	50.3	0.8	0.4
12	46.4	46.6	0.9	0.6
13	48.2	50.9	0.9	0.5
14	49.8	51.2	1.2	0.7
15	58.3	53.0	1.2	0.6
16	51.9	48.8	1.3	0.4
17	49.3	45.6	1.3	0.2
18	56.1	54.1	1.4	0.3
19	54.6	52.1	1.5	0.7
20	52.1	54.6	1.1	0.9
21	55.6	54.4	1.6	1.0
22	54.7	54.5	1.8	0.5
23	55.5	53.9	1.2	0.7
24	39.2	34.8	0.4	1.0
25	33.6	32.4	0.3	1.1
26	45.5	40.1	0.5	1.1
27	49.0	48.2	0.9	1.0
28	47.4	51.5	0.7	0.6
29	50.5	49.1	2.3	0.3

TABLE 2

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),

QUAD-CITIES STATION, MARCH, 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	48.0	49.4	2.2	0.9
2	44.9	43.5	2.5	1.0
3	53.6	49.0	2.5	1.1
4	56.4	55.1	1.8	1.3
5	55.7	52.2	2.4	1.1
6	53.8	52.4	2.8	1.2
7	54.7	53.4	3.0	1.4
8	53.2	51.5	2.5	1.4
9	55.0	50.5	2.9	1.2
10	51.9	52.0	2.3	0.6
11	41.9	39.2	-0.2	-0.3
12	44.5	42.4	-0.4	-0.7
13	50.1	44.9	-0.3	-1.0
14	55.4	53.7	-0.4	-0.9
15	50.0	52.8	-0.5	-1.3
16	50.5	53.2	-2.1	-1.4
17	52.9	52.8	-1.3	-1.8
18	56.0	54.0	-1.3	-1.6
19	58.4	61.1	0.8	0.8
20	57.4	61.5	1.2	0.8
21	60.4	60.6	2.0	1.1
22	57.1	58.9	2.1	1.9
23	57.5	57.0	3.9	1.7
24	58.8	55.9	-0.1	0.8
25	53.7	52.5	1.8	1.2
26	52.9	52.5	1.6	1.2
27	51.0	51.8	1.3	1.5
28	50.8	50.3	-0.3	1.0
29	42.6	41.6	1.3	0.1
30	43.0	43.4	0.8	-0.1
31	52.5	50.0	1.4	0.3

TABLE 3

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),

QUAD-CITIES STATION, APRIL, 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	51.2	51.7	-1.5	-0.4
2	52.0	52.1	0.9	0.2
3	48.8	47.9	0.2	0.0
4	46.7	46.8	0.2	0.2
5	50.9	46.0	0.3	0.0
6	46.8	47.2	0.2	0.1
7	48.5	49.6	0.5	0.4
8	43.7	43.4	0.6	0.4
9	43.8	38.2	0.4	0.3
10	39.3	40.3	0.3	0.4
11	47.2	43.8	0.5	0.0
12	27.7	24.8	0.7	0.3
13	27.3	25.8	1.3	0.5
14	29.7	32.1	0.4	0.3
15	38.3	37.6	0.4	0.1
16	38.7	39.8	0.2	0.3
	36.6	38.0	0.1	0.1
	35.8	37.9	0.4	0.3
[illegible]	34.2	36.7	0.7	0.5
20	36.5	37.0	0.5	1.0
21	49.0	46.0	1.0	0.5
22	39.2	36.7	1.2	0.7
23	39.3	37.8	0.7	0.5
24	45.5	44.1	0.7	0.6
25	39.2	34.7	1.3	0.7
26	29.8	31.7	0.8	0.4
27	30.6	32.5	0.9	0.0
28	40.3	39.3	0.0	-0.8
29	46.7	43.7	-0.2	-0.4
30	51.6	50.6	3.4	0.2

TABLE 4

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, MAY, 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	49.5	41.5	0.7	-2.7
2	43.6	39.9	0.3	-0.6
3	43.1	41.6	2.7	1.9
4	34.8	35.6	0.5	-0.8
5	36.0	35.2	0.5	-0.9
6	34.7	35.0	1.4	-0.1
7	34.5	34.2	1.5	1.0
8	35.8	31.6	3.7	1.3
9	45.9	40.5	0.7	0.7
10	45.9	42.2	1.3	0.5
11	33.9	31.4	1.2	0.5
12	40.5	35.5	1.4	0.5
13	43.2	39.7	1.1	0.3
14	37.8	36.6	0.6	0.0
15	36.7	36.7	2.4	1.0
16	35.7	34.7	0.6	-0.3
17	32.2	26.2	0.8	0.1
18	45.4	44.7	1.0	-1.2
19	44.7	30.8	0.7	0.0
20	41.6	38.2	1.0	0.5
21	43.4	41.0	1.4	0.1
22	33.0	34.2	1.3	0.5
23	33.8	33.7	1.2	0.9
24	32.9	33.1	0.9	0.4
25	32.4	32.4	0.7	0.2
26	30.0	30.2	0.3	0.2
27	33.1	31.1	1.2	-0.2
28	34.0	33.1	1.4	-0.1
29	34.9	34.1	1.2	0.1
30		1/	2.6	0.6
31		1/	1.6	0.3

1/ Sensor malfunction - no data

TABLE 5

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, JUNE 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1		1/	0.5	0.3
2		1/	1.5	0.4
3		1/	1.2	0.5
4		1/	0.9	0.6
5		1/		1/
6	36.5	35.6	0.7	0.2
7	35.2	34.8	0.6	0.3
8	32.3	31.1	1.2	0.4
9	32.8	32.5	1.9	0.6
10	32.5	32.7	1.9	0.5
11	33.5	33.1	1.9	0.6
12	32.6	32.6	2.1	0.4
13	33.8	32.6	1.6	-0.6
14	32.6	29.0	1.6	-0.3
15	32.3	31.4	0.9	-0.1
16	32.2	32.2	1.9	0.4
17	33.1	32.4	1.8	0.1
18	34.0	33.4	0.2	-0.2
19	32.6	32.2	-0.1	-0.4
20	33.4	31.7	0.5	-0.3
21	21.5	20.5	-0.8	-0.3
22	18.3	17.6	-1.2	-0.5
23	28.0	23.0	-0.5	-0.6
24	34.1	31.8	1.5	1.8
25	33.0	33.2	0.5	-0.2
26	32.5	31.1	0.4	0.0
27	30.9	31.6	0.3	-0.4
28	29.1	29.4		1/
29	29.0	18.5		1/
30	22.3	16.6	0.5	-0.4

1/ Sensor malfunction - No data

TABLE 6

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, JULY 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	30.5	26.1	0.8	0.1
2	31.0	28.9	1.4	0.3
3	21.4	19.6	.0	0.0
4	17.6	14.0	0.6	3.4
5	15.5	13.8	0.7	-0.2
6	16.4	15.4	0.8	-0.1
7	19.3	18.1	0.8	0.0
8	27.4	24.3	1.4	0.2
9	30.0	29.8	0.5	-1.2
10	29.7	29.5	1.4	0.1
11	29.1	28.5	1.0	0.0
12	27.8	26.0	0.9	-1.1
13	14.5	12.2	1.7	-0.8
14	23.4	19.5	1.9	-1.1
15	25.8	24.5	1.9	1.3
16	24.4	24.6	1.7	0.3
17	24.3	24.1	1.8	0.4
18	26.5	24.6	2.9	1.3
19	26.2	26.6	1.9	0.7
20	25.7	24.4	-3.6	0.0
21	28.1	26.9	-2.7	-3.6
22		1/	1.2	0.7
23		1/	1.3	0.6
24		1/	2.0	0.8
25	26.6	26.0	1.5	0.2
26	26.8	26.8	-1.1	-0.2
27	26.3	26.3	1.7	0.7
28	28.0	27.4	2.3	0.8
29	28.0	27.7	1.6	0.5
30	28.4	28.0	0.6	-0.9
31	29.0	28.9	0.0	-0.1

1/ Sensor malfunction - no data

TABLE 7

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, AUGUST 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	29.1	28.8	0.8	-0.2
2	28.9	28.2	1.0	-0.1
3	26.3	24.7	0.2	0.0
4	27.4	26.8	0.4	-0.7
5	27.7	27.6	2.3	0.7
6	28.1	27.9	1.9	0.4
7	28.3	28.0	2.3	0.5
8	28.2	27.6	1.7	0.4
9	27.5	27.4	1.7	0.3
10	26.7	25.9	-1.3	-2.1
11	26.3	26.4	-4.2	-1.4
12	26.5	26.7	2.7	0.7
13	27.1	26.6	0.2	-0.2
14	27.5	27.7	0.0	-0.1
15	27.7	27.6	2.4	-0.1
16	24.3	27.3	0.9	-0.4
17	29.8	25.9	1.1	-0.1
18	30.7	30.4	0.5	0.1
19	30.2	20.4	1.8	0.6
20	29.1	29.8	3.5	1.4
21	28.5	28.7	1.7	-0.1
22	28.9	29.0	0.8	-0.1
23	28.6	29.0	1.0	-0.2
24	28.7	28.7	1.3	-0.4
25	28.9	29.2	2.1	0.5
26	30.0	29.8	5.3	2.1
27	30.0	29.8	3.2	1.9
28	29.8	29.3	2.2	0.9
29	29.1	29.0	2.8	1.2
30	22.0	18.4	2.0	0.8
31	16.4	14.3	1.0	-1.1

TABLE 8

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, SEPTEMBER 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	29.3	22.5	0.9	-0.5
2	33.4	33.1	0.7	-0.5
3	32.0	30.3	0.3	-0.4
4	29.2	25.8	0.5	-0.2
5	23.0	22.5	0.6	0.0
6	23.1	23.3	0.8	0.2
7	21.6	20.2	0.6	0.2
8	24.2	23.2	0.6	0.3
9	23.5	22.3	1.1	0.4
10	32.5	23.1	0.4	-1.1
11	34.1	33.2	1.1	-0.2
12	36.6	34.9	0.3	-0.6
13	34.1	33.8	0.5	-0.6
14	33.8	32.7	0.9	-0.7
15	37.3	36.1	1.0	-1.1
16	39.8	39.0	1.2	-1.3
17	38.3	38.2	1.2	-1.2
18	38.6	37.9	1.7	-0.2
19	38.9	38.9	1.4	-0.3
20	40.1	39.4	1.7	-0.2
21	37.4	34.9	2.0	0.0
22	38.3	38.0	2.1	0.1
23	36.3	36.1	1.4	-0.4
24	38.2	37.6	1.8	-0.2
25	38.2	33.9	0.9	-0.3
26	38.0	38.2	0.4	-1.1
27	39.4	39.4	-0.2	-1.5
28	38.2	36.3	-0.4	-1.5
29	42.2	39.8	-0.5	-1.5
30	40.7	40.7	-0.7	-1.5

TABLE 10

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, NOVEMBER 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	54.4	52.8	1.9	1.0
2	48.3	31.5	1.4	0.8
3	19.8	15.2	1.6	0.9
4	1.5	-0.8	1.8	0.9
5	-1.2	-1.2	1.9	0.4
6	2.2	0.6	2.4	1.1
7	25.5	15.3	2.8	0.7
8	36.2	29.1	2.6	1.7
9	37.6	33.9	3.1	1.4
10	41.2	38.9	3.4	0.8
11	38.2	32.0	2.7	1.7
12	38.4	30.1	2.5	1.6
13	48.4	33.6	2.6	2.6
14	48.5	47.0	2.9	0.7
15	50.0	50.3	1.3	-0.8
16	51.2	41.6	1.2	-0.1
17	50.2	41.7	0.8	-0.2
18	51.4	51.3	0.5	-1.2
19	53.0	52.7	0.2	-1.3
20	48.8	49.0	0.2	-1.1
21	45.2	43.6	-0.3	-0.7
22	38.8	15.2	-0.9	-0.9
23	22.2	12.7	-1.0	-1.1
24	28.8	26.3	-1.0	-1.3
25	40.5	36.7	-1.2	-1.3
26	48.4	46.4	1.0	-0.2
27	48.4	48.2	1.0	0
28	48.8	48.5	1.0	0.5
29	48.6	47.7	1.3	0
30	50.3	47.8	1.4	-0.2

TABLE 9

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, OCTOBER 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	38.4	38.7	-0.5	-0.8
2	35.6	36.2	0.7	-1.1
3	35.0	36.1	0.7	-1.0
4	38.5	38.1	0.6	-1.2
5	37.7	19.6	0.6	-1.5
6	5.1	2.2	0.7	-1.4
7	33.0	29.7	0.5	-1.2
8	40.7	38.2	0.4	-1.2
9	41.0	41.1	1.3	-0.1
10	51.1	41.4	1.6	0.7
11	43.0	36.7	0.7	0.1
12	31.5	25.7	-0.3	-0.7
13	42.6	32.3	0.4	-0.6
14	45.1	38.3	0.1	-0.6
15	63.0	58.4	-0.2	-1.2
16	65.5	62.1	0.1	-2.1
17	60.6	42.4	0.6	-0.3
18	23.4	20.2	0.4	-0.5
19	26.1	21.5	0.7	-1.1
20	31.0	26.1	-0.2	-1.1
21	26.8	24.5	-0.3	-0.8
22	27.9	17.7	-0.1	-0.4
23	40.4	30.3	0.7	0.4
24	42.5	40.1	0.7	0.1
25	36.0	32.2	0.8	-0.6
26	39.2	37.0	0.7	-1.5
27	47.6	45.8	0.1	-1.7
28	51.8	51.6	-0.3	-2.6
29	52.3	52.9	0.3	-0.4
30	51.6	52.4	2.1	1.4
31	53.0	52.8	1.8	1.1

TABLE 11

SUMMARY OF TEMPERATURE DIFFERENTIALS (Δ),
QUAD-CITIES STATION, DECEMBER 1980

Day	Temperatures (°F)			
	Discharge minus Intake		Downstream minus Upstream	
	Maximum	Mean	Maximum	Mean
1	50.5	48.3	1.6	0
2	42.8	40.5	0.3	0.1
3	39.7	28.8	0.4	-0.6
4	8.4	5.1	-0.4	0.2
5	2.8	3.2	0	-0.1
6	2.5	2.5	0.9	-1.1
7	1.2	2.5	[1]	
8	29.2	19.0	0.9	0
9	25.0	22.8	0.7	0.1
10	25.2	24.1	0.8	0.1
11	26.3	24.4	-0.1	-0.5
12	22.5	12.4	0.8	-0.4
13	34.8	31.2	0.5	-0.6
14	38.5	36.8	0.8	-0.3
15	34.9	30.1	1.4	-0.2
16	17.5	18.3	0.7	-0.1
17	57.3	42.6	2.7	0.3
18	71.9	51.8	2.6	0.1
19	23.7	16.0	2.5	0.3
20	20.3	15.7	2.4	0.7
21	26.7	21.0	2.3	1.1
22	30.5	35.7	2.9	0.6
23	57.6	39.3	3.0	0.6
24	54.4	56.1	1.4	0.4
25	58.0	52.1	13.5	1.2
26	33.6	31.0	3.0	0.8
27	41.6	38.9	3.6	1.0
28	49.2	44.9	3.9	1.2
30	47.4	44.2	3.8	0.1
31	55.1	53.7	2.1	-1.5

[1] Sensor malfunction - no data

APPENDIX C

(Related to Chapter 2 of Text)

WEEKLY TEMPERATURE IN THE WAPSIPINICON AND MISSISSIPPI RIVERS

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

TEMPERATURES IN THE WAPSIPINICON RIVER AND MISSISSIPPI RIVER (UPSTREAM, MID-CHANNEL), FEBRUARY THROUGH DECEMBER 1980

Month and Year	Date		Temperatures (°F)	
	Month	Day	Wapsipinicon River	Mississippi River
February 1980	February	4	31.9	32.1
		11	32.0	31.8
		19	32.5	32.9
		28	35.1	34.7
March 1980	March	10	32.0	32.2
		17	32.9	32.4
		24	33.7	33.5
		28	43.3	38.4
April 1980	April	2	46.5	39.8
		11	42.9	43.1
		18	50.2	44.9
		22	64.2	55.5
		30	55.9	57.1
May 1980	May	6	65.6	65.4
		13	61.9	61.7
		19	58.2	60.5
		27	70.2	70.0
June, 1980	June	3	69.0	72.1
		10	70.1	71.0
		17	68.0	69.9

TABLE 1 (CONTINUED)

Month and Year	Date		Temperatures (°F)	
	Month	Day	Wapsipinicon River	Mississippi River
		24	75.1	75.0
		30	75.3	77.2
July, 1980	July	8	81.9	83.5
		15	83.2	83.0
		21	83.0	83.1
		29	79.2	78.4
		30	75.3	77.2
August 1980	August	5	77.3	78.8
		11	76.9	80.1
		18	69.0	72.0
		25	73.0	76.3
September 1980	September	2	73.8	74.1
		9	76.5	76.0
		17	61.3	65.0
		24	63.8	64.8
October, 1980	October	1	64.0	61.8
		9	59.0	59.0
		17	58.9	55.8
		22	53.0	53.2
		29	41.0	44.1
November, 1980	November	6	45.0	44.5
		14	45.6	44.6
		20	38.5	39.3
		25	35.1	35.8

APPENDIX D

(Related to Chapter 2 of Text)

CHRONOLOGY OF CHANGES IN STATION OPERATING CONDITIONS

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

CHRONOLOGY OF CHANGES IN STATION OPERATING CONDITIONS. FEBRUARY THROUGH JULY 1980. OPERATING CONDITIONS FROM A DATE AND TIME LISTED WERE FIXED UNTIL THE NEXT CHANGE.

Month	Date Day	Time (hour)	Lift pump Operating (Numbers)	Circulating Water Pumps Operating (Number)	Moded Station Operation (condenser) cooling
February	15	1255	2	2	Combination cycle: spray canal and south diffuser pipe
		1610	2	3	
	18	1020	2	2	
		2100	2	3	
	21	1045	1	3	
		1100	2	3	
March	11	0055	2	5	
		0510	3	5	
		0545	2	3	
	25	1345	2	5	
		1415	2	3	
April	5	1940	4	5	
		2020	2	3	
	8	1400	4	5	
	9	0730	2	3	
		2015	4	5	
	10	1045	2	3	
	11	1915	3	5	
	13	1015	4	5	
	20	0915	4	6	Combination cycle but starting to close diffuser gates
		1003	5	6	
		1035	5	6	Closed cycle: spray canal only
	28	0958	4	6	South diffuser gate open 60 sec.
	29	0800	4	6	Combination cycle: spray canal with south diffuser
	30	0000	4	6	Combination cycle: spray canal with south diffuser gate cracked open, north diffuser gate closed

TABLE 1 (CONTINUED)

Month	Date Day	Time (hour)	Lift pump Operating (Numbers)	Circulating Water Pumps Operating (Number)	Moded Station Operation (condenser) cooling
May	3	1035	3	6	
	8	0915	4	6	
		0935	3	6	
		1300	4	6	
	9	0010	3	6	
		0830	4	6	
	10	0830	3	6	
	17	1358	3	3	
	19	0545	3	6	
		0940	4	6	
	21	1525	3	6	
June					
July	17	1100	0	6	Open Cycle: south diffuser gate
	18	0150	1	6	
		0220	0	6	
		0500	1	6	Start closing south diffuser gate
		0530	2	6	
		0640	3	6	Combination Cycle: south diffuser gate 50% open, north diffuser gate closed
August			3	6	Combination cycle; south diffuser gate 50% open, North diffuser gate closed
	25	0825	3	6	Same cooling operation, charge in lift pumps operating.
September	1	0620	3	5	
		1000	2	3	South diffuser gate partially open
	3	0700	2	4	South diffuser gate cracked open
		0720	4	5	
	4	0825	3	5	
	10	1925	2	3	
October	18	1720	0	0	Combination cycle: South Diffuser gate partially open
	20	2215	0	2	
	21	0940	1	2	
		1130	1	3	
		1400	1	2	
		2005	1	3	
	22	0035	2	3	

TABLE 1 (CONTINUED)

Month	Date Day	Time (hour)	Lift pump Operating (Numbers)	Circulating Water Pumps Operating (Number)	Moded Station Operation (condenser) cooling
November	4	2335	0	3	
	7	0315	2	3	
December	4	0807	1	3	
	5	2140	1	5	
	5	2150	1	3	
	5	2335	1	5	
	5	2350	1	3	
	7	1312	1	5	
	7	1320	2	5	
	7	1505	1	3	
	8	0005	2	3	
	8	2000	2	6	
	8	2030	3	6	
	12	1435	2	3	
	15	1225	3	6	
	16	0950	3	3	
	17	0710	2	3	
	18	1910	2	6	
	18	1920	3	6	
	21	1125	3	6	
	23	1058	4	6	
	23	1410	5	6	Both diffuser gates are closed
	25	0236	4	6	
	25	0250	1	5	Partially opened both diffuser gates
	25	0404	4	5	North diffuser gate, partly open
	25	0942	4	6	
	26	1535	4	6	
	30	0813	2	6	
	30	0834	4	6	

APPENDIX E

(Related to Chapter 2 of Text)

DAILY MEGAWATT POWER OUTPUT
(PERCENT OF CAPACITY)

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, FEBRUARY, 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	92	0	46	
2	56	0	28	
3	71	0	36	
4	93	1/	46	
5	96	1/	48	
6	96	1/	48	
7	95	1/	48	
8	95	1/	48	
9	93	0	46	
10	89	0	44	
11	96	0	48	
12	86	0	43	
13	93	0	46	
14	93	0	46	
15	93	0	46	
16	93	0	46	
17	89	0	44	
18	91	0	46	
19	93	0	47	
20	92	0	46	
21	91	0	46	
22	91	0	46	
23	90	0	45	
24	38	0	19	
25	51	0	26	
26	76	0	38	
27	90	0	45	
28	94	0	47	
29	91	0	46	

1/ Less than 0.1% of capacity

TABLE 2

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, MARCH, 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	91	0	46	
2	75	0	38	
3	93	0	46	
4	95	0	48	
5	95	0	48	
6	96	0	48	
7	98	0	49	
8	93	1/	46	
9	94	0	47	
10	95	0	48	
11	87	0	44	
12	82	0	41	
13	88	1/	44	
14	96	0	48	
15	95	1/	48	
16	90	0	45	
17	98	0	49	
18	94	0	47	
19	94	0	47	
20	[illegible]	0	47	
21	94	0	47	
22	92	1/	46	
23	83	0	42	
24	94	0	47	
25	91	0	46	
26	93	0	46	
27	91	0	46	
28	89	0	44	
29	63	0	32	
30	77	0	38	
31	92	0	46	

1/ Less than 0.1% of capacity

TABLE 3

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, APRIL, 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	95	0	48	
2	94	0	47	
3	93	0	46	
4	95	0	48	
5	95	0	48	
6	89	0	44	
7	95	1/	48	
8	98	0	49	
9	93	0	46	
10	93	1/	46	
11	92	0	46	
12	94	0	47	
13	92	0	46	
14	92	0	46	
15	90	0	45	
16	91	0	46	
17	90	1/	45	
18	89	0	44	
19	88	0	44	
20	87	0	44	
21	90	14	52	
22	82	0	41	
23	85	12	48	
24	86	35	60	
25	84	0	42	
26	85	0	42	
27	79	0	40	
28	85	30	58	
29	80	62	71	
30	83	80	32	

1/ Less than 0.1% of capacity

TABLE 4

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),

QUAD-CITIES STATION, MAY, 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	83	41	62	
2	84	49	66	
3	83	74	78	
4	83	80	82	
5	83	84	84	
6	83	91	87	
7	82	92	87	
8	82	67	74	
9	84	83	84	
10	77	90	84	
11	21	94	58	
12	24	98	61	
13	58	95	76	
14	81	95	88	
15	83	98	90	
16	79	95	87	
17	83	4	44	
18	77	0	38	
19	78	2	40	
20	79	53	66	
21	78	74	76	
22	78	87	82	
23	78	85	82	
24	77	74	76	
25	77	76	76	
26	77	79	78	
27	76	82	79	
28	75	87	81	
29	75	95	85	
30	75	95	85	
31	75	96	86	

TABLE 5

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, JUNE 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	74	84	79	
2	74	94	84	
3	74	96	85	
4	73	95	84	
5	73	96	84	
6	72	96	84	
7	70	96	83	
8	73	94	84	
9	72	94	83	
10	72	96	84	
11	72	97	84	
12	73	99	86	
13	69	84	76	
14	70	64	67	
15	70	89	80	
16	70	95	82	
17	70	96	83	
18	69	96	82	
19	69	96	82	
20	64	96	80	
21	0	97	48	
22	0	86	43	
23	14	94	54	
24	61	94	78	
25	65	94	80	
26	60	94	77	
27	68	91	80	
28	67	86	76	
29	67	25	46	
30	69	39	50	

TABLE 6

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, JULY 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	65	71	68	
2	54	91	72	
3	0	92	46	
4	0	66	33	
5	0	75	38	
6	0	92	46	
7	1/	92	46	
8	34	91	62	
9	70	85	78	
10	63	77	70	
11	62	76	69	
12	63	64	64	
13	64	0	32	
14	66	42	54	
15	58	64	61	
16	61	73	67	
17	65	73	69	
18	63	74	68	
19	62	77	70	
20	62	69	66	
21	61	81	71	
22	62	80	71	
23	62	79	70	
24	62	64	63	
25	61	84	72	
26	62	86	74	
27	60	82	71	
28	60	84	72	
29	60	84	72	
30	59	84	72	
31	59	85	72	

1/ Less than 0.1% of capacity

TABLE 7

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, AUGUST 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	59	85	72	
2	58	85	72	
3	59	66	62	
4	59	78	68	
5	57	82	70	
6	58	83	70	
7	58	83	70	
8	57	83	70	
9	56	82	69	
10	56	84	70	
11	56	84	70	
12	56	84	70	
13	56	82	69	
14	57	84	70	
15	56	86	71	
16	56	89	72	
17	54	70	62	
18	56	88	72	
19	55	89	72	
20	54	88	71	
21	55	90	72	
22	54	89	72	
23	53	88	70	
24	54	89	72	
25	54	89	72	
26	53	89	71	
27	53	89	71	
28	53	89	71	
29	56	86	71	
30	33	49	41	
31	0	63	32	

TABLE 8

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, SEPTEMBER 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	0	78	39	
2	0	89	44	
3	0	88	44	
4	0	87	44	
5	0	90	45	
6	0	92	46	
7	0	92	46	
8	0	93	46	
9	0	92	46	
10	0	93	46	
11	0	93	47	
12	0	89	44	
13	0	79	40	
14	0	81	40	
15	0	91	46	
16	0	94	47	
17	0	94	47	
18	0	92	46	
19	0	94	47	
20	0	94	47	
21	0	84	42	
22	0	93	46	
23	0	92	46	
24	0	94	47	
25	0	94	47	
26	0	94	47	
27	0	93	46	
28	0	81	40	
29	0	93	46	
30	0	93	46	

TABLE 9

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),

QUAD-CITIES STATION, OCTOBER 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	0	94	47	
2	0	94	47	
3	0	99	49	
4	0	100	50	
5	0	27	13	
6	0	26	13	
7	0	67	33	
8	0	86	43	
9	0	96	48	
10	0	96	48	
11	0	99	48	
12	0	00	49	
13	0	98	49	
14	0	66	33	
15	0	89	44	
16	0	97	48	
17	0	65	32	
18	0	0	0	
19	0	0	0	
20	0	0	0	
21	0	0	0	
22	0	26	13	
23	0	71	35	
24	0	83	41	
25	0	67	33	
26	0	85	42	
27	0	96	48	
28	0	96	48	
29	0	96	48	
30	0	103	51	
31	0	89	44	

TABLE 10

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, NOVEMBER 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	0	99	50	
2	0	26	13	
3	0	9	4	
4	0	0	0	
5	0	0	0	
6	0	0	0	
7	0	41	70	
8	0	74	37	
9	0	65	32	
10	0	79	40	
11	0	96	48	
12	0	97	48	
13	0	99	50	
14	0	97	48	
15	0	98	49	
16	0	68	34	
17	0	93	46	
18	0	96	48	
19	0	97	48	
20	0	98	49	
21	0	98	49	
22	0	12	6	
23	0	43	21	
24	0	70	35	
25	0	85	42	
26	0	99	49	
27	0	96	48	
28	0	97	48	
30	0	92	46	

TABLE 11

DAILY MEGAWATT POWER OUTPUT (PERCENT OF CAPACITY),
QUAD-CITIES STATION, DECEMBER 1980

Date	Unit 1	Unit 2	Station Average	Remarks
1	0	99	50	
2	0	99	50	
3	0	57	28	
4	0	0	0	
5	0	0	0	
6	0	0	0	
7	0	0	0	
8	0	51	26	
9	0	79	40	
10	0	86	43	
11	0	95	48	
12	0	19	10	
13	0	67	34	
14	0	63	32	
15	0	85	42	
16	0	95	48	
17	0	79	40	
18	0	84	42	
19	0	83	42	
20	1	91	46	
21	14	83	48	
22	32	96	64	
23	43	91	67	
24	49	92	70	
25	6	94	50	
26	10	95	52	
27	60	79	70	
28	73	75	74	
29	78	76	77	
30	36	80	58	
31	62	75	68	

APPENDIX F

(Related to Chapter 2 of Text)

PERCENT RECOVERY OF TEMPERATURE DATA AND EXPLANATION OF DATA LOSSES

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

PERCENT RECOVERY OF TEMPERATURE DATA FROM THE CONTINUOUS MONITORING SYSTEM AT QUAD-CITIES STATION, FEBRUARY 1980 THROUGH DECEMBER 1980

Month	Year	Percent Recovery Temperature Monitoring
February	1980	98
March	1980	74
April	1980	72
May	1980	78
June	1980	77
July	1980	86
August	1980	94
September	1980	100
October	1980	97
November	1980	96
December	1980	97

TABLE 2

SUMMARY OF TEMPERATURE DATA LOSS AT QUAD-CITIES STATION,
FEBRUARY THROUGH DECEMBER 1980

Month	Date & Time	Monitoring Location	Remarks
February	2/3/80 at 1700 hrs to 2/4/80 at 0100 hrs	all sensors	recorder turned off
	2/21/80 at 1600 hrs to 2/22/80 at 1200 hrs	upstream sensors B and C	electrical storm
March	3/1/80 at 0500 hrs to 3/28/80 at 1400 hrs	sensor D	sensor malfunction
	3/1/80 at 0600 hrs to 3/12/80 at 1400 hrs	sensor A	sensor malfunction
	3/14/80 at 1400 hrs to 3/24/80 at 1600 hrs	sensor B	sensor malfunction
	3/18/80 at 1600 hrs to 3/19/80 at 0900 hrs	all sensors	machine turned off for work at junction box
	3/23/80 at 1500 hrs to 3/28/80 at 1400 hrs	sensor A	sensor malfunction
	3/27/80 at 1700 hrs to end of month	sensor B	sensor malfunction
April	4/1/80 at 0100 hrs to 4/3/80 at 1600 hrs	sensor B	sensor malfunction
	4/2/80 at 1000 hrs to 4/3/80 at 1600 hrs	sensor A and upstream	wires cut
	4/2/80 at 1000 hrs to end of month	sensors C and D	wires cut
	4/17/80 at 1000 hrs to 4/18/80 at 0800 hrs	all sensors	machine turned off
May	5/1/80 at 0000 hrs to 5/15/80 at 1600 hrs	sensor C	wires cut to sensor
	5/1/80 at 0000 hrs to 5/9/80 at 1200 hrs	sensor D	wires cut to sensor
	5/1/80 at 1800 hrs to 5/2/80 at 1500 hrs	cooling canal	electrical storm caused temporary erratic readings
	5/8/80 at 1200 hrs to 5/9/80 at 1200 hrs	sensor B	sensor turned off for instrument maintenance
	5/9/80 at 1200 hrs to 5/12/80 at 0900 hrs	sensor A	not printing
	5/17/80 at 1200 hrs to 5/19/80 at 1400 hrs	sensor C	electrical storm caused temporary erratic readings
	5/17/80 at 1200 hrs to 5/20/80 at 1400 hrs	cooling canal	electrical storm caused temporary erratic readings

TABLE 2 (CONTINUED)

Month	Date & Time	Monitoring Location	Remarks
May (continued)	5/17/80 at 1200 hrs to end of month	sensor D	electrical storm
	5/29/80 at 0300 hrs to 5/29/80 at 1400 hrs	upstream sensor B, C	electrical storm caused temporary erratic readings
	5/29/80 at 0300 hrs to end of month	intake	electrical storm caused temporary erratic readings
	5/30/80 at 0200 to end of month	discharge	sensor malfunction
June	6/1/80 at 0000 hrs to 6/3/80 at 1400 hrs	intake	electrical storm caused temporary erratic readings
	6/1/80 at 0000 hrs to 6/6/80 at 1400 hrs	discharge	sensor malfunction
	6/1/80 at 0000 hrs to end of month	Sensor D	sensor malfunction
	6/4/80 at 1600 hrs to 6/6/80 at 1400 hrs	upstream, intake, cooling canal, Sensors A, B, C	wires cut from junction box to plant
	6/28/80 at 0100 hrs to 6/30/80 at 1400 hrs	upstream, Sensor C	electrical storm caused temporary erratic readings
July	7/01/80 at 0000 hrs to 7/02/80 at 1700 hrs	sensor D	sensor malfunction
	7/09/80 at 0500 hrs to 7/09/80 at 1600 hrs	upstream, discharge, sensor B	electrical storm caused temporary erratic readings
	7/09/80 at 0500 hrs to 7/18/80 at 0100 hrs	sensor C	sensor malfunction
	7/17/80 at 1200 hrs to 7/18/80 at 0800 hrs	all sensors except C	I.M. turned off system for repair
	7/18/80 at 1200 hrs to 7/21/80 at 1600 hrs	sensor B	power pack failure
	7/18/80 at 1200 hrs to 7/25/80 at 0900 hrs	sensor A	power pack failure
	7/20/80 at 2300 hrs to 7/21/80 at 1600 hrs	sensor C	electrical storm caused temporary erratic readings
	7/21/80 at 0900 hrs to 7/21/80 at 1600 hrs	all sensors	recorder nor printing
	7/21/80 at 1600 hrs to 7/25/80 at 0900 hrs	intake	power pack failure

TABLE 2 (CONTINUED)

Month	Date & Time	Monitoring Location	Remarks
August	8/4/80 at 1900 hrs. to 8/5/80 at 1400 hrs.	Upstream and sensor B	sensor malfunction
	8/9/80 at 2400 hrs. to 8/11/80 at 110 hrs.	sensor B	electrical storm
	8/10/80 at 0100 hrs. to 8/11/80 at 110 hrs.	sensor A	electrical storm
	8/10/80 at 0100 hrs. to 8/15/80 at 1100 hrs.	sensor C	electrical storm
	8/17/80 at 0700 hrs. to 8/18/80 at 1000 hrs.	sensor D	electrical storm
	8/19/80 at 0700 hrs. to 8/19/80 at 1000 hrs.	upstream and sensor A and B	electrical storm caused temporary erracric readings
	8/20/80 at 2100 hrs. to 8/21/80 at 1400 hrs.	upstream and sensors A, B and C	electrical storm
	8/24/80 at 2400 hrs. to 8/25/80 at 0900 hrs.	sensor C	sensor malfunction
	8/25/80 at 1000 hrs. to 8/26/80 at 0900 hrs.	sensor D	loose connection in recorder
September			
October	10/06/80 at 1300 hrs. to 10/07/80 at 0900 hrs.	upstream, Intake Cooling Canal, Sensors A, B, C, D	recorder not printing
November	11/20/80 at 1400 hrs. to 12/02/80 at 0847 hrs.	cooling Canal	electrical short in Control Room
December	12/06/80 at 1900 hrs. to 12/08/80 at 1100 hrs	upstream, sensor B, C	electrical storm
	12/25/80 at 0800 hrs. to 12/26/80 at 1600 hrs.	discharge	sensor malfunction
	12/31/80 at 1200 hrs. to 01/05/81 at 1300 hrs.	discharge	sensor malfunction

APPENDIX G

(Related to Chapter 2 of Text)

HOURLY WATER TEMPERATURE DATA

QUAD-CITIES STATION

February 1980 through December 1980

TABLE 1

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.5	32.5	57.3	76.6	33.7	33.6	33.7	32.8
0200	32.4	32.4	57.8	76.6	33.7	33.2	33.7	32.7
0300	32.4	32.4	57.7	76.3	33.6	33.3	33.7	32.6
0400	32.4	32.4	57.7	76.1	33.6	33.2	33.7	32.6
0500	32.4	32.4	57.5	76.5	33.7	33.2	33.6	32.5
0600	32.4	32.4	57.3	76.7	33.5	33.2	33.5	32.5
0700	32.3	32.3	57.9	76.6	33.5	33.1	33.4	32.5
0800	32.3	32.3	57.6	76.3	33.5	33.3	33.5	32.4
0900	32.2	32.3	57.5	76.1	33.5	33.1	33.6	32.4
1000	32.0	32.2	56.4	76.2	33.2	33.3	33.4	32.2
1100	32.1	32.3	57.3	76.3	33.4	32.8	33.4	32.2
1200	32.2	32.3	58.6	77.4	33.4	33.0	33.5	32.3
1300	32.3	32.4	58.2	77.7	33.6	33.2	33.6	32.4
1400	32.3	32.4	58.7	78.2	31.5	33.3	33.4	32.4
1500	32.3	32.5	59.2	78.4	31.7	33.3	33.4	32.4
1600	32.3	32.5	59.7	78.6	33.5	32.8	33.5	32.6
1700	32.3	32.5	59.8	79.3	33.5	32.3	33.5	32.6
1800	32.3	32.4	59.8	79.1	33.6	32.4	33.5	32.6
1900	32.3	32.3	59.9	79.4	33.7	32.3	33.6	32.6
2000	32.3	32.3	59.9	79.6	33.7	32.3	33.6	32.5
2100	32.3	32.3	59.9	79.4	33.7	32.7	33.8	32.6
2200	32.3	32.3	59.8	79.4	33.7	32.4	33.6	32.5
2300	32.3	32.3	59.7	79.4	33.7	32.8	33.6	32.6
2400	32.3	32.3	59.9	71.3	33.7	32.8	33.2	32.6

TABLE 2

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	32.4	59.9	69.1	33.7	32.5	33.2	32.5
0200	32.4	32.4	59.8	63.5	33.8	32.6	33.0	32.4
0300	32.4	32.4	60.0	63.1	33.8	32.4	32.6	32.4
0400	32.4	32.4	59.9	62.2	33.8	32.3	32.9	32.4
0500	32.4	32.4	59.9	61.8	33.8	32.3	33.0	32.4
0600	32.3	32.3	58.9	61.6	33.8	32.3	32.8	32.3
0700	32.3	32.3	56.3	59.9	33.8	32.6	32.8	32.3
0800	32.4	32.4	54.5	58.3	33.7	32.7	32.8	32.3
0900	32.5	32.5	51.7	57.8	33.8	32.5	32.6	32.3
1000	32.4	32.5	50.0	57.4	33.8	32.5	32.5	32.3
1100	32.5	32.5	50.0	61.3	33.8	32.5	32.5	32.3
1200	32.4	32.4	49.7	61.3	33.8	32.7	32.8	32.3
1300	32.4	32.4	49.9	62.3	33.6	32.6	32.7	32.3
1400	32.3	32.3	49.6	62.6	33.5	32.2	32.6	32.3
1500	32.4	32.4	48.5	63.2	33.5	32.2	32.6	32.5
1600	32.4	32.5	47.5	63.5	33.5	32.2	32.6	32.5
1700	32.4	32.5	46.8	63.9	33.7	32.3	32.9	32.9
1800	32.4	32.4	46.8	63.6	33.7	32.1	33.0	33.0
1900	32.5	32.5	48.7	64.5	33.8	32.0	33.0	33.0
2000	32.5	32.5	49.1	65.7	33.8	32.2	33.0	33.0
2100	32.5	32.5	48.9	65.2	33.7	32.1	33.0	33.0
2200	32.5	32.5	49.0	65.2	33.7	32.3	33.0	33.0
2300	32.5	32.5	49.2	65.6	33.8	32.0	33.0	33.0
2400	32.5	32.5	49.3	66.6	33.8	32.1	32.9	33.0

TABLE 3

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.5	32.5	49.6	67.4	33.8	32.2	33.0	32.9
0200	32.5	32.5	49.6	67.3	33.8	32.3	33.2	32.8
0300	32.5	32.5	50.3	67.8	33.8	32.1	33.2	32.8
0400	32.5	32.5	50.9	68.5	33.8	32.0	33.1	32.9
0500	32.5	32.5	50.8	68.7	33.8	32.0	33.1	32.9
0600	32.4	32.4	51.0	68.8	33.8	32.3	33.1	32.8
0700	32.4	32.4	51.3	68.9	33.8	32.0	33.2	32.8
0800	32.5	32.5	51.7	69.5	33.8	32.0	33.2	32.8
0900	32.5	32.5	52.4	70.0	33.8	32.1	33.2	32.7
1000	32.4	32.4	52.4	70.4	33.8	32.3	33.2	32.8
1100	32.5	32.5	53.2	71.2	33.8	32.0	33.2	32.9
1200	32.5	32.6	54.3	72.3	33.9	32.1	33.3	32.9
1300	32.5	32.7	55.0	73.0	33.9	32.1	33.4	33.0
1400	32.5	32.7	55.8	74.1	33.8	32.1	33.4	33.1
1500	32.5	32.7	56.3	74.6	33.8	32.1	33.3	33.2
1600	32.5	32.6	56.9	75.1	33.8	32.1	33.3	33.2
1700	[1]							
1800								
1900								
2000								
2100								
2200								
2300								
2400								

[1] Chart recorder turned off

TABLE 4

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.9	31.9	57.6	75.5	33.4	31.5	33.0	32.6
0200	31.8	31.8	57.3	75.4	33.4	31.5	33.0	32.5
0300	31.9	31.9	57.2	75.2	33.4	31.8	32.9	32.4
0400	31.8	31.8	57.3	75.9	33.2	31.6	32.8	32.3
0500	31.8	31.8	57.0	76.6	33.2	31.7	32.7	32.3
0600	31.8	31.8	57.1	77.2	33.2	31.7	32.7	32.3
0700	31.8	31.8	57.3	77.6	33.2	31.5	32.7	32.3
0800	31.8	31.8	57.6	78.1	33.3	31.5	33.1	32.3
0900	32.2	32.2	57.3	78.6	33.7	31.8	33.5	32.6
1000	32.3	32.3	57.7	78.8	33.7	32.0	33.3	32.6
1100	32.3	32.4	58.2	79.0	33.7	33.3	32.5	32.7
1200	32.4	32.6	59.4	79.3	33.8	32.2	33.4	32.8
1300	32.5	32.7	60.3	80.4	33.9	32.2	33.6	33.0
1400	32.5	32.7	61.2	81.7	33.2	32.3	33.3	32.8
1500	32.6	32.7	61.6	82.6	33.2	32.4	33.3	32.8
1600	32.5	32.7	61.9	82.7	33.1	32.5	33.4	33.0
1700	32.6	32.7	62.2	83.2	33.2	32.7	33.7	33.0
1800	32.5	32.6	62.4	83.3	33.2	32.2	33.2	33.0
1900	32.5	32.6	62.3	83.4	33.1	32.5	33.2	33.0
2000	32.5	32.6	62.5	83.2	32.1	32.3	33.2	32.9
2100	32.4	32.4	62.9	83.6	33.1	32.5	33.3	32.9
2200	32.4	32.4	64.8	84.0	33.1	32.2	33.3	32.9
2300	32.4	32.4	64.1	84.3	33.1	32.7	33.3	32.9
2400	32.4	32.4	64.2	84.4	33.1	32.2	33.3	32.9

TABLE 5

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	32.3	64.3	84.5	33.1	32.7	33.2	32.7
0200	32.4	32.4	64.2	84.2	33.1	32.8	33.3	32.8
0300	32.4	32.4	64.2	84.0	33.1	32.6	33.2	32.6
0400	32.5	32.4	63.9	83.2	33.0	32.1	33.1	32.5
0500	32.3	32.2	63.7	84.0	32.9	32.8	33.0	32.4
0600	32.2	32.2	63.7	83.8	33.1	32.1	33.2	32.3
0700	32.3	32.2	63.9	84.0	33.0	32.1	32.9	32.3
0800	32.2	32.2	63.8	84.0	33.0	32.6	33.1	32.2
0900	32.3	32.4	63.7	84.3	33.0	32.7	33.0	32.4
1000	32.3	32.5	63.5	84.4	33.0	32.1	33.1	32.2
1100	32.3	32.6	63.7	84.5	33.1	32.6	33.1	32.3
1200	32.3	32.6	63.8	84.4	33.1	32.1	33.1	32.4
1300	32.3	32.6	64.0	84.6	33.2	32.8	33.2	32.3
1400	32.3	32.6	64.0	84.7	33.1	32.1	33.1	32.4
1500	32.3	32.6	64.3	84.8	33.1	32.6	33.3	32.4
1600	32.4	32.6	64.3	84.6	33.1	32.2	33.2	32.4
1700	32.4	32.4	64.3	84.8	33.1	32.1	33.2	32.4
1800	32.4	32.5	64.3	82.1	33.1	32.4	33.2	32.4
1900	33.3	33.2	63.7	80.8	33.1	32.1	33.2	32.4
2000	32.3	32.3	63.4	80.2	33.1	32.7	33.2	32.4
2100	32.3	32.3	63.2	80.2	33.1	32.2	33.1	32.4
2200	32.3	32.3	63.1	80.3	33.1	32.7	33.0	32.4
2300	32.3	32.3	63.1	80.3	33.1	32.6	33.2	32.3
2400	32.4	32.4	63.2	80.2	33.1	32.2	33.1	32.3

TABLE 6

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	32.5	63.3	80.3	33.2	32.2	33.3	32.3
0200	32.4	32.5	62.9	80.2	33.1	32.8	33.2	32.3
0300	32.5	32.6	62.3	80.8	33.1	32.4	33.2	32.4
0400	32.4	32.5	62.0	82.2	33.0	32.5	33.1	32.2
0500	32.5	32.5	62.3	82.8	33.1	33.0	33.2	32.2
0600	32.5	32.5	62.5	83.0	33.1	32.3	33.1	32.2
0700	32.3	32.5	62.8	83.7	33.2	32.9	33.3	32.3
0800	32.4	32.4	62.8	83.8	33.1	32.6	33.2	32.1
0900	32.4	32.4	62.7	83.2	33.1	32.8	33.4	32.1
1000	32.2	32.6	62.8	83.2	33.0	32.6	33.2	32.1
1100	32.1	32.2	63.3	82.9	32.9	32.6	33.3	32.1
1200	32.5	32.4	64.1	83.6	33.0	32.1	33.4	32.6
1300	32.2	32.2	64.9	84.3	32.9	31.9	33.2	32.5
1400	32.2	32.2	65.1	84.7	32.8	32.4	33.3	32.5
1500	32.2	32.2	65.7	85.0	32.8	31.8	33.2	32.7
1600	32.3	32.3	67.1	85.3	32.9	32.2	33.2	32.8
1700	32.1	32.2	67.0	85.3	32.7	31.8	33.2	32.8
1800	32.2	32.2	66.8	85.3	32.6	32.6	33.2	32.7
1900	32.1	32.2	67.2	84.9	32.7	32.1	33.0	32.9
2000	32.1	32.1	66.3	84.8	32.7	31.8	33.2	32.8
2100	32.0	32.0	67.6	85.2	32.6	32.4	33.0	32.7
2200	32.0	32.0	67.6	85.7	32.6	31.8	33.0	32.6
2300	32.0	32.0	67.6	85.9	32.6	32.1	32.9	32.6
2400	32.1	32.1	66.5	85.4	32.6	32.3	32.9	32.5

TABLE 7

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	32.1	66.5	85.5	32.6	31.9	33.0	32.4
0200	32.0	32.9	66.4	85.7	32.6	32.4	33.0	32.3
0300	32.1	32.1	66.7	85.0	32.6	32.5	32.9	32.3
0400	32.1	32.0	66.0	84.9	32.6	32.2	33.0	32.1
0500	32.1	32.1	66.1	85.0	32.6	31.9	33.0	32.1
0600	32.0	32.0	66.1	85.2	32.7	32.3	32.9	32.1
0700	32.0	32.0	65.8	85.3	32.6	32.5	32.9	32.0
0800	32.0	32.1	65.4	84.9	32.7	32.3	33.0	32.0
0900	32.0	32.2	65.1	85.2	32.7	32.3	32.9	32.1
1000	32.1	32.3	65.3	85.3	32.7	31.9	33.0	32.1
1100	32.1	32.3	65.3	85.1	32.8	32.2	33.1	32.2
1200	32.2	32.2	66.7	85.0	32.8	32.0	33.0	32.2
1300	32.1	32.4	66.1	85.3	32.8	32.7	33.1	32.5
1400	32.1	32.6	66.5	85.6	32.8	32.0	33.2	32.6
1500	32.2	36.0	66.8	86.6	32.9	32.6	32.9	32.8
1600	32.1	36.4	67.2	86.9	32.8	32.2	33.2	33.0
1700	32.1	38.6	67.4	87.0	32.8	32.3	33.1	33.1
1800	32.1	38.0	67.2	87.0	32.8	32.0	33.0	33.0
1900	32.0	38.4	67.0	86.4	32.7	32.5	33.2	33.0
2000	32.0	33.5	66.9	85.9	32.7	31.9	32.9	32.9
2100	32.0	34.0	66.8	86.1	32.8	32.5	32.9	32.9
2200	32.0	36.8	66.8	86.3	32.6	32.1	32.9	32.8
2300	32.0	37.1	67.0	86.6	32.6	32.1	32.8	32.6
2400	32.0	39.1	66.8	86.5	32.6	32.4	32.7	32.6

TABLE 8

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	33.0	67.0	85.7	32.7	31.8	32.8	32.5
0200	32.0	32.8	66.8	86.1	32.6	32.3	32.8	32.4
0300	31.9	32.4	66.4	85.3	32.6	31.8	32.8	32.3
0400	32.0	32.0	66.1	85.0	32.6	32.5	32.7	32.2
0500	32.0	36.1	65.9	85.4	32.5	31.8	32.9	32.1
0600	31.8	35.8	66.1	85.2	32.5	31.8	32.9	32.1
0700	31.9	33.0	66.2	85.2	32.5	32.4	33.0	32.1
0800	31.9	32.1	66.0	85.2	32.6	32.0	32.9	32.1
0900	32.1	32.2	65.8	85.0	32.5	32.1	33.1	32.2
1000	32.1	32.3	66.1	85.2	32.5	32.5	33.0	32.2
1100	32.1	33.1	65.9	85.1	32.6	32.2	33.2	32.3
1200	32.0	32.2	66.2	84.8	32.3	32.3	33.0	32.4
1300	32.0	32.3	66.5	85.0	32.6	32.4	33.0	32.4
1400	32.0	32.5	66.8	85.0	32.6	32.0	33.1	32.5
1500	32.0	32.5	66.9	83.4	32.5	32.5	33.0	32.5
1600	32.0	32.6	62.9	82.8	32.6	32.1	33.1	32.6
1700	32.0	32.5	66.7	81.7	32.6	31.9	33.0	32.6
1800	32.0	32.4	66.5	81.7	32.6	32.2	32.9	32.7
1900	32.0	32.3	66.3	81.8	32.6	32.0	32.9	32.7
2000	32.0	32.3	66.0	81.7	32.3	32.0	32.9	32.8
2100	32.0	32.2	65.7	82.2	32.4	32.5	32.9	32.8
2200	32.0	32.2	65.5	80.8	32.3	31.9	32.6	32.5
2300	32.0	32.2	65.1	80.9	32.4	32.5	32.6	32.6
2400	32.0	32.3	64.2	80.5	32.5	31.9	32.8	32.7

TABLE 9

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	32.3	63.5	82.3	32.4	32.5	32.7	32.5
0200	32.0	32.2	63.2	82.5	32.4	32.0	32.8	32.4
0300	32.0	32.3	63.3	82.8	32.4	32.2	32.8	32.3
0400	32.1	32.3	63.5	83.2	32.5	31.9	32.8	32.3
0500	32.0	32.2	63.2	83.0	32.5	31.9	32.9	32.1
0600	32.0	32.2	62.6	82.5	32.4	32.4	32.8	32.0
0700	32.0	32.3	62.5	82.3	32.4	32.3	32.9	32.0
0800	32.0	32.6	62.4	82.1	32.4	31.9	32.9	32.0
0900	31.9	32.6	63.2	82.8	32.5	31.9	33.0	32.0
1000	31.9	32.4	63.3	82.7	32.4	32.4	32.9	32.0
1100	31.9	32.6	63.5	82.8	32.5	32.3	32.8	32.0
1200	32.0	32.2	63.8	83.3	32.5	31.9	32.8	32.1
1300	32.1	32.3	64.0	83.2	32.6	32.2	32.9	32.3
1400	32.1	32.5	64.3	83.7	32.6	32.3	32.9	32.7
1500	32.0	32.6	64.7	83.8	32.5	31.9	33.0	32.7
1600	32.0	32.5	65.1	83.8	32.5	31.9	32.8	32.8
1700	31.9	32.5	65.4	84.2	32.5	32.4	32.9	33.0
1800	32.0	32.4	65.5	84.7	32.5	32.0	33.0	33.0
1900	31.9	32.3	65.8	84.6	32.5	32.0	33.0	33.1
2000	31.9	32.2	65.7	84.1	32.5	32.2	32.8	32.9
2100	32.0	32.2	65.4	84.5	32.6	32.1	32.8	32.8
2200	32.0	32.1	65.2	84.4	32.6	31.9	32.7	32.7
2300	32.0	32.1	64.9	83.6	32.5	31.9	32.7	32.7
2400	32.0	32.2	64.7	80.3	32.5	31.9	32.6	32.5

TABLE 10

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.9	32.8	64.7	79.1	32.5	32.3	32.5	32.4
0200	31.9	38.3	64.5	79.3	32.6	31.8	32.5	32.2
0300	31.9	33.4	64.3	80.7	32.6	31.9	32.5	32.1
0400	32.0	34.3	63.9	81.8	32.6	31.9	32.5	31.9
0500	32.0	37.8	63.8	82.4	32.6	31.8	32.5	31.8
0600	32.0	38.1	63.7	82.3	32.6	32.0	32.5	31.8
0700	32.0	34.6	62.4	82.2	32.6	31.9	32.5	31.7
0800	32.0	33.6	61.1	81.6	32.6	32.0	32.4	31.7
0900	31.9	33.1	60.9	81.0	32.5	32.0	32.4	31.7
1000	31.9	34.8	61.2	81.0	32.5	32.0	32.4	31.7
1100	31.8	32.7	62.0	81.7	32.5	32.1	32.5	31.8
1200	31.9	32.2	62.5	82.3	32.5	32.1	32.5	31.7
1300	31.9	34.0	62.7	83.3	32.6	31.9	32.5	31.9
1400	31.9	32.3	62.7	83.5	32.6	31.9	32.5	32.0
1500	32.0	32.2	62.9	84.0	32.6	31.9	32.5	32.1
1600	32.1	32.2	62.8	84.0	32.6	31.9	32.5	32.1
1700	32.0	32.2	62.8	83.8	32.6	32.1	32.6	32.2
1800	32.1	32.2	62.9	84.0	32.6	31.9	32.6	32.2
1900	32.0	32.8	63.7	84.2	32.6	31.9	32.5	32.2
2000	32.0	35.2	64.3	84.6	32.6	31.9	32.5	32.2
2100	32.0	38.0	64.9	85.3	32.7	31.8	32.6	32.2
2200	31.9	32.2	65.0	85.2	32.8	31.8	32.5	32.2
2300	32.0	37.8	65.1	85.3	32.8	32.2	32.5	32.1
2400	32.0	35.0	65.0	85.3	32.8	32.2	32.5	32.2

TABLE 11

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	33.2	64.8	85.0	32.8	31.9	32.5	32.0
0200	31.9	34.7	64.7	85.0	32.7	32.0	32.7	31.9
0300	31.9	32.6	64.7	84.7	32.7	31.9	32.6	31.7
0400	31.8	37.6	65.0	84.5	32.7	31.9	32.5	31.6
0500	31.9	35.2	65.0	85.2	32.6	31.8	32.5	31.6
0600	32.0	32.7	64.9	85.1	32.6	31.9	32.5	31.6
0700	31.9	35.7	64.9	85.0	32.7	31.9	32.5	31.6
0800	31.9	33.0	64.5	85.0	32.7	31.7	32.5	31.6
0900	32.0	32.7	64.4	85.1	32.8	31.8	32.5	31.6
1000	31.9	32.1	64.3	84.6	32.7	32.1	32.6	31.6
1100	31.9	31.9	64.2	84.2	32.7	31.8	32.5	31.8
1200	31.9	38.5	64.2	84.4	32.8	31.8	32.6	31.8
1300	31.9	34.2	64.3	84.7	32.8	31.9	32.5	31.9
1400	31.9	34.0	64.3	84.7	32.8	31.8	32.7	32.0
1500	31.9	32.9	64.1	84.6	32.8	31.8	32.6	32.1
1600	31.9	32.2	64.1	84.6	32.8	31.8	32.6	32.4
1700	31.9	32.2	64.0	84.6	32.7	31.8	32.5	32.4
1800	32.0	32.1	63.4	84.2	32.8	31.8	32.5	32.4
1900	31.9	37.4	63.3	84.3	32.7	31.8	32.4	32.4
2000	32.0	32.0	63.2	82.4	32.6	32.0	32.4	32.4
2100	31.9	31.9	63.1	80.4	32.7	31.8	32.4	32.4
2200	31.9	31.9	62.8	80.0	32.7	32.0	32.4	32.3
2300	31.9	31.9	62.5	80.1	32.8	31.9	32.4	32.2
2400	32.0	31.9	62.2	80.0	32.7	31.8	32.5	32.2

TABLE 12

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.9	31.9	61.2	76.7	32.9	31.9	32.4	31.9
0200	31.9	32.0	61.2	76.6	32.3	31.8	32.5	31.8
0300	31.9	32.0	60.1	74.3	33.1	31.7	32.2	31.8
0400	31.9	32.0	60.1	74.3	33.1	31.8	32.2	31.7
0500	31.8	32.0	59.1	74.0	33.1	31.8	32.2	31.6
0600	31.8	32.4	58.7	74.3	33.2	31.9	32.4	31.7
0700	31.9	37.5	58.6	77.3	32.9	31.9	32.4	31.6
0800	31.9	37.9	58.5	78.0	32.9	32.0	32.4	31.6
0900	31.9	34.9	58.2	78.2	33.0	31.9	32.4	31.6
1000	32.0	33.1	57.8	78.2	33.0	32.0	32.5	31.7
1100	32.0	32.1	57.1	77.7	33.0	31.8	32.5	31.8
1200	32.0	32.0	57.7	78.0	32.9	31.9	32.5	31.9
1300	32.0	32.0	57.8	78.2	33.0	31.9	32.5	32.2
1400	32.1	32.3	58.6	79.0	33.1	32.1	32.5	32.1
1500	32.2	32.6	60.5	80.2	33.2	32.5	32.6	32.2
1600	32.3	32.6	61.4	81.6	33.2	32.5	33.0	32.5
1700	32.3	32.6	61.6	82.1	33.2	32.3	33.0	32.5
1800	32.4	32.6	62.0	83.0	33.2	32.4	33.0	32.5
1900	32.4	32.6	62.1	83.5	33.3	32.3	33.0	32.5
2000	32.4	32.5	62.1	83.7	33.3	32.3	33.0	32.4
2100	32.4	32.4	62.3	83.7	33.3	32.3	33.0	32.4
2200	32.4	32.4	62.3	83.8	33.3	32.3	33.1	32.4
2300	32.4	32.4	63.0	84.1	33.3	32.4	33.0	32.4
2400	32.4	32.4	63.5	84.3	33.3	32.5	33.0	32.3

TABLE 13

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	32.3	63.6	84.3	33.4	32.3	33.0	32.2
0200	32.3	32.3	63.4	84.5	33.4	32.2	33.0	32.2
0300	32.3	32.4	63.9	84.6	33.3	32.4	33.0	32.2
0400	32.3	32.4	64.0	84.9	33.4	32.3	33.0	32.1
0500	32.3	32.4	64.0	84.4	33.4	32.3	33.1	32.1
0600	32.4	32.4	64.0	84.3	33.4	32.3	33.0	32.0
0700	32.2	34.8	64.2	83.8	33.3	32.3	33.1	32.0
0800	32.2	33.5	64.1	84.2	33.4	32.2	33.0	32.0
0900	32.3	33.6	64.4	84.2	33.4	32.4	33.1	32.2
1000	32.2	33.1	64.7	84.5	33.4	32.4	33.1	32.3
1100	32.3	32.4	65.6	84.5	33.4	32.3	33.0	32.3
1200	32.4	32.4	66.0	85.2	33.4	32.5	33.1	32.3
1300	32.5	32.5	66.3	85.5	33.4	32.4	33.2	32.4
1400	32.6	32.5	66.5	86.0	33.4	32.3	33.0	32.5
1500	32.5	35.0	67.0	85.9	33.5	32.4	33.1	32.6
1600	32.5	37.5	67.1	86.0	33.5	32.5	33.1	32.7
1700	32.4	33.0	67.5	86.3	33.4	32.3	33.2	32.8
1800	32.4	37.5	67.9	86.8	33.4	32.4	33.1	32.8
1900	32.3	39.3	68.4	87.0	33.4	32.3	33.1	32.8
2000	32.3	37.6	68.5	87.2	33.3	32.2	33.1	32.8
2100	32.4	39.5	68.9	87.4	33.3	32.5	33.0	32.8
2200	32.3	38.4	68.9	87.4	33.4	32.3	33.0	32.8
2300	32.3	39.0	69.1	87.6	33.4	32.3	33.2	32.8
2400	32.3	37.5	69.1	87.7	33.4	32.3	33.1	32.7

TABLE 14

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	38.0	69.2	87.8	33.4	32.3	33.1	32.7
0200	32.3	32.3	69.3	85.9	33.4	32.4	33.1	32.6
0300	32.3	32.3	69.0	84.7	33.4	32.3	33.0	32.6
0400	32.3	32.3	68.6	84.3	33.3	32.3	33.0	32.6
0500	32.3	32.3	68.3	83.8	33.3	32.4	33.0	32.5
0600	32.3	32.3	67.8	83.6	33.4	32.5	33.0	32.5
0700	32.4	32.3	66.5	83.4	33.3	32.3	33.0	32.3
0800	32.4	32.4	66.3	83.7	33.4	32.3	33.1	32.4
0900	32.3	32.4	67.0	83.1	33.4	32.4	33.0	32.6
1000	32.3	32.5	66.6	83.1	33.5	32.3	33.2	32.8
1100	32.4	32.5	66.1	82.2	33.4	32.3	33.0	32.9
1200	32.3	32.6	66.0	82.1	33.4	32.3	33.0	33.0
1300	32.3	32.6	65.8	82.0	33.5	32.2	33.1	33.2
1400	32.3	32.7	65.8	83.4	33.4	32.2	33.2	33.4
1500	32.4	32.9	66.0	84.6	33.5	32.3	33.4	33.5
1600	32.4	33.0	66.1	85.2	33.5	32.3	33.4	33.6
1700	32.4	33.5	66.1	85.4	33.5	32.3	33.2	33.5
1800	32.3	32.7	66.1	85.6	33.5	32.4	33.3	33.5
1900	32.3	32.6	65.7	85.0	33.5	32.5	33.5	33.5
2000	32.3	32.5	65.6	83.3	33.5	32.3	33.5	33.5
2100	32.3	32.5	65.5	83.0	33.5	32.3	33.5	33.4
2200	32.3	32.3	66.0	83.2	33.5	32.4	33.6	33.2
2300	32.3	32.3	66.3	83.4	33.5	32.4	33.5	33.1
2400	32.3	32.3	66.4	83.6	33.5	32.4	33.5	33.0

TABLE 15

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	32.3	66.3	83.7	33.6	32.4	33.5	33.0
0200	32.3	32.2	66.1	83.6	33.6	32.9	33.5	32.8
0300	32.3	32.3	65.4	85.2	33.6	32.4	33.5	32.5
0400	32.4	32.4	65.0	82.8	33.6	32.5	33.4	32.5
0500	32.3	32.3	66.0	83.1	33.5	32.7	33.2	32.4
0600	32.2	32.2	65.9	83.4	33.5	32.4	33.2	32.3
0700	32.2	32.2	66.8	83.3	33.5	32.4	33.3	32.2
0800	32.2	32.3	66.0	83.2	33.5	32.4	33.5	32.2
0900	32.2	32.3	60.9	83.4	33.5	33.2	33.3	32.2
1000	32.2	32.4	66.0	83.3	33.5	33.0	33.2	32.2
1100	32.2	32.3	60.9	83.3	33.6	32.5	33.5	32.4
1200	32.2	32.5	60.8	83.2	33.6	32.2	33.3	32.5
1300	32.2	32.6	61.3	86.4	33.6	32.2	31.6	32.5
1400	32.2	35.9	66.5	94.0	33.6	32.4	31.5	32.6
1500	32.2	36.5	66.5	94.8	33.6	32.5	31.5	32.6
1600	32.2	32.4	66.4	94.4	33.6	32.3	31.4	31.9
1700	32.1	32.4	66.4	85.2	33.6	32.4	33.2	31.9
1800	32.1	32.3	66.5	84.5	33.5	32.4	33.2	31.9
1900	32.0	32.0	66.5	84.3	33.5	32.2	33.1	31.9
2000	32.2	32.2	66.2	84.3	33.5	32.4	33.2	31.9
2100	32.1	32.1	69.5	84.7	33.4	32.2	33.0	31.7
2200	32.1	32.2	71.6	87.6	33.4	32.3	32.1	31.6
2300	32.0	32.1	71.7	88.3	33.3	32.5	33.2	31.5
2400	32.0	32.2	68.9	87.7	33.5	32.5	33.2	31.5

TABLE 16

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.2	32.1	65.7	84.6	33.4	32.1	33.1	31.4
0200	32.2	32.2	65.0	83.6	33.5	32.2	33.2	31.4
0300	32.2	32.2	64.5	83.4	33.6	32.2	33.2	31.4
0400	32.2	32.2	63.8	82.8	33.6	32.2	33.2	31.3
0500	32.2	32.2	64.5	82.4	33.5	32.2	33.2	31.3
0600	32.2	32.2	65.0	83.0	33.5	32.5	33.2	31.3
0700	32.2	32.2	64.9	83.3	33.5	32.2	33.2	31.3
0800	32.1	32.2	64.1	83.2	33.5	32.2	33.0	31.2
0900	32.2	32.2	62.9	81.8	33.5	32.2	33.2	31.7
1000	32.2	32.3	62.7	81.0	33.5	32.2	33.2	31.4
1100	32.2	32.3	62.5	81.3	33.5	32.2	33.1	31.5
1200	32.2	32.5	62.5	80.9	33.5	32.3	33.1	31.6
1300	32.2	32.5	63.0	81.0	33.5	32.7	33.2	31.7
1400	32.3	32.7	63.4	82.0	33.5	32.4	33.1	31.9
1500	32.3	32.7	63.7	82.1	33.5	32.3	33.1	32.0
1600	32.3	32.6	63.5	81.9	33.5	32.2	33.1	31.9
1700	32.2	32.6	62.6	81.8	33.5	32.4	33.1	31.8
1800	32.2	32.5	62.2	81.2	33.6	32.3	33.2	31.8
1900	32.1	32.3	62.1	81.3	33.5	32.2	33.1	31.7
2000	32.1	32.2	61.8	79.0	33.5	32.2	33.0	31.7
2100	32.1	32.3	61.2	77.6	33.5	32.2	33.0	31.6
2200	32.1	32.2	61.3	77.4	33.5	32.2	33.3	31.6
2300	32.1	32.2	61.2	75.5	33.5	32.2	33.0	31.6
2400	32.2	32.2	60.8	73.3	33.5	32.7	32.9	31.5

TABLE 17

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.1	32.2	60.6	74.0	33.4	32.2	32.8	31.4
0200	32.1	32.2	60.4	75.5	33.4	32.2	32.8	31.3
0300	32.0	32.2	59.9	72.8	33.4	32.2	32.9	31.2
0400	32.0	32.2	59.4	73.5	33.4	32.1	32.9	31.1
0500	32.9	32.2	58.2	74.2	33.5	32.2	33.0	31.1
0600	32.0	32.2	57.8	75.8	33.4	32.2	32.9	31.1
0700	32.1	32.2	57.8	76.2	33.5	32.2	32.9	31.1
0800	32.1	32.2	56.5	76.0	33.5	32.6	33.0	31.2
0900	32.1	32.2	56.2	75.4	33.3	32.2	32.8	31.2
1000	32.1	32.2	57.4	76.9	33.4	32.2	32.9	31.2
1100	32.1	32.1	57.3	76.8	33.4	32.2	33.0	31.3
1200	32.0	32.3	57.3	78.5	33.3	32.3	33.0	31.4
1300	32.0	32.3	59.5	78.3	33.4	32.4	33.1	31.6
1400	32.1	32.5	60.2	79.5	33.4	32.6	33.2	31.6
1500	32.2	32.6	60.7	79.9	33.5	32.8	33.0	31.8
1600	32.1	32.7	60.7	79.8	33.5	32.2	33.2	31.8
1700	32.2	32.6	60.7	80.0	33.5	32.2	33.1	31.8
1800	32.3	32.6	61.4	80.5	33.6	32.3	33.1	31.8
1900	32.3	32.5	61.7	80.7	33.6	32.3	33.2	31.8
2000	32.2	32.4	62.2	81.0	33.6	32.2	33.2	31.7
2100	32.1	32.5	63.2	81.4	33.6	32.2	33.2	31.7
2200	32.1	32.5	63.5	81.9	33.6	32.2	33.3	31.6
2300	32.1	32.5	63.5	82.0	33.6	32.2	33.2	31.6
2400	32.3	32.5	63.5	81.9	33.5	32.2	33.3	31.6

TABLE 18

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	32.5	6[illegible]5	81.9	33.6	32.2	33.2	31.6
0200	31.9	32.5	[illegible].8	82.1	33.6	32.3	33.4	31.5
0300	32.2	32.5	63.8	81.4	33.6	32.3	33.2	31.4
0400	32.2	33.5	63.8	81.8	33.6	32.5	33.4	31.4
0500	32.1	32.4	63.0	80.7	33.6	32.6	33.3	31.3
0600	32.1	32.4	63.6	80.8	33.6	32.5	33.2	31.3
0700	32.2	32.4	63.2	82.5	33.6	32.7	33.2	31.4
0800	32.2	32.4	63.2	81.7	33.6	32.6	33.2	31.3
0900	32.2	32.4	63.2	81.7	33.5	32.5	33.0	31.3
1000	32.3	32.5	63.4	81.6	33.6	32.3	33.2	31.4
1100	32.2	38.8	63.6	91.2	33.6	32.5	31.6	31.6
1200	32.2	35.5	64.2	92.6	33.6	32.4	31.4	31.6
1300	32.2	32.9	64.5	93.1	33.6	32.4	31.4	31.8
1400	32.3	33.9	65.4	93.6	33.7	32.5	31.4	32.0
1500	32.2	33.1	65.4	94.0	33.6	32.4	31.4	32.1
1600	32.3	33.1	65.1	94.0	33.6	32.2	31.4	32.1
1700	32.2	32.9	65.0	94.1	33.6	32.3	31.4	32.2
1800	32.2	34.3	65.7	93.7	33.6	32.3	31.4	32.0
1900	32.2	40.8	69.9	95.8	33.6	32.4	31.5	32.0
2000	32.3	42.4	71.3	97.7	33.6	32.4	31.5	32.0
2100	32.2	39.0	71.7	98.5	33.6	32.2	31.4	31.9
2200	32.2	32.8	72.3	89.0	33.6	32.2	33.4	32.1
2300	32.3	32.5	72.8	87.3	33.6	33.0	33.3	32.0
2400	32.3	32.6	73.3	88.8	33.5	32.9	33.4	32.1

TABLE 19

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 19, 1980

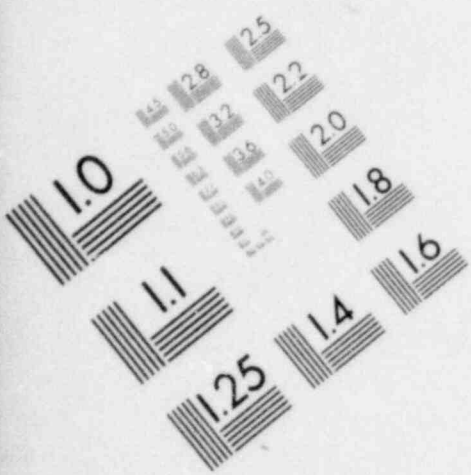
Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	32.5	73.0	87.5	33.5	32.1	33.2	32.0
0200	32.3	32.8	72.3	84.8	33.4	32.8	33.4	31.9
0300	32.2	32.5	73.0	84.2	33.5	33.0	33.5	31.8
0400	32.2	32.6	73.3	84.5	33.5	32.5	33.4	31.8
0500	32.2	32.5	72.8	84.5	33.6	32.2	33.3	31.8
0600	32.2	32.6	69.9	83.7	34.0	32.8	33.9	31.8
0700	32.2	32.5	68.3	82.0	33.5	32.2	33.2	31.8
0800	32.2	32.5	67.7	84.0	33.6	32.4	33.3	31.8
0900	32.0	32.6	65.7	84.6	33.6	32.1	33.4	32.0
1000	32.0	32.6	65.4	83.3	33.6	32.4	33.0	32.0
1100	32.2	32.7	66.2	84.1	33.7	32.3	33.3	32.2
1200	32.4	32.7	66.8	84.4	33.6	33.0	33.1	32.3
1300	32.4	32.9	66.8	84.6	33.7	32.7	33.6	32.4
1400	32.5	32.9	66.7	84.2	33.5	32.8	33.4	32.5
1500	32.3	32.8	67.4	84.8	33.6	32.8	33.5	32.6
1600	32.2	32.8	68.4	85.5	33.4	32.2	33.4	32.6
1700	32.2	32.8	68.1	85.7	33.5	32.4	33.4	32.5
1800	32.2	32.7	67.9	85.3	33.5	33.0	33.4	32.6
1900	32.2	32.7	68.?	85.8	33.5	32.4	33.2	32.7
2000	32,3	32.7	68.4	85.9	33.6	33.0	33.5	32.7
2100	32.3	32.6	68.3	85.6	33.6	32.8	33.4	32.6
2200	32.3	32.7	68.7	85.8	33.6	32.9	33.2	32.7
2300	32.3	32.6	68.9	86.0	33.6	32.8	33.0	32.6
2400	32.2	32.6	68.5	85.4	33.6	32.8	33.1	32.6

TABLE 20

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	32.6	69.2	86.2	33.6	32.9	33.0	32.6
0200	32.4	32.5	69.3	86.2	33.6	33.1	33.1	32.5
0300	32.5	32.5	69.3	86.3	33.6	32.7	33.1	32.4
0400	32.5	32.5	69.5	87.0	33.5	33.0	33.2	32.3
0500	32.6	32.5	69.5	86.7	33.5	33.0	33.1	32.3
0600	32.4	32.4	69.5	86.6	33.6	33.2	33.1	32.2
0700	32.4	32.4	69.7	86.3	33.6	33.2	33.2	32.2
0800	32.5	32.5	69.7	86.5	33.6	33.3	33.2	32.3
0900	32.3	32.3	69.7	87.0	33.6	33.2	33.2	32.3
1000	32.1	32.4	69.8	86.7	33.6	32.7	33.1	32.7
1100	32.1	32.6	69.8	86.3	33.7	32.8	33.2	32.7
1200	32.2	32.7	69.9	87.0	33.7	32.8	33.3	33.0
1300	32.3	32.8	70.0	86.9	33.7	32.9	33.3	33.1
1400	32.3	32.8	70.0	87.1	33.7	32.4	33.3	33.1
1500	32.2	32.7	70.7	88.0	33.7	32.9	33.4	33.2
1600	32.3	32.8	71.8	88.2	33.7	32.9	33.4	33.3
1700	32.3	32.7	73.0	89.0	33.7	33.1	33.3	33.3
1800	32.1	32.8	73.7	89.7	33.6	33.1	33.2	33.2
1900	32.1	37.7	73.8	89.4	33.5	32.9	33.2	33.2
2000	32.0	38.0	74.2	90.1	33.5	32.8	33.0	33.0
2100	32.0	32.6	74.1	90.0	33.5	32.7	33.1	33.1
2200	31.9	32.5	72.6	88.4	33.4	32.9	33.0	33.0
2300	32.0	32.4	72.2	88.7	33.5	32.7	33.0	33.0
2400	32.0	32.4	72.2	88.6	33.5	32.7	33.0	33.0



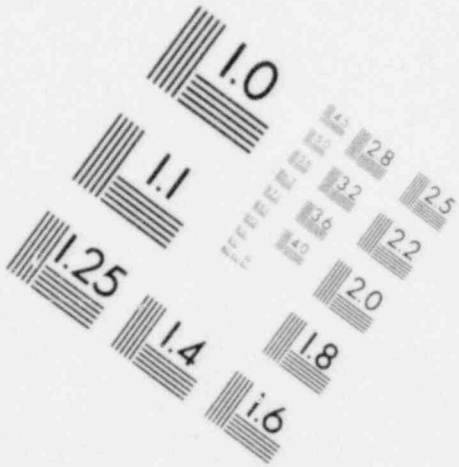
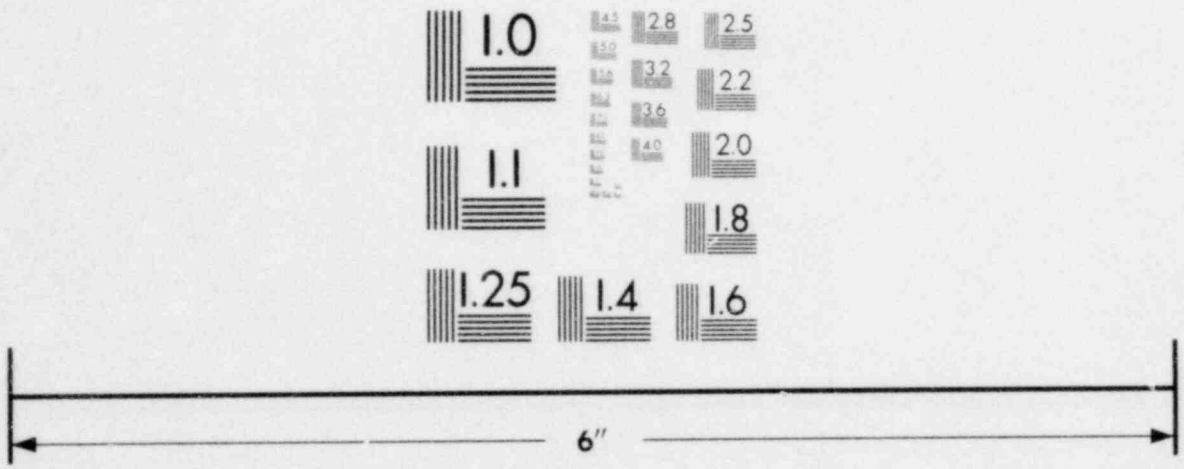
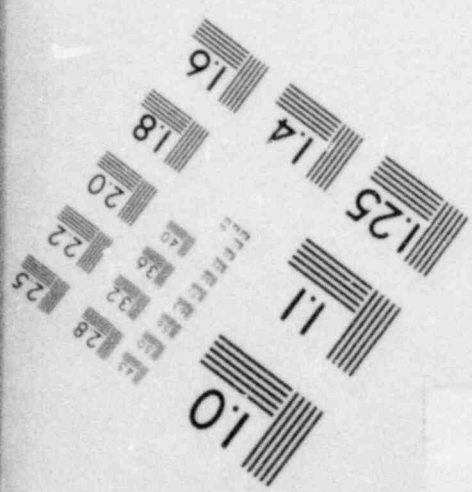
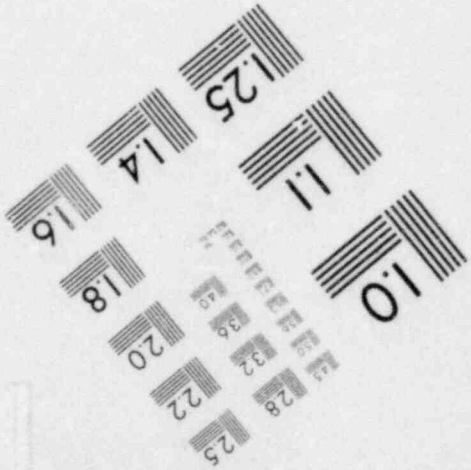
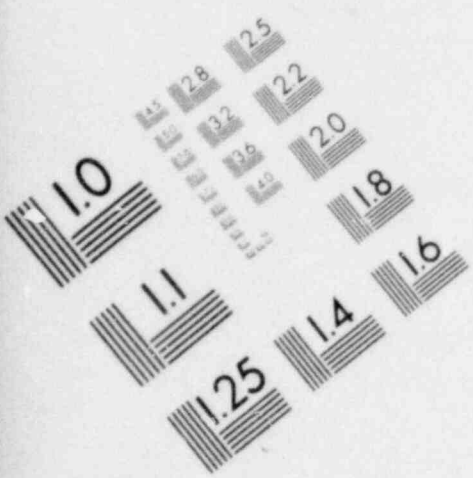


IMAGE EVALUATION TEST TARGET (MT-3)









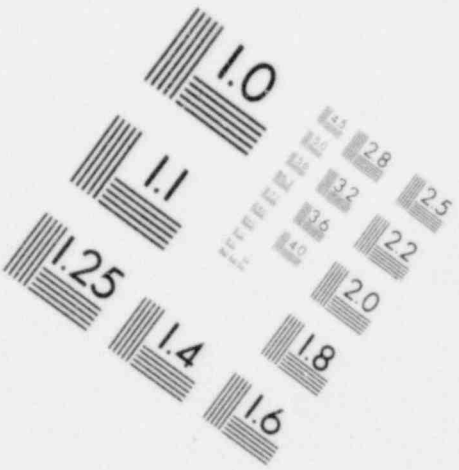
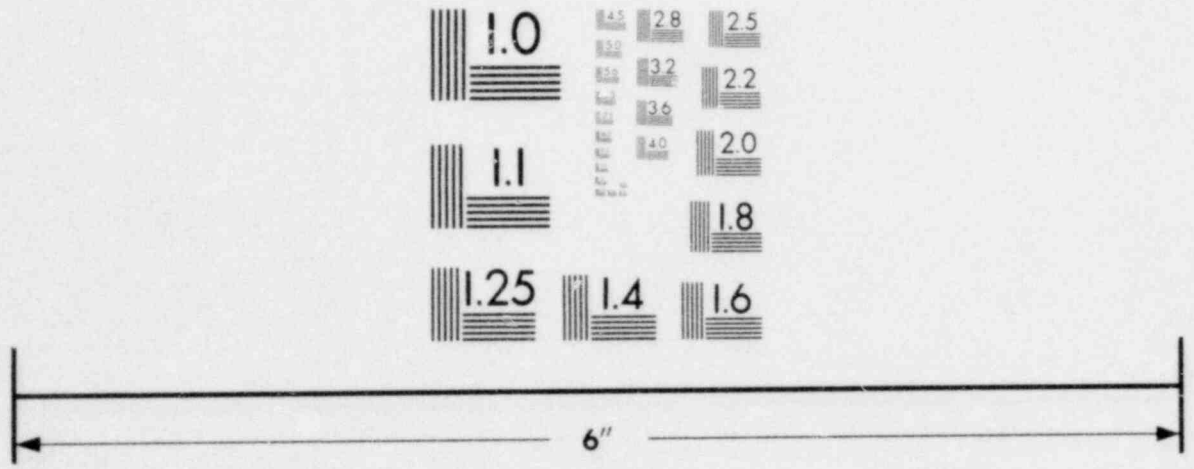
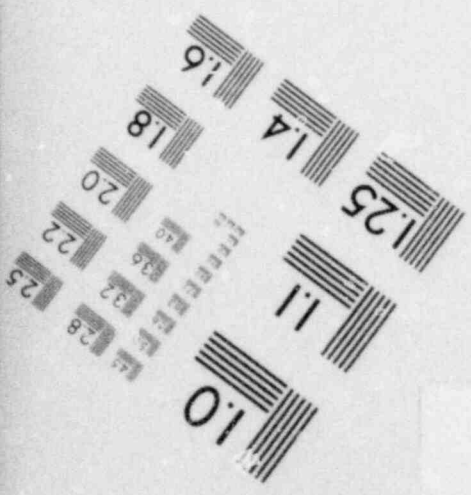


IMAGE EVALUATION
TEST TARGET (MT-3)





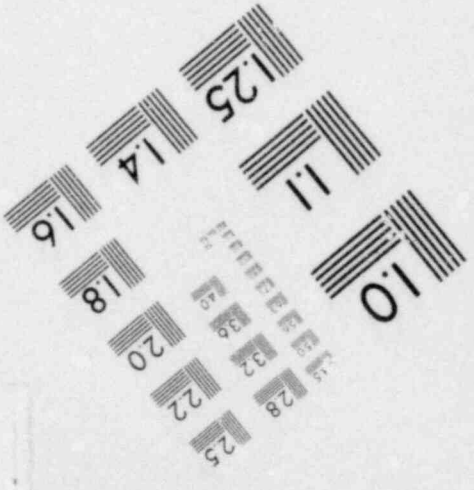


TABLE 21

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	31.9	32.5	72.6	87.9	33.5	32.5	32.9	32.9
0200	32.0	32.6	72.8	89.0	33.5	32.6	33.1	33.0
0300	32.0	32.6	72.8	88.7	33.5	32.9	33.1	32.9
0400	32.0	32.5	72.8	89.4	33.5	32.8	33.1	32.9
0500	31.9	32.2	72.7	89.3	33.5	32.8	32.9	32.8
0600	31.9	32.3	72.0	88.0	33.5	32.5	32.8	32.8
0700	31.8	32.3	71.5	88.1	33.5	32.7	32.7	32.7
0800	31.8	32.3	71.2	88.1	33.4	32.7	32.7	32.6
0900	31.8	32.3	71.2	87.6	33.5	32.7	32.7	32.6
1000	31.9	32.4	71.2	87.1	33.4	32.6	33.0	32.1
1100[1/]	26.4	32.4	71.4	87.0	33.1	28.0	31.2	33.1
1200	25.1	32.2	71.0	86.8	32.9	27.9	28.9	32.4
1300	24.7	32.3	71.0	87.0	33.0	28.2	28.9	32.6
1400	24.1	32.2	70.5	87.0	32.8	28.2	28.7	32.8
1500	23.8	32.2	70.0	86.7	32.7	28.2	28.7	32.7
1600		32.4	69.7	86.3	32.8			32.9
1700		32,5	69.3	85.8	32.9			33.0
1800		32.6	69.3	85.7	32.9			32.9
1900		33.2	69.0	85.3	33.0			33.0
2000		33.4	69.4	86.1	33.0			33.0
2100		33.6	69.8	86.0	33.0			33.0
2200		33.3	69.9	86.2	33.0			33.1
2300		33.6	69.9	86.2	32.9			33.1
2400		33.8	70.0	85.7	32.9			33.6

[1/] Heavy electrical thunderstorm activity. Data for sensors 1, 9, and 10 voided until corrective action taken.

TABLE 22

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		33.8	70.2	85.7	32.9			33.4
0200		34.0	70.4	86.1	32.9			33.2
0300		34.0	70.8	86.3	33.0			33.2
0400		34.1	71.3	87.2	33.0			33.3
0500		34.1	71.4	87.5	33.0			33.5
0600		34.2	71.5	87.6	32.9			33.6
0700		34.1	71.3	87.7	32.8			33.2
0800		33.8	71.2	87.3	32.9			33.3
0900		33.0	70.8	87.0	33.2			32.5
1000		32.8	71.2	86.6	33.5			32.9
1100		32.9	71.9	86.9	33.6			32.8
1200[1/]	34.2	33.0	71.9	87.9	33.6	33.4	36.0	32.5
1300	34.4	33.0	72.2	88.3	33.9	33.4	36.0	32.9
1400	34.4	33.0	72.2	88.1	34.1	33.3	36.0	33.3
1500	34.4	33.0	72.3	88.2	33.9	33.2	36.2	33.2
1600	33.9	33.0	72.3	88.3	33.7	33.2	36.0	32.7
1700	34.0	32.9	72.2	88.2	33.4	33.4	36.1	33.0
1800	34.2	32.9	72.2	88.2	33.7	33.2	36.0	32.9
1900	34.1	32.8	72.4	87.8	33.7	33.3	35.9	32.9
2000	34.1	32.8	72.8	88.6	33.6	33.3	35.9	32.8
2100	34.1	32.7	72.9	88.9	33.6	33.3	36.0	32.9
2200	34.1	32.7	72.8	88.7	33.6	33.5	35.9	32.8
2300	34.1	32.7	72.8	88.8	33.7	33.3	36.0	32.6
2400	34.1	32.7	72.8	88.9	33.6	33.1	35.9	32.6

[1/] Sensors adjusted to ground truth data.

TABLE 23

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.8	32.5	72.7	88.7	33.7	33.1	35.8	32.5
0200	34.1	32.8	72.6	88.5	33.6	33.1	35.8	32.4
0300	34.2	32.8	72.3	88.2	33.6	33.2	35.7	32.3
0400	34.3	32.8	72.4	88.6	33.5	33.1	35.7	32.3
0500	34.2	32.7	72.5	88.6	33.6	33.2	35.8	32.3
0600	34.3	32.7	72.2	88.3	33.6	33.2	35.8	32.2
0700	34.3	32.7	72.2	88.0	33.6	33.2	35.6	32.2
0800	34.3	32.8	72.0	88.3	33.7	33.1	35.7	32.2
0900	34.4	33.2	71.8	87.9	33.7	33.1	35.7	32.1
1000	34.5	33.0	71.7	87.3	33.7	33.0	35.6	32.1
1100	34.6	33.0	71.6	87.1	33.8	33.0	35.8	32.2
1200	34.6	33.0	71.4	87.8	33.8	33.0	35.7	32.2
1300	34.6	33.2	70.9	87.4	33.8	33.1	35.7	32.2
1400	34.6	33.0	70.5	87.3	33.7	33.1	35.6	32.2
1500	34.5	32.8	70.2	85.8	33.6	33.1	35.5	32.1
1600	34.5	32.8	69.8	85.9	33.7	33.0	35.4	32.2
1700	34.4	32.8	69.2	85.6	33.6	33.2	35.5	32.2
1800	34.5	32.7	68.7	85.6	33.6	33.0	35.5	32.2
1900	34.4	32.7	68.7	85.6	33.5	33.0	35.4	32.0
2000	34.4	32.7	68.8	84.7	33.5	32.9	35.4	32.0
2100	34.4	32.7	68.7	85.5	33.5	33.0	35.5	31.9
2200	34.4	32.6	68.5	85.1	33.5	33.0	35.5	31.8
2300	34.5	32.6	68.4	84.8	33.5	33.0	35.5	31.8
2400	34.5	32.7	68.3	81.0	33.5	32.9	35.5	31.8

TABLE 24

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.5	32.8	68.2	74.0	33.6	32.8	35.3	32.1
0200	34.5	32.8	67.8	70.1	33.5	32.8	35.2	31.9
0300	34.5	32.8	67.7	67.8	33.5	32.8	35.2	31.9
0400	34.4	32.7	67.8	67.8	33.5	32.8	35.0	31.8
0500	34.5	32.7	67.8	68.2	33.5	32.8	35.0	31.8
0600	34.5	32.5	67.7	68.3	33.5	33.0	35.1	31.8
0700	34.4	32.5	67.1	68.4	33.5	33.0	35.1	31.9
0800	34.6	32.6	64.5	68.8	33.5	33.1	35.2	32.0
0900	34.6	32.6	60.9	67.1	33.6	33.2	35.2	32.0
1000	34.7	32.8	59.1	65.7	33.8	33.2	35.2	32.0
1100	34.8	32.9	58.2	66.2	34.0	33.3	35.3	32.3
1200	34.9	33.3	58.7	67.6	34.2	33.4	35.3	32.5
1300	34.9	33.5	58.7	68.7	34.2	33.5	35.3	32.5
1400	34.9	33.4	58.8	69.0	34.2	33.5	35.3	32.7
1500	35.1	33.5	59.6	70.7	34.3	33.5	35.6	33.2
1600	35.2	33.6	58.9	70.6	34.2	33.6	35.6	33.3
1700	35.1	33.6	57.9	68.6	34.4	33.6	35.5	33.3
1800	35.0	33.5	57.6	66.4	34.2	33.4	35.3	33.2
1900	34.8	33.4	57.5	65.3	34.0	33.4	35.2	33.1
2000	34.8	33.1	57.9	65.4	34.0	33.3	35.2	33.0
2100	34.6	33.0	58.9	66.0	34.0	33.2	35.0	32.9
2200	34.5	34.8	59.2	66.4	33.9	33.2	34.9	32.5
2300	34.6	34.7	59.4	67.0	33.8	33.2	34.9	32.5
2400	34.5	32.9	58.7	66.7	33.7	33.1	34.9	32.2

TABLE 25

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.5	32.7	57.1	66.0	33.7	33.0	34.8	32.2
0200	34.5	32.8	56.8	64.8	33.7	33.2	34.9	32.2
0300	34.5	32.8	55.3	63.4	33.5	33.0	34.9	32.2
0400	34.6	32.7	55.0	63.2	33.6	33.0	35.0	32.2
0500	34.5	32.6	55.1	63.0	33.7	32.9	34.9	32.2
0600	34.5	32.6	55.2	63.5	33.7	32.9	35.0	32.2
0700	34.5	32.3	54.7	62.9	33.7	33.0	35.0	32.0
0800	34.5	32.3	53.9	64.3	33.5	33.0	34.9	31.9
0900	34.2	32.0	52.5	64.5	33.4	32.7	34.5	31.5
1000	34.3	32.2	51.6	63.8	33.4	32.8	34.6	31.7
1100	34.6	32.2	50.9	64.8	33.5	32.9	34.8	31 8
1200	34.6	32.8	50.4	64.2	33.7	32.9	34.7	32.0
1300	34.6	33.5	50.3	64.8	33.8	33.1	34.9	32.2
1400	34.7	33.4	50.2	65.5	33.8	33.0	34.8	32.2
1500	34.5	33.4	50.5	65.6	33.8	33.0	34.8	32.3
1600	34.5	33.3	51.0	66.2	33.7	32.9	34.8	32.5
1700	34.4	32.8	51.0	66.3	33.5	32.8	34.8	32.5
1800	34.2	32.2	50.8	66.3	33.1	32.7	34.6	32.2
1900	34.1	32.0	50.6	66.2	33.4	32.7	34.6	32.2
2000	34.2	32.1	50.1	65.8	33.3	32.7	34.6	32.1
2100	34.2	32.2	50.2	66.0	33.2	32.7	34.6	31.9
2200	34.2	33.5	50.5	66.2	33.2	32.7	34.6	31.7
2300	34.2	32.4	50.7	66.5	33.2	32.6	34.6	31.7
2400	34.2	32.8	50.8	67.1	33.2	32.6	34.6	31.5

TABLE 26

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.2	32.5	50.9	67.4	33.3	32.6	34.6	31.5
0200	34.2	32.6	51.0	67.6	33.3	32.7	34.6	31.4
0300	34.2	33.4	50.8	68.0	33.4	32.7	34.7	31.5
0400	34.2	33.5	50.8	68.1	33.4	32.7	34.6	31.4
0500	34.2	33.6	51.0	68.6	33.4	32.7	34.6	31.4
0600	34.2	33.8	51.2	69.0	33.3	32.7	34.6	31.4
0700	34.2	32.4	51.4	68.1	33.2	32.7	34.6	31.6
0800	34.3	32.6	51.8	70.0	33.3	32.9	34.7	31.6
0900	34.3	32.5	52.0	70.2	33.2	32.7	34.8	31.6
1000	34.3	32.1	52.4	70.5	33.5	32.8	34.7	31.7
1100	34.4	33.5	52.9	71.2	33.5	32.8	34.9	31.7
1200	34.5	32.3	53.4	71.6	33.7	32.9	35.0	31.9
1300	34.3	32.3	54.2	72.7	33.7	32.9	35.0	31.9
1400	34.3	32.2	54.2	73.3	33.5	32.8	35.0	32.0
1500	34.3	32.2	54.7	73.7	33.5	32.9	34.9	32.0
1600	34.5	32.3	55.0	74.5	33.6	32.8	35.0	32.0
1700	34.5	32.2	55.5	74.3	33.6	32.8	35.0	31.9
1800	34.3	32.1	56.1	75.4	33.3	32.7	34.9	31.9
1900	34.2	32.0	56.7	76.0	33.2	32.7	34.9	31.7
2000	34.2	32.2	57.3	76.7	33.2	32.7	34.9	31.7
2100	34.1	32.2	58.2	77.4	33.1	32.5	34.9	31.7
2200	34.2	32.2	58.7	78.2	33.2	32.6	34.9	31.7
2300	34.2	32.2	59.4	78.7	33.2	32.5	34.9	31.7
2400	34.3	32.1	59.9	79.3	33.2	32.7	34.9	31.7

TABLE 27

HOURLY WATER TEMPERATUR (°F) DATA,

QUAD-CITIES STATION, FEBR Y 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.3	32.3	60.2	80.2	33.2	32.5	34.9	31.6
0200	34.2	32.0	60.8	80.6	33.0	32.4	34.9	31.5
0300	34.3	35.9	61.1	80.5	33.1	32.5	34.8	31.4
0400	34.2	32.5	61.4	80.2	33.0	32.5	34.9	31.4
0500	34.2	35.6	61.7	81.8	33.0	32.5	35.0	31.4
0600	34.2	36.2	61.9	82.5	33.1	32.5	34.9	31.4
0700	34.2	36.2	62.2	82.7	33.0	32.5	34.9	31.4
0800	34.2	36.5	62.4	82.5	33.1	32.6	35.0	31.4
0900	34.3	37.0	63.0	82.8	33.1	32.7	35.0	31.5
1000	34.4	35.5	63.6	82.6	33.3	32.7	35.0	31.7
1100	34.6	37.0	64.2	83.3	33.4	32.9	35.2	31.9
1200	34.7	38.5	64.5	84.0	33.5	33.0	35.3	32.1
1300	34.7	37.7	65.2	84.2	33.8	33.0	35.4	32.3
1400	34.8	38.0	65.8	84.7	33.9	33.2	35.6	32.5
1500	34.8	37.7	66.1	84.9	33.9	33.2	35.6	32.6
1600	34.9	38.1	66.7	86.2	33.9	33.2	35.8	32.8
1700	34.9	37.9	66.9	86.5	34.0	33.3	35.8	32.8
1800	34.8	33 1	67.2	86.8	34.0	33.3	35.7	32.8
1900	34.7	36.2	67.8	87.1	33.9	33.2	35.7	32.8
2000	34.7	32.8	68.1	87.4	33.7	33.2	35.7	32.8
2100	34.7	36.5	68.2	87.9	33.7	33.1	35.7	32.7
2200	34.7	36.8	68.2	87.7	33.6	33.6	35.6	32.6
2300	34.7	38.9	68.3	87.7	33.6	33.5	35.6	32.6
2400	34.8	37.8	68.6	87.8	33.7	33.4	35.6	32.5

TABLE 28

HOURLY WATER TEMPERATURE (°F) DATA,

QUAD-CITIES STATION, FEBRUARY 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.7	37.8	68.6	88.8	33.8	33.4	35.6	32.5
0200	34.7	38.8	68.7	88.0	33.7	33.2	35.7	32.3
0300	34.7	36.3	68.8	87.8	33.8	33.3	35.6	32.2
0400	34.8	32.8	68.8	87.9	33.8	33.3	35.7	32.1
0500	34.8	35.2	68.8	87.9	33.8	33.2	35.7	32.0
0600	34.7	35.0	68.8	87.8	33.8	33.1	35.7	31.[illegible]
0700	34.7	37.6	68.8	87.8	33.7	33.1	35.7	31.[illegible]
0800	34.7	36.3	68.8	88.0	33.7	33.1	35.7	32.0
0900	34.7	35.0	68.7	87.8	33.7	33.2	35.7	31.9
1000	34.9	36.5	68.8	87.7	33.8	33.4	35.8	32.1
1100	35.0	32.7	68.8	87.3	34.0	33.2	35.8	32.2
1200	35.1	36.3	68.9	87.7	34.2	33.3	35.9	32.3
1300	35.2	39.9	69.1	88.0	34.2	33.5	35.9	32.7
1400	35.3	41.9	69.0	88.3	34.5	33.7	36.0	33.0
1500	35.3	40.5	68.8	88.6	34.5	33.8	36.0	33.2
1600	35.2	36.7	68.8	89.0	34.4	33.6	36.0	33.3
1700	33.8	35.4	68.7	89.3	34.3	33.5	36.0	33.3
1800	33.5	39.3	68.7	89.2	34.0	33.3	35.9	33.2
1900	33.5	41.0	68.0	88.6	33.9	33.3	35.8	33.0
2000	33.4	37.2	68.0	88.5	33.6	33.1	35.7	32.9
2100	33.2	35.8	67.7	88.2	33.5	33.0	35.5	32.7
2200	33.3	33.9	67.3	88.2	33.5	33.0	35.5	32.5
2300	33.2	35.2	67.1	87.9	33.5	33.0	35.6	32.4
2400	33.3	34.8	66.9	87.7	33.5	33.0	35.5	32.0

TABLE 29

HOURLY WATER TEMPERATURE (°F) DATA,
QUAD-CITIES STATION, FEBRUARY 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.2	35.4	66.4	87.7	33.3	32.9	35.3	31.9
0200	33.2	35.5	66.0	87.3	33.3	32.9	35.6	31.9
0300	33.2	37.2	65.6	86.7	33.3	32.9	35.4	31.8
0400	33.2	35.6	65.1	86.5	33.3	32.9	35.4	31.7
0500	33.1	35.8	64.4	85.6	33.3	32.8	35.3	31.7
0600	33.2	35.7	63.8	84.9	33.3	32.8	35.4	31.7
0700	33.2	35.7	63.2	84.5	33.3	32.9	35.4	31.7
0800	33.2	36.0	62.8	84.0	33.4	32.9	35.4	31.7
0900	33.2	35.9	62.8	84.0	33.5	33.0	35.5	31.7
1000	33.2	33.8	62.2	82.1	33.7	33.3	35.6	31.9
1100	33.2	35.3	61.9	82.8	33.7	33.2	35.7	31.9
1200	33.4	34.4	62.0	82.6	33.7	33.2	35.7	32.1
1300	33.5	32.7	62.2	82.3	33.8	33.2	35.8	32.2
1400	33.5	32.8	62.2	83.0	33.8	33.2	35.7	32.3
1500	33.4	34.5	62.2	83.7	33.7	33.2	35.7	32.3
1600	33.2	35.6	62.0	83.6	33.7	33.2	35.6	32.3
1700	33.2	35.1	61.9	83.4	33.6	33.4	35.5	32.3
1800	33.2	34.8	61.7	82.1	33.6	33.4	35.5	32.2
1900	33.1	34.1	61.3	82.4	33.4	33.3	35.4	32.1
2000	33.0	36.0	60.9	82.5	33.5	33.3	35.5	32.1
2100	33.2	34.7	61.2	82.2	33.6	33.2	35.4	32.0
2200	33.2	32.7	61.5	82.0	33.6	33.4	35.4	31.8
2300	33.2	32.3	61.8	82.5	33.7	33.1	35.4	31.8
2400	33.2	33.3	61.5	82.8	33.7	33.0	35.5	31.9

TABLE 30

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.2	34.2	61.4	82.7	33.5	33.0	35.7	31.8
0200	33.3	34.4	61.6	82.4	33.6	33.2	35.6	31.7
0300	33.3	35.3	61.1	82.2	33.6	33.5	35.4	31.7
0400	33.3	35.6	60.7	82.1	33.5	33.5	35.5	31.7
0500	33.3	34.8	60.4	81.9	34.9	33.4	35.4	[4]
0600	33.2	34.6	60.3	81.7	[4]	33.3	35.5	
0700	33.2	33.0	60.5	81.7		33.3	35.4	
0800	33.2	34.1	60.4	81.6		33.1	35.3	
0900	33.2	32.4	60.3	81.5		33.0	35.2	
1000	33.2	32.2	60.2	81.5		33.1	35.2	
1100	33.3	32.3	60.4	81.3		33.2	35.4	
1200	33.4	32.4	60.9	81.7		33.3	35.5	
1300	33.4	32.6	61.6	81.8		33.4	35.6	
1400	33.6	32.7	61.9	82.1		33.6	35.7	
1500	33.6	32.7	62.3	82.7		33.6	35.8	
1600	33.6	32.7	62.5	82.9		33.5	35.8	
1700	33.6	32.6	62.8	83.5		33.5	35.8	
1800	33.4	32.5	63.1	83.6		33.4	35.7	
1900	33.3	33.6	63.0	83.4		33.3	35.7	
2000	33.3	35.0	63.0	83.5		33.3	35.7	
2100	33.3	32.3	62.9	83.3		33.2	35.7	
2200	33.3	32.2	63.0	83.3		33.3	35.5	
2300	33.3	32.3	63.0	81.7		33.2	35.6	
2400	33.3	32.2	63.0	78.2		33.3	35.6	

[4] Sensor malfunction - no data

TABLE 31

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.4	32.1	62.8	76.3		33.3	35.5	
0200	33.3	32.2	62.7	76.1		33.2	35.5	
0300	33.3	32.2	62.4	76.1		33.0	35.4	
0400	33.2	32.1	62.0	75.4		33.0	35.4	
0500	33.1	32.0	61.6	75.4		33.0	35.2	
0600	33.1	32.0	61.3	75.3		33.0	35.2	
0700	33.1	32.0	59.5	75.0		33.0	35.2	
0800	33.1	32.0	58.9	74.5		32.9	35.2	
0900	33.1	32.0	57.5	73.0		32.8	35.3	
1000	33.2	32.1	58.3	73.0		32.7	35.5	
1100	33.2	32.2	58.5	74.3		32.8	35.5	
1200	33.3	32.3	58.8	74.3		32.9	35.9	
1300	33.3	32.4	59.5	75.0		33.0	35.8	
1400	33.3	32.4	60.0	75.5		32.9	35.8	
1500	33.3	32.4	59.9	76.1		32.8	35.9	
1600	33.3	32.4	59.6	76.1		32.9	35.9	
1700	33.2	32.4	59.4	76.2		32.9	35.6	
1800	33.1	32.2	59.8	76.6		32.8	35.4	
1900	33.1	32.2	60.0	76.8		32.9	35.6	
2000	33.1	32.2	59.8	77.0		32.7	35.4	
2100	33.0	32.0	60.0	76.7		32.7	35.5	
2200	33.0	32.0	59.7	77.3		32.6	35.4	
2300	33.0	31.9	59.5	77.3		32.7	35.4	
2400	33.0	31.9	59.0	77.3		32.7	35.3	

TABLE 32

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.0	31.9	58.9	77.3		32.7	35.3	
0200	33.0	32.0	59.0	77.3		32.7	35.3	
0300	33.0	32.0	59.4	77.6		32.7	35.3	
0400	33.0	32.0	59.4	77.8		32.7	35.3	
0500	32.8	32.0	59.5	77.6		32.7	35.3	
0600	32.9	32.0	59.8	78.5		32.7	35.2	
0700	33.0	32.0	59.9	78.5		32.7	35.4	
0800	33.0	32.0	60.0	78.7		32.7	35.3	
0900	33.0	32.1	60.0	79.0		32.7	35.5	
1000	33.1	32.1	59.8	79.0		32.8	35.5	
1100	33.5	32.6	60.5	80.0		33.0	35.7	
1200	33.6	32.7	60.8	80.4		33.2	35.8	
1300	33.5	32.7	61.5	80.9		33.3	36.0	
1400	33.7	33.0	62.6	81.7		33.0	36.1	
1500	33.7	33.0	63.5	83.2		33.3	36.1	
1600	33.7	33.0	63.7	84.2		33.3	36.2	
1700	33.6	32.9	64.0	83.9		33.3	36.1	
1800	33.5	32.7	64.7	84.3		33.2	35.9	
1900	33.4	32.5	65.2	84.7		33.0	35.9	
2000	33.2	32.4	65.8	85.0		33.0	35.8	
2100	33.1	32.3	66.4	85.7		32.9	35.8	
2200	33.1	32.3	67.2	86.0		33.0	35.8	
2300	33.1	32.2	68.1	86.5		33.0	35.8	
2400	33.1	32.2	68.1	86.6		32.9	35.8	

TABLE 33

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MARCH 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.1	32.2	68.2	86.6		32.7	35.8	
0200	33.1	32.2	68.3	80.2		32.7	35.8	
0300	33.0	32.1	68.7	83.7		32.7	35.8	
0400	33.1	32.1	69.0	86.3		33.0	35.9	
0500	33.0	32.1	69.2	86.7		32.9	35.9	
0600	33.1	32.2	69.5	87.2		33.0	36.0	
0700	33.1	32.3	69.7	87.2		33.0	36.0	
0800	33.2	32.5	69.7	87.8		32.9	36.0	
0900	33.2	32.3	69.7	88.2		33.2	36.0	
1000	33.2	32.5	68.5	87.5		33.3	36.0	
1100	33.5	32.6	69.5	86.5		33.2	36.0	
1200	33.3	32.7	70.5	88.0		33.2	36.0	
1300	33.6	32.8	71.2	88.7		33.3	36.2	
1400	33.6	33.0	71.5	89.0		33.5	36.4	
1500	33.7	33.2	71.9	89.4		33.6	36.6	
1600	33.6	33.2	71.9	89.2		33.5	36.5	
1700	33.6	33.1	71.8	89.6		33.6	36.1	
1800	33.4	33.0	71.2	89.5		33.2	36.1	
1900	33.3	32.7	71.0	88.6		33.0	35.9	
2000	33.7	32.8	71.0	88.6		33.3	36.0	
2100	34.8	32.4	71.0	89.0		33.0	35.7	
2200	33.1	32.4	71.0	88.9		32.9	35.9	
2300	32.5	32.2	70.8	88.6		32.7	36.0	
2400	32.5	32.2	70.6	88.5		33.0	36.0	

TABLE 34

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.0	32.2	70.5	88.4		32.9	36.0	
0200	32.7	32.2	70.1	88.1		32.9	36.1	
0300	32.9	32.2	69.5	87.3		32.8	35.7	
0400	33.2	32.2	68.9	87.2		32.8	35.8	
0500	33.2	32.2	68.6	87.2		32.6	35.8	
0600	33.2	32.2	67.8	86.2		32.7	35.7	
0700	33.1	32.2	66.8	86.0		32.5	35.7	
0800	33.2	32.2	66.2	85.0		32.5	35.5	
0900	33.2	32.2	65.8	84.3		32.7	35.6	
1000	33.2	32.2	65.1	84.1		32.8	35.7	
1100	33.3	32.2	64.7	83.7		32.8	35.5	
1200	33.5	32.4	64.6	83.6		33.1	35.6	
1300	33.6	32.5	64.4	83.7		33.1	35.9	
1400	33.7	32.7	64.3	83.3		33.2	36.0	
1500	33.6	32.7	64.0	83.6		33.2	35.9	
1600	33.6	32.7	63.4	83.3		33.2	35.9	
1700	33.5	32.6	63.0	83.4		32.9	35.9	
1800	33.3	32.4	62.8	82.9		32.7	35.7	
1900	33.1	32.2	62.8	83.1		32.7	35.5	
2000	33.0	32.2	62.5	82.8		32.6	35.5	
2100	33.0	32.0	62.7	82.8		32.7	35.5	
2200	33.0	31.9	63.1	82.7		32.5	35.3	
2300	33.1	31.9	63.4	83.0		32.9	35.5	
2400	33.1	31.9	63.3	83.0		32.4	35.6	

TABLE 35

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.1	32.1	63.3	83.3		32.4	35.6	
0200	33.0	32.0	63.4	83.2		32.3	35.6	
0300	33.3	32.0	63.7	83.3		32.6	35.6	
0400	33.1	32.1	63.8	83.6		32.6	35.5	
0500	33.1	32.1	63.7	83.6		32.9	35.6	
0600	33.1	32.1	62.9	84.0		33.0	35.6	
0700	33.1	32.1	64.2	84.3		33.0	35.5	
0800	33.1	32.1	64.5	84.4		32.6	35.8	
0900	32.9	32.2	64.1	84.6		32.9	35.6	
1000	33.0	32.3	64.2	84.2		32.5	35.6	
1100	33.0	32.2	64.2	84.2		33.0	35.5	
1200	33.1	32.4	64.5	84.3		33.0	35.8	
1300	33.1	32.5	64.5	84.3		32.8	35.9	
1400	33.2	32.6	65.0	84.7		32.9	36.0	
1500	33.2	32.7	65.5	85.0		33.0	36.0	
1600	33.2	32.6	66.1	85.2		33.3	36.0	
1700	33.4	32.7	66.5	85.6		32.8	36.1	
1800	33.2	32.7	67.0	86.0		32.8	36.0	
1900	33.3	32.6	67.4	85.7		33.1	36.0	
2000	33.2	32.6	67.8	86.5		32.9	36.1	
2100	33.1	32.6	67.8	86.4		32.5	36.1	
2200	33.1	32.5	68.0	86.0		32.9	36.1	
2300	33.1	32.4	68.1	86.1		33.0	36.2	
2400	33.1	32.5	68.4	86.2		32.9	36.0	

TABLE 36

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.1	32.5	68.5	87.1		32.9	35.9	
0200	33.2	32.5	68.8	87.2		32.9	36.1	
0300	33.2	32.9	68.7	87.1		33.0	36.2	
0400	33.1	32.5	68.6	87.6		32.9	36.1	
0500	33.1	32.4	68.5	87.6		33.0	36.0	
0600	33.1	32.5	68.4	87.3		33.0	36.1	
0700	33.0	32.4	68.1	87.2		33.0	35.9	
0800	33.0	32.5	68.4	87.0		33.0	36.0	
0900	33.0	32.3	68.2	87.2		33.0	36.0	
1000	32.9	32.2	68.2	87.3		32.5	35.8	
1100	33.0	32.3	68.2	86.9		32.9	35.8	
1200	33.0	32.4	68.2	86.7		33.0	35.8	
1300	33.1	32.5	68.0	87.0		32.9	35.8	
1400	33.1	32.5	67.8	86.3		32.7	35.8	
1500	33.2	32.6	67.8	86.7		33.0	36.0	
1600	33.1	32.5	67.7	86.2		32.9	36.0	
1700	33.2	32.6	68.2	86.5		32.9	36.0	
1800	33.1	32.6	68.1	86.7		32.9	36.0	
1900	33.1	32.5	68.1	86.3		33.0	36.0	
2000	33.1	32.5	68.5	82.0		33.1	36.1	
2100	33.2	32.5	68.4	82.0		33.0	36.0	
2200	33.1	32.6	68.6	82.0		33.0	36.1	
2300	33.0	32.5	68.5	82.1		33.0	36.0	
2400	33.0	32.5	68.5	82.0		33.0	36.0	

TABLE 37

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.0	32.4	68.5	87.0		32.8	36.0	
0200	33.0	32.4	68.6	86.9		32.6	36.1	
0300	33.0	32.3	68.2	86.7		32.9	35.9	
0400	33.0	32.3	68.3	86.5		32.9	35.9	
0500	33.1	32.3	68.2	86.3		32.7	36.0	
0600	33.1	32.3	68.2	86.6		32.8	36.1	
0700	33.1	32.3	68.4	87.1		33.1	36.1	
0800	33.1	32.3	68.5	86.7		32.8	36.0	
0900	33.2	32.3	68.4	86.7		32.8	36.0	
1000	33.2	32.3	68.7	86.5		33.1	36.0	
1100	33.5	32.6	68.7	85.5		32.8	36.1	
1200	33.6	32.8	68.7	83.6		33.3	36.4	
1300	34.0	33.2	68.8	82.7		33.4	36.4	
1400	34.1	33.4	68.7	82.6		33.5	36.4	
1500	34.2	33.6	68.7	82.7		33.8	36.5	
1600	34.0	33.8	68.3	82.7		33.3	36.6	
1700	33.8	33.7	68.2	82.8		33.7	36.7	
1800	33.6	33.5	67.9	82.5		33.4	36.6	
1900	33.4	33.1	67.5	82.7		33.0	36.3	
2000	33.3	32.9	66.8	82.3		33.0	36.1	
2100	33.2	32.4	65.3	81.1		32.9	35.9	
2200	33.1	32.3	65.0	80.8		32.5	36.0	
2300	33.0	32.2	64.9	80.4		33.2	36.0	
2400	33.0	32.1	64.7	80.2		32.8	35.7	

TABLE 38

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.0	32.1	64.6	77.2		32.6	35.9	
0200	32.9	32.1	64.6	77.2		32.9	35.6	
0300	33.0	32.1	64.6	78.0		32.4	35.8	
0400	32.9	32.1	64.5	78.1		32.3	35.6	
0500	32.9	32.0	64.0	77.9		32.4	35.7	
0600	32.9	32.1	63.6	78.4		32.3	35.6	
0700	32.9	32.1	63.2	78.7		32.3	35.5	
0800	32.9	32.1	63.1	78.9		32.7	35.6	
0900	33.0	32.2	62.7	79.0		32.5	35.6	
1000	33.1	32.3	62.2	79.3		32.8	35.6	
1100	33.3	32.5	62.7	82.7		32.8	35.8	
1200	33.3	32.7	63.2	83.7		32.8	35.9	
1300	33.4	35.5	63.5	84.8		33.3	35.8	
1400	33.4	33.6	63.9	84.8		33.0	35.9	
1500	33.4	33.1	64.7	85.7		33.3	35.9	
1600	33.5	33.6	65.6	86.5		33.0	36.0	
1700	33.5	33.2	65.8	87.2		33.6	36.0	
1800	33.4	33.0	67.1	86.7		33.2	36.4	
1900	33.4	32.9	68.8	87.1		33.1	36.4	
2000	33.2	32.7	69.8	88.6		33.4	36.3	
2100	33.2	32.7	70.3	89.2		32.9	36.2	
2200	33.2	32.5	70.6	89.5		33.2	36.2	
2300	33.2	32.5	71.0	90.1		33.0	36.1	
2400	33.1	34.8	71.2	90.5		32.9	36.0	

TABLE 39

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.1	39.5	71.3	91.2		32.7	36.1	
0200	33.1	38.3	71.0	90.9		32.9	36.0	
0300	33.1	32.3	71.4	90.8		33.0	36.1	
0400	33.0	33.2	71.9	91.4		32.9	36.2	
0500	33.0	32.4	72.3	91.3		32.8	36.0	
0600	33.0	36.0	72.5	91.1		32.6	36.1	
0700	33.1	32.3	72.4	90.9		32.8	35.9	
0800	33.1	32.3	72.8	90.8		32.8	36.0	
0900	33.1	32.5	72.8	90.7		32.8	36.0	
1000	33.4	32.7	72.3	90.1		33.5	36.0	
1100	33.5	32.8	71.4	87.3		33.1	36.1	
1200	33.7	33.1	70.8	85.2		33.2	36.0	
1300	33.8	33.2	69.3	85.7		33.5	36.0	
1400	33.9	33.3	67.2	84.3		33.2	36.1	
1500	33.8	33.3	65.2	81.9		33.4	36.2	
1600[2/]	33.8	33.2	63.8	81.1		33.2	33.2	
1700	33.7	32.9	62.7	80.3		33.4	33.3	
1800	33.6	32.6	61.6	78.7		33.1	33.2	
1900	33.4	32.2	60.8	79.2		32.8	32.9	
2000	33.1	31.9	59.9	78.2		32.8	33.0	
2100	33.1	31.8	59.3	77.6		32.7	32.7	
2200	33.0	31.9	59.3	77.7		32.5	32.6	
2300	33.1	31.8	58.9	78.2		32.6	32.6	
2400	33.0	31.8	58.5	79.2		32.5	32.6	

[2/] Instruments zeroed to ground truth data.

TABLE 40

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.0	31.8	58.7	76.7		32.4	33.6	
0200	33.0	31.8	58.7	58.2		33.1	33.3	
0300	33.0	31.8	58.2	57.2		33.2	33.4	
0400	32.9	31.[illegible]	57.7	57.0		32.8	33.3	
0500	32.8	31.[illegible]	57.8	57.3		33.1	33.2	
0600	33.0	38.0	58.5	64.3		32.4	31.9	
0700	33.0	39.3	59.6	80.2		32.4	32.9	
0800	33.0	32.6	59.6	79.5		32.5	32.8	
0900	33.2	32.1	52.0	75.6		32.9	32.9	
1000	33.3	32.2	49.0	71.4		33.0	32.9	
1100	33.5	32.5	48.5	70.7		33.1	32.9	
1200	33.7	32.9	49.2	69.3		33.2	33.1	
1300	33.8	33.1	50.0	69.7		33.5	33.4	
1400	34.0	33.3	60.7	73.9		33.8	33.4	
1500	34.0	33.3	64.5	80.6		33.6	33.7	
1600	34.1	33.5	64.3	81.2		33.9	33.8	
1700	34.0	33.4	61.8	80.0		33.5	33.5	
1800	33.8	33.2	60.0	78.5		33.6	33.6	
1900	33.7	33.2	59.3	77.6		33.5	33.4	
2000	33.5	32.9	58.6	75.2		33.2	33.2	
2100	33.5	32.8	58.6	73.4		33.1	32.9	
2200	33.4	32.7	61.1	73.9		33.0	32.8	
2300	33.3	32.6	64.9	77.7		33.0	32.8	
2400	33.2	32.5	64.0	77.2		32.9	32.7	

TABLE 41

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.3	32.5	63.3	77.0		32.9	32.6	
0200	33.2	32.5	62.1	75.4		32.8	32.4	
0300	33.2	32.5	61.2	75.4		32.8	32.5	
0400	33.2	32.5	59.8	74.8		32.6	32.4	
0500	33.0	32.4	58.0	73.9		32.7	32.6	
0600	33.0	32.4	57.0	73.3		32.6	32.4	
0700	33.0	32.2	57.5	72.8		32.6	32.3	
0800	33.0	32.3	57.3	73.3		32.8	32.4	
0900	33.0	32.3	57.2	74.2		32.8	32.3	
1000	33.2	32.5	56.7	75.2		32.8	32.4	
1100	33.2	32.7	56.5	74.5		32.9	32.6	
1200	33.3	32.9	56.6	73.6		33.0	32.8	
1300	33.5	33.2	56.4	73.6		33.4	33.0	
1400	33.6	33.3	56.4	74.8	31.4[6/]	33.1	33.0	
1500	33.8	33.6	57.1	75.4	31.4	33.3	33.3	
1600	34.0	33.8	57.8	75.4	31.6	33.5	33.5	
1700	33.9	33.7	58.6	76.9	31.6	33.6	33.5	
1800	33.7	33.6	58.8	77.0	31.5	33.6	33.4	
1900	33.7	33.5	58.2	76.9	31.4	33.5	33.5	
2000	33.7	33.3	58.2	76.7	31.4	33.4	33.4	
2100	33.6	33.2	58.2	76.0	31.3	33.5	33.4	
2200	33.7	33.1	58.6	76.0	31.3	33.5	33.3	
2300	33.7	33.1	59.0	76.7	31.3	33.4	33.4	
2400	33.6	33.0	59.8	78.3	31.8	33.3	33.3	

[6/] Sensor repaired by I.M., however, data not valid until ground [illegible]ith data is obtained.

TABLE 42

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.6	33.0	60.3	76.0	31.3	33.3	33.2	
0200	33.6	33.0	60.8	74.5	31.2	33.3	33.2	
0300	33.6	33.0	60.8	74.0	31.2	33.3	33.2	
0400	33.6	33.0	60.5	74.0	31.3	33.3	33.0	
0500	33.6	32.9	60.3	74.8	31.2	33.3	33.2	
0600	33.6	32.9	60.3	75.5	31.2	33.0	33.0	
0700	33.6	32.8	60.5	75.7	31.2	33.3	33.2	
0800	33.6	32.8	61.0	75.8	31.2	33.5	33.2	
0900	33.6	32.8	60.8	75.2	31.1	33.4	33.3	
1000	33.5	33.1	60.7	75.9	31.1	33.2	33.2	
1100	33.6	33.0	60.2	75.7	31.2	33.3	33.3	
1200	33.7	33.1	60.2	75.8	31.2	33.3	33.2	
1300	33.8	33.2	60.4	76.5	31.4	33.3	33.3	
1400	33.6	33.3	60.9	77.2	31.5	33.6	33.6	
1500	33.9	33.4	61.3	78.1	31.6	33.7	33.6	
1600	33.9	33.3	61.2	80.0	31.6	33.4	33.4	
1700	34.0	33.3	61.5	81.0	31.5	33.3	33.7	
1800	33.8	33.2	61.3	80.8	31.5	33.5	33.6	
1900	33.6	33.0	61.1	81.3	31.2	33.3	33.5	
2000	33.5	32.8	61.5	81.2	31.1	33.2	33.3	
2100	33.3	32.7	62.2	81.5	31.0	33.0	33.2	
2200	33.2	32.6	62.5	82.0	30.9	33.2	33.3	
2300	33.4	32.5	63.3	82.8	30.9	33.3	33.3	
2400	33.3	32.5	64.3	83.5	30.9	33.1	33.1	

TABLE 43

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.3	32.5	64.7	83.8	30.8	32.8	33.0	
0200	33.3	32.5	64.8	84.5	30.8	33.1	33.2	
0300	33.3	32.5	64.9	84.3	30.8	33.2	33.1	
0400	33.3	32.6	64.9	84.3	30.7	32.9	33.2	
0500	33.3	32.4	65.2	84.7	30.9	33.0	33.0	
0600	33.3	32.4	65.9	83.7	30.8	33.0	33.2	
0700	33.3	32.4	65.7	84.5	30.7	33.2	33.2	
0800	33.3	32.4	66.0	85.1	30.9	33.0	33.2	
0900	33.3	32.6	66.7	86.2	31.0	33.4	33.2	
1000	33.6	32.8	67.2	86.8	31.2	33.6	33.3	
1100	33.9	33.1	67.8	86.7	31.5	33.9	33.5	
1200	33.9	35.0	68.2	87.2	31.7	33.9	33.5	
1300	34.2	35.8	68.7	88.7	31.9	34.0	33.7	
1400	34.3	34.4	70.0	89.1	32.2	30.1[3/]	33.8	
1500	34.3	34.4	71.0	89.4	32.3	34.0	34.0	
1600	34.7	34.8	71.8	90.2	32.4	30.8	34.2	
1700	34.5	34.8	72.5	90.6	32.4	31.2	34.3	
1800	34.2	35.1	72.7	90.7	32.2	31.7	34.2	
1900	34.0	35.0	72.8	90.3	31.9	31.9	33.9	
2000	33.8	34.3	73.2	91.2	31.6	31.8	33.9	
2100	33.6	35.7	73.1	90.5	31.4	31.5	33.6	
2200	33.3	33.1	72.9	88.9	31.1	31.2	33.5	
2300	33.3	32.8	72.5	86.7	31.0	31.3	33.3	
2400	33.3	32.8	72.3	86.5	30.9	30.8	33.2	

[3/] Probable sensor malfunction data not used in calculating after 1300 hrs.

TABLE 44

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	33.3	32.7	72.2	86.7	30.9	[4]	33.2	
0200	33.2	32.7	71.7	86.2	30.8		33.0	
0300	33.1	32.7	71.5	86.2	30.8		33.1	
0400	33.2	32.8	71.4	85.8	30.8		32.9	
0500	33.1	32.7	71.2	85.5	30.8		33.1	
0600	33.1	32.7	70.0	85.2	30.7		33.0	
0700	33.2	32.8	69.0	84.5	30.7		32.9	
0800	33.2	32.8	68.7	83.9	30.8		32.9	
0900	33.2	32.8	68.7	83.9	30.9		32.9	
1000	33.4	33.1	69.1	83.8	31.0		33.1	
1100	33.6	33.6	69.6	83.9	31.4		33.2	
1200	33.8	34.0	70.0	84.2	31.7		33.4	
1300	34.2	34.7	70.7	85.5	32.0		33.4	
1400	34.3	35.0	71.3	88.3	32.2		33.5	
1500	34.3	37.2	71.7	88.[illegible]	32.3		33.8	
1600	34.5	35.7	72.1	89.8	32.3		34.0	
1700	34.4	35.7	72.5	90.2	32.4		34.0	
1800	34.3	35.3	72.6	90.2	32.2		33.8	
1900	34.1	41.3	72.9	89.6	32.0		33.6	
2000	34.0	34.3	73.1	90.5	31.9		33.6	
2100	33.8	34.2	74.3	90.7	31.6		33.3	
2200	33.7	33.9	74.8	91.3	31.5		33.2	
2300	33.7	37.8	74.8	90.6	31.6		33.7	
2400	33.7	36.0	74.8	87.5	31.4		34.0	

[4] Sensor malfunction - no data.

TABLE 45

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.0	33.7	74.7	88.3	31.6		33.7	
0200	33.9	34.6	74.3	87.2	31.7		33.8	
0300	33.9	33.9	74.3	86.0	31.7		33.8	
0400	34.1	37.3	74.7	86.9	31.8		33.8	
0500	34.1	35.8	75.0	88.5	31.9		33.6	
0600	34.1	40.0	75.0	88.9	31.9		33.2	
0700	34.1	34.5	73.5	88.5	31.8		33.4	
0800	34.0	34.2	73.4	88.2	31.8		33.3	
0900	34.0	34.0	73.2	87.7	31.7		33.7	
1000	35.9	40.1	72.5	88.2	31.7		33.7	
1100	34.4	34.1	73.0	88.0	31.7		33.5	
1200	33.9	36.2	73.8	89.0	31.6		33.3	
1300	33.9	40.2	74.4	89.9	31.6		33.4	
1400	33.9	37.7	74.8	90.7	31.7		33.4	
1500	34.1	37.0	74.9	90.7	31.9		33.3	
1600	34.2	34.7	75.1	90.6	32.0		33.2	
1700	34.1	34.5	75.7	90.2	32.0		33.3	
1800	34.2	34.5	75.5	90.2	32.0		33.3	
1900	34.3	34.5	75.5	89.2	32.1		33.2	
2000	34.2	34.3	75.5	89.7	32.1		33.3	
2100	34.2	34.1	75.3	89.9	32.1		33.4	
2200	34.2	33.9	74.7	88.4	32.1		33.5	
2300	34.3	33.8	74.1	87.3	32.1		33.5	
2400	34.4	33.6	73.3	86.4	32.0		33.4	

TABLE 46

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	34.3	33.5	72.7	86.2	32.2		33.4	
0200	34.3	33.6	72.2	86.0	32.0		33.2	
0300	34.3	33.5	71.7	85.9	32.1		33.1	
0400	34.5	33.8	71.5	84.6	32.2		33.0	
0500	34.5	33.9	71.7	86.9	32.2		33.1	
0600	34.0	33.5	70.7	87.4	32.2		32.8	
0700	33.9	33.4	69.8	87.2	31.3		32.5	
0800	33.9	33.4	69.2	86.7	31.3		32.5	
0900	33.8	33.3	68.9	86.3	31.3		32.4	
1000	33.7	33.3	68.7	86.5	31.2		32.4	
1100	33.7	33.5	68.4	86.0	31.2		32.3	
1200	33.9	33.8	68.4	85.9	31.2		32.4	
1300	33.9	33.9	69.1	86.7	31.7		32.5	
1400	34.4	34.4	69.5	87.2	32.1		33.0	
1500	34.6	34.5	69.4	86.8	32.3[7/]		33.2	
1600	34.7	34.3	69.4	86.9	32.4		33.2	
1700	34.7	34.2	69.5	86.6	32.4		33.1	
1800	34.5	34.0	69.3	86.3	32.3		33.1	
1900	34.5	34.0	68.8	86.7	32.2		33.1	
2000	34.4	33.8	69.0	86.5	32.1		33.0	
2100	34.3	33.6	69.2	86.5	32.1		32.9	
2200	34.1	33.6	69.3	86.4	31.8		32.8	
2300	34.0	33.5	69.4	86.7	31.8		32.7	
2400	34.0	33.4	69.5	86.8	31.6		32.7	

[7/] #8 adjusted to ground truth, found temperatures were accurate, i.e., temperatures retroactive to 3/12/80 are valid.

TABLE 47

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.9	33.3	69.4	86.7	31.7		32.6	
0200	33.8	33.3	70.0	86.3	31.6		32.7	
0300	33.7	34.4	70.0	86.7	31.2		32.5	
0400	34.5	34.2	70.1	87.2	31.2		32.3	
0500	33.6	33.6	70.2	87.3	31.2		32.5	
0600	33.4	32.9	70.2	86.9	31.2		32.3	
0700	33.5	32.9	70.3	87.2	31.0		32.3	
0800	33.5	32.9	70.6	87.3	31.0		32.3	
0900	33.2	32.8	70.6	87.5	30.9		32.1	
1000	33.4	33.1	71.1	87.5	31.1		32.2	
1100	33.6	40.0	72.0	87.8	31.4		32.5	
1200	34.2	34.2	72.7	89.1	31.8		32.9	
1300	34.4	35.6	73.3	89.4	32.2		33.2	
1400	34.8	35.6	73.8	89.7	32.4		33.5	
1500[2/]	32.6	34.2	71.0	96.0	32.6		33.5	
1600[6/]								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

[2/] Instrument zeroed to ground truth data.

[6/] Recorder turned off due to work at junction box.

TABLE 48

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100								
0200								
0300								
0400								
0500								
0600								
0700								
0800								
0900	31.8	33.2	71.1	93.5	32.8		33.1	
1000	31.7	33.4	71.0	93.6	32.[illegible]		33.1	
1100	31.8	33.5	71.1	95.2	32.0		33.2	
1200	32.0	33.6	71.8	95.0	32.1		33.4	
1300	32.0	33.9	72.0	95.7	32.2		33.4	
1400	32.1	33.8	72.0	95.9	32.5		33.6	
1500	32.3	34.1	72.0	96.0	32.6		33.6	
1600	32.5	34.3	72.0	95.4	32.7		33.8	
1700	32.6	34.[illegible]	71.7	94.7	33.1		33.9	
1800	32.7	34.3	72.6	95.1	32.9		33.9	
1900	32.6	34.2	73.0	95.5	33.1		33.9	
2000	32.7	34.6	73.5	96.4	33.0		33.9	
2100	32.5	38.3	73.7	96.7	32.9		33.7	
2200	32.5	37.0	73.9	96.5	32.8		33.6	
2300	32.4	33.7	73.5	96.7	32.8		33.6	
2400	32.3	34.0	73.1	96.4	32.6		33.5	

TABLE 49

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.2	35.6	73.0	96.6	32.5		33.4	
0200	32.2	34.2	73.4	96.4	32.4		33.3	
0300	32.0	33.6	73.5	96.4	32.5		33.2	
0400	31.9	34.2	74.0	96.7	32.1		33.2	
0500	31.9	39.2	74.1	97.2	32.2		33.2	
0600	31.8	37.5	74.2	97.3	32.1		33.2	
0700	31.7	35.4	74.2	97.1	31.9		33.2	
0800	31.7	34.7	74.5	97.0	32.0		33.0	
0900	31.7	34.4	74.8	96.7	32.0		33.0	
1000	32.0	33.9	74.9	97.2	32.1		33.2	
1100	32.0	40.6	75.1	97.4	32.1		33.4	
1200	31.9	36.2	75.6	98.0	32.1		33.4	
1300	32.2	40.0	75.8	97.5	32.4		33.4	
1400	32.3	35.5	75.6	97.7	32.5		33.4	
1500	32.3	33.9	75.5	97.2	32.5		33.5	
1600	32.3	33.8	75.2	96.5	32.5		33.4	
1700	32.3	33.6	74.7	96.0	32.5		33.4	
1800	32.3	33.7	74.5	95.8	32.6		33.4	
1900	32.3	33.6	74.4	95.7	32.7		33.3	
2000	32.1	33.5	74.2	95.5	32.6		33.4	
2100	32.0	33.5	73.6	95.5	32.5		33.3	
2200	31.9	33.2	73.3	94.8	32.5		33.2	
2300	31.8	33.0	72.5	94.5	32.4		32.9	
2400	31.7	32.9	72.1	94.6	32.4		32.9	

TABLE 50

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.6	32.7	71.8	94.0	32.0		32.9	
0200	31.4	32.6	71.3	93.5	32.0		32.7	
0300	31.4	32.5	71.0	93.9	31.8		32.8	
0400	31.3	32.3	70.8	94.1	31.8		32.8	
0500	31.3	32.0	70.5	93.6	31.8		32.8	
0600	31.2	32.3	70.0	93.6	31.8		32.8	
0700	31.2	32.2	69.5	93.4	31.7		32.8	
0800	31.2	32.2	69.3	93.6	31.7		32.9	
0900	31.3	31.9	69.0	92.6	31.7		32.8	
1000	31.3	33.1	68.8	93.0	32.1		32.9	
1100	31.5	32.3	68.7	93.0	32.5		33.1	
1200	31.8	33.0	68.7	92.8	32.6		33.4	
1300	32.0	32.9	68.7	93.4	33.0		33.5	
1400	32.2	33.2	68.7	93.1	33.0		33.7	
1500	32.5	33.1	68.7	92.9	33.1		33.8	
1600	32.6	33.1	68.3	92.4	33.5		33.8	
1700	32.8	33.2	68.7	93.0	34.0		33.9	
1800	32.9	33.5	68.9	92.9	34.9		33.9	
1900	32.8	33.6	68.8	93.1	34.3		33.8	
2000	32.6	33.2	68.6	93.0	34.7		33.6	
2100	32.5	33.2	68.9	93.4	34.4		33.4	
2200	32.3	33.2	68.8	93.1	33.9		33.4	
2300	31.9	33.2	68.9	93.4	33.4		33.3	
2400	31.4	32.9	68.7	93.3	32.1		32.9	

TABLE 51

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.3	32.6	68.8	93.3	32.0		33.0	
0200	31.3	33.2	68.8	93.2	32.1		33.0	
0300	31.4	32.3	69.0	93.4	32.4		33.2	
0400	31.3	32.4	68.7	93.3	32.1		33.6	
0500	31.4	32.0	68.8	93.5	32.4		33.4	
0600	31.6	32.4	68.9	93.5	32.7		33.3	
0700	31.6	32.3	68.8	92.1	32.8		33.2	
0800	31.4	32.2	68.8	92.5	32.7		33.1	
0900	31.4	32.3	68.8	92.5	32.7		33.1	
1000	31.4	32.4	69.0	92.7	32.5		33.1	
1100	31.4	32.7	69.1	93.2	32.6		33.0	
1200	31.7	33.5	69.2	93.3	33.1		33.2	
1300	31.9	34.2	69.7	93.3	33.3		33.4	
1400	32.1	33.3	69.4	72.7	33.5		33.3	
1500	32.2	34.5	69.9	96.5	33.9		33.5	
1600	32.3	39.4	70.4	95.7	33.9		33.5	
1700	32.3	39.3	70.4	95.2	34.1		33.6	
1800	32.5	35.7	70.4	94.6	34.6		33.8	
1900	32.4	35.7	70.3	93.6	34.1		33.9	
2000	32.3	35.0	70.5	93.9	34.2		33.8	
2100	32.3	34.8	62.3	92.0	34.3		33.9	
2200	32.3	33.5	68.6	89.2	34.3		33.9	
2300	32.3	33.7	71.4	94.6	34.4		33.9	
2400	32.3	34.0	70.8	93.2	34.4		34.1	

TABLE 52

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	35.1	70.5	91.8	34.4		34.0	
0200	32.3	36.3	70.0	91.8	34.5		33.9	
0300	32.5	35.3	69.7	89.9	34.5		34.0	
0400	32.6	34.7	67.7	89.4	34.6		34.0	
0500	32.5	34.6	67.6	87.7	34.8		33.9	
0600	32.5	33.8	69.8	89.0	34.7		33.6	
0700	32.4	34.5	68.8	89.9	34.9		33.6	
0800	32.3	34.0	68.8	89.8	34.6		33.4	
0900	32.2	34.2	69.1	90.0	34.4		33.4	
1000	32.2	33.6	69.0	89.9	34.5		33.2	
1100	32.2	34.2	69.2	90.1	34.7		33.3	
1200	32.2	33.7	68.8	90.0	34.6		33.3	
1300	32.3	34.8	69.5	90.5	34.8		33.4	
1400	32.4	34.0	70.7	91.3	36.5		33.5	
1500	32.4	34.1	71.2	91.8	39.9[3/]		33.5	
1600	32.4	34.4	71.5	93.0	38.1		33.6	
1700	32.4	34.6	71.5	93.1	39.1		33.6	
1800	32.4	34.7	71.6	93.4	44.4		33.6	
1900	32.3	34.5	71.5	93.8	42.1		33.6	
2000	32.3	34.3	71.0	93.5	45.6		33.8	
2100	32.3	33.7	70.5	92.5	45.9		33.9	
2200	32.3	33.5	70.4	92.5	49.6		34.0	
2300	32.5	33.5	70.3	92.8	50.0		34.0	
2400	32.5	33.5	70.0	92.7	41.9		34.0	

[3/] Probable sensor malfunction data not used in calculations after 1400 hrs.

TABLE 53

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.6	33.5	69.7	92.4	[4]		34.1	
0200	32.6	33.4	69.3	92.6			34.1	
0300	32.7	33.5	69.1	92.6			34.1	
0400	34.4	33.7	68.0	92.2			34.0	
0500	34.6	33.7	67.4	91.5			34.5	
0600	34.2	33.8	67.0	90.8			34.4	
0700	34.0	33.8	66.8	91.0			34.3	
0800	33.8	33.8	66.4	91.2			34.4	
0900	33.6	33.2	65.8	91.4			34.0	
1000	33.3	33.3	66.5	92.0			34.0	
1100	33.5	33.5	66.6	92.3			34.2	
1200	33.6	33.6	66.6	92.4			34.1	
1300	32.9	33.8	66.4	92.0			34.0	
1400	32.7	33.8	66.5	91.4			34.0	
1500 [2]	32.7	33.8	66.5	91.3			34.0	
1600 [2]	32.6	33.8	66.9	84.5		33.8	34.0	
1700	32.7	33.8	67.2	84.6		33.4	34.0	
1800	32.6	33.7	67.8	85.1		33.6	34.0	
1900	32.6	33.8	68.1	85.5		33.6	33.9	
2000	32.5	33.8	68.4	85.6		33.5	33.9	
2100	32.5	33.6	68.4	85.5		33.5	33.9	
2200	32.2	33.6	68.1	85.5		33.5	33.8	
2300	32.3	33.5	68.5	85.4		33.5	33.9	
2400	32.4	33.3	68.5	85.5		33.5	34.0	

[2] Instruments zeroed to ground truth data.

[4] Sensor malfunction - no data.

TABLE 54

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	33.5	68.6	85.7		33.5	34.0	
0200	32.2	33.3	69.0	85.9		33.5	34.0	
0300	32.2	33.3	69.0	86.2		33.4	33.8	
0400	32.1	33.2	68.9	85.9		33.2	33.7	
0500	32.1	33.3	68.7	85.9		33.2	33.6	
0600	32.0	33.4	68.6	86.0		33.4	33.5	
0700	31.9	34.2	68.4	85.9		33.2	33.4	
0800	32.0	33.2	68.5	85.7		33.3	33.5	
0900	32.1	33.4	69.0	86.2		33.4	33.5	
1000	32.1	33.5	69.5	86.1		33.5	33.5	
1100	32.2	33.6	69.8	86.4		33.4	33.6	
1200	32.4	34.5	70.2	87.7		33.5	33.5	
1300	32.4	34.1	70.5	88.7		33.5	33.6	
1400	32.6	33.8	70.9	81.6		33.6	33.4	
1500	32.7	34.0	70.8	86.1		33.6	33.6	
1600	32.7	34.2	71.0	87.6		33.6	33.6	
1700	32.6	34.2	71.0	88.0		33.6	33.6	
1800	32.5	34.5	71.0	87.7		33.6	33.6	
1900	32.6	34.6	70.8	88.2		33.6	33.9	
2000	32.6	35.0	71.3	88.5		33.5	34.2	
2100	32.5	34.6	69.8	88.3		33.6	34.2	
2200	32.6	34.0	63.1	83.7		33.7	34.2	
2300	32.7	33.8	69.5	84.6		33.6	34.5	
2400	32.8	33.6	70.2	87.0		33.7	34.6	

TABLE 55

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	32.9	33.5	70.0	87.0		33.8	34.5	
0200	33.0	33.8	70.2	87.1		33.9	34.5	
0300	33.2	34.5	70.3	87.6		34.0	34.5	
0400	33.2	34.8	70.5	87.6		34.0	34.5	
0500	33.1	34.6	68.7	87.5		34.0	34.2	
0600	33.1	34.6	68.0	85.7		34.0	34.0	
0700	33.1	34.6	69.9	86.6		34.0	34.1	
0800	33.0	34.6	69.9	87.2		34.0	34.0	
0900	33.1	34.7	70.2	87.5		34.0	34.0	
1000	33.1	34.6	70.5	87.6		34.1	34.1	
1100	33.1	34.7	70.6	87.7		34.1	34.2	
1200	33.2	34.8	70.8	87.9		34.1	34.1	
1300	33.1	34.8	70.2	87.5		34.0	34.0	
1400	32.2	34.8	70.3	87.5		34.0	34.0	
1500	33.1	34.8	70.6	87.5		34.0	34.0	
1600	33.1	34.8	70.8	87.5		34.0	34.1	
1700	33.0	35.0	70.8	87.7		33.9	34.1	
1800	33.0	34.6	70.8	87.5		33.9	34.3	
1900	32.9	34.5	70.8	86.6		34.0	34.2	
2000	32.9	34.5	70.6	86.4		34.0	34.3	
2100	32.9	34.3	70.3	85.9		33.9	34.5	
2200	33.0	34.3	70.0	85.2		34.0	34.6	
2300	33.1	34.2	69.9	85.3		34.0	34.7	
2400	33.2	34.3	70.0	85.3		34.0	34.8	

TABLE 56

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	33.5	34.5	70.0	86.6		34.3	35.0	
0200	33.5	34.5	69.9	87.0		34.4	35.0	
0300	33.5	34.6	69.6	85.9		34.4	35.0	
0400	33.6	34.7	69.6	85.4		34.4	35.0	
0500	33.6	34.9	69.2	85.3		34.5	34.9	
0600	33.5	34.7	69.0	84.9		34.4	34.6	
0700	33.5	34.8	69.0	85.2		34.4	34.5	
0800	33.5	34.7	69.2	85.4		34.4	34.5	
0900	33.4	34.8	70.0	86.6		34.4	34.4	
1000	33.5	34.8	70.0	87.5		34.5	34.5	
1100	33.5	35.2	70.2	87.3		34.5	34.5	
1200	33.7	35.6	70.9	87.7		34.6	34.8	
1300	34.0	35.8	71.4	87.8		34.7	34.9	
1400	34.1	36.2	72.2	88.2		34.9	35.5	
1500	34.3	36.5	73.0	89.0		35.1	35.4	
1600	34.5	39.4	74.1	90.1		35.2	35.7	
1700	34.6	37.9	74.8	90.7		[4/]	35.9	
1800	34.5	37.6	75.0	90.8			35.8	
1900	34.6	37.0	75.1	90.6			35.9	
2000	34.6	37.5	75.0	90.8			36.0	
2100	34.6	40.0	74.8	90.7			36.1	
2200	34.7	39.8	74.9	90.9			36.5	
2300	34.8	39.5	75.0	91.0			36.8	
2400	35.0	39.1	75.2	91.1			37.1	

[4/] Sensor malfunction - no data.

TABLE 57

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	35.4	39.5	75.2	91.5			37.4	
0200	35.7	38.5	75.1	91.3			37.5	
0300	35.9	39.2	75.0	91.0			37.4	
0400	36.0	37.4	74.6	91.2			37.3	
0500	36.2	39.0	74.5	92.0			37.2	
0600	36.2	39.1	74.2	92.5			37.1	
0700	36.2	39.2	74.0	92.6			37.0	
0800	36.2	38.2	73.6	92.5			36.9	
0900	36.4	39.2	73.3	90.4			36.9	
1000	36.2	39.2	73.0	90.0			36.9	
1100	36.4	40.4	72.6	89.5			36.9	
1200	36.5	40.4	72.6	89.5			36.9	
1300	36.5	40.4	73.0	89.6			37.1	
1400[2/]	39.4	40.7	73.0	89.7	38.9[6/]		39.9	39.3[6/]
1500	39.5	40.0	72.8	89.9	38.9		39.9	39.4
1600	39.3	39.8	71.8	89.6	38.9		39.9	39.2
1700	39.4	40.0	71.5	86.9	38.9		39.9	39.4
1800	40.9	39.9	71.0	88.5	38.7		39.9	39.2
1900	40.6	39.9	70.7	88.5	38.6		40.0	39.2
2000	40.2	40.9	71.0	88.4	38.6		40.2	39.5
2100	39.4	40.6	71.0	88.9	38.5		40.3	39.6
2200	39.3	40.6	71.2	88.9	38.6		40.4	39.7
2300	39.2	40.0	71.4	87.3	38.7		40.6	39.8
2400	39.5	39.0	71.2	85.4	38.8		40.6	39.9

[2/] Instruments zeroed to ground truth data.

[6/] Sensor replaced and zeroed to ground truth.

TABLE 58

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.2	39.6	71.1	84.6	39.0		40.5	39.9
0200	40.1	40.6	71.4	82.6	39.1		40.5	39.9
0300	39.8	38.9	71.2	81.5	39.1		40.3	39.8
0400	39.5	39.4	71.2	81.6	39.2		40.3	39.8
0500	39.6	41.5	71.8	82.3	39.2		40.2	39.8
0600	39.6	39.2	71.5	82.5	39.1		40.2	39.6
0700	39.5	40.6	70.5	82.2	39.0		40.1	39.5
0800	39.5	39.9	69.8	81.9	38.9		40.0	39.3
0900	39.4	40.0	69.2	81.7	38.9		39.9	39.4
1000	39.3	40.8	68.5	81.0	38.8		39.8	39.3
1100	39.5	40.4	68.6	81.2	39.0		40.0	39.5
1200	39.7	41.6	69.2	81.5	39.1		40.2	39.7
1300	39.9	41.3	69.7	82.1	39.4		40.4	39.9
1400	40.1	41.7	70.0	82.1	39.5		40.5	40.1
1500	40.1	41.6	70.0	81.9	39.6		40.5	40.1
1600	40.0	40.4	70.1	82.0	39.7		40.7	40.2
1700	40.2	41.4	69.6	81.9	39.8		40.6	40.2
1800	40.2	42.0	69.5	82.5	39.8		40.6	40.2
1900	40.2	41.2	69.6	83.0	39.8		40.7	40.2
2000	40.0	41.8	69.6	82.9	39.5		40.7	40.1
2100	40.0	40.6	69.2	82.5	39.5		40.7	40.1
2200	40.0	40.0	68.5	82.0	39.3		41.0	40.1
2300	39.8	39.4	67.8	81.2	39.4		41.2	40.5
2400	40.0	39.2	67.5	81.0	39.5		41.5	40.6

TABLE 59

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.1	39.1	67.5	80.9	39.6		41.6	40.7
0200	40.2	39.1	67.2	81.5	39.7		41.5	40.8
0300	40.3	39.2	67.2	81.7	39.9		41.5	40.8
0400	40.4	39.0	66.8	82.2	39.9		41.4	40.7
0500	40.5	40.5	66.5	82.5	40.0		41.2	40.6
0600	40.6	40.6	66.0	83.1	40.1		41.0	40.6
0700	40.7	40.5	65.6	83.2	40.0		41.0	40.5
0800	40.5	41.4	65.5	83.3	40.1		40.8	40.4
0900	40.4	40.4	65.6	82.5	40.0		40.8	40.3
1000	40.2	40.2	66.2	82.4	39.8		40.6	40.2
1100	40.1	40.3	66.4	82.6	39.6		40.5	40.1
1200	40.0	40.2	66.4	82.9	39.6		40.6	40.0
1300	40.0	40.0	66.5	83.0	39.5		40.4	40.0
1400	40.0	40.0	66.2	83.0	39.3		40.5	39.9
1500	39.9	39.9	65.8	83.0	39.3		40.4	39.9
1600	39.8	39.7	65.5	82.9	39.3		40.4	39.8
1700	39.8	39.4	65.2	82.6	39.1		40.2	39.7
1800	40.1	39.4	65.5	82.7	39.1		40.4	39.6
1900	40.8	39.4	65.8	83.2	38.9		40.4	39.5
2000	40.5	39.2	65.9	83.2	38.8		40.4	39.5
2100	40.2	39.6	65.7	83.7	38.6		40.5	39.5
2200	39.9	38.9	65.6	83.6	38.5		40.7	39.8
2300	39.8	39.6	65.5	83.6	38.5		40.7	39.8
2400	39.5	39.5	65.6	84.4	38.6		41.0	39.8

TABLE 60

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

MARCH 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	39.5	39.5	66.1	84.6	38.6		41.0	39.9
0200	39.4	39.6	66.5	84.9	38.6		40.8	39.9
0300	39.5	39.0	67.0	85.1	38.6		40.9	39.9
0400	39.1	38.6	67.2	86.0	38.9		40.7	40.1
0500	39.2	38.6	67.8	86.2	38.9		40.7	40.0
0600	39.5	39.2	68.1	87.0	38.9		40.5	39.9
0700	39.4	39.8	68.5	87.9	38.9		40.4	39.9
0800	39.4	39.4	68.7	88.9	38.8		40.2	39.7
0900	39.5	39.7	69.1	89.8	39.0		40.2	39.6
1000	39.6	39.3	69.6	90.2	39.0		40.3	39.7
1100	39.6	39.6	70.4	91.2	39.2		40.5	39.9
1200	39.9	40.4	71.2	91.8	39.4		40.6	40.1
1300	39.6	41.3	71.1	91.1	39.4		40.3	39.9
1400	40.0	41.2	71.8	90.9	39.5		40.5	40.1
1500	40.1	41.5	72.6	91.6	39.7		40.7	40.3
1600	40.4	41.0	73.6	92.7	40.0		41.0	40.5
1700	40.5	40.5	74.1	93.7	40.0		41.0	40.6
1800	40.6	40.6	74.5	94.0	40.0		41.0	40.6
1900	40.6	40.6	74.8	93.6	40.0		41.0	40.5
2000	40.5	40.5	74.9	93.6	39.9		41.0	40.4
2100	40.2	41.3	74.5	92.7	39.9		41.2	40.3
2200	40.1	41.9	74.2	93.0	39.9		41.4	40.5
2300	40.1	40.6	74.5	92.6	39.7		41.8	40.6
2400	40.2	40.6	74.9	92.7	39.8		42.0	40.9

TABLE 61

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.7	40.0	74.8	93.0	40.0	[4/]	42.6	41.4
0200	41.0	41.0	74.6	93.5	40.5		42.8	41.7
0300	41.2	41.2	74.2	92.5	40.6		42.9	42.8
0400	41.3	40.8	73.7	92.5	40.8		42.9	41.9
0500	41.5	40.3	73.8	92.7	41.0		42.5	41.9
0600	41.5	41.1	73.3	92.6	41.2		42.3	41.8
0700	41.6	42.3	73.5	92.8	41.2		42.1	41.7
0800	41.5	41.5	73.6	93.5	41.3		42.0	41.6
0900	41.7	41.2	74.2	93.8	41.5		42.0	41.6
1000	41.7	41.6	74.4	93.7	41.5		41.8	41.6
1100	41.9	42.2	74.6	93.9	41.5		41.7	41.7
1200	42.0	43.0	75.2	94.3	41.8		42.0	42.0
1300	42.4	44.3	75.6	94.7	42.0		42.1	42.1
1400	42.4	43.5	75.4	94.6	42.0		42.2	42.0
1500	42.5	43.3	75.2	94.2	42.0		42.1	42.0
1600	42.4	43.0	75.3	94.3	42.0		42.1	41.8
1700	42.2	42.8	75.0	94.3	41.8		42.2	41.7
1800	42.1	43.2	74.6	94.4	41.8		42.1	41.6
1900	42.0	43.8	74.5	94.3	41.6		42.0	41.5
2000	42.7	42.7	75.2	94.5	41.5		42.2	41.5
2100	44.2	42.5	75.2	94.8	41.3		42.4	41.4
2200	45.0	42.5	75.2	95.0	41.2		42.7	41.6
2300	43.9	42.5	75.3	95.0	41.2		43.1	41.8
2400	43.0	41.6	75.5	94.6	41.2		43.5	42.0

[4/] Sensor malfunction - no data

TABLE 62

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	43.0	41.8	75.8	95.4	41.3		43.7	42.4
0200	42.6	42.6	75.9	95.0	41.5		43.6	42.5
0300	42.6	41.9	75.9	95.0	41.6		43.9	42.8
0400	42.7	42.1	76.3	95.4	41.9		43.9	42.8
0500	42.9	42.2	76.2	95.4	42.0		43.8	43.0
0600	42.8	42.8	76.3	95.5	42.1		43.9	43.0
0700	42.5	42.2	76.1	95.6	42.2		43.8	42.9
0800	42.4	42.9	76.3	95.2	42.2		43.6	43.0
0900	42.4	44.0	76.2	95.3	42.4		43.1	43.0
1000	4/	42.8	76.5	95.2	4/		4/	4/
1100		42.6	76.8	95.1				
1200		43.0	77.0	95.5				
1300		43.2	76.7	95.5				
1400		43.7	76.6	96.0				
1500		43.2	76.2	95.2				
1600		43.5	76.5	95.2				
1700		43.3	76.5	95.0				
1800		43.4	76.6	95.1				
1900		43.5	76.8	94.5				
2000		43.0	77.0	94.4				
2100		43.1	77.2	94.5				
2200		43.6	77.2	95.0				
2300		43.7	76.8	94.7				
2400		43.5	76.1	94.1				

4/Sensor malfunction - no data

TABLE 63

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		43.7	75.5	90.5				
0200		44.0	75.0	89.2				
0300		43.0	74.5	89.7				
0400		43.3	74.0	90.4				
0500		43.6	74.1	92.0				
0600		43.6	73.6	93.0				
0700		44.0	73.4	92.8				
0800		43.8	72.4	92.3				
0900		43.6	71.8	91.2				
1000		43.8	72.0	91.0				
1100		44.5	73.2	92.0				
1200		44.7	75.0	92.7				
1300		46.2	76.7	94.3				
1400		46.2	77.0	94.5				
1500		47.0	77.6	95.8				
1600[2/]	43.2[9/]	46.0	75.8	94.5	43.4[9/]	42.7[9/]		
1700	43.0	46.1	74.6	93.3	43.4	42.5		
1800	43.0	45.5	74.4	93.1	43.4	42.5		
1900	42.8	45.6	74.0	93.0	43.3	42.4		
2000	42.7	46.0	74.4	93.7	43.1	42.3		
2100	42.5	44.7	75.7	93.[illegible]	42.8	42.1		
2200	42.5	44.7	75.4	94.[illegible]	42.9	42.2		
2300	42.4	46.0	75.2	93.8	42.9	42.2		
2400	42.5	45.8	75.3	93.9	42.8	42.2		

[2/] Instruments zeroed to ground truth

[9/] Sensor turned on, calibrated, and zeroed to ground truth

TABLE 64

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.5	45.0	74.8	93.6	42.7	42.4		
0200	42.5	45.0	74.5	92.9	43.0	42.5		
0300	42.7	44.8	74.3	92.9	43.1	42.7		
0400	42.8	45.0	74.1	92.7	43.3	43.0		
0500	43.0	45.0	73.8	92.4	43.3	43.1		
0600	43.1	44.4	73.6	92.3	43.4	43.2		
0700	43.1	44.3	73.1	92.1	43.4	43.3		
0800	43.2	45.0	72.3	91.8	43.5	43.3		
0900	43.2	45.5	71.9	92.2	43.5	43.3		
1000	43.3	45.1	71.9	92.0	43.6	43.3		
1100	43.4	44.8	72.1	91.6	43.6	43.4		
1200	43.5	45.3	72.4	91.3	43.9	43.6		
1300	43.6	45.1	72.8	91.3	44.1	43.8		
1400	43.8	46.0	73.2	91.5	44.3	43.9		
1500	44.1	47.0	73.6	91.9	44.5	44.0		
1600	44.1	46.2	73.5	91.7	44.6	43.9		
1700	44.4	46.5	73.5	92.1	44.5	44.0		
1800	44.3	46.9	73.6	92.1	44.5	44.0		
1900	44.1	46.6	73.4	92.5	44.5	44.0		
2000	44.0	46.0	73.2	92.0	44.0	43.6		
2100	43.8	45.8	73.4	92.2	44.1	43.3		
2200	43.6	45.6	73.6	92.8	43.9	42.9		
2300	43.3	45.6	74.0	93.0	43.5	43.0		
2400	43.4	45.3	74.4	93.4	43.5	43.1		

TABLE 65

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.2	45.2	74.4	93.3	43.5	43.2		
0200	43.3	45.0	74.6	93.2	43.5	43.5		
0300	43.4	44.6	74.4	93.4	43.6	43.6		
0400	43.6	44.6	74.3	93.4	43.8	43.8		
0500	43.9	44.7	74.5	93.2	44.1	44.1		
0600	43.9	45.8	74.6	93.4	44.3	44.3		
0700	44.1	45.6	74.7	93.1	44.4	44.3		
0800	44.2	45.8	75.0	93.6	44.5	44.4		
0900	44.3	45.8	75.5	94.1	44.6	44.3		
1000	44.5	48.0	76.0	95.4	44.7	44.4		
1100	44.5	48.5	76.6	96.0	44.9	44.5		
1200	44.8	49.1	77.1	96.4	45.0	44.6		
1300	45.0	48.2	77.6	97.0	45.2	44.7		
1400	45.0	48.3	78.0	96.5	45.4	44.9		
1500	45.3	48.6	78.5	96.5	45.5	44.9		
1600	45.3	48.5	79.0	97.3	45.6	45.0		
1700	45.3	47.6	79.4	98.5	45.6	45.0		
1800	45.1	46.7	80.0	98.9	45.5	45.0		
1900	45.2	46.7	80.3	99.0	45.3	44.6		
2000	44.9	46.0	81.0	96.3	45.0	44.6		
2100	44.9	46.5	81.6	100.0	45.2	44.5		
2200	44.9	45.8	82.6	100.0	45.0	44.6		
2300	44.8	46.1	82.9	98.5	45.0	44.8		
2400	44.9	46.0	82.6	95.7	45.0	45.0		

TABLE 66

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	45.0	45.8	81.7	94.8	45.3	45.3		
0200	45.2	46.0	75.2	93.6	45.5	45.5		
0300	45.5	47.0	68.9	88.4	45.6	45.7		
0400	45.8	47.4	76.0	88.7	46.0	46.2		
0500	46.3	46.5	81.0	95.0	46.4	46.6		
0600	46.5	47.5	80.1	95.5	46.6	46.7		
0700	46.5	47.1	78.8	95.0	46.8	46.8		
0800	46.6	47.9	78.0	94.8	46.8	46.8		
0900	46.6	47.7	77.8	94.9	47.0	46.7		
1000	46.7	48.5	75.6	94.5	46.9	46.8		
1100	46.6	48.2	75.0	93.8	47.0	46.6		
1200	46.8	48.8	76.9	93.6	47.0	46.8		
1300	46.9	48.5	78.4	95.3	47.0	46.9		
1400	46.8	48.8	78.7	95.7	47.1	46.9		
1500	46.8	49.4	78.3	95.6	47.0	46.7		
1600	46.7	49.6	78.5	95.6	47.0	46.6		
1700	46.7	48.6	78.1	96.0	47.0	46.5		
1800	46.5	48.2	77.7	96.2	46.9	46.4		
1900	46.5	49.2	77.6	96.1	46.7	46.4		
2000	46.4	48.2	77.7	96.2	46.6	46.3		
2100	46.3	49.0	78.0	96.4	46.6	46.4		
2200	46.3	49.0	77.6	96.3	46.6	46.5		
2300	46.4	47.7	77.7	95.8	46.6	46.4		
2400	46.4	47.7	77.5	96.4	46.6	46.5		

TABLE 67

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	46.6	47.8	78.0	96.9	46.8	46.7		
0200	46.7	47.7	78.2	96.8	46.9	46.8		
0300	46.7	48.0	78.1	97.0	47.0	47.0		
0400	46.8	48.5	78.4	97.1	47.1	47.1		
0500	46.9	48.2	78.7	97.2	47.2	47.1		
0600	47.0	48.2	78.8	97.2	47.3	47.2		
0700	47.0	48.4	78.9	97.5	47.3	47.2		
0800	47.2	48.8	79.7	98.0	47.5	47.3		
0900	47.2	49.2	80.2	99.0	47.8	47.4		
1000	47.5	52.0	80.8	99.6	48.0	47.5		
1100	47.7	49.9	81.5	100.4	48.3	47.7		
1200	48.0	51.5	81.9	100.8	48.6	48.0		
1300	48.4	52.3	82.2	100.9	48.8	48.2		
1400	48.6	51.7	82.5	101.4	49.0	48.3		
1500	48.7	53.2	82.0	101.5	49.2	48.6		
1600	49.0	51.4	82.3	101.6	49.3	48.6		
1700	48.8	51.2	82.1	101.5	49.5	48.8		
1800	48.8	51.0	82.5	101.0	49.4	48.6		
1900	48.8	51.1	83.2	101.1	49.4	48.5		
2000	48.8	50.6	83.5	101.3	49.3	48.5		
2100	48.6	50.5	83.9	101.5	49.3	48.5		
2200	48.6	50.5	84.1	101.7	49.2	48.5		
2300	48.6	51.5	84.1	101.6	49.2	48.6		
2400	48.6	50.6	84.1	101.6	49.2	48.7		

TABLE 68

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	48.7	50.2	83.8	101.5	49.0	49.0		
0200	48.6	50.4	83.8	100.9	49.4	49.3		
0300	48.7	52.2	83.8	100.9	49.7	49.7		
0400	49.0	52.2	83.8	101.5	49.8	49.8		
0500	49.3	51.7	83.6	102.0	50.3	49.6		
0600	49.4	52.0	83.4	102.2	50.2	49.5		
0700	49.4	53.0	83.2	101.6	50.3	49.4		
0800	49.7	51.5	83.0	102.0	50.2	49.2		
0900	49.6	53.2	82.8	101.7	50.2	49.5		
1000	49.6	53.0	82.5	101.4	50.2	49.6		
1100	49.4	52.3	82.3	101.2	49.5	49.4		
1200	49.3	52.5	82.6	101.3	49.5	49.2		
1300	49.0	52.7	82.2	101.4	49.4	49.1		
1400	48.8	51.5	80.4	99.3	49.4	49.0		
1500	48.9	51.6	81.4	77.7	49.3	48.9		
1600	48.9	51.6	81.9	87.5	49.4	49.0		
1700	49.0	54.1	84.6	91.7	49.3	49.1		
1800	48.9	53.5	86.7	94.6	49.3	48.8		
1900	48.6	55.0	73.6	87.8	49.1	48.7		
2000	48.5	53.7	79.3	87.0	48.9	48.6		
2100	48.4	52.0	81.9	90.0	48.8	48.4		
2200	48.3	58.0	83.0	91.6	48.6	48.4		
2300	48.3	50.6	77.7	89.9	48.6	48.4		
2400	48.1	52.5	77.6	85.5	48.5	48.4		

TABLE 69

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	48.0	52.8	77.8	87.8	48.4	48.3		
0200	47.8	50.0	79.0	88.0	48.4	48.3		
0300	47.7	49.3	78.0	88.0	48.3	48.2		
0400	47.8	51.6	75.6	86.0	48.2	48.1		
0500	47.7	55.0	76.4	86.2	48.2	48.1		
0600	47.6	56.0	76.8	86.7	48.0	47.9		
0700	47.3	48.8	77.3	87.1	47.9	47.6		
0800	47.1	57.5	75.5	101.3	47.7	47.4		
0900	47.0	50.9	74.4	97.6	47.4	47.2		
1000	46.8	51.6	73.5	95.7	47.3	47.2		
1100	46.7	50.7	72.3	93.8	47.2	47.0		
1200	46.6	48.5	70.7	92.2	47.0	46.9		
1300	46.5	50.0	69.7	90.9	46.7	46.7		
1400	46.3	48.0	68.1	89.6	46.5	46.4		
1500	46.0	47.9	68.8	88.7	46.3	46.2		
1600	45.9	46.3	70.3	90.0	46.2	46.1		
1700	45.6	47.7	69.4	90.3	45.9	45.8		
1800	45.4	47.0	68.2	89.4	45.7	45.7		
1900	44.9	46.7	67.5	88.7	45.5	45.4		
2000	44.7	46.0	67.2	76.3	45.4	45.3		
2100	44.7	45.8	67.4	74.1	45.2	45.1		
2200	44.9	46.0	70.1	77.8	45.2	45.2		
2300	44.8	50.0	73.8	82.6	45.2	45.2		
2400	44.9	52.0	73.9	84.8	45.3	45.3		

TABLE 70

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	44.9	49.5	67.0	77.4	45.2	45.2		
0200	44.9	48.4	70.5	79.3	45.2	45.2		
0300	44.8	50.0	74.0	82.2	45.2	45.2		
0400	44.7	47.3	73.7	85.4	45.1	45.1		
0500	44.6	48.0	70.8	81.1	45.0	45.0		
0600	44.5	48.6	71.8	80.6	44.9	44.9		
0700	44.4	48.6	73.6	81.8	44.8	44.9		
0800	44.3	47.1	75.0	83.6	44.7	44.7		
0900	44.3	48.5	73.7	83.6	44.7	44.7		
1000	44.3	46.6	73.4	82.3	44.7	44.7		
1100	44.4	58.3	74.5	96.7	44.7	44.7		
1200	43.9	46.7	74.3	97.6	44.5	44.5		
1300	44.1	49.6	74.3	95.6	44.6	44.6		
1400	44.3	47.4	73.5	94.0	44.8	44.7		
1500	44.3	47.0	72.0	92.6	44.7	44.7		
1600	44.3	46.3	70.0	90.7	44.7	44.7		
1700	44.3	47.0	69.0	90.0	44.6	44.6		
1800	44.1	46.5	68.4	89.0	44.5	44.5		
1900	44.1	45.7	73.6	90.4	44.4	44.4		
2000	43.9	46.7	74.1	92.9	44.5	44.5		
2100	43.9	45.8	73.7	92.0	44.3	44.3		
2200	43.9	46.5	73.0	92.7	44.3	44.3		
2300	44.0	46.7	72.0	92.0	44.3	44.5		
2400	44.0	45.5	71.3	91.0	44.4	44.4		

TABLE 71

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	44.0	45.8	70.6	90.7	44.4	44.4		
0200	44.0	45.7	70.3	90.1	44.4	44.4		
0300	44.0	46.5	71.6	90.6	44.4	44.5		
0400	43.9	46.1	72.0	91.0	44.3	44.3		
0500	43.9	45.7	71.8	91.0	44.3	44.3		
0600	43.8	45.0	71.5	90.9	44.3	44.3		
0700	43.7	45.4	71.1	90.7	44.0	44.0		
0800	43.6	45.0	70.6	90.1	44.0	44.0		
0900	43.5	45.5	70.5	90.3	43.9	43.9		
1000	43.5	45.5	70.4	89.5	43.9	43.9		
1100	43.5	45.6	70.8	89.8	43.8	43.8		
1200	43.4	45.1	70.7	90.3	43.7	43.4		
1300	43.2	44.4	70.2	89.7	43.4	42.4		
1400	43.1	44.3	69.5	90.1	43.3	41.9		
1500[2/]	43.1	45.7	69.3	90.8	43.2	41.6		
1600	43.0	44.7	69.1	91.1	43.2	41.3		
1700	42.8	46.6	69.0	91.2	43.2	41.2		
1800	42.9	45.0	68.8	91.2	43.0	41.2		
1900	42.4	45.7	68.8	91.2	43.1	40.9		
2000	42.0	43.2	69.0	68.9	42.9	41.3		
2100	42.2	43.2	69.9	72.1	43.0	41.3		
2200	42.1	43.0	71.5	73.5	43.0	41.3		
2300	42.2	43.0	73.0	74.8	43.0	41.3		
2400	42.3	43.0	74.6	75.7	43.1	40.8		

[2/] Instruments zeroed to ground truth data

TABLE 72

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
APRIL 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.4	42.9	64.1	71.5	43.0	41.2		
0200	42.3	42.9	64.9	68.5	42.9	41.0		
0300	42.1	42.7	65.0	69.0	42.7	41.2		
0400	41.8	42.4	65.7	68.8	42.5	41.2		
0500	41.7	42.4	66.2	69.5	42.3	41.5		
0600	41.6	42.3	64.5	69.5	42.2	41.4		
0700	41.7	42.0	61.3	66.9	42.0	41.7		
0800	41.7	42.0	61.0	66.5	42.2	42.2		
0900	41.8	42.4	61.2	66.5	42.2	42.2		
1000	41.9	42.5	62.0	67.1	42.4	42.4		
1100	42.0	42.7	62.5	67.5	42.4	42.5		
1200	42.2	43.0	61.4	67.3	42.6	42.6		
1300	42.4	43.3	60.9	66.7	42.8	42.8		
1400	42.6	43.4	61.0	67.1	42.9	42.9		
1500	42.7	43.7	61.5	67.4	43.2	43.2		
1600	42.8	43.8	62.0	67.7	43.2	43.2		
1700	42.9	43.8	62.0	68.0	43.2	43.2		
1800	42.7	43.7	61.5	67.5	43.2	43.2		
1900	42.7	43.4	61.3	67.5	43.1	43.1		
2000	42.8	43.4	61.5	67.5	43.2	43.3		
2100	43.1	43.3	61.8	67.3	43.4	43.6		
2200	43.3	43.5	62.0	67.4	43.6	43.9		
2300	43.5	43.5	61.7	67.3	43.8	44.2		
2400	43.7	43.7	61.4	67.3	44.0	44.4		

TABLE 73

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.8	43.8	61.3	67.0	44.3	44.6		
0200	44.0	44.0	61.2	67.0	44.5	44.7		
0300	44.2	44.2	60.9	66.7	44.7	44.9		
0400	44.3	44.3	60.8	66.7	44.7	44.8		
0500	44.3	44.4	60.5	66.8	44.7	44.7		
0600	44.1	44.6	60.2	66.6	44.6	44.5		
0700	44.1	44.7	60.3	66.4	44.5	44.4		
0800	44.0	44.6	60.2	66.6	44.4	44.3		
0900	43.9	44.8	60.4	66.9	44.3	44.1		
1000	43.8	44.9	60.7	67.2	44.2	43.9		
1100	43.8	45.1	61.?	68.9	44.2	44.0		
1200	43.8	45.3	62.0	71.3	44.2	44.0		
1300	44.0	45.8	63.3	72.8	44.4	44.0		
1400	43.9	46.1	64.0	73.3	44.3	44.0		
1500	44.1	48.5	65.2	74.4	44.5	44.0		
1600	43.8	48.6	66.8	76.0	44.2	43.8		
1700	43.7	47.4	67.3	76.6	44.1	43.7		
1800	43.5	49.8	67.7	77.0	43.8	43.6		
1900	43.2	48.6	67.8	76.8	43.7	43.6		
2000	43.3	45.8	68.5	77.1	43.7	43.7		
2100	43.3	47.4	68.4	76.5	43.7	43.7		
2200	43.5	44.0	68.3	76.2	44.0	44.0		
2300	43.8	46.7	68.2	76.4	44.2	44.3		
2400	43.9	45.2	68.0	76.6	45.5	45.6		

TABLE 74

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	44.2	46.5	67.2	76.6	44.8	44.8		
0200	44.5	44.5	67.0	76.2	44.9	44.9		
0300	44.3	45.5	67.3	76.5	44.8	44.7		
0400	44.0	44.6	67.5	76.7	44.6	44.3		
0500	44.0	46.7	67.6	77.0	44.5	44.0		
0600	43.5	47.0	67.0	76.4	44.2	44.0		
0700	43.3	46.4	67.2	76.7	43.9	43.6		
0800	42.9	46.2	67.2	76.6	43.5	43.2		
0900	42.4	48.0	66.9	76.5	42.8	42.5		
1000	42.2	46.7	66.9	76.5	42.1	41.9		
1100	42.1	43.5	67.0	76.4	42.5	42.3		
1200	41.9	43.8	67.1	76.6	42.2	42.1		
1300	41.8	44.5	67.4	76.5	42.1	41.9		
1400	41.8	44.1	67.7	76.5	42.0	41.7		
1500	41.6	43.7	67.7	76.8	41.9	41.5		
1600	41.5	44.2	68.1	77.0	41.9	41.4		
1700	41.4	43.9	67.9	76.8	41.5	41.2		
1800	40.9	42.8	68.0	76.8	41.5	40.9		
1900	40.8	43.5	68.2	77.2	41.4	40.6		
2000	40.6	42.7	68.4	77.3	41.2	40.5		
2100	40.3	43.6	68.6	77.2	41.0	40.1		
2200	40.1	44.2	68.7	77.4	40.7	39.7		
2300	39.9	43.7	68.9	77.5	40.5	39.4		
2400	39.8	41.3	68.8	77.7	40.3	39.4		

TABLE 75

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	40.0	45.0	68.8	77.8	40.3	39.1		
0200	39.5	42.6	69.0	77.7	40.2	38.7		
0300	39.4	41.9	69.3	78.0	40.2	38.8		
0400	39.5	40.8	69.6	78.5	40.0	38.9		
0500	39.8	41.5	69.9	78.5	40.1	39.0		
0600	39.8	41.7	69.9	78.6	40.0	39.1		
0700	39.8	41.7	70.0	78.7	40.0	39.3		
0800	40.1	43.7	70.8	78.9	40.3	40.2		
0900	40.1	43.7	71.2	79.4	40.3	40.3		
000	40.4	41.5	72.7	80.0	40.5	40.5		
.100	40.6	42.3	73.9	81.5	40.9	40.9		
1200	41.1	44.8	74.6	82.1	41.2	41.2		
1300	41.3	45.0	75.1	82.5	41.4	41.4		
1400	41.5	45.0	75.3	82.3	41.5	41.5		
1500	41.6	44.6	76.2	83.5	41.7	41.7		
1600	41.6	44.7	76.4	83.4	41.8	41.8		
1700	41.8	45.0	76.7	83.6	41.7	41.7		
1800	41.9	44.6	76.7	83.6	41.8	41.8		
1900	41.8	44.3	76.7	83.5	42.0	42.0		
2000	41.9	45.7	76.8	83.6	42.0	42.1		
2100	42.0	45.7	76.7	83.5	42.1	42.3		
2200	42.1	44.5	76.7	83.7	42.2	42.5		
2300	42.3	45.2	76.7	84.0	42.5	42.8		
2400	42.5	44.5	76.5	83.7	42.8	42.9		

TABLE 76

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	42.6	44.5	76.5	83.9	43.0	43.0		
0200	42.7	46.7	76.4	84.2	43.1	43.1		
0300	42.7	45.8	76.3	84.2	43.0	43.0		
0400	42.4	43.5	76.2	83.9	43.0	42.9		
0500	42.3	43.5	76.3	84.0	42.8	42.6		
0600	42.1	44.0	76.3	84.2	42.5	42.5		
0700	42.3	43.5	76.3	84.2	42.5	42.3		
0800	42.2	43.3	76.0	84.0	42.5	42.3		
0900	42.2	43.5	76.2	83.8	42.5	42.2		
1000	42.2	44.8	76.5	83.6	42.4	42.2		
1100	42.3	43.9	76.7	83.9	42.6	42.3		
1200	42.5	44.8	77.0	84.3	42.5	42.3		
1300	42.5	44.5	77.7	84.7	42.8	42.5		
1400	42.6	45.7	78.5	85.2	43.0	42.7		
1500	42.8	47.2	78.8	85.5	43.2	42.7		
1600	43.0	46.2	79.2	85.8	43.2	42.8		
1700	43.0	45.3	79.2	85.9	43.1	43.0		
1800	43.0	45.6	79.2	85.6	43.1	43.0		
1900	43.0	44.5	79.5	85.5	43.1	43.1		
2000	43.1	45.2	79.4	85.5	43.3	43.3		
2100	43.2	45.7	79.2	85.7	43.5	43.5		
2200	43.5	44.7	79.2	85.5	43.7	43.7		
2300	43.7	46.0	78.9	85.2	43.8	43.8		
2400	43.9	45.3	78.7	85.1	44.1	44.1		

TABLE 77

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	44.1	46.9	78.7	85.1	44.3	44.3		
0200	44.2	46.0	78.4	85.0	44.3	44.2		
0300	44.2	45.3	78.2	84.9	44.3	44.3		
0400	44.0	48.0	77.9	84.7	44.2	44.2		
0500	44.1	46.1	77.8	84.5	44.2	44.1		
0600	44.0	45.9	77.8	84.3	44.0	44.0		
0700	43.9	45.8	77.8	84.5	44.0	43.8		
0800	43.8	46.7	77.7	84.3	43.8	43.7		
0900	43.7	48.5	77.6	84.4	43.8	43.7		
1000[1/]								
1100								
1200								
1300								
1400								
1500								
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

[1/] Recorder not printing

TABLE 78

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100								
0200								
0300								
0400								
0500								
0600								
0700								
0800	44.5	47.0	79.6	85.3	44.6	44.6		
0900	44.6	49.7	80.0	85.7	44.6	44.6		
1000	44.7	47.8	80.6	86.2	44.9	44.9		
1100	45.2	49.0	81.5	87.0	45.3	45.4		
1200	45.4	48.8	82.2	87.6	45.6	45.6		
1300	45.6	49.5	83.0	88.3	45.9	45.9		
1400	46.0	52.2	83.6	89.0	46.2	46.2		
1500[2/]	46.1	52.4	82.5	89.4	46.6	46.4		
1600	46.3	50.3	82.6	89.3	46.6	46.6		
1700	46.4	50.7	82.9	89.5	46.8	46.8		
1800	46.6	50.5	83.0	89.8	47.0	47.0		
1900	46.8	52.0	82.8	89.8	47.2	47.2		
2000	46.9	54.0	82.7	89.7	47.4	47.4		
2100	47.2	51.2	82.9	89.8	47.7	47.7		
2200	47.4	52.7	82.8	89.7	47.9	48.0		
2300	47.6	51.0	82.6	89.6	48.1	48.3		
2400	47.9	51.8	82.3	89.4	48.3	48.3		

[2/] Instruments zeroed to ground truth data.

TABLE 79

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	48.0	53.5	82.2	89.2	48.5	48.5		
0200	48.0	51.4	81.7	88.9	48.5	48.5		
0300	48.0	50.3	81.4	88.9	48.4	48.4		
0400	47.7	52.5	81.2	88.5	48.4	48.3		
0500	47.7	52.1	80.9	88.4	48.3	48.2		
0600	47.6	51.3	80.7	88.3	48.1	48.0		
0700	47.6	51.4	80.8	88.4	48.0	48.0		
0800	47.7	54.2	80.9	88.6	48.1	48.0		
0900	47.7	51.4	81.2	88.7	48.2	48.1		
1000	48.0	53.1	81.5	88.9	48.4	48.3		
1100	48.2	52.7	81.6	90.3	48.5	48.5		
1200	48.5	52.1	82.1	90.3	48.7	48.7		
1300	48.7	52.0	82.5	89.7	49.2	49.0		
1400	48.9	52.5	82.6	90.0	49.2	49.1		
1500	49.0	53.0	82.7	89.9	49.3	49.4		
1600	49.2	53.6	82.5	90.0	49.5	49.5		
1700	49.4	53.1	82.7	90.2	49.6	49.6		
1800	49.5	52.5	83.0	90.3	49.9	49.9		
1900	49.7	54.2	83.4	90.7	50.0	50.0		
2000	50.0	53.6	83.7	91.0	50.3	50.3		
2100	50.0	55.3	83.8	91.2	50.5	50.5		
2200	50.3	54.2	83.7	91.2	50.9	50.9		
2300	50.6	55.2	83.7	90.4	51.2	51.2		
2400	50.7	57.0	83.7	90.5	51.4	51.4		

TABLE 80

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	51.1	54.0	83.4	90.3	51.6	51.6		
0200	51.3	54.3	83.2	90.5	51.5	51.5		
0300	51.2	55.0	82.7	90.4	51.5	51.5		
0400	50.9	54.0	82.6	90.3	51.4	51.3		
0500	50.7	54.5	82.4	90.2	51.4	51.0		
0600	50.4	54.0	82.5	90.2	51.0	50.7		
0700	50.3	55.1	82.5	90.3	50.8	50.6		
0800	50.3	53.2	82.5	90.2	50.6	50.5		
0900	50.3	54.0	82.8	90.4	50.7	50.6		
1000	50.4	53.8	83.5	87.5	50.8	50.7		
1100	50.6	56.5	84.8	90.7	51.2	51.1		
1200	51.0	60.5	85.7	93.0	51.3	51.3		
1300	51.3	58.5	85.9	93.9	51.7	51.7		
1400	51.6	58.0	86.0	92.8	52.0	52.0		
1500	51.9	56.5	88.0	95.0	52.1	52.1		
1600	52.0	56.7	88.0	95.0	52.1	52.1		
1700	52.0	57.5	87.8	96.1	52.3	52.3		
1800	52.1	58.2	88.8	96.5	52.5	52.5		
1900	52.2	56.6	89.4	96.8	52.5	52.5		
2000	52.3	55.8	89.4	97.0	52.7	52.7		
2100	52.5	55.6	88.7	96.4	53.0	53.0		
2200	52.7	57.8	89.4	96.6	53.2	53.2		
2300	53.1	58.2	89.2	96.4	53.5	53.6		
2400	53.2	57.3	88.7	96.9	53.6	53.7		

TABLE 81

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A		C	D
0100	53.4	56.0	88.3	98.3	53.9	54.0		
0200	53.3	57.6	88.3	98.3	53.9	54.0		
0300	53.4	57.3	88.2	98.2	53.8	53.9		
0400	53.3	60.0	88.7	100.0	53.7	53.7		
0500	53.2	56.0	89.1	101.0	53.6	53.6		
0600	53.1	56.7	89.0	100.8	53.4	53.4		
0700	53.0	55.8	89.7	101.3	53.3	53.3		
0800	53.0	57.9	91.3	102.9	53.3	53.3		
0900	52.9	56.9	91.3	102.9	53.3	53.3		
1000	52.7	56.0	91.7	102.9	52.9	53.2		
1100	53.2	57.1	93.4	104.0	53.3	53.6		
1200	53.4	58.3	94.5	105.0	53.6	53.7		
1300	53.6	57.2	94.9	105.5	53.7	54.0		
1400	53.8	58.8	95.8	106.4	54.2	54.3		
1500	54.0	58.5	96.7	107.4	54.3	54.4		
1600	54.2	58.4	97.1	107.8	54.6	54.6		
1700	54.3	60.7	97.5	108.2	54.6	54.7		
1800	54.5	60.0	98.0	108.4	54.8	54.9		
1900	54.4	61.0	98.6	110.0	55.0	55.2		
2000	54.6	60.4	98.9	108.3	55.1	55.4		
2100	54.8	60.3	98.9	107.4	55.3	55.7		
2200	55.1	59.4	98.9	106.8	55.6	55.9		
2300	55.2	61.0	98.1	106.5	55.7	56.2		
2400	55.5	59.6	96.9	105.4	56.0	56.5		

TABLE 82

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	55.6	59.6	96.3	104.8	56.1	57.0		
0200	55.8	63.3	96.3	103.6	56.3	57.2		
0300	55.9	60.6	95.6	102.9	56.4	56.7		
0400	55.9	59.9	95.2	102.6	56.3	56.5		
0500	55.6	61.3	94.6	101.9	56.1	56.4		
0600	55.6	60.0	92.9	101.4	56.0	56.2		
0700	55.3	62.1	93.5	101.0	55.9	56.1		
0800	55.1	63.6	93.3	100.6	55.7	55.8		
0900	55.1	59.3	92.9	100.2	55.6	55.8		
1000	55.2	62.9	92.6	100.1	55.8	55.8		
1100	55.5	61.4	92.3	99.6	56.3	56.3		
1200	55.7	61.2	91.9	99.4	56 4	56.6		
1300	56.1	64.6	91.3	98.8	56.7	56.7		
1400[2/]	56.3	65.6	90.0	98.3	57.0	57.2		
1500	56.6	63.0	89.7	97.9	57.3	57.3		
1600	56.8	63.0	89.0	97.5	57.4	57.5		
1700	56.8	65.3	88.5	97.1	57.6	57.6		
1800	57.0	64.5	88.3	96.8	57.6	57.7		
1900	57.1	65.4	88.5	97.0	57.6	57.7		
2000	57.2	63.3	88.6	97.2	57.7	58.0		
2100	57.2	62.7	88.5	97.1	57.9	58.2		
2200	57.5	65.5	88.6	97.3	58.2	58.4		
2300	57.8	62.3	88.9	97.6	58.6	58.8		
2400	58.1	65.6	89.0	97.9	58.8	59.3		

[2/] Instruments zeroed to ground truth

TABLE 83

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
APRIL 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	58.3	62.4	89.5	98.1	59.1	59.4		
0200	58.6	63.1	89.1	98.1	59.3	59.6		
0300	58.6	61.5	88.9	98.2	59.4	59.4		
0400	58.6	63.9	88.4	97.9	59.4	59.4		
0500	58.4	62.5	88.0	97.4	59.4	59.2		
0600	58.4	62.8	87.7	97.3	59.1	59.0		
0700	58.9	62.0	87.3	96.9	58.9	58.8		
0800	58.0	63.5	87.4	96.0	58.6	58.5		
0900	57.8	64.6	86.5	96.4	58.5	58.3		
1000	57.7	62.1	86.6	98.3	58.3	58.2		
1100	57.7	62.3	86.6	98.5	58.3	58.1		
1200	57.7	62.8	86.9	100.4	58.3	58.2		
1300	58.0	62.7	88.8	102.1	58.3	58.2		
1400	58.0	64.4	89.6	103.0	58.6	58.4		
1500	58.2	63.4	90.3	103.6	58.6	58.5		
1600	58.2	64.0	91.3	104.5	58.6	58.3		
1700	58.0	65.9	92.1	105.3	58.6	58.2		
1800	57.9	63.6	92.0	105.3	58.4	58.0		
1900	57.8	65.0	92.5	105.4	58.3	57.9		
2000	57.7	64.6	93.0	105.9	58.2	57.9		
2100	57.8	66.8	93.1	106.0	58.3	58.3		
2200	57.9	65.0	92.9	105.9	58.4	58.0		
2300	58.0	63.3	93.0	105.9	58.6	58.2		
2400	58.3	65.5	93.1	106.1	58.9	58.4		

TABLE 24

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	58.4	61.7	92.6	105.6	58.9	58.5		
0200	58.5	63.8	91.8	104.7	58.9	58.8		
0300	58.4	63.0	91.5	104.2	59.0	59.2		
0400	58.2	63.2	90.9	104.0	58.8	58.9		
0500	58.1	65.5	90.6	105.3	58.6	58.7		
0600	57.8	61.5	89.7	106.2	58.5	58.5		
0700	57.6	64.8	88.3	105.0	57.9	57.9		
0800	58.4	62.0	88.6	105.0	57.9	57.9		
0900	57.1	62.2	89.4	105.6	57.8	57.7		
1000	56.9	61.8	90.4	106.5	57.8	57.7		
1100	57.2	61.8	90.2	106.6	57.9	57.7		
1200	57.2	62.6	91.6	107.6	58.0	57.8		
1300	57.2	62.5	92.4	108.2	57.9	57.8		
1400	57.2	63.6	93.2	109.0	58.0	57.9		
1500	57.4	63.5	93.3	109.2	58.2	57.9		
1600	57.4	63.5	93.7	109.8	58.1	57.9		
1700	57.2	63.0	94.5	110.5	58.0	57.8		
1800	56.9	63.7	94.7	111.0	57.8	57.4		
1900	56.7	64.9	95.0	110.8	57.5	57.3		
2000	56.7	63.8	95.7	110.0	57.3	57.3		
2100	56.6	64.5	96.2	108.8	57.2	57.2		
2200	56.5	62.4	96.2	107.9	57.3	57.4		
2300	56.7	62.6	96.0	106.3	57.5	57.8		
2400	56.8	63.6	95.4	105.4	57.6	58.1		

TABLE 85

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	57.0	63.2	94.5	104.5	57.9	58.3		
0200	57.2	62.5	93.8	102.2	58.0	58.5		
0300	57.4	63.5	92.9	101.3	58.2	58.9		
0400	57.5	64.2	92.4	100.9	58.4	58.7		
0500	57.5	60.6	90.4	99.4	58.5	58.5		
0600	57.5	62.5	89.5	98.5	58.5	58.5		
0700	57.4	65.3	89.0	98.0	58.4	58.4		
0800	57.2	61.5	88.7	97.5	58.2	58.2		
0900	57.2	61.5	88.0	97.0	58.0	58.0		
1000	57.3	64.6	88.0	96.8	57.8	57.8		
1100	57.2	62.6	88.1	97.0	58.0	58.0		
1200	57.4	62.6	88.0	96.9	58.0	58.2		
1300	57.5	61.3	88.0	96.8	58.0	58.0		
1400	57.4	64.6	87.8	96.7	58.0	58.0		
1500	57.5	65.0	87.8	96.6	58.0	58.0		
1600	57.6	62.8	87.6	96.5	58.0	58.0		
1700	57.5	63.0	87.5	96.4	57.8	57.9		
1800	57.3	62.7	87.3	96.2	57.6	57.7		
1900	57.2	62.8	86.8	95.9	57.5	57.7		
2000	57.0	62.2	86.3	95.3	57.3	57.6		
2100	57.0	62.0	86.0	95.0	57.2	57.7		
2200	57.0	62.0	85.9	94.9	57.2	57.9		
2300	57.2	60.7	85.7	94.6	57.3	58.2		
2400	57.2	63.0	85.2	94.2	57.5	58.4		

TABLE 86

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	57.5	62.6	85.2	94.0	57.6	58.6		
0200	57.5	63.2	85.0	94.2	57.8	58.6		
0300	57.5	63.2	84.7	94.0	57.9	58.5		
0400	57.5	63.9	84.2	93.5	57.9	58.6		
0500	57.6	63.2	84.2	93.5	58.0	58.6		
0600	57.6	63.0	84.0	93.4	58.0	58.5		
0700	57.6	62.5	83.9	93.3	58.0	58.4		
0800	57.6	63.2	83.8	93.0	57.9	58.2		
0900	57.5	62.0	84.4	93.3	57.8	58.1		
1000	57.5	60.9	84.8	93.8	57.8	57.9		
1100	57.4	63.0	84.9	94.0	57.7	57.8		
1200	57.5	65.2	85.4	94.3	57.7	57.8		
1300	57.7	63.8	85.9	94.8	57.8	57.9		
1400	57.8	62.5	86.0	95.0	57.9	57.9		
1500	57.5	61.5	85.9	95.0	57.7	57.8		
1600	57.6	61.9	85.8	94.9	57.7	57.8		
1700	57.4	62.5	85.7	94.8	57.7	57.7		
1800	57.4	63.2	85.4	94.5	57.5	57.5		
1900	57.2	61.4	85.4	94.3	57.3	57.3		
2000	56.8	60.2	85.4	94.2	57.1	57.2		
2100	56.9	63.2	85.6	94.3	56.9	57.2		
2200	56.7	60.8	85.4	94.4	56.8	57.2		
2300	56.6	60.5	85.4	94.4	56.8	57.5		
2400	56.8	63.0	85.5	94.5	56.9	57.6		

TABLE 87

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	56.9	63.0	85.7	94.7	57.2	57.8		
0200	57.1	62.9	85.7	94.8	57.3	57.9		
0300	57.2	60.8	85.8	94.8	57.5	58.2		
0400	57.5	61.3	85.7	94.7	57.5	58.3		
0500	57.4	60.5	85.8	94.6	57.6	58.5		
0600	57.6	61.3	85.5	94.5	57.5	58.4		
0700	57.5	62.3	85.3	93.2	57.5	58.4		
0800	57.5	62.3	85.4	93.5	57.5	58.2		
0900	57.6	62.0	84.8	93.7	57.5	58.2		
1000	57.4	60.6	84.5	93.2	57.4	57.9		
1100	57.3	61.2	84.8	93.4	57.3	57.8		
1200	57.3	63.5	85.6	94.2	57.3	57.6		
1300	57.2	61.7	85.	94.2	54.4	57.5		
1400	57.2	63.0	85.	94.6	54.3	57.4		
1500	57.3	61.7	86.0	94.8	57.0	57.2		
1600	57.2	62.2	86.4	95.4	57.5	57.4		
1700	57.4	60.8	86.2	95.5	57.5	57.4		
1300	57.3	60.8	86.4	95.5	57.4	57.3		
1900	57.4	64.7	86.3	95.5	57.0	57.4		
2000	57.2	64.9	85.9	95.2	57.0	57.3		
2100	57.1	62.2	85.7	94.8	56.7	57.2		
2200	56.9	61.0	85.7	94.5	56.5	57.1		
2300	56.8	60.6	85.8	94.9	56.5	57.1		
2400	56.7	62.8	85.6	94.9	55.6	57.0		

TABLE 88

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	56.7	60.2	85.6	95.0	56.3	57.0		
0200	56.8	60.0	85.6	94.9	57.0	57.2		
0300	56.9	60.0	85.6	96.0	56.5	57.5		
0400	57.0	61.9	85.5	96.8	56.8	57.5		
0500	57.2	61.5	85.6	95.7	57.1	57.3		
0600	57.2	61.8	85.5	95.5	57.2	57.2		
0700	57.3	63.2	85.4	98.2	57.2	57.3		
0800	57.4	60.3	85.9	97.8	57.4	57.4		
0900	57.4	61.8	86.1	99.9	57.0	57.0		
1000	57.5	61.5	87.4	103.5	57.0	57.0		
1100	57.5	61.2	86.8	102.5	57.4	57.2		
1200	57.4	60.6	86.5	102.5	56.0	57.2		
1300	57.5	60.9	87.6	102.4	57.2	57.2		
1400	57.4	61.6	89.0	102.4	53.2	56.9		
1500	57.3	61.5	88.2	102.8	53.0	56.7		
1600	57.2	61.2	87.[illegible]	102.5	52.9	56.7		
1700	57.1	61.2	87.1	102.1	52.6	56.6		
1800	56.8	60.6	87.0	101.9	52.6	56.4		
1900	56.5	60.5	87.5	102.1	54.2	56.0		
2000	56.2	60.4	87.5	102.2	54.6	56.0		
2100	56.2	59.9	87.2	101.0	54.9	55.9		
2200	55.9	59.8	86.6	101.3	54.5	55.9		
2300	55.7	59.1	86.6	101.2	54.4	55.7		
2400	55.5	58.9	87.0	101.1	54.1	55.5		

TABLE 89

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	55.5	58.4	86.8	100.8	54.2	55.6		
0200	55.6	58.5	86.8	101.0	53.5	55.6		
0300	55.7	58.4	86.5	100.8	54.0	55.6		
0400	55.7	58.5	86.8	100.9	54.1	55.6		
0500	55.6	58.4	86.7	100.8	54.2	55.6		
0600	55.9	58.5	86.9	100.7	55.1	55.7		
0700	55.9	58.5	86.4	100.7	55.0	55.6		
0800	55.0	59.0	86.3	102.2	55.0	55.6		
0900	54.2	59.0	86.3	102.5	54.9	55.6		
1000	54.0	58.8	86.3	102.5	54.9	55.5		
1100	54.0	59.2	86.6	102.8	55.3	55.6		
1200	55.0	59.8	87.6	103.5	55.0	55.6		
1300	54.5	59.4	87.6	104.2	55.0	55.0		
1400	54.6	59.5	88.2	104.1	54.2	55.5		
1500	55.8	59.3	88.6	104.5	54.8	55.4		
1600	55.8	59.5	89.2	100.6	54.9	55.3		
1700	55.8	59.5	89.8	100.8	54.4	55.1		
1800	55.7	59.3	89.6	102.5	54.2	55.1		
1900	55.6	59.3	89.8	104.2	54.2	55.1		
2000	55.5	59.3	88.6	104.9	54.5	55.1		
2100	55.5	59.0	87.2	103.5	54.6	55.2		
2200	55.5	59.0	88.0	104.3	54.2	55.1		
2300	55.3	58.7	88.9	105.3	53.9	54.9		
2400	55.3	58.9	89.5	106.5	54.3	54.9		

TABLE 90

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

APRIL 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	55.3	58.8	88.7	106.1	53.4	54.8		
0200	55.2	58.6	89.2	106.4	54.0	54.7		
0300	55.2	58.5	89.7	107.2	53.8	54.6		
0400	55.0	58.5	90.3	108.0	54.0	54.7		
0500	55.0	58.5	90.2	108.5	54.2	54.5		
0600	55.0	58.1	90.4	108.5	54.0	54.6		
0700	55.0	58.0	90.8	108.9	54.2	54.7		
0800	55.1	58.2	91.5	109.4	54.2	54.8		
0900	55.4	58.5	91.8	109.8	54.2	54.8		
1000	55.4	58.6	92.0	110.1	54.5	54.7		
1100	55.6	58.5	92.6	110.0	55.0	55.0		
1200	55.7	58.7	93.0	110.5	54.9	55.5		
1300	55.7	59.0	93.4	110.6	54.8	59.2		
1400	55.8	59.5	93.6	111.2	55.0	59.2		
1500	55.8	59.1	93.5	111.0	55.0	59.1		
1600	56.0	59.6	93.8	111.5	55.0	59.6		
1700[2/]	56.2	59.6	93.2	109.9	57.2	57.2		
1800	56.2	59.6	94.5	110.2	57.5	57.1		
1900	56.2	59.9	94.5	110.4	57.5	57.0		
2000	56.2	59.8	94.8	110.4	57.6	56.9		
2100	56.2	59.4	94.9	110.4	57.5	56.9		
2200	56.0	59.5	95.0	110.1	57.3	56.8		
2300	55.9	59.2	95.0	110.1	56.8	56.7		
2400	55.9	59.5	95.3	110.0	55.9	56.5		

[2/] Instruments zeroed to ground truth (#3 not adjusted)

TABLE 91

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	55.8	58.7	95.0	109.2	55.8	52.0[7]	[4]	[4]
0200	55.8	58.8	95.0	109.0	57.6	54.1		
0300	55.8	58.9	94.9	108.6	56.9	56.1		
0400	55.7	58.5	94.6	108.4	53.4	51.7		
0500	55.7	58.7	93.9	107.9	55.6	51.6		
0600	55.7	58.6	93.4	10 .5	56.3	52.2		
0700	55.7	58.4	93.1	107.3	53.5	51.6		
0800	55.9	58.3	92.9	107.1	53.5	51.7		
0900	55.6	58.3	92.9	107.1	53.5	51.7		
1000	55.9	58.4	92.9	106.7	53.5	51.7		
1100	56.1	59.5	93.4	107.3	53.7	51.7		
1200	56.5	59.5	93.7	107.7	53.9	52 0		
1300	56.5	59.7	93.9	95.7	54.2	52.6		
1400	56.7	58.0	94.1	95.7	54.6	52.5		
1500	57.3	59.2	95.2	96.5	54.9	52.8		
1600	57.5	59.7	95.6	96.8	55.1	53.0		
1700	57.5	59.0	89.0	93.7	55.0	53.3		
1800	57.6	59.2	[4]	92.0	55.3	53.3		
1900	57.6	59.0		91.7	55.3	53.5		
2000	57.6	59.1		92.2	55.5	53.7		
2100	57.5	58.4		91.3	55.2	53.7		
2200	57.3	58.5		89.5	54.9	53.7		
2300	57.2	58.4		89.4	54.8	53.7		
2400	57.0	58.3		89.8	54.8	58.3		

[4] Sensor malfunction - no data

[7] Erratic readings due to recovery from electrical storm

TABLE 92

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	56.9	58.0		91.5	54.8	57.2		
0200	57.0	58.0		90.8	54.9	58.5		
0300	56.8	58.0		91.4	54.9	52.7 [7/]		
0400	56.7	57.7		92.3	54.7	56.9		
0500	56.7	57.7		93.4	54.8	57.0		
0600	56.7	57.6		94.4	54.8	57.0		
0700	56.8	57.6		95.3	54.7	57.2		
0800	57.1	57.6		96.0	55.0	57.3		
0900	57.1	57.6		97.0	54.8	57.2		
1000	57.4	58.3		98.0	56.7	57.6		
1100	57.8	58.9		99.0	57.2	58.2		
1200	58.3	59.7		100.3	57.6	58.4		
1300	58.5	60.1		101.1	57.7	58.4		
1400 [2/]	59.1	60.9		102.5	58.0	58.5		
1500 [2/]	59.2	61.3	89.4 [9/]	103.0	58.4	58.6		
1600	59.5	61.8	90	103.3	58.6	59.0		
1700	59.7	61.7	90.4	103.8	58.6	59.3		
1800	59.8	61.8	91.0	104.6	58.8	59.3		
1900	59.6	61.6	91.3	104.6	58.7	59.3		
2000	59.6	61.4	91.4	104.5	58.6	59.3		
2100	59.5	61.2	91.7	105.3	59.9	59.5		
2200	59.3	61.0	91.9	105.4	60.0	59.4		
2300	59.0	60.6	91.7	105.3	60.0	59.3		
2400	58.8	60.2	91.7	105.2	60.1	59.0		

[2/] Instruments zeroed to ground truth data

[9/] Sensor turned on, calibrated, and zeroed to ground truth

[7/] Erratic readings due to sensor recovery from electrical disturbance

TABLE 93

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	58.7	60.3	92.0	105.4	60.3	59.1		
0200	58.8	60.0	91.8	105.6	60.4	59.1		
0300	58.8	60.0	91.6	105.4	60.6	59.4		
0400	58.7	60.0	91.5	105.4	60.7	59.5		
0500	58.8	60.0	91.3	105.5	60.7	59.1		
0600	58.8	60.0	91.2	105.7	60.6	59.3		
0700	58.8	59.8	91.0	105.5	60.6	59.7		
0800	59.1	59.8	91.0	105.4	60.7	60.5		
0900	59.2	60.1	91.3	105.9	60.8	60.8		
1000	59.5	60.5	91.9	106.5	61.2	61.3		
1100	59.7	61.0	92.7	107.1	61.7	62.1		
1200	60.0	61.6	92.8	104.0	62.0	62.8		
1300	60.5	62.2	92.7	102.2	62.4	63.4		
1400	60.9	62.8	92.7	102.2	62.7	64.0		
1500	61.1	63.0	92.4	102.2	62.8	64.2		
1600	61.6	63.4	92.3	101.9	63.2	64.4		
1700	61.8	63.8	90.8	101.9	63.4	64.5		
1800	61.8	63.9	89.4	101.2	63.4	64.4		
1900	61.8	64.0	89.0	100.8	63.3	64.4		
2000	61.7	63.8	88.8	101.0	63.3	64.4		
2100	61.6	63.7	88.5	100.7	63.2	64.5		
2200	61.3	63.6	88.3	100.6	62.8	64.5		
2300	61.0	63.4	87.6	100.3	62.7	64.3		
2400	60.8	63.0	87.3	99.8	62.4	64.2		

TABLE 94

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	60.7	62.4	87.2	99.3	62.3	63.9		
0200	60.6	62.4	87.1	99.4	62.4	58.5		
0300	60.7	62.4	86.9	99.3	62.0	58.8		
0400	60.7	62.3	86.5	98.9	61.7	58.5		
0500	60.6	62.3	86.2	98.8	60.6	58.5		
0600	60.7	62.3	85.7	98.4	60.7	58.7		
0700	60.6	62.0	85.2	98.1	60.6	58.8		
0800	60.9	62.2	85.3	98.3	60.9	59.2		
0900	61.0	62.3	85.3	98.5	61.4	59.4		
1000	61.3	63.4	85.8	98.7	61.6	59.7		
1100	61.7	63.4	86.3	99.6	62.0	60.0		
1200	62.1	63.8	86.9	99.5	62.5	60.1		
1300	62.5	64.5	87.6	99.7	63.0	60.3		
1400	63.0	65.0	87.8	100.5	63.3	60.5		
1500	63.3	65.4	88.4	100.5	63.6	60.6		
1600	63.7	65.8	88.6	100.9	63.9	60.7		
1700	63.7	65.9	88.4	100.5	64.0	60.7		
1800	63.8	66.1	88.3	100.0	64.3	60.8		
1900	63.7	66.0	88.3	99.8	64.3	60.9		
2000	63.8	65.9	88.2	100.7	64.1	60.8		
2100	63.6	65.8	88.1	100.7	63.6	60.8		
2200	63.4	65.5	87.7	100.4	63.8	60.7		
2300	63.3	65.4	87.2	100.2	63.7	60.6		
2400	63.1	65.2	86.8	99.9	63.5	60.4		

TABLE 95

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	62.9	64.8	86.7	99.4	63.3	60.2		
0200	62.7	64.6	86.5	99.3	63.3	60.1		
0300	62.5	64.3	86.1	99.0	63.0	60.0		
0400	62.3	63.9	85.5	98.7	62.8	59.9		
0500	62.2	63.8	85.4	98.4	62.7	59.7		
0600	62.1	63.8	85.2	98.4	62.8	59.7		
0700	62.0	63.6	84.8	98.3	62.7	59.8		
0800	62.0	63.5	89.7	98.3	62.7	60.0		
0900	62.5	64.0	85.0	98.7	63.2	60.5		
1000	62.7	64.3	85.5	98.9	63.5	60.8		
1100	63.0	64.7	85.8	99.6	63.6	61.0		
1200	63.3	65.5	86.5	100.2	63.8	61.4		
1300	63.6	65.8	87.2	101.0	64.3	61.8		
1400	63.9	66.0	87.3	101.3	64.3	61.8		
1500	64.2	66.1	87.5	102.0	64.5	62.2		
1600	64.3	66.3	87.7	102.4	64.7	62.3		
1700	64.5	66.5	87.7	102.0	64.8	62.4		
1800	64.6	66.8	87.7	102.5	65.1	62.5		
1900	64.5	66.6	87.5	102.8	64.9	62.4		
2000	64.6	66.7	87.5	102.3	65.0	62.3		
2100	64.5	66.7	87.5	102.6	64.9	62.3		
2200	64.3	66.4	87.4	102.3	64.6	62.0		
2300	64.0	66.2	87.0	102.3	64.5	61.7		
2400	63.9	66.0	87.0	102.0	64.4	61.6		

TABLE 96

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	63.6	65.8	86.2	102.4	64.0	61.3		
0200	63.4	65.6	86.2	101.7	64.0	61.0		
0300	63.3	65.5	85.6	101.5	64.6	61.0		
0400	63.2	65.3	85.4	100.3	63.0	60.8		
0500	63.1	65.0	85.4	100.3	63.7	60.6		
0600	63.0	64.7	85.3	100.3	63.8	61.7		
0700	63.0	64.6	84.9	100.3	63.5	61.7		
0800	63.0	64.4	84.8	100.4	63.6	60.9		
0900	63.2	64.5	84.5	100.3	63.7	60.9		
1000	63.4	65.0	84.5	100.3	64.0	61.2		
1100	63.6	65.4	85.0	100.6	64.3	61.4		
1200	64.0	66.0	85.0	101.3	64.4	61.5		
1300	64.0	66.3	85.0	101.3	64.6	61.7		
1400	64.4	66.7	84.7	101.5	65.0	61.8		
1500[2/]	64.6	67.0	84.5	101.0	65.2	65.6		
1600	64.5	67.0	84.2	100.8	65.2	65.8		
1700	64.5	66.7	84.0	100.6	65.0	65.7		
1800	64.4	66.5	84.0	100.4	64.9	65.7		
1900	64.5	65.3	83.8	100.4	65.0	66.0		
2000	64.2	66.0	83.0	100.0	64.7	65.6		
2100	63.0	65.7	82.7	99.7	64.5	65.5		
2200	63.7	65.4	82.6	99.7	64.3	65.0		
2300	63.4	65.2	82.4	99.6	63.9	64.7		
2400	63.2	64.8	82.1	99.3	63.7	64.4		

[2/] Instruments zeroed to ground truth data

TABLE 97

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	63.0	64.6	81.8	99.2	63.5	64.1		
0200	62.7	64.3	81.6	99.0	63.3	63.7		
0300	63.6	64.3	81.8	98.9	63.2	63.7		
0400	62.3	64.0	81.8	98.8	63.0	63.4		
0500	62.3	63.6	81.7	98.7	62.8	63.4		
0600	62.2	63.4	81.6	98.5	62.8	63.3		
0700	62.0	63.3	81.4	98.5	62.7	63.3		
0800	62.0	63.2	81.5	98.3	62.6	63.4		
0900	62.0	63.3	81.4	98.5	62.5	63.4		
1000	62.1	63.5	81.5	98.3	62.7	63.6		
1100	62.3	64.3	82.0	98.5	62.8	63.7		
1200	62.4	64.3	81.6	98.7	63.0	63.8		
1300	62.5	64.4	81.5	98.7	63.0	64.2		
1400	62.5	64.5	81.6	98.6	63.0	64.3		
1500	62.6	64.7	81.4	98.9	63.2	64.4		
1600	62.5	64.6	81.5	98.7	63.0	64.2		
1700	62.6	64.7	81.3	98.8	63.0	64.5		
1800	62.5	64.5	81.4	98.5	62.9	64.4		
1900	61.4	64.3	81.2	98.3	62.7	64.3		
2000	62.0	64.3	81.2	98.2	62.4	64.2		
2100	62.0	64.0	81.2	98.0	62.0	63.8		
2200	61.7	63.6	81.3	97.8	62.0	63.7		
2300	61.4	63.3	81.0	94.0	61.6	63.5		
2400	61.1	63.0	81.0	93.3	61.4	63.4		

TABLE 98

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	60.7	62.6	80.7	92.2	61.0	64.3		
0200	60.3	62.2	80.6	91.7	60.6	64.4		
0300	60.2	61.9	80.5	90.5	60.2	64.1		
0400	59.8	61.4	78.6	89.4	60.1	63.7		
0500	59.7	61.2	78.0	89.4	59.8	62.8		
0600	59.4	60.7	77.3	89.6	59.5	63.7		
0700	59.4	60.6	76.7	90.0	59.5	64.4		
0800	59.2	60.5	76.3	90.0	59.3	64.3		
0900	59.2	60.5	76.2	90.0	59.4	64.4		
1000	59.0	60.5	76.4	89.6	59.2	64.3		
1100	59.2	60.4	76.8	90.4	59.2	60.6		
1200	59.4	60.7	77.5	91.3	59.4	7/		
1300	59.6	61.3	77.6	90.6	59.5			
1400	59.6	61.4	78.3	92.4	59.5			
1500	59.6	61.6	79.0	93.0	60.0			
1600	59.9	61.8	80.0	94.0	60.0			
1700	60.0	62.0	80.8	94.6	60.0			
1800	59.9	61.7	82.3	96.2	59.9			
1900	59.9	61.5	82.6	96.4	60.0			
2000	59.9	61.4	82.6	96.3	60.0			
2100	59.9	61.2	83.0	96.5	60.0			
2200	59.7	60.8	83.6	97.2	60.0			
2300	59.5	60.7	84.4	98.0	59.8			
2400	59.4	60.5	85.0	98.4	59.6			

7/ Circuit for Downstream Sensor B checked by IM

TABLE 99

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	59.2	60.4	85.0	97.0	59.4			
0200	59.0	60.3	84.8	94.8	59.3			
0300	58.7	60.3	84.0	94.0	59.0			
0400	58.5	60.0	83.6	93.6	58.8			
0500	58.4	59.7	83.0	93.2	58.6			
0600	58.2	59.4	82.0	92.6	58.5			
0700	58.0	59.2	80.8	92.0	58.3			
0800[7]								
0900								
1000								
1100								
1200[2]	60.1	60.0	83.0	100.5	[1]	60.0		60.6[9]
1300	60.4	60.3	84.0	101.6		60.3		60.8
1400	60.7	60.7	86.5	103.3		60.7		61.6
1500	61.2	61.3	87.4	104.5		61.0		62.2
1600	61.5	61.5	87.8	105.0		61.4		62.6
1700	61.9	61.9	88.3	105.2		61.7		62.7
1800	61.9	61.9	89.4	106.2		61.8		62.7
1900	62.1	62.1	89.9	106.6		62.0		62.9
2000	62.0	62.0	89.9	107.0		62.0		62.8
2100	62.0	62.0	90.2	107.6		62.0		62.8
2200	62.2	61.8	90.5	107.9		62.0		62.7
2300	62.1	61.7	90.7	108.0		62.0		62.6
2400	61.9	61.7	90.7	108.0		61.8		62.4

[7] Continuous monitoring system adjusted and recalibrated by IM

[2] Instruments zeroed to ground truth data

[1] Recorder not printing, IM Notified

[9] Sensor turned on, calibrated and zeroed to ground truth

TABLE 100

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	61.7	61.4	90.7	107.8		61.7		62.1
0200	61.7	61.5	90.7	107.9		61.7		62.1
0300	61.6	61.3	90.7	107.8		61.6		61.7
0400	61.5	61.2	91.0	108.4		61.5		61.6
0500	61.4	61.2	91.0	108.3		61.4		61.6
0600	61.4	61.0	91.2	108.4		61.4		61.5
0700	61.3	61.0	91.1	108.5		61.3		61.3
0800	61.3	60.9	91.0	108.2		61.3		61.3
0900	61.2	60.9	90.8	108.2		61.3		61.2
1000	61.2	60.9	90.3	104.1		61.4		61.3
1100	61.3	61.1	89.3	102.5		61.5		61.3
1200	61.5	61.5	88.5	102.0		61.7		61.7
1300	61.8	61.8	88.1	101.9		62.0		62.3
1400	61.9	61.9	87.5	101.8		62.3		62.8
1500	62.2	62.3	86.5	101.6		62.4		63.1
1600	62.3	62.4	86.0	100.9		62.7		63.5
1700	62.4	62.6	85.6	101.3		62.8		63.7
1800	62.5	62.5	85.7	101.0		62.9		63.9
1900	62.5	62.5	85.8	101.3		63.1		63.9
2000	62.6	62.6	85.7	101.4		63.2		64.1
2100	62.8	62.6	85.8	101.3		63.3		64.1
2200	62.8	62.6	85.8	101.3		63.4		64.0
2300	62.8	62.5	85.8	101.4		63.4		63.8
2400	62.8	62.5	86.0	99.8		63.4		63.6

TABLE 101

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	62.8	62.3	86.0	96.0		63.2		63.4
0200	62.6	62.2	85.3	95.3		63.1		63.1
0300	62.4	62.1	84.8	95.7		62.9		62.9
0400	62.2	61.8	84.0	93.9		62.7		62.7
0500	61.9	61.7	82.5	92.9		62.3		62.6
0600	61.8	61.4	80.7	91.2		62.0		62.3
0700	61.7	61.3	80.0	89.1		62.0		62.1
0800	61.5	61.2	80.0	88.2		61.7		61.8
0900	61.4	61.2	78.8	88.2		61.6		61.5
1000	61.4	61.4	78.5	90.0		61.5		61.5
1100	61.5	61.5	78.5	91.4		61.5		61.7
1200	61.6	61.7	78.4	91.6		61.7		62.2
1300	62.0	62.3	79.1	92.6		62.0		62.7
1400	62.2	62.6	80.6	94.6		62.3		63.2
1500	62.4	63.0	82.0	95.2		62.4		63.4
1600	62.6	63.0	82.4	95.9		62.7		63.9
1700	62.7	63.4	82.7	96.4		62.9		64.0
1800	62.9	63.2	83.1	96.7		63.0		64.1
1900	62.9	63.0	84.0	97.3		63.1		64.0
2000	62.8	62.8	84.0	96.4		63.2		64.0
2100	62.7	62.7	83.9	95.4		63.2		64.0
2200	62.7	62.5	84.0	95.0		63.0		63.8
2300	62.5	62.5	84.3	94.4		62.9		63.8
2400	62.6	62.3	83.6	93.6		62.8		63.4

TABLE 102

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	62.6	62.2	83.0	93.0		62.7		63.0
0200	62.3	62.3	82.7	92.4		62.6		62.9
0300	62.0	61.9	81.9	91.9		62.3		62.4
0400	62.0	61.9	81.9	91.9		62.3		62.2
0500	61.7	61.7	81.4	91.8		62.1		61.9
0600	61.5	61.5	81.1	91.4		61.8		61.7
0700	61.3	61.4	80.8	91.6		61.7		61.7
0800	61.2	61.2	80.7	92.1		61.5		61.9
0900	61.4	61.2	80.5	94.7	61.4	61.4		61.7
1000	61.4	61.3	80.3	94.6	61.4	61.4		62.0
1100	61.4	61.4	80.6	94.7	61.5	61.4		62.0
1200	61.8	61.8	81.1	96.4	61.9	61.9		62.5
1300	62.1	62.2	83.4	98.2	62.1	62.1		63.0
1400	62.2	62.6	83.8	100.4	62.5	62.5		63.5
1500	62.4	62.6	84.4	101.4	62.6	62.6		63.8
1600	62.5	62.7	85.1	101.5	62.6	62.7		63.9
1700	62.6	62.6	86.0	102.2	62.7	62.8		64.1
1800	62.6	62.7	87.2	102.8	62.7	62.8		64.3
1900	62.6	62.6	87.3	102.4	62.7	63.0		64.2
2000	62.7	62.6	87.8	101.8	62.8	62.9		64.3
2100	62.9	62.7	88.2	101.7	63.0	63.0		64.2
2200	62.7	62.7	88.4	101.3	62.8	62.8		63.8
2300	62.7	62.6	88.1	102.1	62.9	62.9		63.9
2400	62.6	62.6	87.6	103.2	62.8	62.8		63.7

TABLE 103

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	62.4	62.3	87.6	103.8	62.6	62.6		63.5
0200	62.4	62.3	87.4	103.3	62.6	62.6		63.4
0300	62.3	62.2	87.9	103.5	62.5	62.5		63.2
0400	62.1	62.3	88.6	104.3	62.4	62.4		62.9
0500	62.1	61.9	89.0	104.7	62.3	62.3		62.8
0600	62.1	61.9	88.4	104.1	62.2	62.2		62.7
0700	62.0	61.8	88.3	104.0	62.1	62.1		62.6
0800	62.0	61.8	88.5	104.1	62.0	62.0		62.5
0900	61.9	61.7	88.7	104.4	61.9	61.9		62.4
1000	61.8	61.8	88.6	104.2	61.8	61.8		62.4
1100	61.7	61.7	89.0	104.7	62.0	61.9		62.4
1200	61.9	61.9	89.5	105.5	62.1	62.0		62.5
1300	62.0	62.0	88.9	105.5	62.0	62.0		62.8
1400[2/]	61.3	61.6	88.4	103.4	61.6	61.0		61.8
1500	61.5	61.4	87.8	100.7	61.5	61.4		61.9
1600	61.4	61.4	86.9	98.5	61.4	61.4		62.0
1700	61.2	61.2	85.9	97.6	61.5	61.5		62.1
1800	61.4	61.0	85.4	97.0	61.4	61.5		62.1
1900	61.4	61.0	84.5	96.5	61.4	61.4		61.7
2000	61.2	60.9	83.4	96.5	61.4	61.4		61.5
2100	61.0	60.9	82.5	95.9	61.4	61.4		61.4
2200	61.0	60.6	82.2	95.7	61.3	61.3		61.4
2300	61.0	60.6	82.1	95.7	61.2	61.2		61.2
2400	61.0	60.4	82.0	95.6	61.1	61.1		61.1

[2/] Instruments zeroed to ground truth

TABLE 104

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	60.8	60.3	82.0	95.8	61.0	61.0		61.0
0200	60.6	60.3	81.6	95.6	60.8	60.8		60.7
0300	60.4	60.2	81.3	95.5	60.6	60.6		60.4
0400	60.3	60.1	81.0	95.2	60.4	60.5		60.5
0500	60.0	59.8	80.7	94.6	60.3	60.3		59.9
0600	60.0	59.7	80.7	94.4	60.1	60.1		59.7
0700	59.8	59.4	80.5	94.3	60.0	60.0		59.4
0800	59.5	59.2	80.5	94.5	60.0	59.2		59.3
0900	59.9	59.8	81.1	95.0	60.1	59.3		59.4
1000	60.1	60.1	81.4	95.4	60.3	59.4		59.4
1100	60.3	60.3	82.0	96.0	60.3	59.5		60.0
1200	60.6	60.7	82.8	97.0	60.6	59.6		60.1
1300	60.7	61.0	83.3	97.3	61.0	59.9		60.4
1400	60.9	61.2	83.8	98.2	61.0	60.0		60.9
1500	61.1	61.7	84.4	98.6	61.3	60.2		61.2
1600	61.1	61.6	85.2	99.4	61.3	60.5		61.5
1700	61.3	61.7	85.4	99.6	61.4	60.6		61.9
1800	61.4	61.8	85.6	99.6	61.5	60.7		62.0
1900	61.4	61.7	85.5	99.4	61.4	60.9		61.9
2000	61.4	61.4	85.6	98.8	61.3	60.7		61.5
2100	61.1	61.2	85.7	98.7	61.3	60.7		61.4
2200	61.0	61.0	85.6	98.8	61.3	60.6		61.4
2300	60.5	61.0	85.6	98.7	61.4	60.6		61.3
2400	59.9	61.1	85.3	98.5	61.4	60.1		61.6

TABLE 105

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	59.4	61.0	85.0	98.4	60.7	59.4		61.5
0200	58.8	61.1	84.9	97.5	60.5	59.4		61.0
0300	58.8	60.9	85.0	98.3	60.6	59.9		61.1
0400	58.8	60.8	84.9	98.0	59.6	58.8		60.9
0500	58.6	60.7	84.9	97.7	59.6	58.8		60.7
0600	58.6	60.5	84.9	98.1	59.4	58.9		60.5
0700	58.6	60.5	84.5	98.0	59.4	58.7		60.7
0800	58.6	59.8	84.4	97.5	59.1	58.2		60.1
0900	59.8	59.8	84.7	97.5	60.0	60.0		59.9
1000	59.9	59.9	85.0	97.5	60.1	59.9		60.0
1100	60.1	60.1	85.3	98.0	60.2	60.1		60.4
1200	60.7	60.7	85.6	98.2	60.6	60.3		61.7
1300	60.8	61.0	86.0	98.7	60.8	60.6		62.3
1400	61.3	61.5	86.6	99.2	61.3	60.9		63.0
1500	61.6	61.8	86.7	99.3	61.8	61.3		63.6
1600	62.3	62.6	87.0	100.0	62.5	61.7	63.8[9/]	64.4
1700	62.6	63.0	86.8	99.9	63.0	62.2	64.9	64.6
1800	62.9	63.5	87.0	100.2	63.2	62.4	64.8	64.6
1900	62.9	63.3	86.9	100.2	63.2	62.5	65.5	64.8
2000	63.0	63.2	86.7	99.9	63.2	62.6	65.1	64.6
2100	63.1	63.1	86.6	99.9	63.2	62.5	64.8	64.3
2200	63.0	63.0	86.4	99.9	63.2	62.3	64.9	64.4
2300	63.1	63.1	85.4	99.2	63.2	62.3	64.6	64.4
2400	62.8	62.9	84.8	98.5	63.1	62.1	64.4	64.2

[9/] Sensor calibrated by IM, zeroed to ground truth

TABLE 106

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION
MAY 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	62.6	62.7	84.2	98.4	62.8	62.0	64.0	63.8
0200	62.4	62.4	83.6	97.8	62.7	61.7	63.9	63.4
0300	62.4	62.4	83.4	97.5	62.6	61.5	63.7	63.3
0400	62.2	62.2	83.1	97.5	62.4	61.4	63.6	63.1
0500	61.9	61.9	82.7	97.2	62.2	61.1	63.4	62.9
0600	61.6	61.6	82.4	96.9	62.0	60.7	63.5	62.7
0700	61.4	61.4	82.1	96.6	61.6	60.6	63.5	62.4
0800	61.4	61.4	82.0	96.6	61.6	60.6	63.5	62.5
0900	60.9	61.1	81.7	96.4	61.1	60.3	63.6	62.4
1000	60.9	61.2	81.9	96.3	61.2	60.3	64.1	62.5
1100	61.3	61.4	82.3	96.9	61.5	60.7	64.3	63.0
1200	61.3	61.3	82.5	96.8	61.5	61.0	64.6	63.2
1300	61.3	61.3	82.4	96.6	61.6	61.1	64.4	63.3
1400	61.3	61.3	82.1	96.1	61.6	61.1	64.3	63.5
1500	61.3	61.3	82.0	96.0	61.6	61.0	64.1	63.6
1600	61.4	61.4	82.2	95.6	61.6	61.0	64.1	63.6
1700	61.4	61.4	82.4	95.6	61.6	61.0	63.9	63.6
1800	61.4	61.3	82.1	95.6	61.6	61.1	63.5	63.5
1900	61.3	61.2	81.9	95.5	61.6	61.1	63.4	63.4
2000	61.2	61.2	81.1	95.3	61.5	61.0	63.1	63.0
2100	61.1	61.1	80.8	95.1	61.5	60.7	62.9	62.6
2200	61.0	61.0	80.6	95.1	61.4	60.7	62.5	62.4
2300	61.0	60.9	80.6	94.7	61.2	60.6	62.2	61.7
2400	60.6	60.7	80.5	91.6	61.0	60.5	61.8	61.8

TABLE 107

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	60.2	60.5	80.7	88.8	60.9	60.6	61.6	61.6
0200	59.9	60.4	80.8	86.1	60.6	60.4	61.3	61.4
0300	59.5	60.1	80.8	83.7	60.3	60.3	60.8	61.1
0400	59.4	60.0	80.8	82.0	60.2	60.2	60.6	61.0
0500	59.1	60.0	80.0	81.0	60.1	60.1	60.1	61.0
0600	59.1	59.8	78.9	80.2	60.0	60.0	60.1	60.9
0700	59.0	59.7	77.7	79.4	59.9	60.0	60.1	60.9
0800	58.9	59.6	76.4	78.5	59.8	60.0	60.4	60.9
0900	58.1	59.7	75.4	77.5	59.1	59.4	60.6	60.6
1000	58.3	59.5	74.7	77.5	58.8	59.9	60.4	60.4
1100	58.5	59.2	74.3	77.2	58.6	59.9 7/	61.4	60.3
1200	59.4	59.1	4/	77.1	58.6	54.8 7/	4/	4/
1300	59.6	58.9		76.6	58.6	55.1		
1400	59.2	58.8		76.3	58.6	55.0		
1500	58.0	61.6		90.7	58.6	55.0		
1600	58.3	60.0		91.3	58.6	54.8		
1700	58.9	60.2		91.5	59.7	56.0		
1800	59.3	61.0		91.8	59.9	55.8		
1900	59.3	61.3		92.2	59.7	55.7		
2000	59.2	61.9		94.1	59.6	55.6		
2100	59.1	59.7		99.1	59.6	55.5		
2200	59.1	59.5		99.0	59.6	55.5		
2300	59.1	59.3		99.0	59.4	55.5		
2400	58.9	59.7		99.2	59.4	55.4		

4/ Sensor malfunction - no data
7/ Erratic readings due to electrical storm interference

TABLE 108

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	58.8	60.2		99.2	59.2	55.4		
0200	58.8	59.6		102.5	58.9	55.3		
0300	58.5	59.1		102.6	58.4	55.4		
0400	58.7	59.8		102.7	58.5	55.4		
0500	58.7	58.8		103.0	57.2	55.4		
0600	58.7	59.7		102.3	57.7	55.4		
0700	58.7	58.8		103.0	59.1	55.4		
0800	58.7	58.8		104.2	59.4	55.6		
0900	58.7	60.1		104.5	59.8	56.0		
1000	58.6	59.4		104.7	59.9	55.8		
1100	58.7	59.5		104.7	59.9	55.8		
1200	58.7	59.9		104.7	59.9	55.8		
1300	58.7	60.2		105.3	60.1	55.8		
1400	59.0	60.6		105.5	60.1	55.7		
1500	59.0	60.0		105.8	60.1	55.8		
1600	59.1	60.1		105.8	60.3	56.0		
1700	59.1	59.4		105.8	60.3	56.1		
1800	59.1	59.9		105.8	60.4	56.6		
1900	59.3	60.4		106.0	60.3	56.7		
2000	59.3	60.8		106.7	60.4	56.7		
2100	59.3	61.4		106.5	59.1	56.7		
2200	59.4	60.4		106.8	57.0	57.0		
2300	59.3	60.1		106.6	59.4	56.9		
2400	59.3	60.0		106.7	60.0	57.0		

TABLE 109

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	59.2	62.0		106.5	60.0	57.0		
0200	59.2	60.1		106.7	59.7	56.9		
0300	59.1	60.5		106.7	58.6	56.8		
0400	59.2	59.7		106.4	56.9	56.8		
0500	59.1	60.4		106.2	59.9	56.8		
0600	59.0	58.5		92.6	59.9	57.0		
0700	59.0	58.5		84.0	59.9	57.2		
0800	59.0	58.5		84.6	60.0	57.3		
0900	59.1	58.6		84.7	60.1	57.3		
1000	58.7	58.4		84.6	59.9	56.9		
1100	59.1	58.7		86.0	60.1	57.1		
1200	59.0	59.0		83.0	60.6	57.0		
1300	59.3	59.1		83.7	60.6	56.8		
1400	59.5	59.4		84.7	61.0	57.9		
1500[2/]	59.9	59.9		85.7	60.2	60.4	61.0	
1600	60.3	60.3		84.9	60.7	60.7	61.3	
1700	60.4	60.6		85.3	60.9	60.9	61.4	
1800	60.7	61.2		85.8	61.1	61.1	61.6	
1900	60.7	61.1		86.5	61.1	61.1	61.6	
2000	60.9	60.3		87.3	61.4	61.1	61.6	
2100	60.9	61.1		89.1	61.5	61.1	61.6	
2200	60.9	60.9		90.1	61.4	61.0	61.7	
2300	61.0	61.0		89.9	61.4	60.8	61.6	
2400	60.9	60.9		91.1	61.3	60.8	61.6	

[2/] Instruments zeroed to ground truth data

TABLE 110

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	60.6	60.6		92.1	61.1	60.7	61.4	
0200	60.6	60.6		92.9	61.1	60.7	61.5	
0300	60.5	60.5		93.4	61.1	60.7	61.4	
0400	60.4	60.3		94.7	61.0	60.7	61.4	
0500	60.3	60.3		94.7	60.7	60.6	61.4	
0600	60.1	60.1		94.9	60.6	60.6	61.5	
0700	60.2	60.1		96.2	60.6	60.6	61.7	
0800	60.2	60.2		97.1	60.6	60.6	62.0	
0900	60.3	60.3		97.6	60.5	60.5	62.1	
1000	60.4	60.4		98.8	60.6	60.7	62.4	
1100	60.6	60.6		99.8	60.6	60.7	62.6	
1200	60.8	60.8		100.4	60.8	61.0	62.8	
1300	61.0	61.0		101.1	61.1	61.2	63.0	
1400	61.3	61.7	89.1[2/]	102.2	61.3	61.4	63.3	
1500	61.8	61.8	89.9	102.5	61.6	61.7	63.4	
1600	62.4	62.5	90.1	103.0	62.0	62.0	63.7	
1700	62.7	63.1	90.7	103.2	62.4	62.4	63.8	
1800	62.8	63.1	91.0	103.7	62.6	62.6	63.9	
1900	63.2	63.5	91.1	104.0	62.7	62.7	64.0	
2000	63.2	63.4	91.4	104.6	62.9	62.9	64.1	
2100	63.2	63.3	91.5	104.1	62.9	62.9	64.1	
2200	63.2	63.2	91.5	105.0	62.9	62.9	64.3	
2300	63.2	63.2	91.7	105.1	62.9	62.9	63.9	
2400	63.3	63.2	91.7	105.0	62.9	62.9	64.1	

[2/] Instrument zeroed to ground truth data

TABLE 111

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	63.2	63.2	91.4	104.8	62.8	62.8	64.1	
0200	63.2	63.2	91.5	104.7	62.7	62.8	63.9	
0300	63.0	62.8	91.3	104.8	62.6	62.8	63.8	
0400	62.9	62.8	91.1	104.9	62.4	62.6	63.6	
0500	62.6	62.6	90.6	104.7	62.2	62.5	63.7	
0600	62.6	62.5	90.5	104.6	62.1	62.5	63.7	
0700	62.5	62.4	90.5	104.9	62.0	62.4	63.8	
0800	62.4	62.4	90.6	105.0	61.8	62.4	64.1	
0900	62.7	62.6	91.1	105.3	61.9	62.5	64.3	
1000	62.8	62.8	91.6	105.9	62.0	62.6	64.6	
1100	63.2	63.4	92.5	106.7	62.2	62.8	64.9	
1200	63.6	63.8	92.8	107.3	62.5	63.1	65.3	
1300	64.0	64.4	93.8	108.2	63.0	63.5	65.7	
1400	64.5	65.0	94.3	108.8	63.2	63.8	65.9	
1500	64.9	65.5	94.9	109.9	63.6	64.1	65.9	
1600	65.2	65.8	95.1	109.4	63.7	64.3	66.8	
1700	65.4	66.3	94.9	105.4	63.7	64.6	66.8	
1800	65.5	66.3	94.9	104.9	64.1	64.9	67.0	
1900	65.7	66.5	94.1	104.1	64.1	65.1	67.1	
2000	65.6	66.2	93.5	103.6	64.1	65.1	67.1	
2100	65.6	66.1	92.7	103.4	63.9	65.1	66.9	
2200	65.5	65.8	90.6	102.4	64.0	65.1	66.9	
2300	65.5	65.7	89.9	101.9	63.8	65.1	66.7	
2400	65.5	65.6	89.5	101.7	63.8	65.1	66.6	

TABLE 112

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	65.4	65.6	89.2	101.4	63.6	64.9	66.4	
0200	65.3	65.6	89.0	101.4	63.5	64.9	66.4	
0300	65.1	65.5	88.3	101.0	63.4	64.8	66.2	
0400	65.0	65.5	87.9	100.8	63.2	64.8	66.1	
0500	64.8	65.2	87.6	100.3	63.0	64.7	66.0	
0600	64.8	64.9	87.3	100.1	63.1	64.7	65.8	
0700	64.5	64.6	87.1	100.1	63.4	64.8	66.0	
0800	64.6	64.9	87.3	100.0	63.3	64.8	65.9	
0900	64.7	64.8	87.0	99.9	63.2	65.0	66.5	
1000	64.9	65.3	87.4	99.9	63.3	65.3	66.9	
1100	65.1	65.8	87.8	100.5	65.3	65.5	66.9	
1200	65.4	66.0	88.1	100.7	66.2	66.2	67.6	
1300	65.7	66.3	88.4	100.7	66.0	66.4	67.6	
1400	66.1	66.7	88.3	100.7	66.2	66.7	68.1	
1500	66.5	67.3	88.4	101.0	66.7	66.9	68.0	
1600	66.8	67.6	88.5	101.3	66.7	67.3	68.1	
1700	67.0	68.0	88.8	101.3	67.9	68.0	68.3	
1800	67.3	68.2	88.7	101.4	67.3	68.3	68.4	
1900	67.4	68.3	88.6	101.2	67.2	68.5	68.5	
2000	67.4	68.4	88.4	101.0	67.3	68.7	68.5	
2100	67.2	68.1	88.4	100.8	67.1	68.6	68.5	
2200	67.1	68.0	88.5	101.0	67.0	68.7	68.5	
2300	67.1	67.7	88.1	100.7	66.8	68.7	68.6	
2400	67.1	67.6	88.0	100.7	66.7	68.7	68.4	

TABLE 113

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	67.3	67.6	87.7	101.0	66.7	68.5	68.4	
0200	67.1	67.6	87.6	100.9	66.7	68.5	68.3	
0300	67.1	67.5	87.6	100.9	66.4	68.4	68.1	
0400	67.1	67.4	87.3	100.8	66.3	68.4	67.9	
0500	67.0	67.4	87.2	100.7	66.1	68.3	67.9	
0600	66.8	67.4	87.0	100.7	65.9	68.1	67.7	
0700	66.7	68.3	86.9	100.3	65.7	67.8	67.7	
0800	66.6	67.2	86.9	100.4	65.6	67.8	67.6	
0900	66.3	67.0	87.0	100.4	65.5	67.7	67.6	
1000	66.1	66.7	86.8	100.3	65.3	67.5	67.6	
1100	66.0	66.8	87.1	100.4	65.2	67.4	67.7	
1200	66.0	66.8	87.2	100.6	65.0	67.4	67.5	
1300	66.0	66.7	87.4	100.7	65.0	67.4	67.7	
1400	66.0	66.7	87.7	100.7	65.1	67.5	67.7	
1500	66.1	66.7	87.8	100.9	65.5	67.5	67.7	
1600	66.3	66.8	87.9	101.0	65.6	67.4	67.8	
1700	66.4	66.8	88.1	101.0	65.9	67.6	67.7	
1800	66.4	66.7	88.1	101.2	66.0	67.6	67.8	
1900	66.5	66.8	88.1	101.2	66.0	67.8	68.0	
2000	66.6	66.8	88.1	101.4	66.0	67.7	67.9	
2100	66.5	66.8	88.1	101.2	65.0	67.7	68.1	
2200	66.6	66.7	87.9	101.0	67.3	67.7	68.2	
2300	66.7	66.8	87.9	99.7	67.6	67.6	67.9	
2400	66.6	66.7	87.9	99.6	67.3	67.8	68.0	

TABLE 114

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	66.6	66.8	87.8	99.5	65.0	66.9	67.9	
0200	66.7	66.8	87.7	99.0	64.1	67.9	67.9	
0300	66.7	66.8	87.5	99.2	64.1	67.9	67.9	
0400	66.7	66.8	87.0	99.0	63.7	67.9	67.9	
0500	66.8	66.8	86.7	98.5	63.5	68.0	67.8	
0600	66.7	66.7	86.5	98.8	64.8	67.9	67.6	
0700	66.7	66.7	86.4	98.5	64.9	67.8	67.7	
0800	66.6	66.6	86.4	98.3	65.3	67.7	67.6	
0900	66.6	66.7	86.4	98.5	66.3	67.6	67.6	
1000	66.8	66.8	86.5	98.4	66.1	67.8	67.6	
1100	66.7	67.3	87.0	98.9	66.0	67.9	67.8	
1200	66.9	67.5	87.7	99.5	67.0	67.9	67.9	
1300	67.1	67.7	88.1	100.0	67.6	68.1	68.1	
1400	67.4	68.1	88.6	100.5	66.6	68.3	68.3	
1500	67.3	68.6	89.2	101.0	67.0	68.5	68.5	
1600	68.0	68.8	89.5	101.4	68.8	68.8	68.6	
1700	67.9	68.9	89.5	101.6	68.9	69.0	69.0	
1800	68.0	69.0	89.8	101.7	68.7	69.0	68.6	
1900	68.1	68.9	89.9	101.8	68.8	69.1	68.6	
2000	68.0	68.6	89.5	101.8	68.6	69.0	68.6	
2100	68.0	68.5	89.4	101.3	68.6	69.4	68.5	
2200	68.0	68.5	89.3	101.2	68.5	69.3	68.5	
2300	68.0	68.4	89.0	101.3	68.4	69.1	68.6	
2400	68.0	68.4	88.9	101.2	68.3	69.1	68.3	

TABLE 115

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	67.9	68.4	88.7	101.0	68.2	69.3	68.2	
0200	67.9	68.2	88.5	101.0	67.9	69.0	68.1	
0300	67.8	68.1	88.1	101.7	67.2	69.0	67.8	
0400	67.6	68.0	88.0	100.5	67.8	68.7	67.6	
0500	67.5	67.7	87.7	99.6	66.7	67.5	68.7	
0600	67.4	67.5	87.7	99.5	66.2	68.5	67.4	
0700	67.4	67.4	87.6	99.7	65.7	68.4	67.4	
0800	67.1	67.4	87.4	99.5	65.3	68.3	67.5	
0900	67.1	67.6	87.9	99.5	65.1	68.2	67.8	
1000	67.2	67.9	88.3	100.0	63.0	68.3	68.1	
1100	67.6	68.1	89.0	100.5	68.0	68.4	68.4	
1200	67.8	68.6	89.5	101.1	68.3	68.9	68.6	
1300	68.1	69.1	90.0	101.6	68.8	69.0	68.7	
1400	68.5	69.3	90.3	101.9	68.7	69.3	68.9	
1500	68.7	69.6	90.7	102.0	69.0	69.4	69.0	
1600	69.0	70.0	90.8	102.4	69.4	69.6	69.4	
1700	69.3	70.1	90.8	102.4	69.5	70.0	69.6	
1800	69.5	70.5	91.0	102.6	69.9	70.2	69.5	
1900	69.7	70.6	91.0	103.1	70.0	70.3	69.8	
2000	69.7	70.7	91.0	103.1	70.0	70.4	69.9	
2100	69.7	70.6	90.7	103.1	69.9	70.2	69.7	
2200	69.7	70.5	90.0	102.8	69.7	70.1	69.6	
2300	69.6	70.4	89.4	102.1	69.6	70.2	69.4	
2400	69.5	70.3	89.2	101.9	69.5	70.1	69.0	

TABLE 116

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	69.4	70.3	88.6	101.5	69.4	70.0	68.9	
0200	69.2	70.0	88.1	101.3	69.2	70.0	68.8	
0300	69.0	70.0	87.5	100.8	69.0	69.6	68.6	
0400	68.8	69.6	87.0	100.5	69.0	69.5	68.6	
0500	68.6	69.6	86.5	100.0	68.6	69.5	68.7	
0600	68.5	69.3	86.1	99.4	68.5	69.3	68.7	
0700	68.3	69.0	85.6	99.4	68.3	69.2	68.8	
0800	68.4	70.0	85.2	99.2	68.4	69.2	68.8	
0900	68.5	70.0	85.0	99.0	68.3	69.3	69.0	
1000	68.6	69.1	85.0	99.0	68.5	69.3	69.3	
1100	68.8	69.4	85.2	99.1	68.8	69.6	69.5	
1200	69.0	69.5	85.5	99.5	69.1	70.0	69.6	
1300	69.5	70.0	86.0	100.0	69.4	70.0	70.0	
1400	69.9	70.7	86.5	100.3	69.9	70.4	70.0	
1500	70.0	71.2	86.5	100.6	70.0	70.5	70.2	
1600	70.4	71.5	86.7	101.0	70.2	70.7	70.2	
1700	70.5	71.6	87.2	101.4	70.4	70.9	70.2	
1800	70.6	71.8	87.4	101.6	70.5	71.0	70.3	
1900	70.6	71.8	87.7	101.7	70.5	71.0	70.2	
2000	70.7	71.8	87.6	101.8	70.5	70.0	70.4	
2100	70.7	71.6	87.4	101.8	70.4	71.0	70.1	
2200	70.6	71.5	87.2	101.6	70.4	70.9	79.9	
2300	70.3	71.4	87.0	101.4	70.2	70.6	69.8	
2400	70.1	71.1	86.9	101.3	70.1	70.6	69.5	

TABLE 117

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	70.0	70.9	86.7	100.6	69.9	70.3	69.4	
0200	69.8	70.7	86.2	100.2	69.7	70.2	69.2	
0300	69.5	70.4	86.0	100.2	69.3	70.1	69.0	
0400	69.3	70.4	85.5	99.9	69.2	70.1	68.8	
0500	69.1	70.1	85.3	99.8	69.0	70.0	68.9	
0600	68.9	69.9	85.0	99.5	68.9	69.9	68.9	
0700	68.8	69.7	84.8	99.2	68.5	69.6	68.7	
0800	68.5	69.5	84.9	99.0	68.5	69.5	69.0	
0900	68.7	69.5	85.0	99.2	68.5	69.6	69.5	
1000	68.8	69.5	85.6	99.3	68.7	69.7	69.4	
1100	69.0	69.7	86.2	100.2	68.9	70.0	70.0	
1200	69.4	70.2	87.2	101.2	69.3	70.2	70.2	
1300	69.8	70.7	88.0	101.9	69.5	70.5	70.0	
1400[2/]	70.0	71.1	88.0	101.9	69.9	70.9	71.9	
1500	70.4	71.6	89.0	102.9	70.1	70.7	72.0	
1600	70.6	71.8	89.3	103.4	70.5	70.5	72.2	
1700	70.8	72.2	89.6	103.8	70.5	70.5	72.2	
1800	71.1	72.4	90.0	104.4	70.6	70.5	72.3	
1900	71.1	72.4	90.2	104.8	70.8	70.6	72.1	
2000	71.1	72.2	90.3	105.0	70.7	70.5	72.1	
2100	71.0	72.0	90.6	105.1	70.6	70.5	72.1	
2200	71.0	71.9	90.7	105.5	70.6	70.5	72.1	
2300	70.9	71.8	90.6	105.5	70.6	70.4	72.0	
2400	70.8	71.7	90.8	105.4	70.5	70.3	72.1	

[2/] Instruments zeroed to ground truth data

TABLE 118

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	70.7	71.6	91.0	105.0	70.5	70.3	71.7	
0200	70.6	71.5	90.8	104.0	70.5	70.2	71.5	
0300	70.5	71.5	91.2	103.5	70.2	70.0	71.5	
0400	70.3	71.5	91.1	103.4	70.0	70.0	71.4	
0500	70.1	71.2	91.0	103.7	69.7	69.7	71.2	
0600	70.0	71.0	90.6	103.8	69.6	69.6	71.2	
0700	70.0	70.8	90.0	103.5	69.5	69.5	71.1	
0800	70.0	70.8	89.8	103.4	69.5	69.5	71.3	
0900	70.1	71.0	90.2	103.6	69.6	69.7	71.7	
1000	70.2	71.3	91.7	104.2	69.8	69.8	71.8	
1100	70.2	71.5	91.0	104.5	69.9	69.8	72.0	
1200	70.8	72.0	91.4	105.2	70.0	69.8	72.3	
1300	71.0	72.2	91.8	105.6	70.3	69.8	72.6	
1400	71.5	72.6	92.1	105.8	70.7	70.2	73.1	
1500	71.8	73.0	92.4	106.4	71.0	70.2	73.2	
1600	72.1	73.5	92.3	106.5	71.3	70.4	73.5	
1700	72.3	73.8	92.7	106.7	71.6	70.6	73.5	
1800	72.4	74.0	93.2	107.2	71.5	70.7	73.8	
1900	72.5	74.0	93.0	107.5	71.5	70.8	73.9	
2000	72.7	74.0	93.3	107.6	71.5	70.8	74.0	
2100	72.7	73.8	93.3	107.8	72.6	71.0	74.2	
2200	72.8	73.9	93.5	108.0	73.5	71.1	74.0	
2300	72.8	73.7	93.2	107.7	73.6	71.2	73.9	
2400	72.7	73.6	92.4	107.7	73.6	71.2	73.8	

TABLE 119

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.6	73.5	92.6	107.5	73.6	71.2	73.8	
0200	72.9	73.4	91.5	107.5	73.7	71.0	73.8	
0300[1]			91.6	107.0	73.0			
0400			90.6	106.9	72.8			
0500			90.5	107.0	72.2			
0600			90.5	106.9	72.2			
0700			90.4	106.5	72.2			
0800			90.6	107.0	72.6			
0900			91.2	106.8	72.8			
1000			91.6	106.9	72.6			
1100			91.9	107.0	73.8			
1200			91.9	106.9	73.9			
1300			91.8	107.4	74.2			
1400[2]	73.2		91.9	108.2	73.2	73.4	73.7	
1500	73.2		92.5	108.2	73.7	73.4	73.6	
1600	73.0		92.2	108.0	73.8	73.5	73.6	
17 0	73.4		92.0	107.6	83.9	73.5	74.0	
1800	73.7		92.1	107.8	74.0	73.9	75.2	
1900	73.8		92.5	108.1	74.0	74.0	74.3	
2000	73.8		92.7	108.4	74.1	74.1	74.3	
2100	74.0		93.0	108.4	74.1	74.1	74.4	
2200	74.0		92.9	108.4	74.3	74.3	74.5	
2300	74.0		92.7	108.4	74.3	74.2	74.6	
2400	73.8		92.6	108.3	74.1	74.1	74.3	

[1] Thunder storm caused several of the sensors to give erratic readings

[2] Instruments zeroed to ground truth data, except Intake sensor is still invalid

TABLE 120

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.8		92.7	108.1	74.1	74.1	74.5	
0200	73.8		92.7	4/	74.1	74.1	74.3	
0300	73.7		92.6		74.0	74.0	74.1	
0400	73.7		92.3		74.2	73.9	74.0	
0500	73.6		92.3		74.3	73.9	73.9	
0600	73.5		92.2		74 1	73.8	73.8	
0700	73.5		91.8		74.1	73.7	74.5	
0800	73.4		91.9		74.0	73.7	74.5	
0900	73.3		91.9		74.2	73.5	73.8	
1000	73.2		91.9		74.2	73.5	73.6	
1100	73.2		91.8		74.5	73.5	73.7	
1200	73.5		91.9		74.9	73.5	73.5	
1300	73.6		92.0		.5	73.6	73.6	
1400	74.1		91.9		8	74.0	73.6	
1500	74.3		91.5		5	74.9	74.9	
1600	75.4		90.9		2	74.4	74.5	
1700	75.0		90.6		7	74.3	74.8	
1800	74.6		90.5		77..	74.3	74.4	
1900	74.5		90.0		77.2	75.0	74.3	
2000	74.4		89.5		77.2	74.5	74.1	
2100	74.0		89.4		77.2	74.3	74.0	
2200	73.7		89.8		75.4	74.0	74.0	
2300	73.8		90.4		75.1	3.7	74.0	
2400	73.6		90.7		75.0	.9	74.2	

4/ Sensor malfunction - no data

TABLE 121

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
MAY 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.7		91.0		75.6	74.0	73.8	
0200	73.7		90.7		75.2	73.7	73.5	
0300	73.5		90.3		74.8	73.7	73.5	
0400	73.2		90.0		73.7	73.6	73.5	
0500	73.2		89.8		73.6	73.6	73.6	
0600	73.1		89.7		73.6	73.6	73.3	
0700	73.0		89.5		73.6	73.6	73.2	
0800	73.0		89.3		73.5	73.5	73.1	
0900	72.9		89.4		73.4	73.4	73.1	
1000	72.8		89.9		73.6	73.5	73.0	
1100	72.9		90.2		73.6	73.6	73.2	
1200	73.0		90.7		73.5	73.5	73.3	
1300	73.4		91.2		73.8	73.5	73.3	
1400	73.6		91.6		73.9	73.6	73.8	
1500	73.8		91.9		74.0	73.7	74.3	
1600	73.9		92.2		74.2	73.9	74.5	
1700	73.9		92.3		74.3	74.0	74.8	
1800	73.8		92.3		74.2	74.0	74.6	
1900	74.0		92.2		74.2	74.0	74.6	
2000	74.0		92.2		74.2	74.1	74.6	
2100	74.0		92.0		74.1	74.1	74.6	
2200	73.9		92.0		74.1	74.1	74.6	
2300	74.0		92.0		74.2	74.2	74.5	
2400	73.9		91.9		74.1	74.1	74.1	

TABLE 122

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.8		91.2		74.0	74.0	73.8	
0200	73.8		90.7		73.7	73.7	73.4	
0300	73.2		90.3		73.4	73.5	73.3	
0400	72.8		90.2		73.2	73.2	73.2	
0500	72.7		89.8		72.0	72.6	73.3	
0600	72.8		89.2		71.7	72.3	73.3	
0700	72.8		89.0		71.6	73.5	73.5	
0800	72.6		88.8		71.6	73.5	73.5	
0900	72.7		88.7		72.4	73.8	73.5	
1000	72.5		88.4		72.6	73.7	73.7	
1100	72.7		88.3		72.7	73.7	73.7	
1200	72.7		88.5		72.9	73.8	74.2	
1300	73.0		89.2		73.0	73.8	74.3	
1400	73.0		89.8		73.0	73.3	74.3	
1500	73.3		90.8		73.5	74.0	74.3	
1600	73.5		91.4		73.5	73.9	74.2	
1700	73.5		91.6		73.7	73.9	74.3	
1800	73.7		91.8		73.7	73.8	74.3	
1900	73.6		91.9		73.6	73.8	74.1	
2000	73.6		92.2		73.6	73.8	73.9	
2100	73.5		92.3		73.5	73.7	73.9	
2200	73.5		92.5		73.4	73.6	73.6	
2300	73.3		92.5		73.3	73.6	73.4	
2400	73.2		92.5		73.2	73.5	73.3	

TABLE 123

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.9		91.9		72.8	72.3	73.2	
0200	72.9		91.9		72.7	73.1	72.8	
0300	72.5		91.7		72.7	73.1	72.7	
0400	72.2		91.7		72.6	72.9	72.4	
0500	72.2		91.5		72.5	72.9	72.5	
0600	71.9		91.3		72.3	72.9	72.5	
0700	71.9		91.2		72.3	72.8	72.5	
0800	71.8		91.6		72.1	72.7	72.5	
0900	71.7		91.0		72.0	72.6	72.5	
1000	71.8		91.4		71.9	72.4	72.6	
1100	71.9		91.1		71.2	73.9	72.6	
1200	72.0		91.2		72.0	74.0	72.6	
1300	72.0		90.8		72.1	73.5	72.7	
1400	72.2		90.6		72.4	73.6	72.8	
1500	72.3		90.9		72.4	73.5	72.8	
1600	72.5		91.2		72.6	73.7	72.9	
1700	72.7		91.2		72.8	73.8	72.8	
1800	72.7		91.2		72.7	73.9	72.8	
1900	72.7		91.0		72.8	74.4	72.8	
2000	72.5		91.2		72.8	74.0	72.7	
2100	72.5		91.5		72.2	72.2	73.0	
2200	72.4		90.2		72.0	71.8	72.8	
2300	72.6		90.0		71.6	72.5	72.9	
2400	72.3		90.1		71.6	72.5	72.2	

TABLE 124

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.0		89.8		71.6	73.2	71.4	
0200	71.8		90.0		71.8	73.2	71.5	
0300	71.5		89.8		71.8	73.7	71.6	
0400	71.5		89.9		71.7	73.4	72.0	
0500	71.4		89.6		71.6	73.2	72.2	
0600	71.2		89.2		71.6	73.1	72.2	
0700	71.2		89.0		71.6	73.2	72.2	
0800	71.3		89.5		71.6	73.2	72.5	
0900	71.3		90.1		71.9	73.3	72.4	
1000	71.5		90.5		72.0	73.5	72.3	
1100	71.7		90.7		72.2	73.8	72.4	
1200	72.0		91.0		72.4	73.8	72.4	
1300	72.3		91.7		72.7	73.9	72.5	
1400[2/]	72.6	72.4	92.3		73.0	72.6	72.6	
1500	72.6	72.6	92.5		73.0	72.8	72.6	
1600	72.7	72.7	92.6		73.0	72.9	72.8	
1700	72.7	72.7	92.8		73.2	72.9	72.8	
1800	72.7	72.7	92.8		73.1	72.9	72.8	
1900	72.7	72.6	93.0		73.1	72.8	72.8	
2000	72.7	72.4	92.8		73.0	72.8	72.6	
2100	72.6	72.2	92.7		72.9	72.8	72.6	
2200	72.5	72.2	92.5		72.8	72.8	72.5	
2300	72.5	72.0	92.3		72.7	72.7	72.4	
2400	72.4	71.8	91.9		72.6	72.6	72.7	

[2/] Instruments zeroed to ground truth data (#2 adjusted to scale).

TABLE 125

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.3	71.6	91.5		72.5	72.5	72.6	
0200	72.2	71.5	91.2		72.5	72.5	72.7	
0300	72.2	71.3	90.5		72.4	72.5	72.7	
0400	72.2	71.3	90.2		72.4	72.5	72.8	
0500	72.2	71.4	89.9		72.4	72.6	73.1	
0600	72.3	71.2	89.6		72.5	72.8	73.3	
0700	72.2	71.1	89.2		72.5	72.8	73.3	
0800	72.3	71.2	89.1		72.5	73.1	73.4	
0900	72.2	71.0	88.6		72.5	73.0	73.6	
1000	72.2	70.9	88.2		72.4	73.0	73.6	
1100	72.2	71.0	88.2		72.5	73.1	73.5	
1200	72.3	71.3	88.0		72.6	73.5	73.2	
1300	72.4	71.5	88.8		72.8	73.2	73.2	
1400	72.5	72.0	88.4		73.0	73.2	73.2	
1500	72.7	72.3	88.5		73.0	73.0	72.9	
1600	3/	3/	3/		3/	3/	3/	
1700								
1300								
1900								
2000								
2100								
2200								
2300								
2400								

3/ Wires cut from junction box to plant.

TABLE 126

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100								
0200								
0300								
0400								
0500								
0600								
0700								
0800								
0900								
1000								
1100								
1200								
1300								
1400								
1500								
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

TABLE 127

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100								
0200								
0300								
0400								
0500								
0600								
0700								
0800								
0900								
1000								
1100								
1200								
1300								
1400[2/]	73.6	73.4	94.0	107.8[9/]	73.5	74.1	74.7	
1500	73.6	73.6	94.5	108.4	73.6	74.2	74.8	
1600	73.7	73.7	95.2	108.7	73.7	74.1	74.5	
1700	73.9	73.9	95.6	109.4	73.7	74.2	74.5	
1800	74.0	74.0	96.0	109.5	73.8	72.2	74.4	
1900	74.0	74.0	96.0	109.8	73.8	74.3	74.5	
2000	74.1	74.0	96.8	109.9	73.8	74.3	74.4	
2100	73.9	73.9	96.8	110.0	73.7	74.2	74.4	
2200	74.0	74.0	97.0	110.1	73.8	74.3	74.3	
2300	74.0	74.0	97.2	110.5	73.7	74.3	74.3	
2400	73.8	73.9	97.0	110.2	73.6	74.2	74.2	

[2/] Wire repaired - instruments zeroed to ground truth data.

[9/] Sensor turned on, calibrated, and zeroed to ground truth.

TABLE 128

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.7	73.7	97.0	110.0	73.5	74.2	74.4	
0200	73.6	73.6	96.9	110.0	73.5	74.1	74.4	
0300	73.5	73.5	96.9	110.0	73.5	74.1	74.5	
0400	73.5	73.4	96.8	110.0	73.4	74.0	74.6	
0500	73.5	73.4	96.7	109.0	73.4	74.0	74.6	
0600	73.6	73.4	96.5	108.2	73.4	74.1	74.9	
0700	73.7	73.5	96.2	108.2	73.5	74.2	74.9	
0800	73.7	73.5	96.0	108.5	73.6	74.3	75.0	
0900	73.8	73.5	95.9	108.6	73.7	74.3	75.0	
1000	74.0	73.8	95.5	108.8	73.8	74.4	75.0	
1100	74.0	74.0	95.3	108.6	74.0	74.3	75.0	
1200	74.3	74.2	95.4	108.8	73.8	74.3	74.9	
1300	74.1	74.0	95.5	109.1	74.0	74.3	74.9	
1400	74.3	74.1	95.5	109.2	73.4	74.2	75.2	
1500	74.3	74.3	95.8	109.4	74.2	74.4	75.1	
1600	74.4	74.6	95.8	109.5	74.4	74.5	75.1	
1700	74.4	74.4	95.6	109.4	74.4	74.4	75.1	
1800	74.5	74.8	95.2	108.9	74.3	74.3	74.8	
1900	74.4	74.7	94.0	108.6	74.3	74.3	74.8	
2000	74.3	74.5	93.3	108.2	74.2	74.3	74.8	
2100	74.2	74.3	92.4	107.6	74.1	74.2	74.7	
2200	74.0	74.0	91.8	107.2	74.0	74.0	74.7	
2300	73.9	73.8	91.4	106.8	73.9	73.9	74.6	
2400	73.7	73.4	90.9	106.2	73.5	73.7	74.3	

TABLE 129

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.4	73.1	89.8	105.5	73.3	73.6	73.4	
0200	73.2	72.9	89.2	104.5	73.1	73.4	74.5	
0300	73.0	72.8	88.5	103.0	73.0	73.3	74.4	
0400	73.0	72.6	88.5	102.9	72.9	73.3	74.4	
0500	72.9	72.4	87.9	103.1	72.7	73.2	74.6	
0600	73.0	72.2	87.9	103.0	72.7	73.2	74.5	
0700	72.9	72.0	87.2	102.6	72.8	73.1	74.3	
0800	72.8	72.2	86.4	102.4	72.6	73.1	74.2	
0900	72.8	72.2	86.5	102.5	72.7	73.0	74.0	
1000	72.8	72.3	86.7	102.6	72.6	73.0	73.9	
1100	72.7	72.5	86.8	102.9	72.6	72.9	73.8	
1200	72.6	72.7	87.2	103.4	72.6	72.8	73.7	
1300	72.6	73.0	87.4	103.6	72.5	72.7	73.5	
1400	72.5	73.0	87.5	103.7	72.4	72.6	73.4	
1500	72.5	73.2	87.9	104.2	72.4	72.6	73.3	
1600	72.5	72.8	87.9	104.1	72.2	72.4	73.0	
1700	72.2	72.7	87.7	104.0	71.9	72.2	72.9	
1800	72.0	72.5	87.2	103.6	71.7	72.0	72.7	
1900	71.8	72.2	86.8	103.4	71.4	71.9	72.7	
2000	71.5	71.7	86.7	103.3	71.2	71.7	72.5	
2100	71.3	71.3	86.8	103.5	70.9	71.5	72.5	
2200	71.0	71.0	87.3	103.2	70.7	71.4	72.6	
2300	70.7	70.6	87.5	103.3	70.6	71.3	72.7	
2400	70.7	70.3	87.6	103.2	70.5	71.3	72.8	

TABLE 130

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	70.7	70.2	87.6	103.0	70.5	71.3	73.0	
0200	70.7	70.0	87.4	102.9	70.4	71.3	73.1	
0300	70.7	69.9	87.2	102.7	70.3	71.3	73.1	
0400	70.7	69.8	87.0	102.4	70.4	71.3	73.1	
0500	70.7	69.7	86.7	102.2	70.4	71.3	73.0	
0600	70.6	69.7	86.4	102.2	70.4	71.3	73.0	
0700	70.5	69.6	86.4	102.0	70.4	71.2	72.8	
0800	70.6	69.7	86.4	102.0	70.3	71.1	72.7	
0900	70.5	69.7	86.4	102.0	70.3	71.1	72.7	
1000	70.5	69.9	86.7	102.3	70.3	71.0	72.6	
1100	70.6	70.3	87.4	102.7	70.3	71.0	72.6	
1200	70.6	70.6	88.0	103.2	70.4	71.0	72.4	
1300	70.7	70.7	88.5	103.4	70.4	71.0	72.5	
1400	70.9	70.8	88.5	103.8	70.5	71.1	72.5	
1500	71.2	70.9	88.7	103.7	70.5	71.0	72.5	
1600	71.0	71.0	88.5	103.7	70.5	71.0	72.3	
1700	70.8	70.8	88.5	103.6	70.5	70.7	72.0	
1800	70.8	70.8	88.0	103.6	70.4	71.0	72.1	
1900	70.7	70.6	88.3	103.5	70.3	70.7	72.1	
2000	70.6	70.5	88.3	103.5	70.2	70.7	72.1	
2100	70.6	70.3	88.2	101.1	70.1	70.6	72.1	
2200	70.5	70.1	88.6	101.0	70.0	70.6	72.3	
2300	70.5	70.1	88.6	101.0	70.0	70.6	72.3	
2400	70.6	69.9	89.1	102.3	70.2	70.9	72.8	

TABLE 131

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	70.7	69.9	89.0	102.8	70.4	71.2	73.0	
0200	70.7	70.0	88.8	103.0	70.5	71.2	73.2	
0300	71.0	70.0	88.3	102.5	70.6	71.3	73.2	
0400	71.2	70.1	88.5	102.7	70.7	71.5	73.3	
0500	71.1	70.1	88.0	102.8	70.6	71.5	73.2	
0600	71.1	70.1	88.0	102.8	70.6	71.5	73.2	
0700	71.1	70.1	88.0	102.8	70.6	71.5	73.2	
0800	71.0	70.2	86.7	102.5	70.5	71.4	72.8	
0900	70.9	70.2	86.7	102.3	70.5	71.4	72.5	
1000	70.8	70.4	87.0	102.6	70.5	71.4	72.6	
1100	70.7	70.6	87.4	102.7	70.5	71.4	72.6	
1200	71.0	70.9	88.0	103.2	70.6	71.4	72.5	
1300	71.2	71.1	88.3	103.6	70.6	71.4	72.6	
1400	71.3	71.3	88.3	103.8	70.6	71.4	72.5	
1500	71.4	71.6	88.8	104.0	70.8	71.5	72.5	
1600	71.4	71.6	88.7	104.2	70.7	71.6	72.4	
1700	71.5	71.7	88.7	104.2	70.8	71.6	72.4	
1800	71.4	71.7	88.8	104.1	70.6	71.7	72.3	
1900	71.2	71.3	88.7	104.0	70.5	71.3	72.3	
2000	70.9	70.9	88.6	103.8	70.3	71.0	72.3	
2100	70.8	70.7	88.5	103.7	70.2	71.0	72.3	
2200	70.7	70.4	88.4	103.6	70.0	71.0	72.5	
2300	70.6	70.3	88.4	103.4	70.0	71.2	72.7	
2400	70.6	70.1	88.2	103.3	70.1	71.4	73.0	

TABLE 132

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	70.7	70.0	88.2	103.2	70.2	71.5	73.1	
0200	70.8	70.0	88.0	103.0	70.3	71.7	73.4	
0300	71.0	70.0	87.8	102.8	70.4	71.7	73.4	
0400	71.1	70.0	87.6	102.6	70.6	72.0	73.6	
0500	71.2	70.0	87.4	102.6	70.6	72.0	73.8	
0600	71.2	70.1	87.4	102.6	70.7	71.8	73.3	
0700	71.3	70.1	87.3	102.5	70.7	71.8	73.0	
0800	71.3	70.4	87.4	102.6	70.7	71.7	72.9	
0900	71.3	70.5	87.8	102.9	70.8	71.7	72.7	
1000	71.3	70.8	88.2	103.3	70.6	71.5	72.7	
1100	71.3	71.0	88.6	103.8	70.6	71.5	72.6	
1200	71.3	71.3	89.3	104.2	70.6	71.6	72.5	
1300	71.4	71.5	89.7	104.6	70.7	71.7	72.6	
1400	71.5	71.7	90.1	104.9	71.0	72.0	72.7	
1500	71.8	72.1	90.5	105.3	71.2	72.0	72.7	
1600	71.8	72.3	90.8	105.7	71.2	72.0	72.7	
1700	72.0	72.3	91.2	105.8	71.4	72.2	72.8	
1800	72.0	72.4	91.3	105.8	71.3	72.3	72.8	
1900	72.0	72.1	91.4	105.8	71.3	72.3	73.1	
2000	72.0	72.0	91.3	105.9	71.3	72.3	73.2	
2100	71.8	71.7	91.3	105.3	71.2	72.1	73.3	
2200	71.8	71.6	91.2	105.2	71.2	72.2	73.3	
2300	71.8	71.4	91.0	105.2	71.2	72.3	73.6	
2400	71.8	71.4	90.9	104.8	71.3	72.4	73.9	

TABLE 133

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	72.0	71.3	90.4	104.6	71.3	72.6	74.0	
0200	72.0	71.3	89.9	104.3	71.4	72.8	74.3	
0300	72.0	71.3	89.8	104.0	71.6	73.0	74.3	
0400	72.3	71.3	89.6	104.4	71.6	73.0	74.3	
0500	72.3	71.3	89.2	104.0	71.8	73.3	74.5	
0600	72.4	71.4	88.9	104.1	71.9	73.2	74.2	
0700	72.4	71.5	88.4	103.9	71.9	73.0	74.0	
0800	72.4	71.5	88.2	103.6	71.9	72.8	73.7	
0900	72.4	71.7	88.7	103.8	71.8	72.7	73.6	
1000	72.4	71.9	88.8	104.0	71.8	72.7	73.5	
1100	72.2	72.0	88.8	104.2	71.7	72.6	73.3	
1200	72.2	72.2	88.7	104.2	71.6	72.5	73.2	
1300	72.2	72.4	89.0	104.3	71.6	72.6	73.0	
1400	72.4	72.6	89.3	104.4	71.8	72.6	73.0	
1500	72.4	72.6	89.8	104.6	71.7	73.5	73.0	
1600	72.2	72.6	90.0	105.2	71.7	72.5	73.0	
1700	72.3	72.5	89.8	104.6	71.7	72.5	73.0	
1800	72.2	72.4	89.9	104.7	71.5	72.0	72.8	
1900	72.0	72.1	90.0	104.9	71.3	71.8	72.8	
2000	71.9	71.9	90.3	105.0	71.1	71.8	72.8	
2100	71.7	71.7	90.5	104.8	71.0	71.4	72.9	
2200	71.6	71.4	90.5	105.0	70.9	71.6	73.0	
2300	71.5	71.2	90.2	104.6	70.9	71.7	73.2	
2400	71.5	71.0	90.1	104.5	70.9	71.8	73.3	

TABLE 134

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	71.6	71.0	90.2	104.5	71.0	72.0	73.5	
0200	71.6	71.0	90.0	104.2	71.0	71.9	73.5	
0300	71.7	71.1	89.9	104.2	71.1	72.0	73.5	
0400	71.8	71.2	89.5	104.2	71.2	72.0	73.3	
0500	71.9	71.1	89.6	104.3	71.1	71.9	73.2	
0600	71.8	71.2	89.5	104.2	71.2	71.8	73.0	
0700	71.6	71.0	89.2	104.0	71.0	71.0	72.8	
0800	71.5	70.9	89.1	104.1	70.0	71.3	72.5	
0900	71.2	70.9	89.2	103.0	70.5	71.2	72.3	
1000	71.0	70.9	89.2	102.8	70.5	71.0	72.3	
1100	70.9	70.7	89.2	102.8	70.3	70.8	72.1	
1200	70.8	70.7	89.6	103.1	70.2	70.7	72.0	
1300	70.8	70.8	90.0	103.4	70.2	70.6	71.9	
1400	70.7	70.7	89.9	103.6	70.2	70.7	72.0	
1500	70.6	70.6	90.0	103.5	70.0	70.6	72.0	
1600	70.6	70.5	90.2	103.9	70.0	70.5	72.0	
1700	70.6	70.5	90.7	104.5	70.0	70.5	72.1	
1800	70.6	70.5	91.3	104.9	70.0	70.4	72.1	
1900	70.5	70.5	91.5	105.0	70.0	70.5	72.2	
2000	70.5	70.5	91.5	104.5	69.9	70.3	72.1	
2100	70.5	70.3	91.7	102.3	69.9	60.3	72.2	
2200	70.4	70.2	91.7	100.2	69.9	70.3	72.3	
2300	70.5	70.1	92.0	98.8	69.9	70.5	72.4	
2400	70.5	70.0	91.8	98.6	69.9	70.8	72.5	

TABLE 135

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	71.5	70.2	91.2	97.0	68.5	69.2	73.6	
0200	72.2	70.0	89.5	97.6	68.5	69.2	74.5	
0300	72.4	70.2	88.0	96.8	68.4	70.4	74.6	
0400	72.7	70.2	87.2	96.2	68.5	70.1	74.5	
0500	72.6	70.0	86.5	96.2	68.5	70.5	74.2	
0600	72.0	70.3	86.0	95.2	69.5	70.9	73.4	
0700	71.6	70.4	86.6	95.2	70.2	71.2	72.4	
0800	71.2	70.4	86.4	96.0	70.4	71.3	72.4	
0900	71.2	70.6	86.3	96.8	70.4	71.1	72.4	
1000	71.2	70.8	87.2	98.0	70.5	71.2	72.4	
1100	71.4	71.2	87.5	99.4	70.6	71.3	72.7	
1200	71.5	71.5	88.0	100.2	70.9	71.5	72.7	
1300	71.6	71.6	89.2	101.2	71.2	71.8	72.7	
1400	71.8	72.0	90.0	101.7	71.2	71.8	72.7	
1500	71.9	72.1	90.8	102.4	71.2	72.0	72.7	
1600	72.0	72.2	91.8	102.8	71.5	72.1	72.8	
1700	72.1	72.3	92.5	103.8	71.5	72.2	72.9	
1800	72.2	72.3	92.8	104.1	71.5	72.0	73.0	
1900	72.2	72.2	92.9	104.2	71.5	72.2	73.1	
2000	72.1	72.1	93.2	104.3	71.5	72.0	73.2	
2100	72.2	72.0	93.2	104.4	71.6	72.2	73.5	
2200	72.4	72.0	93.4	104.6	71.7	72.2	73.8	
2300	72.6	72.2	93.4	104.7	72.1	72.7	74.1	
2400	73.0	72.2	93.3	104.9	72.2	72.5	74.2	

TABLE 136

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.0	72.3	93.4	105.1	72.5	72.9	74.3	
0200	73.2	72.5	93.1	105.0	72.6	73.2	74.4	
0300	73.5	72.7	93.0	105.0	72.8	73.3	74.5	
0400	73.2	72.8	92.6	105.0	72.9	73.2	74.3	
0500	73.6	72.8	92.2	104.8	72.8	72.8	74.0	
0600	73.6	72.8	91.7	105.0	71.9	72.8	74.0	
0700	73.5	72.7	91.4	104.8	71.5	72.9	73.8	
0800	73.5	72.7	90.7	104.7	72.0	72.6	73.7	
0900	73.0	72.6	90.1	104.3	72.1	72.5	73.4	
1000	72.6	72.5	89.5	103.6	72.0	72.3	73.4	
1100	72.5	72.3	88.9	103.2	71.9	72.2	73.3	
1200	72.3	72.1	88.0	102.9	71.6	72.0	73.2	
1300	72.2	72.0	87.5	102.7	71.6	72.1	73.0	
1400	72.2	71.9	87.2	102.3	71.5	72.1	73.0	
1500	72.0	71.9	86.9	102.2	71.5	71.6	73.0	
1600	72.0	72.0	86.7	102.4	71.5	71.6	72.9	
1700	72.0	72.0	86.6	102.4	71.4	71.7	72.8	
1800	71.7	71.7	86.6	102.5	71.4	71.7	72.8	
1900	71.6	71.6	86.5	102.6	71.2	71.5	72.6	
2000	71.3	71.3	86.5	102.5	70.7	70.7	72.3	
2100	71.0	71.0	86.5	102.4	70.4	70.7	72.3	
2200	70.7	70.6	86.5	102.2	70.1	70.5	72.1	
2300	70.5	70.4	86.7	102.4	70.2	70.2	72.0	
2400	70.2	70.1	86.8	102.2	69.9	70.0	72.0	

TABLE 137

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	70.1	69.8	86.7	102.2	69.5	70.2	71.9	
0200	70.2	69.6	86.7	102.0	69.5	70.1	72.0	
0300	70.1	69.5	86.6	101.8	69.5	70.0	71.9	
0400	70.0	69.4	86.3	101.5	69.4	70.0	71.8	
0500	70.0	69.3	86.0	101.1	69.2	69.9	71.7	
0600	69.8	69.1	85.6	100.8	69.0	69.8	71.6	
0700	69.6	68.9	85.2	100.7	69.0	69.6	71.5	
0800	69.5	68.9	85.2	100.5	68.8	69.5	71.5	
0900	69.5	68.8	85.2	100.5	68.9	69.6	71.5	
1000	69.4	68.7	85.5	100.5	68.6	69.5	71.5	
1100	69.5	68.9	86.0	100.7	68.9	69.5	71.6	
1200	69.6	69.3	86.7	101.3	69.0	69.8	71.6	
1300	69.8	69.5	87.1	101.9	69.0	69.9	71.7	
1400	69.9	69.8	87.2	101.8	69.2	70.0	71.7	
1500	70.1	70.2	87.5	102.0	69.4	70.1	71.7	
1600	70.0	70.0	87.7	102.5	69.4	70.1	71.7	
1700	70.0	70.0	87.9	102.4	69.5	70.1	71.9	
1800	70.2	70.0	88.1	102.5	69.5	70.2	72.1	
1900	70.3	70.0	88.1	102.6	69.5	70.6	72.4	
2000	70.4	70.4	88.3	102.4	69.7	70.7	72.5	
2100	70.6	69.9	88.2	102.4	69.9	70.9	72.5	
2200	70.9	70.0	88.0	102.5	70.1	71.2	72.9	
2300	71.0	69.9	88.0	102.1	70.3	71.4	73.0	
2400	71.3	70.0	88.0	102.0	70.7	71.5	73.2	

TABLE 138

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	71.5	70.2	87.9	102.3	70.9	71.7	73.3	
0200	71.5	70.3	87.9	102.2	71.0	71.7	73.3	
0300	71.5	70.4	87.6	102.4	71.0	71.6	73.2	
0400	71.5	70.5	87.2	102.2	71.0	71.6	73.2	
0500	71.4	70.5	86.9	102.0	70.8	71.6	73.0	
0600	71.3	70.5	86.7	101.9	70.6	71.3	72.8	
0700	71.1	70.4	86.6	101.8	70.5	71.0	72.5	
0800	71.0	70.3	86.6	102.0	70.3	71.0	72.5	
0900	70.8	70.3	86.7	102.0	70.2	70.8	72.3	
1000	70.7	70.3	87.3	102.2	70.1	70.7	72.2	
1100	70.6	70.3	37.6	102.5	70.0	70.5	72.0	
1200	70.6	70.2	88.0	102.5	70.0	70.5	71.9	
1300	70.5	70.2	88.3	102.6	69.9	70.5	71.9	
1400[2/]	70.5	70.5	88.9	103.0	69.9	70.5	70.9	
1500	70.5	70.5	89.0	103.4	69.9	70.5	70.8	
1600	70.5	70.5	89.2	103.3	69.9	70.3	70.6	
1700	70.5	70.5	89.2	103.6	69.9	70.2	70.6	
1800	70.5	70.2	89.3	103.6	69.9	70.2	70.6	
1900	70.5	70.2	89.5	103.5	69.9	70.3	70.7	
2000	70.5	70.1	89.3	103.4	69.8	70.4	70.9	
2100	70.6	69.9	89.3	103.4	70.0	70.7	71.3	
2200	70.7	69.9	89.3	103.4	70.1	70.9	71.5	
2300	71.1	70.0	89.2	103.2	70.5	71.1	71.7	
2400	71.2	70.0	89.1	103.4	70.5	71.2	71.8	

[2/] Instruments zeroed to ground truth data.

TABLE 139

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	71.3	70.0	89.0	103.2	70.6	71.5	71.9	
0200	71.5	70.2	89.0	103.3	70.9	71.5	72.0	
0300	71.5	70.5	89.0	103.3	71.0	71.5	71.9	
0400	71.5	70.5	89.0	103.2	71.2	71.5	71.8	
0500	71.5	70.5	88.8	103.3	71.2	71.4	71.8	
0600	71.5	70.5	88.6	103.4	71.0	71.5	71.9	
0700	71.2	70.5	88.6	103.0	70.9	71.2	71.5	
0800	71.2	70.5	88.8	103.2	70.5	71.2	71.3	
0900	71.1	70.5	89.0	103.5	70.5	70.9	71.3	
1000	71.0	70.5	89.5	103.7	70.5	70.9	71.2	
1100	71.2	70.7	90.1	103.9	70.5	70.8	71.2	
1200	71.2	71.1	91.0	104.6	70.6	71.2	71.5	
1300	71.3	71.2	91.5	105.2	70.5	71.3	71.5	
1400	71.5	71.4	92.0	105.4	71.0	71.3	71.7	
1500	71.7	71.7	92.3	105.7	71.2	71.5	71.8	
1600	71.7	71.7	92.5	105.6	71.0	71.4	71.7	
1700	72.0	71.8	92.6	105.9	71.2	71.5	71.8	
1800	72.2	71.9	92.5	105.8	71.4	71.7	71.9	
1900	72.3	71.9	92.4	105.8	71.5	71.9	72.3	
2000	72.2	71.9	92.2	105.7	71.6	72.0	72.5	
2100	72.4	71.8	92.2	105.7	71.8	72.2	72.7	
2200	72.5	71.8	92.2	105.6	71.9	72.2	72.6	
2300	72.7	71.8	91.8	105.5	72.2	72.6	72.9	
2400	72.8	71.9	91.6	105.4	72.4	72.8	73.0	

TABLE 140

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.0	72.0	91.4	105.2	72.5	73.0	73.3	
0200	73.4	72.2	91.0	104.3	72.8	73.0	73.3	
0300	73.5	72.2	91.0	104.6	72.8	73.2	73.3	
0400	73.5	72.5	90.8	104.8	72.9	73.2	73.4	
0500	73.3	72.5	90.9	105.0	72.7	72.8	73.0	
0600	73.3	72.5	90.8	105.2	72.7	72.7	72.7	
0700	73.2	72.6	90.8	105.3	72.6	72.6	72.6	
0800	73.0	72.7	90.9	105.3	72.5	72.5	72.6	
0900	73.0	72.6	90.9	105.3	72.5	72.5	72.5	
1000	72.9	72.5	90.5	104.9	72.2	72.2	72.3	
1100	72.6	72.2	89.5	104.2	72.1	72.1	72.1	
1200	72.5	72.2	89.4	104.5	72.0	72.0	72.2	
1300	72.5	72.4	89.0	104.0	71.9	72.0	72.1	
1400	72.5	72.5	89.0	104.2	72.0	72.0	72.1	
1500	72.5	72.5	89.9	104.3	72.0	72.0	72.2	
1600	72.6	72.6	89.2	104.3	72.1	72.1	72.5	
1700	72.6	72.6	89.2	104.1	72.1	72.1	72.5	
1800	72.6	72.5	88.9	104.4	72.0	72.0	72.3	
1900	72.5	72.5	88.5	104.0	71.9	71.9	72.2	
2000	72.4	72.3	88.[illegible]	104.0	71.8	71.8	72.1	
2100	72.1	72.0	88.8	103.9	71.5	71.5	72.0	
2200	72.0	71.8	88.9	103.8	71.5	71.5	72.0	
2300	72.0	71.7	89.0	103.7	71.2	71.6	72.0	
2400	72.0	71.5	88.7	103.5	71.2	71.6	72.0	

TABLE 141

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.0	71.3	88.6	103.5	71.2	71.6	72.3	
0200	71.9	71.2	88.5	103.5	71.2	71.8	72.4	
0300	71.9	71.2	88.5	103.3	71.2	71.9	72.5	
0400	71.9	71.1	88.3	103.3	71.2	71.8	72.2	
0500	71.8	71.0	88.2	103.2	71.1	71.8	72.0	
0600	71.6	70.9	88.0	103.0	71.0	71.5	71.7	
0700	71.5	70.8	87.6	102.9	70.8	71.7	71.7	
0800	71.5	70.8	88.0	103.0	70.8	71.6	71.9	
0900	71.2	70.8	88.5	103.2	70.6	71.1	71.3	
1000	71.3	71.0	89.5	103.8	70.6	71.2	71.6	
1100	71.3	71.3	89.3	104.2	70.0	71.3	71.7	
1200	71.6	71.6	89.9	105.5	71.2	71.6	71.6	
1300	71.9	71.9	90.5	105.0	71.2	71.9	71.9	
1400	72.1	72.2	90.9	105.3	71.5	71.8	72.0	
1500	72.4	72.5	91.2	105.5	71.5	71.8	72.1	
1600	72.5	72.5	91.4	105.9	71.8	72.0	72.2	
1700	72.5	72.5	91.4	105.7	71.6	72.1	72.3	
1800	72.5	72.4	91.3	105.4	71.6	72.2	72.3	
1900	72.5	72.3	91.0	105.2	71.6	72.0	72.3	
2000	72.4	72.2	90.8	105.3	71.5	72.0	72.4	
2100	72.4	72.0	90.8	105.1	71.6	72.0	72.7	
2200	72.4	71.8	90.7	96.7	71.7	72.0	72.7	
2300	72.4	71.8	90.5	96.3	71.7	72.2	73.0	
2400	72.4	71.6	90.4	96.0	71.6	72.1	72.8	

TABLE 142

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.5	71.5	91.5	96.0	71.9	72.6	73.0	
0200	72.6	71.8	90.1	96.2	72.1	72.9	73.5	
0300	72.8	71.7	89.9	95.7	72.1	72.9	73.5	
0400	73.0	71.8	84.8	93.2	72.4	73.1	73.6	
0500	72.9	71.7	83.8	92.2	72.6	73.3	73.7	
0600	73.0	71.9	83.6	92.3	72.5	73.2	73.7	
0700	73.2	72.0	83.6	92.2	72.7	73.2	73.6	
0800	73.3	72.3	83.5	91.7	72.7	73.0	73.3	
0900	73.5	72.8	82.8	92.0	73.[illegible]	73.2	73.2	
1000	73.5	72.8	82.4	91.2	73.0	73.0	73.0	
1100	73.6	73.3	82.4	91.3	73.0	73.0	73.0	
1200	73.6	73.6	82.8	91.7	73.0	73.0	72.9	
1300	73.6	73.8	84.7	93.3	73.2	73.2	72.9	
1400	73.8	74.1	86.6	94.4	73.3	73.2	73.0	
1500	73.9	74.3	86.0	95.3	73.3	73.3	73.0	
1600	74.0	74.5	85.3	94.6	73.4	73.4	73.0	
1700	74.1	74.6	85.3	93.9	73.5	73.5	72.9	
1800	74.5	74.7	85.6	94.3	73.4	73.4	72.9	
1900	74.0	74.3	86.3	94.4	73.3	73.3	72.7	
2000	73.9	74.0	86.[illegible]	94.7	73.2	73.2	72.7	
2100	73.6	73.6	86.2	94.5	73.0	73.0	72.7	
2200	73.6	73.6	86.2	94.5	72.8	72.8	72.8	
2300	73.5	73.4	85.6	93.3	72.7	72.8	72.8	
2400	73.4	73.2	85.6	93.8	72.7	72.8	72.8	

TABLE 43

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.4	73.0	85.6	9[illegible].6	72.7	72.8	73.[illegible]	
0200	73.4	73.0	85.4	92.6	72.7	72.9	73.4	
0300	73.5	72.8	85.2	91.3	72.7	73.2	73.6	
0400	73.5	72.7	84.9	89.8	72.8	73.4	73.7	
0500	73.6	72.7	84.5	89.7	72.9	73.5	73.8	
0600	73.7	72.7	84.3	89.6	72.9	73.6	73.8	
0700	73.7	72.7	83.7	89.3	73.0	73.6	73.9	
0800	73.8	73.0	83.0	89.7	73.3	73.7	74.0	
0900	74.0	73.4	82.6	89.4	73.5	73.7	74.0	
1000	74.3	73.7	82.8	90.0	73.6	73.7	73.8	
1100	74.5	74.3	83.2	90.6	74.0	74.0	74.0	
1200	74.7	74.7	83.6	91.1	74.1	74.1	74.1	
1300	74.8	75.0	84.0	91.6	74.4	74.3	74.2	
1400	75.1	75.3	84.3	92.4	74.5	74.3	74.2	
1500	75.2	75.5	84.6	92.6	74.5	74.4	74.0	
1600	75.2	75.5	84.7	93.2	74.6	74.3	74.0	
1700	75.0	75.4	85.2	93.2	74.5	74.4	73.9	
1800	75.0	75.5	85.3	93.4	74.4	74.3	73.8	
1900	74.8	75.4	85.6	94.0	74.3	74.2	73.7	
2000	74.6	75.1	85.7	93.9	74.2	74.2	73.6	
2100	74.5	74.8	85.9	94.2	74.0	74.0	73.5	
2200	74.4	74.5	86.0	93.9	73.7	73.7	73.6	
2300	74.4	74.4	85.9	94.3	73.6	73.6	73.6	
2400	74.2	74.2	85.8	93.8	73.6	73.6	73.6	

TABLE 144

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	74.2	74.2	85.6	94.0	73.6	73.6	73.8	
0200	74.0	74.0	85.4	93.5	73.5	73.5	74.0	
0300	74.2	73.8	85.3	93.8	73.5	73.5	74.0	
0400	74.2	73.8	85.3	94.5	73.6	73.6	74.2	
0500	74.3	73.7	85.2	95.0	73.6	73.7	74.3	
0600	74.3	73.8	85.4	94.7	73.8	73.8	74.3	
0700	74.4	73.8	85.3	94.9	73.7	73.8	74.5	
0800	74.4	73.9	85.6	94.8	74.0	74.2	74.5	
0900	74.6	74.2	86.3	95.3	74.2	74.3	74.7	
1000	74.7	74.5	86.8	96.0	74.4	74.6	74.9	
1100	75.0	75.0	87.0	96.3	74.8	75.0	75.0	
1200	75.2	75.2	87.5	96.7	75.0	75.3	75.0	
1300	75.5	75.5	87.3	97.2	75.3	75.3	75.0	
1400	75.8	76.0	89.5	98.4	75.4	75.4	75.2	
1500	76.4	76.4	89.5	98.4	75.7	75.4	75.2	
1600	76.3	76.7	89.4	100.2	75.7	75.3	75.2	
1700	76.4	77.0	89.5	100.9	75.7	75.4	75.3	
1800	76.5	76.8	89.5	101.6	76.0	75.4	75.4	
1900	76.5	76.8	89.5	101.8	76.0	75.4	75.4	
2000	76.4	76.7	89.8	103.4	75.6	75.1	75.1	
2100	76.2	76.5	90.6	104.4	75.7	74.9	74.9	
2200	76.4	76.0	90.8	104.7	75.6	74.8	74.8	
2300	75.9	75.9	91.4	104.3	75.5	74.7	74.7	
2400	75.6	75.7	91.6	105.0	75.4	74.6	74.7	

TABLE 145

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	75.4	75.6	91.8	104.8	75.2	74.4	74.6	
0200	75.3	75.5	92.3	104.8	75.0	74.3	75.0	
0300	75.3	75.3	92.3	105.3	74.9	74.2	74.2	
0400	75.2	75.2	92.6	105.2	74.7	74.1	74.9	
0500	75.2	74.9	92.5	105.0	74.6	74.1	74.8	
0600	75.0	74.7	92.4	104.6	74.4	74.1	74.8	
0700	74.9	74.7	92.4	105.3	74.4	74.1	74.9	
0800	74.9	74.8	92.8	105.9	74.5	74.2	75.6	
0900	75.0	74.7	92.7	105.5	74.5	74.2	75.8	
1000	75.0	74.7	92.9	106.6	74.5	74.1	75.8	
1100	75.0	74.9	92.8	106.7	74.6	74.2	76.0	
1200[2/]	75.1	75.0	93.7	107.5	74.8	74.3	76.0	
1300	75.4	75.3	94.3	106.6	75.0	74.4	76.7	
1400	75.4	75.4	94.5	107.3	75.0	74.4	77.4	
1500	75.3	75.5	94.8	107.6	75.1	74.4	76.4	
1600	75.0	74.6	95.2	107.8	75.2	74.4	76.4	
1700	75.7	76.0	95.9	108.4	75.4	74.6	76.6	
1800	75.7	76.2	96.4	109.2	75.5	74.7	76.5	
1900	75.9	76.3	97.1	109.3	75.6	74.7	76.5	
2000	75.7	76.3	97.4	109.8	75.5	74.5	76.4	
2100	75.7	76.1	97.5	109.9	75.4	74.5	76.4	
2200	75.7	76.0	97.6	110.0	75.4	74.4	76.3	
2300	75.6	75.8	97.6	110.0	75.3	74.3	76.3	
2400	75.6	75.7	97.8	110.4	75.2	74.3	76.4	

[2/] Instruments zeroed to ground truth data.

TABLE 146

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	75.5	75.6	97.7	110.4	75.1	74.2	76.2	
0200	75.3	75.5	97.7	110.1	74.9	74.1	76.2	
0300	75.3	75.3	97.6	110.3	74.9	74.0	76.2	
0400	75.3	75.3	97.4	109.9	74.7	73.8	76.2	
0500	75.2	75.0	97.3	109.6	74.6	73.7	76.2	
0600	75.2	74.9	97.1	109.6	74.6	73.7	76.7	
0700	74.9	74.7	96.9	109.3	74.5	73.8	76.5	
0800	74.9	74.9	97.3	109.2	74.5	73.9	76.8	
0900	74.9	74.9	97.4	108.8	74.6	74.2	76.7	
1000	75.2	75.2	97.7	109.2	74.9	74.3	76.9	
1100	75.3	75.5	98.2	109.4	75.3	74.5	76.9	
1200	75.[illegible]	75.7	98.7	109.8	75.4	74.7	77.0	
1300	75.9	76.3	99.0	110.2	75.7	74.9	77.2	
1400	76.2	76.7	99.3	110.6	76.0	75.2	77.5	
1500	76.6	77.1	99.4	110.7	76.3	75.4	77.6	
1600	76.8	77.3	99.9	110.7	76.6	75.6	77.7	
1700	77.1	77.6	99.8	109.8	76.9	75.6	77.7	
1800	77.2	77.7	99.7	109.2	76.8	75.7	77.6	
1900	77.4	77.7	99.8	108.6	77.0	75.8	77.7	
2000	77.3	77.7	99.7	108.6	76.9	75.9	77.9	
2100	77.2	77.6	99.6	108.7	76.7	75.8	77.6	
2200	77.2	77.5	99.2	108.5	76.9	75.7	77.6	
2300	77.2	77.5	98.[illegible]	108.1	76.7	75.6	77.5	
2400	77.0	77.4	98.[illegible]	107.6	76.7	75.6	77.5	

TABLE 147

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	76.9	77.3	97.6	107.4	76.6	75.5	77.6	
0200	76.9	76.9	97.3	107.3	76.5	75.4	77.6	
0300	76.9	76.9	97.3	107.2	76.5	75.5	77.6	
0400	76.7	76.8	96.9	106.9	76.5	75.6	77.9	
0500	76.7	77.0	96.6	106.7	76.5	75.6	78.1	
0600	76.8	76.8	96.3	106.5	76.6	75.7	78.2	
0700	76.8	76.8	96.2	106.5	76.6	75.7	78.4	
0800	76.8	76.9	96.4	106.6	76.7	76.0	78.6	
0900	77.0	77.1	96.5	106.8	77.0	76.2	78.6	
1000	77.3	77.4	96.8	107.6	77.2	76.8	78.8	
1100	77.6	77.8	97.3	108.3	77.5	77.1	79.1	
1200	77.8	78.3	97.3	108.7	77.7	77.3	79.1	
1300	78.2	78.5	97.4	109.2	78.0	77.2	79.3	
1400	78.4	79.1	98.2	110.5	78.4	77.5	79.5	
1500	78.9	79.4	98.4	111.1	78.6	77.8	79.6	
1600	79.1	79.8	99.2	111.7	79.0	79.0	79.8	
1700	79.4	80.1	99.7	112.3	79.2	79.3	80.0	
1800	79.6	80.4	99.9	111.9	79.5	79.5	80.0	
1900	79.6	80.4	100.2	112.2	79.5	79.4	80.2	
2000	79.8	80.5	100.3	112.3	79.6	79.3	80.2	
2100	79.6	80.1	110.1	113.0	79.3	78.3	79.6	
2200	79.4	80.1	100.1	113.0	79.3	78.3	79.6	
2300	79.5	80.0	100.2	113.0	79.4	78.0	79.5	
2400	79.4	80.0	100.3	113.0	79.2	78.0	79.5	

TABLE 148

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	79.2	79.3	100.4	112.9	79.0	77.7	79.5	
0200	79.2	79.5	100.2	112.6	79.0	77.6	79.4	
0300	79.0	79.4	100.5	112.6	79.0	77.6	79.8	
0400	79.0	79.4	100.3	112.6	78.7	77.5	79.8	
0500	79.0	79.3	100.1	112.4	78.7	77.5	80.0	
0600	79.0	79.2	100.0	112.3	78.7	77.6	80.0	
0700	79.0	79.2	99.8	112.2	79.0	77.7	80.1	
0800	79.0	79.3	99.4	111.7	79.0	77.7	80.2	
0900	79.0	79.3	99.2	110.5	79.0	77.7	80.3	
1000	79.2	79.5	98.9	110.4	79.2	78.1	80.5	
1100	79.4	79.7	99.1	111.6	79.4	78.2	80.5	
1200	79.5	80.1	99.4	111.8	79.6	78.4	80.4	
1300	79.6	80.4	99.7	112.3	79.8	78.5	80.6	
1400	79.8	80.6	100.1	112.4	79.9	78.5	80.7	
1500	80.2	81.0	100.2	112.2	80.4	78.8	80.9	
1600	80.5	81.5	100.4	112.0	80.6	79.0	80.8	
1700	80.7	81.7	100.6	112.2	80.8	79.0	81.0	
1800	80.7	81.8	100.6	112.3	80.8	79.2	81.1	
1900	80.8	82.0	100.6	112.3	80.8	79.2	81.2	
2000	80.9	81.8	100.6	112.3	80.8	79.2	81.0	
2100	80.8	81.8	100.4	112.3	80.8	79.2	81.0	
2200	80.7	81.6	100.4	112.2	80.8	79.0	81.0	
2300	80.7	81.6	100.4	112.2	80.7	79.0	80.8	
2400	80.7	81.5	100.0	112.0	80.6	79.3	80.7	

TABLE 14?

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	1/	80.8	100.4	111.2	79.0	79.0	1/	
0200		80.8	98.3	110.2	79.0	77.8		
0300		80.1	97.9	109.0	78.9	78.6		
0400		80.0	98.1	109.6	78.6	78.4		
0500		80.1	97.6	109.3	78.9	79.3		
0600		80.0	98.4	109.4	78.6	79.3		
0700		79.4	98.0	109.4	78.6	79.0		
0800		79.4	98.0	109.3	78.9	79.3		
0900		79.3	98.6	109.3	78.9	79.4		
1000		79.5	98.8	109.3	79.1	79.5		
1100		79.7	99.4	110.0	79.3	79.6		
1200		80.1	100.0	110.4	79.6	79.6		
1300		80.6	100.4	110.6	79.8	80.1		
1400		81.0	100.6	111.0	80.2	80.3		
1500		81.4	100.9	110.9	80.5	80.5		
1600		81.7	100.9	110.9	80.5	80.6		
1700		82.0	100.7	110.8	80.6	80.7		
1800		82.1	100.7	110.8	80.8	81.0		
1900		82.0	100.6	110.7	80.9	80.9		
2000		81.9	100.2	110.6	80.9	80.9		
2100		81.7	99.9	110.3	80	80.7		
2200		81.5	99.8	110.3	80.6	80.6		
2300		81.3	99.7	110.2	80.4	80.4		
2400		81.1	99.6	110.0	80.1	80.1		

1/ Thunderstorms caused indicated sensors to give erratic readings, invalid until ground truth temperatures are taken.

TABLE 150

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		80.8	99.6	109.8	80.0	80.0		
0200		80.5	99.3	109.7	79.7	79.8		
0300		80.3	98.9	109.4	79.5	79.6		
0400		80.3	98.1	108.5	79.4	79.5		
0500		79.9	96.4	108.4	79.4	79.5		
0600		79.8	94.3	108.0	79.3	79.4		
0700		79.6	92.5	107.5	79.2	79.4		
0800		79.4	91.8	106.9	79.1	79.4		
0900		79.4	91.2	101.4	79.0	79.3		
1000		79.3	95.2	100.8	79.2	79.5		
1100		79.4	94.1	100.3	79.4	79.5		
1200		79.6	93.2	99.0	79.4	79.6		
1300		79.6	91.9	94.9	79.4	79.6		
1400		80.0	91.4	93.6	79.5	79.7		
1500		80.3	91.0	92.5	79.6	79.7		
1600		80.4	91.0	92.6	79.7	79.8		
1700		80.6	90.4	92.6	79.7	79.8		
1800		80.6	89.0	91.6	79.8	79.9		
1900		80.5	88.1	91.2	79.8	79.8		
2000		80.3	87.3	90.4	79.6	79.6		
2100		80.0	86.8	90.0	79.5	79.5		
2200		79.7	86.6	89.8	79.3	79.3		
2300		79.5	86.3	89.7	79.2	79.2		
2400		79.2	85.8	89.3	78.6	78.6		

TABLE 151

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JUNE 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		78.7	85.2	88.6	78.0	78.0		
0200		78.0	84.9	88.5	77.6	77.6		
0300		77.7	84.6	88.2	77.4	77.4		
0400		77.3	84.2	87.8	77.0	77.3		
0500		77.0	84.0	87.5	76.8	77.0		
0600		76.7	83.7	87.6	76.5	76.8		
0700		76.6	83.4	87.6	76.3	76.6		
0800		76.4	83.4	87.4	76.2	76.7		
0900		76.3	83.8	89.6	76.2	76.8		
1000		76.5	84.1	90.4	76.3	76.9		
1100		77.0	84.6	90.6	76.5	77.0		
1200		77.3	85.1	90.7	76.6	77.2		
1300		77.6	85.6	96.5	76.8	77.3		
1400[2/]	77.4	77.7	85.6	97.3	77.2	77.5	78.2	
1500	77.6	78.2	87.6	98.6	77.2	77.7	78.5	
1600	78.0	78.3	88.0	99.2	77.4	77.9	78.5	
1700	78.2	78.6	89.3	100.0	77.5	77.8	78.7	
1800	78.2	78.7	90.2	100.4	77.5	77.9	78.6	
1900	78.0	78.5	90.4	100.6	77.4	77.6	78.6	
2000	77.8	78.4	90.8	100.7	77.3	77.6	78.4	
2100	77.6	78.2	91.4	101.0	77.2	77.7	78.3	
2200	77.6	77.7	91.5	100.8	77.0	77.4	78.3	
2300	77.5	77.6	91.8	100.8	76.9	77.3	78.0	
2400	77.4	77.4	91.8	100.8	76.9	77.1	77.9	

[2/] Instruments zeroed to ground truth data.

TABLE 152

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	77.3	77.3	91.6	100.4	76.5	77.2	78.0	
0200	77.0	77.0	91.3	100.1	76.2	76.9	77.8	
0300	77.0	76.6	91.0	99.9	76.0	76.6	77.8	
0400	76.9	76.5	90.9	99.9	75.9	76.5	78.0	
0500	76.9	76.4	90.6	100.5	75.7	76.6	78.1	
0600	76.8	76.4	90.5	101.2	75.7	76.5	78.5	
0700	76.9	76.3	90.5	102.0	75.7	76.7	78.4	
0800	76.8	76.3	90.5	102.9	75.8	76.8	78.5	
0900	76.7	76.4	90.5	103.0	75.9	76.8	78.5	
1000	76.9	76.5	91.3	103.4	76.1	77.2	78.6	
1100	77.1	76.9	92.4	104.1	76.4	77.4	78.8	
1200	77.3	77.0	93.2	104.9	76.5	77.3	78.9	
1300	77.4	77.4	94.1	105.5	76.7	77.4	79.0	
1400	77.5	77.5	95.2	106.4	77.0	77.8	79.1	
1500	78.0	78.0	96.1	107.3	77.4	78.0	79.1	
1600	78.1	78.6	96.9	108.0	77.5	78.3	79.3	
1700	78.5	78.9	97.4	108.6	77.7	78.3	79.4	
1800	78.5	78.9	98.0	109.1	77.9	78.5	79.4	
1900	78.6	79.1	98.3	109.4	77.9	78.6	79.4	
2000	78.5	79.0	98.3	109.4	77.9	78.5	79.3	
2100	78.5	78.6	98.6	109.5	77.8	78.3	79.3	
2200	78.4	78.5	98.6	109.6	77.6	78.3	79.1	
2300	78.2	78.3	98.5	109.5	77.6	78.3	79.1	
2400	78.1	78.1	98.3	109.5	77.4	78.1	79.0	

TABLE 153

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	78.0	78.0	97.9	109.0	77.1	78.0	78.9	
0200	77.8	77.8	97.4	108.6	77.1	77.8	78.9	
0300	77.6	77.5	96.9	108.5	76.8	77.6	78.8	
0400	77.5	77.3	96.2	108.2	76.6	77.4	78.6	
0500	77.3	77.2	95.8	107.7	76.6	77.3	78.4	
0600	77.1	76.8	95.5	107.4	76.4	77.2	78.4	
0700	77.0	76.6	95.0	107.0	76.1	77.0	78.4	
0800	77.0	76.5	94.8	107.3	76.1	76.9	78.6	
0900	77.0	76.6	94.8	107.2	76.1	76.9	78.8	
1000	77.0	76.9	94.9	107.5	76.2	77.0	78.9	
1100	77.0	77.0	95.4	107.6	76.4	77.2	78.9	
1200	77.2	77.2	95.6	107.5	76.4	77.4	79.2	
1300	77.4	77.4	96.2	107.0	76.6	77.7	79.2	
1400	77.5	77.5	96.5	106.8	76.8	77.6	79.2	
1500	77.6	77.6	96.8	106.8	76.9	77.8	79.3	
1600	77.6	77.6	97.0	107.0	77.0	77.9	79.4	
1700	77.9	77.8	97.0	107.0	77.1	78.0	79.4	77.9[9/]
1800	78.0	78.0	96.5	106.8	77.4	78.0	79.3	78.0
1900	78.0	78.0	96.1	106.3	77.4	78.0	79.4	78.0
2000	78.0	78.0	95.8	106.5	77.4	78.0	79.3	78.0
2100	77.8	77.8	95.7	105.5	77.4	78.0	79.1	77.9
2200	77.8	77.8	95.5	96.5	77.3	77.9	79.0	77.7
2300	77.6	77.5	95.5	102.0	77.1	77.8	78.8	77.4
2400	77.6	77.4	94.9	100.1	77.0	77.5	78.6	77.1

[9/] Sensor turned on, calibrated, and zeroed to ground truth.

TABLE 154

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.5	77.3	94.5	99.8	76.8	77.4	78.4	77.0
0200	77.0	77.0	93.6	98.6	76.5	77.0	78.2	76.5
0300	77.2	76.9	92.0	97.3	76.4	76.9	78.1	76 4
0400	76.9	76.5	90.6	96.3	76.1	76.9	77.9	76.1
0500	76.9	76.5	89.5	95 5	76.0	76.7	77.9	76.0
0600	76.6	76.5	88.5	95.0	75.6	77.0	77.8	75.5
0700	76.4	76.2	87.6	94.1	75.5	76.4	77.9	75.4
0800	76.3	76.0	86.9	94.4	75.4	76.1	79.9	75.3
0900	76.4	76.0	86.5	94.2	75.4	76.4	77.9	75.3
1000	76.4	76.1	87.0	94.2	75.5	76.5	77.9	75.5
1100	76.5	76.5	90.0	95.6	75.7	76.6	78.1	75.7
1200	76.5	76.5	89.9	96.3	75.9	77.1	78.3	76.0
1300	76.7	76.7	90.3	96.6	76.0	77.0	78.4	76.2
1400	77.0	77.0	90.5	96.7	76.3	77.1	78.5	76.8
1500	77.4	77.2	91.0	97.3	76.5	77.3	78.6	77.2
1600	77.5	77.9	92.0	97.9	76.7	77.5	78.9	77.6
1700	77.6	78.0	92.6	98.0	77.0	77.7	78.9	77.8
1800	77.9	78.3	92.2	97.9	77.1	77.9	79.0	78.2
1900	78.0	78.3	92.2	98.0	77.2	77.9	79.0	78.2
2000	78.0	78.4	91.8	97.6	77.2	77.9	78.9	78.1
2100	77.9	78.0	91.9	97.6	77.1	77.8	78.9	78.0
2200	77.9	77.9	92.2	97.6	77.1	77.6	78.8	77.9
2300	77.9	77.9	91.9	92.7	77.0	77.7	78.7	77.8
2400	77.6	77.6	91.9	97.5	76.9	77.6	78.6	77.7

TABLE 155

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.6	77.6	91.7	97.4	76.9	77.5	78.5	77.5
0200	77.6	77.6	91.5	96.6	76.7	77.4	78.5	77.2
0300	77.5	77.5	91.2	95.2	76.6	77.3	78.2	77.0
0400	77.2	77.2	91.0	93.5	76.5	77.0	78.0	77.0
0500	77.1	77.0	90.8	91.5	76.4	77.0	77.9	76.9
0600	77.0	76.9	90.2	90.8	76.0	76.8	77.8	76.6
0700	77.0	76.8	89.5	90.6	76.0	76.7	77.8	76.5
0800	76.8	76.6	88.5	90.8	76.0	76.6	78.0	76.4
0900	76.7	76.6	87.5	90.6	76.0	76.6	78.0	76.3
1000	77.0	77.0	87.1	90.5	76.1	76.7	78.1	76.5
1100	77.0	77.0	86.0	90.0	76.4	77.0	78.3	76.8
1200	77.4	77.2	85.0	89.4	76.4	77.1	78.6	77.3
1300	77.5	77.5	85.6	90.0	76.7	77.5	78.9	77.7
1400	77.6	78.0	86.5	90.6	77.0	77.8	79.1	78.5
1500	78.4	78.1	87.2	91.0	77.5	78.0	79.1	78.9
1600	78.5	78.9	87.5	91.5	77.8	78.3	79.5	79.0
1700	78.8	79.4	87.6	91.9	78.1	78.6	80.0	79.5
1800	79.0	79.5	87.9	92.2	78.4	78.7	79.9	79.9
1900	79.0	79.8	88.2	92.5	78.5	79.0	80.0	80.0
2000	79.1	79.8	88.5	92.5	78.5	79.1	80.0	80.0
2100	79.3	79.7	88.6	92.5	78.6	79.0	80.0	80.1
2200	79.1	79.5	88.6	92.6	78.6	78.9	80.0	80.0
2300	79.1	79.5	88.6	92.6	78.5	79.0	79.9	79.9
2400	79.5	79.5	88.6	92.6	78.7	78.8	79.8	79.5

TABLE 156

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.5	79.6	88.6	92.7	78.8	79.0	79.8	79.5
0200	80.3	79.5	88.4	92.8	78.6	78.7	79.5	79.4
0300	79.5	79.3	90.0	92.1	78.5	78.7	79.7	78.9
0400	78.5	78.6	86.0	91.3	77.1	78.2	79.6	78.3
0500	78.6	78.7	85.4	90.5	76.9	77.0	79.6	77.5
0600	79.5	78.3	84.9	90.1	77.0	77.5	79.1	77.5
0700	78.5	78.0	84.9	90.0	77.5	77.7	79.1	78.1
0800	78.1	78.0	85.0	89.9	77.5	77.8	79.1	78.1
0900	78.0	78.1	85.2	90.3	77.5	78.0	79.5	78.2
1000	78.3	78.3	85.0	90.9	77.5	78.2	79.5	78.3
1100	78.5	78.7	85.0	91.8	77.9	78.2	79.5	78.7
1200	78.5	79.0	85.5	92.5	78.0	78.4	79.9	79.0
1300	79.0	79.7	86.4	93.5	78.6	78.9	80.1	79.6
1400	80.1	80.1	87.2	94.4	79.0	79.4	80.3	80.0
1500	80.0	80.6	88.0	95.5	79.5	79.6	80.5	80.5
1600	80.0	81.2	88.6	95.7	79.5	79.6	80.6	80.7
1700	80.4	81.5	89.2	96.2	79.8	79.9	80.8	81.0
1800	80.5	81.6	89.4	96.4	80.0	80.0	81.1	81.4
1900	80.6	81.5	89.6	96.5	80.2	80.2	81.2	81.5
2000	80.7	81.4	89.9	96.9	80.3	80.3	81.1	81.1
2100	80.8	81.4	90.0	97.0	80.1	80.1	81.0	81.1
2200	80.6	81.3	90.2	97.1	80.1	80.1	80.8	80.9
2300	80.5	81.0	90.0	97.0	80.0	80.0	80.5	80.5
2400	80.3	81.0	89.9	97.0	79.8	79.8	80.5	80.5

TABLE 157

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.2	80.6	89.4	96.7	79.5	79.5	80.1	80.0
0200	80.0	80.4	88.8	96.2	79.1	79.1	80.0	79.5
0300	79.6	80.0	88.2	95.7	78.9	78.9	80.0	79.1
0400	79.5	79.8	87.7	95.4	78.7	78.7	79.8	79.1
0500	79.4	79.5	87.0	95.0	78.5	78.6	79.8	78.9
0600	79.1	79.1	86.5	94.8	78.3	78.5	79.8	78.6
0700	79.0	79.0	86.1	94.5	78.1	78.2	79.8	78.4
0800	78.7	78.8	85.6	94.0	78.0	78.2	79.7	78.5
0900	78.7	78.7	85.6	94.0	78.0	78.3	80.0	78.6
1000	78.9	78.6	85.6	94.2	78.0	78.5	80.1	78.8
1100	79.0	79.2	86.0	94.5	78.3	78.7	80.2	79.3
1200	79.1	79.4	86.4	95.0	78.5	78.8	80.4	79.5
1300	79.5	79.8	86.8	95.4	78.9	79.0	80.5	80.0
1400	79.6	80.0	87.5	95.8	79.0	79.1	80.7	80.2
1500	79.8	80.4	87.8	96.0	79.2	79.4	80.9	80.5
1600	80.0	80.5	88.4	96.6	79.5	79.7	81.0	81.0
1700	80.4	81.0	88.9	97.0	79.8	79.9	81.0	81.1
1800	80.5	81.1	89.2	97.3	80.0	80.0	80.7	81.0
1900	80.5	81.3	89.4	97.6	80.0	80.1	81.0	81.3
2000	80.5	81.2	89.6	97.6	79.9	80.0	80.8	80.9
2100	80.3	81.1	89.8	97.6	79.9	79.9	80.6	80.5
2200	80.2	80.9	90.0	97.0	79.7	79.7	80.5	80.2
2300	80.1	80.5	90.0	97.7	79.5	79.5	80.4	80.1
2400	80.0	80.5	90.0	97.6	79.5	79.4	80.2	79.9

TABLE 158

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.9	80.4	90.0	96.6	79.3	79.2	80.1	79.2
0200	79.5	80.0	89.9	96.5	79.0	79.0	80.0	79.1
0300	79.5	80.0	89.8	96.4	78.8	78.7	79.9	79.2
0400	79.2	79.6	89.6	96.3	78.5	78.5	79.9	78.9
0500	79.1	79.5	89.5	96.5	78.5	78.4	79.9	78.8
0600	79.0	79.4	89.2	96.2	78.3	78.1	79.8	78.7
0700	79.0	79.2	89.0	96.2	78.2	78.2	79.8	78.6
0800	78.7	79.0	89.0	96.6	78.1	78.1	79.9	78.7
0900	78.8	79.2	89.3	97.0	78.2	78.2	80.0	78.9
1000	78.9	79.4	89.8	97.1	78.4	78.3	80.1	79.2
1100	79.0	79.6	90.5	97.9	78.5	78.4	80.3	79.5
1200	79.3	80.0	91.0	98.?	78.9	78.5	80.5	80.0
1300	79.5	80.4	91.8	98.7	79.3	78.9	80.9	80.4
1400	79.9	80.7	92.6	99.9	79.6	79.0	81.0	80.5
1500	80.0	81.1	93.2	100.0	80.0	79.4	81.5	81.0
1600	80.4	81.6	93.7	100.4	80.3	79.8	81.4	81.0
1700	80.5	81.8	94.0	100.8	80.5	79.9	81.5	81.4
1800	80.6	81.8	94.2	101.0	80.5	79.9	81.6	81.6
1900	81.0	82.0	94.4	101.2	80.6	80.0	81.7	81.7
2000	81.0	82.0	94.3	101.3	80.8	80.0	81.8	81.9
2100	81.1	81.9	94.3	101.0	80.9	80.2	81.9	81.8
2200	81.0	82.0	94.2	101.0	81.0	80.2	81.8	81.7
2300	81.1	81.9	94.0	101.0	80.8	80.2	81.7	81.5
2400	81.0	81.8	94.0	100.9	80.8	80.0	81.5	80.2

TABLE 159

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.9	81.5	93.6	100.5	80.6	80.0	81.5	81.1
0200	80.7	81.4	93.3	100.5	80.5	79.9	81.5	80.9
0300	80.6	81.2	93.2	100.0	80.4	79.7	81.3	80.6
0400	80.5	81.0	93.0	100.0	80.1	79.6	81.3	80.6
0500	80.4	81.0	92.8	101.6	80.0	79.5	81.4	80.8
0600	80.5	81.0	92.8	103.0	80.0	79.4	81.5	81.7
0700	80.5	81.0	92.7	102.7	80.0	79.4	81.5	81.0
0800	80.5	81.0	93.0	103.4	80.0	79.5	81.8	81.0
0900	80.6	81.3	93.2	103.5	80.2	79.6	82.1	81.3
1000	80.8	81.4	94.1	104.9	80.4	79.9	82.2	81.3
1100	80.8	81.5	95.4	107.3	80.5	80.0	82.5	81.6
1200	81.0	81.6	95.4	107.8	80.6	80.2	82.8	82.0
1300	81.0	82.0	95.4	107.5	80.7	80.3	82.6	82.2
1400	81.4	82.1	95.3	108.0	80.9	80.6	83.0	82.4
1500[2/]	81.5	82.0	94.5	108.3	81.3	80.7	83.0	82.7
1600	81.8	82.4	95.6	108.7	81.5	81.0	83.0	83.0
1700	81.8	82.5	95.9	109.0	81.5	81.3	83.0	83.5
1800	82.0	83.0	96.0	109.5	81.6	81.3	83.1	83.8
1900	82.1	83.0	96.0	109.9	81.7	81.3	83.2	83.4
2000	82.2	83.0	96.4	110.2	81.8	81.5	83.3	83.6
2100	82.2	83.1	96.4	110.3	81.9	81.5	83.2	83.5
2200	82.2	82.6	96.3	110.2	82.0	81.4	83.2	83.3
2300	82.1	82.5	96.5	110.5	81.9	81.2	83.0	83.0
2400	82.0	82.3	96.2	110.5	81.6	81.1	82.9	82.9

[2/] Instruments zeroed to ground truth data.

TABLE 160

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	82.0	82.3	95.5	110.4	81.5	81.2	81.8	81.7
0200	81.9	82.5	95.0	110.0	81.5	81.2	82.9	82.5
0300	81.7	82.4	94.5	109.8	81.0	81.0	82.6	82.3
0400	81.6	81.6	94.2	109.5	80.9	80.8	82.5	82.0
0500	4/	81.7	94.1	4/	76.2	4/	4/	78.3
0600		81.5	93.9		76.1			78.5
0700		81.3	92.8		76.2			78.3
0800		81.0	93.0		76.0			77.7
0900		80.0	92.5		76.0			77.4
1000		80.4	93.5		76.7			79.4
1100		80.6	94.4		76.7			79.5
1200		80.7	95.5		76.8			79.6
1300		81.0	96.4		78.0			84.4
1400		81.4	97.3		77.0			80.5
1500		81.5	97.8		77.2			80.7
1600 2/	82.0	81.8	98.2	111.5	77.5	81.4		81.0
1700	81.2	82.0	98.6	112.0	81.3	81.7		81.1
1800	81.1	82.0	99.3	112.5	81.5	81.9		81.0
1900	81.1	81.8	99.6	112.1	81.4	82.0		81.3
2000	81.1	81.6	99.7	112.3	81.1	81.9		81.3
2100	81.2	81.5	99.6	112.1	81.1	82.0		81.2
2200	81.4	81.5	99.7	111.5	81.2	82.0		81.1
2300	81.5	81.5	99.9	111.6	81.4	82.2		81.4
2400	81.6	81.5	99.6	111.6	81.5	82.3		81.5

4/ Sensor malfunction due to electrical storm - no data.

2/ Instruments zeroed to ground truth data.

TABLE 161

HOURLY WATER TEMPERATUPE (°F) DATA, QUAD-CITIES STATION,
JULY 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	81.8	81.6	99.5	111.6	81.5	82.4		81.5
0200	81.7	81.5	99.4	111.5	81.5	82.4		81.5
0300	81.8	81.5	98.9	111.2	81.5	82.3		81.5
0400	81.8	81.4	98.6	111.0	81.5	82.4		81.5
0500	82.1	81.3	98.4	111.0	81.5	82.3		81.5
0600	82.0	81.2	98.0	110.7	81.4	82.3		81.0
0700	82.0	81.1	97.9	110.7	81.5	82.3		80.8
0800	81.5	81.4	98.3	110.6	81.5	82.2		80.6
0900	81.5	81.5	98.6	110.7	81.4	82.2		80.5
1000	81.5	81.5	98.8	111.0	81.4	82.2		80.5
1100	81.5	81.6	99.4	111.2	81.4	82.0		80.6
1200	81.5	82.0	99.8	111.6	81.5	82.5		80.5
1300	81.5	82.0	100.1	111.9	81.5	83.2		80.6
1400	81.6	82.0	100.2	111.6	81.6	83.3		81.0
1500	81.6	82.0	100.5	111.6	82.0	82.6		81.6
1600	81.6	82.0	100.5	111.9	82.0	83.0		81.8
1700	81.8	81.9	100.6	112.0	82.0	83.1		82.1
1800	81.9	82.3	100.6	112.0	82.1	83.1		82.1
1900	82.1	82.3	100.5	111.8	82.2	82.9		82.2
2000	82.0	82.3	100.1	111.6	82.0	82.6		82.1
2100	81.9	82.3	100.0	111.5	81.7	82.9		82.1
2200	81.9	81.9	99.9	110.5	81.6	82.3		82.2
2300	81.8	81.6	99.7	109.8	81.5	82.0		82.0
2400	81.8	81.5	99.4	109.5	81.4	82.2		81.8

TABLE 162

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	82.0	81.3	99.2	109.3	81.4	82.2		82.1
0200	81.9	81.4	98.6	109.3	81.3	82.2		82.0
0300	81.9	81.2	97.6	108.8	81.4	82.2		81.8
0400	81.8	81.3	97.2	108.4	81.5	82.3		81.8
0500	82.0	81.3	97.0	108.3	81.5	82.4		81.9
0600	82.0	81.4	96.7	108.4	81.5	82.4		81.6
0700	82.1	81.4	96.5	108.9	81.4	82.6		81.7
0800	81.9	81.7	96.7	109.7	81.4	83.0		81.4
0900	81.9	81.8	96.7	110.0	81.5	82.6		81.4
1000	82.0	82.0	97.0	110.0	81.5	82.5		81.4
1100	82.0	82.1	97.7	110.4	82.0	82.5		81.5
1200	82.3	82.1	98.3	111.0	81.9	82.5		81.6
1300	82.2	82.4	99.4	111.5	82.2	82.4		82.1
1400	82.2	82.4	99.8	112.2	82.2	82.4		82.6
1500	82.3	82.6	100.2	111.8	82.3	82.6		82.8
1600	82.4	82.7	100.5	112.2	82.3	82.7		83.0
1700	82.5	82.6	100.6	112.2	82.3	82.6		83.0
1800	82.6	82.6	100.7	112.2	82.3	82.6		83.0
1900	82.7	82.8	100.7	112.3	82.4	82.7		83.0
2000	82.7	82.9	100.6	112.0	82.5	82.7		83.3
2100	82.8	82.7	100.3	111.8	82.4	82.7		83.5
2200	82.8	82.7	100.2	111.7	82.5	82.7		83.5
2300	83.3	82.8	99.9	111.4	82.6	82.7		83.6
2400	83.4	83.2	99.8	110.4	32.8	83.2		83.8

TABLE 163

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	83.6	83.4	99.6	110.3	83.3	83.3		84.2
0200	83.7	83.5	99.6	110.4	83.4	83.4		84.2
0300	83.9	83.7	99.5	110.5	83.8	83.5		84.3
0400	83.9	83.7	99.0	110.3	83.9	83.7		84.3
0500	83.9	84.0	98.8	110.2	83.7	83.6		83.9
0600	83.7	83.8	98.6	109.9	83.7	83.5		83.7
0700	83.5	83.7	98.2	110.0	83.6	83.5		83.6
0800	83.4	83.5	98.0	110.8	83.6	83.4		83.5
0900	83.3	83.6	98.0	110.8	83.5	83.3		83.5
1000	83.3	83.6	98.2	111.2	83.6	83.3		83.4
1100	83.4	83.8	98.5	111.2	83.6	83.4		83.5
1200	83.5	84.3	99.2	111.7	83.9	83.5		83.3
1300	83.6	84.5	100.1	112.4	83.9	83.6		83.6
1400	83.7	84.8	100.3	112.8	84.0	83.4		83.6
1500	83.9	85.0	100.6	113.1	84.3	83.5		83.8
1600	84.2	85.3	100.7	113.3	84.3	83.6		84.2
1700	84.5	85.5	101.0	113.5	84.5	83.7		84.5
1800	84.5	85.7	101.2	113.4	84.8	83.8		84.8
1900	84.8	85.7	101.3	112.0	84.8	84.0		85.2
2000	84.8	85.5	101.2	110.4	84.9	84.0		85.4
2100	84.6	85.4	98.2	110.7	85.0	83.9		85.4
2200	84.6	85.4	100.5	106.2	84.8	83.9		85.7
2300	84.3	84.8	100.1	104.6	84.6	83.7		85.4
2400	84.2	84.7	99.2	103.4	84.5	83.7		85.3

TABLE 164

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	84.4	84.1	98.1	100.5	84.5	83.5		85.3
0200	84.2	84.2	97.0	99.7	84.6	83.5		85.2
0300	84.2	84.2	95.9	99.2	84.5	83.4		85.4
0400	84.1	84.1	94.7	98.3	84.5	83.3		84.9
0500	84.0	84.0	93.7	97.6	84.2	83.2		84.6
0600	83.9	83.7	92.0	97.0	84.1	83.0		84.0
0700	83.6	83.5	91.3	96.2	83.8	82.8		84.9
0800	83.5	83.5	91.2	95.7	83.8	82.9		84.3
0900	83.4	83.7	90.8	95.5	83.8	82.8		84.3
1000	83.4	83.7	90.8	95.5	83.9	82.8		84.3
1100	83.5	84.1	90.8	95.7	84.0	83.0		84.0
1200	84.2	84.2	90.9	96.0	84.0	83.2		84.5
1300	83.8	84.5	91.2	96.0	84.3	83.3		85.1
1400	84.1	85.0	91.5	96.4	84.5	83.5		85.5
1500	84.5	85.6	91.9	96.8	84.9	83.8		85.7
1600	84.7	85.8	92.0	97.0	85.3	84.0		86.3
1700	84.8	86.0	92.2	97.3	85.5	84.3		86.5
1800	85.0	86.0	92.0	97.2	85.7	84.0		86.6
1900	85.0	86.0	91.8	97.2	85.7	84.0		86.5
2000	84.9	86.0	91.7	97.0	85.4	83.8		86.5
2100	84.8	85.8	91.5	96.9	85.3	83.7		86.4
2200	84.7	85.7	91.2	96.6	85.3	83.7		86.3
2300	84.6	85.5	90.8	96.5	85.3	83.6		86.0
2400	84.6	85.3	90.5	96.2	85.2	83.6		86.0

TABLE 165

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	84.5	85.0	90.0	95.8	85.0	83.4		85.5
0200	84.4	84.7	89.8	95.6	84.7	83.3		85.2
0300	84.2	84.5	89.5	95.5	84.5	83.2		85.2
0400	84.1	84.5	89.4	96.7	84.5	83.0		85.0
0500	84.0	84.3	89.2	99.2	84.2	82.9		84.7
0600	84.0	84.0	89.0	102.0	84.0	82.9		84.4
0700	84.0	83.8	88.9	101.6	83.8	82.6		84.3
0800	83.9	83.7	89.0	102.0	83.7	82.6		84.2
0900	83.6	84.0	89.9	102.6	83.7	82.6		84.1
1000	83.6	84.2	91.2	103.5	83.8	82.7		84.3
1100	83.7	84.4	93.5	104.6	83.8	82.8		84.7
1200	84.0	84.6	94.3	105.5	84.1	82.9		84.9
1300	84.1	85.0	94.8	106.0	84.4	83.0		85.0
1400	84.2	85.0	95.1	106.5	84.4	83.0		85.5
1500	84.4	85.0	95.6	107.6	84.4	83.1		85.7
1600	84.4	85.2	96.3	108.5	84.6	83.3		85.8
1700	84.6	85.5	96.8	108.8	84.9	83.4		86.0
1800	84.6	85.5	97.1	108,9	85.0	83.5		86.0
1900	84.7	85.6	97.2	108.9	85.0	83.5		86.6
2000	84.7	85.5	97.4	109.0	85.0	83.5		86.3
2100	84.5	85.5	97.5	108.8	84.9	83.4		86.0
2200	84.5	85.3	97.2	108.5	84.5	83.3		85.8
2300	84.5	85.0	96.7	108.2	84.5	83.2		85.7
2400	84.4	85.0	96.6	107.8	84.5	83.1		85.6

TABLE 166

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	84.5	84.7	96.3	107.8	84.4	83.1		85.5
0200	84.5	84.9	96.3	108.2	84.5	83.2		85.0
0300	84.4	84.7	96.3	108.2	84.3	83.0		85.0
0400	84.2	84.6	96.0	108.2	84.4	83.0		84.8
0500	84.1	84.5	95.6	107.9	84.2	82.8		84.6
0600	84.0	84.2	95.5	108.2	84.0	82.7		84.4
0700	83.8	84.1	95.2	108.0	83.7	82.6		84.2
0800	83.5	83.9	95.3	108.0	83.5	82.4		83.7
0900	83.6	83.9	95.7	108.4	83.7	82.4		84.0
1000	83.5	83.9	96.0	108.8	83.7	82.4		84.0
1100[2/]	83.5	84.4	96.7	109.5	83.9	82.4		83.0
1200	83.6	83.4	100.1	107.9	83.5	83.4		84.3
1300	83.6	83.5	100.5	108.5	83.8	83.4		84.6
1400	83.7	83.7	101.2	109.0	83.8	83.5		85.0
1500	84.0	84.0	101.8	109.7	83.9	83.8		85.0
1600	84.1	84.2	102.3	110.1	84.2	83.9		85.6
1700	84.2	84.4	102.8	110.4	84.4	84.0		85.9
1800	84.4	84.5	103.0	110.6	84.7	84.2		86.0
1900	84.4	84.6	103.1	110.7	84.6	84.2		86.1
2000	84.5	84.6	103.2	109.6	84.6	84.3		86.4
2100	84.3	84.5	103.2	108.5	84.6	84.3		86.3
2200	84.5	84.4	103.1	108.5	84.6	84.3		86.2
2300	84.4	84.3	103.1	108.5	84.6	84.3		86.2
2400	84.4	84.2	103.0	108.4	84.6	84.4		86.3

[2/] Instruments zeroed to ground truth data

TABLE 167

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	84.4	84.1	102.0	108.0	84.6	84.2		86.3
0200	84.4	84.2	101.3	107.5	84.6	84.3		86.1
0300	83.5	84.0	100.6	106.8	84.5	84.3		85.8
0400	84.3	83.2	99.5	108.0	83.4	84.0		85.0
0500	84.4	83.0	98.3	107.6	83.5	83.2		84.3
0600	84.3	82.6	97.2	107.4	83.4	82.9		84.0
0700	84.3	82.7	97.1	107.1	83.6	83.3		84.2
0800	83.6	82.8	97.2	107.0	83.6	83.5		84.8
0900	83.5	82.6	98.2	107.5	83.6	83.4		84.5
1000	83.7	83.2	98.9	108.2	83.9	83.7		84.5
110	83.5	83.0	99.0	108.2	83.7	83.6		84.4
120-	83.5	83.5	99.4	108.5	83.6	83.5		84.4
1300	83.6	83.5	99.8	108.9	83.9	83.7		84.6
1400	83.8	83.8	100.0	109.2	84.1	83.9		84.8
1500	84.1	84.2	100.5	109.4	84.1	84.0		85.0
1600	84.3	84.6	100.3	109.4	84.4	84.3		85.4
1700	84.5	84.9	100.0	109.5	84.5	84.3		85.6
1800	84.6	84.8	99.7	109.4	84.6	84.5		85.9
1900	84.6	85.0	99.8	109.4	84.8	84.5		86.0
2000	84.6	84.9	99.5	109.1	84.8	84.4		86.2
2100	84.6	84.8	99.5	109.0	84.6	84.5		86.2
2200	84.5	84.5	99.5	108.9	84.5	84.4		86.1
2300	84.4	84.3	99.3	108.6	84.5	84.3		86.0
2400	84.3	84.1	99.1	108.4	84.4	84.3		86.0

TABLE 168

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	84.2	83.9	99.0	108.2	84.2	84.2		86.0
0200	84.0	83.6	98.6	108.0	84.2	84.1		85.7
0300	84.0	83.3	09.3	107.5	84.0	84.0		85.4
0400	83.7	83.2	98.0	107.3	83.9	83.9		84.9
0500	83.6	83.0	97.6	107.0	83.8	83.7		84.6
0600	83.5	82.6	97.4	106.7	83.5	83.5		84.4
0700	83.4	82.5	97.3	106.5	83.5	83.4		84.3
0800	83.1	82.5	97.2	106.5	83.4	83.3		84.0
0900	83.0	82.4	97.3	106.5	83.4	83.2		83.7
1000	83.3	82.6	97.7	106.7	83.4	83.2		83.6
1100	83.4	82.6	99.0	105.9	83.0	83.6		84.0
1200[7/]								
1300								
1400								
1500								
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

[7/] Turned off by I.M.

TABLE 169

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100[7/]							85.4	
0200							85.7	
0300							85.6	
0400							85.9	
0500							85.4	
0600							84.5	
0700							83.4	
0800	83.5	82.4	95.6	105.3	[7/]	[7/]	82.9	86.0*
0900	83.3	81.6	95.0	105.0			83.6	83.5*
1000	82.6	81.2	93.4	104.0			83.3	83.0
1100	82.3	81.6	91.7	103.0			83.5	83.0
1200	82.6	81.5	94.5	104.1			84.0	82.9
1300	82.5	81.6	96.3	105.3			84.0	82.9
1400	82.7	82.0	96.8	106.0			84.1	83.1
1500	82.9	81.9	96.8	106.4			84.4	83.4
1600	82.9	82.1	96.6	106.5			84.5	83.5
1700	83.0	82.3	97.7	107.0			84.8	83.6
1800	83.2	82.4	98.3	107.6			85.0	84.0
1900	83.5	83.0	99.2	108.4			85.6	84.3
2000	83.6	83.2	99.9	109.0			86.2	84.5
2100	83.5	83.1	100.2	109.2			86.2	84.5
2200	83.6	82.9	100.3	109.3			86.3	84.6
2300	83/6	82.6	100.5	109.4			84.6	84.5
2400	83.6	82.6	100.8	109.4			86.5	84.5

[7/] I.M not all sensors printing.

[7/] #8 - power pack failure.

* Unknown reason for drop.

TABLE 170

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	83.6	82.7	100.6	109.4			84.0	84.5
0200	83.4	82.6	100.5	109.4			84.0	84.3
0300	83.1	82.1	100.1	109.0			83.7	84.0
0400	83.0	82.1	100.0	109.0			83.5	84.0
0500	83.0	82.1	100.0	108.9			83.0	84.0
0600	83.0	82.0	99.9	108.6			83.0	83.9
0700	83.0	82.0	99.6	108.5			83.1	83.8
0800	83.0	82.0	99.7	108.5			83.0	83.7
0900	83.0	82.2	99.8	108.6			82.5	83.7
1000	83.0	82.4	100.0	108.6			82.5	83.8
1100	83.2	82.6	100.3	108.8			82.6	83.8
1200	83.5	83.0	100.6	109.3			82.9	84.0
1300	83.6	83.4	101.6	110.0			83.8	84.8
1400	83.8	83.5	101.6	110.0			85.4	84.8
1500	84.0	83.6	102.0	110.1			86.0	85.1
1600	84.0	83.6	102.3	110.5			84.8	85.5
1700	84.1	83.7	102.3	110.4			86.1	85.3
1800	84.2	84.6	102.4	110.6			84.3	85.4
1900	84.1	84.5	102.4	110.8			84.3	85.4
2000	84.0	83.9	102.4	110.6			84.5	85.4
2100	83.4	83.5	102.0	110.2			83.5	84.6
2200	83.5	83.0	102.0	110.0			84.6	84.7
2300	83.5	82.8	102.1	109.9			85.2	84.7
2400	83.4	82.7	102.0	109.7			83.4	84.7

TABLE 171

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	83.2	83.3	101.5	109.5			83.5	84.7
0200	83.0	82.9	100.7	109.2			84.3	84.5
0300	83.0	83.1	100.0	108.6			83.5	84.5
0400	83.0	83.0	99.3	106.8			84.1	84.3
0500	82.6	83.0	98.5	104.9			83.6	84.0
0600	82.5	82.9	98.0	103.6			84.4	83.6
0700	82.7	82.3	97.7	104.0			84.4	83.6
0800	82.9	82.3	97.7	104.5			84.5	83.6
0900	83.0	82.8	97.4	105.2			82.6	83.6
1000	83.3	82.7	97.2	105.5			82.3	83.8
1100	83.2	83.3	97.0	105.9			82.5	83.8
1200	83.5	83.2	97.7	106.5			84.2	83.8
1300	83.7	83.0	98.6	107.0			85.0	84.0
1400	83.8	83.7	99.6	108.0			83.0	84.1
1500	84.0	83.8	99.9	108.6			84.9	84.3
1600	84.0	83.8	100.5	109.0			83.0	84.1
1700	83.8	83.5	100.6	109.2			83.0	84.0
1800	83.8	83.6	100.8	109.2			82.8	84.0
1900	83.9	83.5	101.3	109.4			84.5	84.2
2000	83.7	83.7	101.6	109.5			83.3	84.2
2100	83.5	83.4	101.4	109.5			83.5	84.3
2200	83.5	83.3	101.4	109.3			83.5	84.3
2300	88.6	82.8	100.0	109.4			4/	79.3
2400	86.7	82.4	99.5	108.8				79.2

4/ Sensor malfunction - no data

TABLE 172

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	85.8	82.2	98.3	108.2				79.6
0200	86.6	82.4	98.2	108.1				79.7
0300	85.0	82.3	98.5	108.2				81.0
0400	85.6	82.4	99.0	108.3				81.5
0500	85.6	82.6	98.8	108.7				81.6
0600	85.6	82.6	98.8	108.7				81.6
0700	85.6	82.6	98.5	108.5				81.6
0800	85.4	82.5	98.4	108.5				81.4
0900[1]								
1000								
1100								
1200								
1300								
1400								
1500								
1600[2]	82.7	[4]	97.6	110.5		83.4	83.6	83.2
1700	82.8		97.9	110.6		83.4	83.8	83.4
1800	83.0		97.8	110.7		83.4	83.9	83.5
1900	83.0		97.8	110.6		83.4	83.8	83.6
2000	82.9		97.7	110.5		83.4	83.8	83.7
2100	82.9		97.5	110.2		83.4	83.8	83.7
2200	82.8		97.2	110.1		83.3	83.7	83.6
2300	82.8		96.7	109.7		83.3	83.8	83.7
2400	82.7		96.5	109.4		83.3	83.7	83.7

[1] Recorder not printing.

[2] Instruments zeroed to ground truth data.

[4] Sensor malfunction - no data.

TABLE 173

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	82.7		96.2	109.3		83.3	83.6	83.5
0200	82.6		95.8	109.1		83.3	83.8	83.4
0300	82.8		95.5	109.1		83.4	83.7	83.5
0400	82.8		95.4	108.9		83.5	83.5	83.3
0500	82.8		94.9	108.5		83.3	83.3	83.0
0600	82.7		94.5	108.2		83.3	83.2	82.7
0700	82.5		94.	108.0		83.2	83.5	82.5
0800	82.5		93.8	107.7		83.1	83.7	82.1
0900	82.4		94.0	107.7		83.2	83.5	82.0
1000	82.3		94.2	107.7		83.2	83.5	81.9
1100	82.2		94.3	107.7		83.0	83.4	81.7
1200	82.0		94.4	107.8		83.0	83.6	81.8
1300	82.2		94.5	108.0		82.8	83.7	81.9
1400	82.3		94.9	108.4		83.0	84.0	82.2
1500	82.5		94.8	108.5		83.0	83.6	82.5
1600	82.6		94.9	108.7		83.2	83.8	83.0
1700	82.6		95.0	108.7		83.3	83.7	83.2
1800	82.7		94.9	108.8		83.4	83.4	83.3
1900	82.7		94.9	108.6		83.3	83.6	83.1
2000	82.5		94.5	108.5		83.1	83.1	83.0
2100	82.5		94.7	108.3		83.2	83.3	82.7
2200	82.4		94.8	108.3		83.0	83.5	82.4
2300	82.3		94.9	108.3		83.0	83.4	82.2
2400	82.3		95.2	108.5		83.1	83.5	82.1

TABLE 174

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	82.3		95.0	108.5		83.0	83.2	81.9
0200	82.0		95.0	108.3		83.0	83.0	81.6
0300	81.8		94.8	108.2		82.7	82.6	81.4
0400	81.6		94.8	107.8		82.8	82.7	81.3
0500	81.5		94.6	107.5		82.6	82.6	81.1
0600	81.4		94.1	107.3		82.5	82.4	80.9
0700	81.2		83.7	107.0		82.3	81.8	80.8
0800	81.0		93.5	106.5		82.0	81.9	80.0
0900	80.8		93.6	106.5		82.0	81.9	80.0
1000	80.9		93.7	106.7		82.1	82.0	79.9
1100	80.9		94.0	107.0		82.3	82.0	80.3
1200	81.2		94.4	107.5		82.6	82.2	80.7
1300	81.3		94.7	107.9		82.7	82.4	80.9
1400	81.5		95.0	108.3		82.7	82.8	81.7
1500	81.7		95.0	108.6		82.9	82.9	81.9
1600	82.0		95.5	108.7		83.0	83.0	82.2
1700	82.0		95.7	109.0		83.0	83.1	82.4
1800	82.3		95.7	109.3		83.3	83.5	82.6
1900	82.4		96.3	09.6		83.5	83.8	83.0
2000	82.6		96.2	109.5		83.8	83.9	83.0
2100	82.5		95.0	109.0		83.7	83.5	82.8
2200	82.5		95.8	107.0		83.8	83.6	82.6
2300	82.4		95.7	107.5		83.5	83.3	83.5
2400	82.3		95.6	103.7		83.5	83.0	82.1

TABLE 175

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	82.3		95.5	103.5		83.4	82.6	81.7
0200	82.0		95.0	103.0		83.4	82.5	81.6
0300	81.9		93.9	102.5		83.2	82.5	81.5
0400	81.5		92.5	101.5		82.9	82.4	81.1
0500	81.2		91.2	100.4		82.5	82.5	80.6
0600	81.0		91.0	100.2		82.3	82.4	80.6
0700	80.7		90.4	100.7		82.1	82.3	80.1
0800	80.9		90.0	101.1		82.0	82.4	80.0
0900	81.0		89.9	102.2		82.3	82.5	80.0
1000	80.7		89.7	102.9		82.2	82.5	80.1
1100	81.0		90.2	104.0		82.3	82.8	80.6
1200	81.3		91.0	104.7		82.3	83.0	81.0
1300	81.5		91.7	105.4		82.5	83.0	81.3
1400	81.9		93.0	106.4		92.7	82.7	82.1
1500	82.2		93.7	107.0		82.9	84.2	82.3
1600	82.7		94.2	107.5		83.0	84.8	82.3
1700	82.7		94.5	107.9		83.0	84.3	83.2
1800	82.7		94.7	108.0		83.1	84.4	83.5
1900	82.8		94.8	108.3		83.3	84.6	83.5
2000	82.6		94.9	108.4		83.3	84.6	83.5
2100	82.5		95.2	108.4		83.3	84.5	83.4
2200	82.4		95.0	108.4		83.0	84.5	83.3
2300	82.3		94.8	108.2		82.9	84.2	83.0
2400	82.0		94.8	108.1		82.7	83.6	82.7

TABLE 176

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	81.8		94.5	107.9		82.3	83.5	82.2
0200	81.6		94.2	107.8		82.2	83.5	82.1
0300	81.6		94.0	107.7		82.1	82.2	81.9
0400	81.5		93.7	107.5		82.1	83.2	81.6
0500	81.5		93.5	107.4		82.1	83.0	81.5
0600	81.4		93.5	107.5		82.1	81.5	81.2
0700	81.3		93.4	107.5		82.1	81.5	81.2
0800	81.1		93.4	107.4		82.0	81.1	81.0
0900	81.0	82.0[9/]	93.5	107.3	81.7[9/]	82.1	82.7	81.0
1000	81.2	82.2	93.8	107.8	82.0	82.5	81.5	81.0
1100	81.6	82.6	94.6	108.5	82.9	82.9	81.7	81.3
1200	81.7	82.8	95.0	109.0	82.7	82.7	81.3	81.2
1300	82.0	83.0	95.7	109.5	84.0	83.0	83.2	81.2
1400	82.0	83.2	95.7	109.5	84.4	83.2	83.1	81.5
1500	82.0	83.2	96.0	109.6	83.2	83.2	81.5	81.5
1600	81.9	83.3	96.6	109.8	83.0	83.0	82.9	81.5
1700	81.9	83.1	97.0	109.8	83.0	83.0	83.0	81.5
1800	81.9	83.0	97.3	109.8	82.9	83.0	83.0	81.5
1900	81.7	82.8	97.3	109.9	82.5	82.8	82.0	81.5
2000	81.5	82.5	97.0	109.5	82.5	82.7	83.0	81.4
2100	81.5	82.2	96.9	109.4	82.0	82.7	81.9	81.3
2200	81.2	82.5	96.7	109.3	81.9	82.5	82.5	81.2
2300	81.2	82.0	96.6	109.3	82.0	82.5	82.5	81.0
2400	81.1	82.0	96.5	109.0	82.0	82.6	82.7	81.0

[9/] Sensor turned on, calibrated and zeroed to ground truth

TABLE 177

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	81.1	82.0	96.5	109.0	82.0	82.5	82.5	81.0
0200	81.1	82.0	96.4	109.0	82.1	82.5	82.5	80.9
0300	81.2	82.2	96.2	108.9	82.0	82.3	82.2	81.0
0400	81.5	81.8	95.9	109.0	81.7	82.2	82.3	80.9
0500	81.4	81.6	95.5	108.7	81.2	82.0	81.1	80.0
0600	81.5	81.6	95.3	108.5	81.2	81.7	81.8	79.5
0700	82.0	81.5	95.0	108.5	81.3	81.5	81.7	78.5
0800	82.3	81.5	94.8	108.3	81.2	81.3	82.0	78.0
0900	83.0	81.5	94.8	108.3	81.4	81.4	81.8	78.8
1000	83.3	81.5	94.7	108.5	81.5	81.5	80.5	78.4
1100	83.6	81.6	94.8	108.4	81.5	81.5	81.5	79.0
1200	81.7	81.4	95.5	108.4	82.0	82.0	81.9	81.0
1300	81.4	81.8	95.6	108.4	82.0	82.2	82.1	80.0
1400	81.3	82.0	96.0	108.7	82.1	82.2	81.9	80.0
1500	81.2	82.1	96.0	108.8	82.1	82.1	81.9	80.0
1600	81.3	82.1	96.1	108.9	82.0	82.3	82.0	80.0
1700	81.3	82.2	96.3	109.0	82.2	82.2	82.0	80.1
1800	81.1	82.0	95.8	108.9	82.0	82.0	82.0	80.2
1900	80.7	81.6	95.1	108.1	81.5	81.7	81.8	80.0
2000	80.5	81.2	94.5	107.5	81.1	81.5	81.6	79.6
2100	80.3	80.7	94.0	107.3	81.0	81.5	81.6	79.7
2200	80.0	80.5	93.5	106.8	80.8	81.5	80.0	79.4
2300	79.9	80.2	83.2	106.5	80.6	81.3	80.0	79.4
2400	79.8	80.0	92.7	106.2	80.5	81.5	81.7	79.3

TABLE 178

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.6	80.0	92.5	106.0	80.3	81.4	81.0	79.3
0200	79.6	79.7	92.4	106.0	80.3	81.2	80.7	79.2
0300	79.6	79.6	92.0	105.7	80.1	81.2	80.5	79.0
0400	79.5	79.5	91.8	105.5	80.1	81.2	80.5	78.9
0500	79.5	79.5	91.7	105.4	80.1	81.3	80.3	78.9
0600	79.3	79.3	91.5	105.3	80.0	81.3	79.0	78.5
0700	79.2	79.2	91.6	105.2	80.0	81.2	80.5	78.5
0800	79.2	79.1	91.5	105.0	80.0	81.4	79.5	78.5
0900	79.5	79.3	91.7	105.3	80.2	81.6	80.0	78.7
1000	79.5	79.3	92.0	105.3	80.3	81.5	79.6	78.6
1100	79.5	79.5	92.2	105.4	80.3	81.6	80.0	78.6
1200	79.5	79.5	92.4	105.7	80.4	81.6	81.0	78.7
1300	79.6	79.7	92.7	106.0	80.3	81.6	79.8	78.8
1400	79.9	80.0	93.0	106.2	80.5	81.7	81.7	79.0
1500	80.0	80.3	93.5	106.5	80.9	81.7	81.6	79.2
1600	80.0	80.5	93.5	106.6	81.0	81.7	81.7	79.0
1700	80.0	80.3	93.5	106.6	80.6	81.7	81.5	79.0
1800	79.9	80.4	93.5	106.6	80.5	81.5	81.7	79.0
1900	79.9	80.4	93.6	106.8	80.5	81.5	81.5	78.9
2000	79.7	80.3	93.7	106.7	80.5	81.4	81.5	78.8
2100	79.5	80.0	93.7	106.5	80.2	81.3	81.2	78.5
2200	79.5	79.8	93.6	106.5	80.0	81.3	81.0	78.6
2300	79.3	79.4	93.5	106.3	80.0	81.1	80.9	78.4
2400	79.3	79.3	93.5	106.3	79.9	81.0	80.7	78.2

TABLE 179

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.0	79.0	93.4	106.3	79.7	81.1	80.5	78.0
0200	79.0	78.9	93.1	106.0	79.9	81.1	80.5	77.9
0300	78.8	78.7	92.9	105.7	79.6	81.0	80.2	77.7
0400	78.7	78.6	92.6	105.6	79.5	81.0	80.2	77.5
0500	78.5	78.4	92.5	105.5	79.5	81.0	80.0	77.5
0600	78.5	78.3	92.2	105.3	79.5	81.1	79.9	77.4
0700	78.8	78.5	92.1	105.4	79.7	81.2	80.2	77.5
0800	78.6	78.3	92.0	105.3	79.6	81.4	80.4	76.8
0900	78.8	78.3	92.5	105.2	79.6	81.4	80.4	76.9
1000	78.8	78.4	93.0	105.3	79.5	81.4	80.5	76.9
1100	78.7	78.5	93.4	105.5	79.7	81.2	80.5	76.8
1200	79.0	78.8	94.0	106.0	79.7	81.5	80.7	76.7
1300	79.0	79.0	94.1	106.4	79.7	81.5	80.6	76.9
1400	79.0	79.0	94.8	106.5	79.7	81.4	80.6	77.4
1500	79.0	78.9	94.8	106.8	79.5	81.0	80.8	77.3
1600	79.0	78.9	95.0	107.0	79.7	81.3	80.7	77.3
1700	79.0	79.0	95.0	107.0	79.5	81.0	81.0	77.4
1800	79.0	79.0	94.8	106.8	79.5	81.0	80.6	77.6
1900	79.0	79.0	94.6	106.6	79.5	81.0	80.5	77.8
2000	79.0	79.0	94.5	106.5	79.5	81.0	80.0	77.3
2100	79.0	78.9	94.5	106.5	79.4	81.0	80.5	78.0
2200	79.0	78.8	94.5	106.5	79.5	80.1	80.7	78.1
2300	79.1	78.9	94.5	106.5	79.5	81.0	81.0	78.2
2400	79.2	78.8	94.3	106.4	79.5	81.2	81.4	78.4

TABLE 180

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.3	78.9	94.2	106.3	79.9	81.3	81.6	78.2
0200	79.1	79.1	93.8	106.3	79.7	81.2	81.3	78.4
0300	79.4	79.1	93.8	106.2	80.0	81.2	81.5	78.3
0400	79.4	79.2	93.5	106.3	80.0	81.2	81.1	78.3
0500	79.5	79.3	93.6	106.7	80.0	81.4	81.0	78.4
0600	79.6	79.5	93.8	106.5	80.3	81.7	81.2	78.6
0700	79.5	79.4	93.8	106.5	80.3	81.5	81.1	78.6
0800	79.5	79.3	93.9	106.4	80.3	81.6	81.5	78.5
0900	79.5	79.4	94.0	106.5	80.1	81.5	81.4	78.3
1000	79.5	79.5	94.4	106.7	80.3	81.5	81.3	78.3
1100	79.7	79.7	94.9	107.0	80.4	81.5	81.4	78.3
1200	79.8	80.0	95.1	107.5	80.6	81.7	81.8	78.5
1300[2/]	79.3	78.8	95.2	107.7	79.5	79.8	79.9	78.4
1400	79.2	78.8	95.3	107.7	79.5	79.5	80.4	78.5
1500	79.3	79.0	95.3	107.7	79.5	79.5	80.0	78.8
1600	79.5	79.2	95.3	107.8	79.5	79.5	80.0	79.0
1700	79.6	79.5	95.2	107.9	79.8	79.7	80.2	79.4
1800	79.8	79.7	95.3	108.0	79.9	79.9	80.4	79.5
1900	80.0	80.0	95.2	108.0	80.1	80.0	80.5	79.8
2000	80.0	80.0	95.2	108.0	80.3	80.0	80.5	79.9
2100	80.2	80.0	95.0	108.0	80.4	80.0	80.6	80.0
2200	80.1	79.9	95.0	107.9	80.3	80.0	80.5	80.0
2300	80.0	79.8	95.0	107.8	08.4	80.0	80.4	80.0
2400	80.0	79.7	95.1	107.8	80.2	80.0	80.4	80.0

[2/] Instruments zeroed to ground truth data.

TABLE 181

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	80.1	79.5	95.0	107.8	80.4	80.0	80.3	79.9
0200	80.0	79.6	94.7	107.5	80.3	80.0	80.4	80.0
0300	80.3	79.7	94.5	107.6	80.5	80.1	80.5	80.0
0400	80.3	79.7	94.6	107.6	80.5	80.2	80.3	80.2
0500	80.2	79.7	94.4	107.5	80.5	80.2	80.0	80.0
0600	80.0	79.5	93.9	107.4	80.2	80.1	79.7	79.3
0700	80.3	79.4	93.3	106.6	80.0	80.0	79.5	79.4
0800	80.0	79.1	93.1	106.6	80.0	80.0	79.5	79.4
0900	80.0	79.1	93.1	106.5	80.0	80.0	80.0	79.4
1000	80.0	79.1	93.4	106.7	80.0	80.0	79.5	79.5
1100	80.0	79.3	93.7	106.9	80.0	80.0	79.9	79.7
1200	79.7	79.3	93.7	106.8	79.9	79.9	79.9	79.4
1300	79.9	79.4	94.2	107.2	80.2	80.0	80.0	79.3
1400	80.0	79.5	94.1	107.2	80.1	80.0	80.1	79.7
1500	80.0	79.6	94.4	107.4	80.2	80.1	80.0	79.9
1600	80.1	79.9	94.9	107.5	80.3	80.2	80.1	80.0
1700	80.1	80.1	95.6	108.3	80.5	80.2	80.3	80.4
1800	80.5	80.2	96.2	108.5	80.7	80.2	80.3	80.6
1900	80.5	80.3	96.8	109.0	80.7	80.3	80.6	81.0
2000	80.5	80.5	97.0	109.3	80.7	80.2	80.7	81.0
2100	80.5	80.4	97.7	109.3	80.5	80.5	80.6	81.0
2200	80.5	80.3	97.6	109.4	80.7	80.4	80.5	81.1
2300	80.3	81.0	97.5	109.3	80.5	80.5	80.5	80.5
2400	80.4	80.2	97.4	109.3	80.5	80.4	80.3	80.8

TABLE 182

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
JULY 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	80.4	80.2	97.5	109.5	80.6	80.4	80.2	81.0
0200	80.5	80.2	97.5	109.5	80.6	80.5	80.2	81.1
0300	80.6	80.3	97.4	109.5	80.7	80.5	80.4	81.3
0400	80.7	80.5	97.3	109.5	81.0	80.6	80.6	81.1
0500	80.5	80.4	97.0	109.4	81.0	80.6	80.8	81.0
0600	80.5	80.3	96.7	109.2	80.7	80.5	80.1	80.5
0700	80.5	80.1	96.4	108.1	80.7	80.5	80.1	80.5
0800	80.4	80.1	96.5	109.0	80.6	80.4	80.1	80.2
0900	80.0	79.7	96.2	108.5	80.3	80.0	80.0	80.0
1000	80.1	79.8	96.5	108.8	80.5	80.0	80.0	80.0
1100	80.4	80.0	96.8	109.1	80.6	80.4	80.0	80.0
1200	80.5	80.4	97.3	109.5	80.7	80.6	80.2	80.0
1300	80.6	80.5	97.7	109.7	80.8	80.8	80.4	80.0
1400	80.9	80.9	97.8	110.0	81.1	81.0	80.5	80.2
1500	81.0	81.3	97.8	110.1	81.4	81.1	80.6	80.4
1600	81.2	81.2	98.0	110.4	81.4	81.0	79.6	80.5
1700	81.4	81.1	98.0	110.5	81.5	81.3	80.5	80.5
1800	81.5	81.3	98.0	110.5	81.5	81.0	80.6	80.7
1900	81.5	81.3	97.8	110.4	81.4	81.1	80.6	81.0
2000	81.3	81.5	97.7	110.1	81.4	81.1	80.7	81.0
2100	81.1	81.3	97.6	110.1	81.3	81.1	80.7	81.0
2200	81.1	81.3	97.5	109.9	81.1	81.0	80.6	81.0
2300	81.1	81.1	97.4	109.8	81.2	81.2	80.2	81.0
2400	81.0	81.0	97.2	109.7	81.2	81.2	79.5	81.2

TABLE 183

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	81.1	80.1	96.7	109.4	81.1	81.1	80.5	81.1
0200	81.0	80.7	96.5	109.3	81.1	80.9	80.4	80.9
0300	80.8	80.7	96.2	109.0	81.0	80.9	80.4	80.9
0400	80.7	80.5	96.0	108.8	80.8	80.7	81.1	80.6
0500	80.5	80.3	95.6	108.5	80.7	80.7	79.9	80.6
0600	80.4	80.1	95.4	108.5	80.6	80.6	79.6	80.4
0700	80.1	79.8	95.2	108.1	80.5	80.5	79.4	80.3
0800	80.1	79.8	94.8	107.9	80.4	80.3	79.4	80.1
0900	80.0	79.7	95.0	107.7	80.2	80.2	79.4	80.1
1000	80.0	79.6	94.7	107.7	80.1	80.1	79.1	80.1
1100	80.0	79.5	95.2	107.9	80.2	80.2	79.4	80.0
1200	80.2	79.8	95.7	108.5	80.2	80.3	79.5	80.0
1300	80.2	80.0	96.3	108.8	80.3	80.3	79.7	80.1
1400	80.2	80.2	96.7	109.3	80.3	80.3	79.5	80.0
1500	80.3	80.3	97.5	109.7	80.5	80.4	78.7	80.3
1600	80.5	80.5	97.8	109.9	80.7	80.4	80.1	80.5
1700	80.8	80.8	98.3	110.2	80.9	80.7	80.5	81.0
1800	81.0	81.0	98.5	110.5	81.0	80.7	79.5	81.0
1900	81.0	81.0	98.6	110.5	81.0	80.7	79.9	81.3
2000	81.1	81.2	98.7	110.5	81.2	81.0	80.6	82.0
2100	81.2	81.5	98.9	110.6	81.3	81.0	79.3	81.8
2200	81.2	81.4	98 7	110.5	81.2	80.9	79.3	81.6
2300	81.1	81.3	98.5	110.4	81.3	80.7	79.1	81.7
2400	81.0	81.1	98.0	110.1	81.1	80.9	79.3	81.8

TABLE 184

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	81.1	81.0	97.7	110.0	81.2	80.7	79.8	82.0
0200	81.1	81.1	97.4	109.7	81.1	80.7	79.2	82.1
0300	81.1	81.1	97.4	109.6	81.1	80.7	79.2	82.1
0400	81.0	81.1	97.2	109.6	81.1	80.7	79.2	82.0
0500	81.0	81.0	97.0	109.5	81.0	80.6	79.1	82.0
0600	81.0	81.1	96.7	109.5	81.5	80.6	79.1	81.8
0700	81.0	81.0	96.7	109.4	81.3	80.7	79.2	81.9
0800	81.0	81.0	96.7	109.4	81.4	80.6	79.7	81.7
0900	80.9	81.0	96.5	109.1	81.4	80.6	78.9	81.2
1000	80.5	80.7	96.0	108.9	80.8	80.8	79.0	81.2
1100	80.8	80.7	95.6	108.6	81.0	80.8	79.6	81.0
1200	80.6	80.7	95.4	108.5	81.0	80.7	78.6	80.8
1300	80.5	80.5	95.1	108.3	80.9	80.6	79.4	80.8
1400	80.5	80.5	95.4	108.5	81.0	80.4	78.6	80.5
1500	80.5	80.5	95.7	108.5	81.0	80.5	80.6	80.7
1600	80.5	80.5	96.0	108.7	81.0	80.5	80.2	80.5
1700	80.5	80.2	95.6	108.4	80.5	80.5	78.9	80.4
1800	79.9	80.3	95.5	108.5	80.1	80.2	78.4	80.8
1900	80.4	80.3	95.5	108.3	80.4	80.4	78.4	80.6
2000	80.0	80.0	95.2	108.2	80.5	80.5	78.5	80.5
2100	80.1	79.7	95.1	107.8	80.2	80.3	78.5	80.5
2200	80.0	79.7	95.1	107.8	80.3	88.4	78.6	80.6
2300	80.0	79.3	94.7	107.6	80.0	80.5	78.5	80.5
2400	80.0	79.4	94.6	107.4	80.1	80.5	78.5	80.5

TABLE 185

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.0	79.3	94.3	106.0	80.0	80.5	79.4	80.3
0200	79.9	79.3	94.0	104.8	80.0	80.6	78.5	80.5
0300	80.0	79.3	94.0	103.4	80.0	80.6	78.3	80.3
0400	80.0	79.5	93.7	102.0	80.0	80.6	78.5	80.7
0500	80.0	79.5	93.6	102.2	79.9	80.5	79.5	81.0
0600	80.0	79.4	92.8	101.6	80.0	80.5	79.2	80.8
0700	79.9	79.6	92.0	101.4	79.9	80.5	79.4	81.1
0800	79.7	79.5	91.2	101.1	79.8	80.3	79.5	81.0
0900	80.5	79.4	90.5	101.0	79.9	80.5	79.7	80.7
1000	80.1	79.5	91.5	102.4	80.1	80.4	79.5	80.4
1100	80.3	79.9	92.0	103.8	80.5	80.6	79.2	80.5
1200	80.3	80.2	92.3	104.9	80.5	80.6	79.4	80.5
1300	80.3	80.2	92.7	105.4	80.7	80.7	80.0	80.5
1400	80.5	80.4	93.3	106.0	80.8	80.8	79.1	80.8
1500	80.8	80.7	94.0	106.5	80.9	80.9	80.2	80.8
1600	81.0	80.9	94.7	107.0	81.1	81.0	80.5	81.0
1700	81.0	81.0	95.0	107.5	81.1	81.2	80.9	81.3
1800	81.1	81.2	95.1	107.2	81.2	81.2	80.7	81.2
1900	81.0	81.2	95.1	107.0	81.3	81.3	80.5	81.0
2000	81.0	79.9	95.2	106.7	81.3	81.2	80.6	81.2
2100	80.6	80.7	95.4	106.7	81.0	81.0	80.5	80.9
2200	80.6	80.4	95.4	106.8	80.7	81.0	80.1	81.2
2300	80.6	80.4	95.3	106.6	80.7	81.0	80.1	81.2
2400	80.7	80.2	94.8	106.4	80.5	80.9	80.0	81.0

TABLE 186

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.5	80.2	94.4	106.0	80.5	81.0	80.1	80.6
0200	80.5	80.0	93.7	105.7	80.5	80.9	79.5	80.8
0300	80.6	79.9	93.5	105.7	80.5	80.8	79.9	80.8
0400	80.4	79.7	93.2	105.5	80.5	80.8	79.7	80.7
0500	80.4	79.7	92.7	105.3	80.5	80.7	79.7	80.5
0600	80.3	79.7	92.3	105.0	80.5	80.7	79.5	80.4
0700	80.2	79.5	92.1	105.0	80.5	80.5	79.4	80.1
0800	80.1	79.5	92.3	105.0	80.4	80.6	78.9	79.9
0900	80.0	79.4	92.4	105.3	80.4	80.5	78.2	79.8
1000	80.0	79.5	92.5	105.3	80.5	80.6	78.7	79.8
1100	80.0	79.4	93.0	105.5	80.4	80.4	78.8	79.3
1200	80.0	79.3	93.4	106.0	80.6	80.5	78.8	79.3
1300	80.0	79.3	94.0	106.2	80.5	80.4	78.8	79.3
1400	79.9	79.3	94.5	106.7	80.4	80.3	79.0	79.4
1500	80.0	79.3	95.0	107.0	80.3	80.2	79.0	79.5
1600	80.0	79.4	95.6	107.3	80.1	80.1	79.1	79.5
1700	80.0	79.3	96.0	107.6	80.1	80.2	79.0	79.5
1800	80.0	79.3	96.5	107.6	80.1	80.1	79.0	80.0
1900	[3]	78.8	95.5	107.2	76.8*	[3]	78.6	77.5*
2000		78.5	93.4	106.4	77.0		78.3	77.1
2100		78.3	93.3	106.2	76.7		79.5	76.4
2200		78.2	92.7	105.7	76.8		79.4	76.3
2300		78.0	92.3	105.5	76.8		79.5	76.3
2400		78.3	92.5	105.3	77.0		79.3	77.1

[3] Probable sensor malfunction
*Unknown cuase for decrease

TABLE 187

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	3/	78.6	92.7	105.8	77.2	3/	79.9	77.7
0200		78.7	92.7	105.8	77.5		80.0	78.2
0300		78.9	92.7	105.7	77.7		80.0	78.3
0400		79.1	92.7	106.0	78.0		80.0	78.5
0500		79.1	92.7	106.2	77.7		80.0	78.4
0600		79.0	93.0	106.2	78.0		79.9	78.4
0700		78.8	93.0	106.4	77.5		80.0	78.4
0800		78.7	93.1	106.6	77.8		79.9	78.0
0900		78.6	93.8	106.5	78.0		79.4	77.5
1000		78.6	94.0	106.6	78.0		80.1	77.3
1100		78.8	94.3	106.7	77.8		79.7	77.3
1200		79.1	94.9	107.2	78.0		79.5	77.3
1300		79.5	95.3	107.5	78.0		79.9	77.3
1400	79.2	79.8	95.4	107.5	78.5	79.2	81.2	78.9
1500	79.4	80.0	95.9	107.9	78.9	79.2	81.3	79.4
1600	79.5	80.0	96.2	108.0	78.7	79.3	80.4	79.6
1700	79.6	80.1	96.3	108.0	79.0	79.5	81.4	79.6
1800	79.6	80.2	96.5	107.8	79.2	79.5	81.6	79.7
1900	79.6	80.2	96.5	107.8	79.1	79.5	81.5	79.9
2000	79.7	80.3	96.7	108.0	79.1	80.5	81.7	80.1
2100	79.7	80.0	96.5	107.9	79.0	79.5	82.0	80.2
2200	79.6	80.0	96.4	107.7	79.0	79.5	82.0	80.2
2300	79.5	79.7	96.2	107.5	79.0	79.7	81.9	80.2
2400	79.5	79.7	96.1	107.4	79.0	79.6	81.5	80.2

3/ Probably Sensor Malfunction

TABLE 188

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.5	79.6	96.0	107.5	79.0	79.6	81.5	80.0
0200	79.5	79.5	95.6	107.3	78.8	79.6	81.3	79.9
0300	79.5	79.5	95.6	107.2	78.9	79.5	81.4	78.8
0400	79.3	79.6	95.2	107.0	78.9	79.5	81.2	78.7
0500	79.8	79.3	94.7	106.8	78.8	79.3	81.3	79.4
0600	79.5	79.0	94.5	106.5	78.6	79.3	81.0	79.0
0700	79.2	79.2	95.7	106.5	78.5	79.3	81.2	79.5
0800	79.0	79.0	94.4	106.3	78.5	79.3	81.0	79.0
0900	78.5	78.3	94.0	105.7	78.0	78.9	80.7	78.4
1000	78.4	78.3	94.2	105.9	77.7	79.0	80.5	78.3
1100	78.5	78.4	94.7	106.2	77.9	79.0	80.3	78.1
1200	78.5	78.5	95.0	106.6	77.9	78.8	79.6	78.3
1300	78.7	78.7	95.7	107.0	78.0	79.0	80.7	78.4
1400	78.8	79.0	96.2	107.4	78.1	79.0	80.7	78.5
1500	78.9	79.0	96.4	107.6	78.3	79.4	81.1	78.9
1600	79.2	79.3	96.7	107.8	78.5	79.5	81.2	79.4
1700	79.3	79.5	96.8	107.9	78.6	79.5	81.4	79.5
1800	79.4	79.7	96.8	108.0	78.7	79.5	81.6	80.0
1900	79.5	79.8	96.9	108.0	78.9	79.5	81.6	80.1
2000	79.5	79.9	97.0	108.0	78.9	79.8	81.7	80.5
2100	79.5	79.9	96.9	108.0	78.8	79.7	82.4	80.7
2200	79.6	79.9	96.7	108.0	78.8	79.8	82.4	80.7
2300	79.6	79.9	96.7	108.0	78.8	79.8	82.7	80.5
2400	79.6	79.9	96.6	107.9	79.0	79.7	82.0	80.7

TABLE 189

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	79.6	80.0	96.5	107.8	78.8	79.7	81.7	80.9
0200	79.6	80.0	96.4	107.8	79.0	79.8	81.7	80.8
0300	79.7	80.0	96.3	107.8	79.3	80.0	81.5	80.5
0400	79.7	80.0	96.2	107.7	79.2	80.0	81.2	80.5
0500	79.6	80.0	96.0	107.7	79.1	79.9	81.2	80.4
0600	79.5	79.9	96.0	107.7	79.1	79.8	81.3	80.3
0700	79.5	79.9	96.2	107.7	79.1	79.5	81.0	80.3
0800	79.5	80.0	96.2	107.6	79.1	79.3	80.7	80.1
0900	79.5	80.0	96.5	107.7	79.1	79.3	80.7	80.0
1000	79.5	79.9	96.8	108.0	79.2	79.3	81.4	79.7
1100	79.5	80.1	96.7	108.1	79.2	79.2	80.9	79.8
1200	79.5	80.0	96.3	108.0	79.4	79.3	81.7	79.9
1300	79.6	80.1	96.3	107.8	79.5	79.3	81.3	80.0
1400	79.7	80.3	96.7	107.9	79.8	79.3	81.3	80.4
1500	79.7	80.3	96.8	108.0	79.5	79.4	81.5	80.9
1600	79.8	80.7	97.4	108.4	79.5	79.6	82.5	80.5
1700	80.0	80.5	97.4	108.7	79.6	79.6	82.4	80.7
1800	80.0	80.8	97.7	109.0	79.8	79.8	82.3	80.9
1900	80.1	80.8	97.8	109.0	79.9	79.8	82.0	81.1
2000	80.1	80.8	98.1	109.0	79.7	79.7	82.0	81.4
2100	80.1	80.9	98.3	109.2	79.7	79.7	82.0	81.5
2200	80.1	80.7	98.4	109.2	79.7	79.7	82.0	81.3
2300	80.2	80.7	98.3	109.2	79.8	79.9	81.3	81.4
2400	80.1	80.7	98.0	109.0	79.7	79.8	82.0	81.4

TABLE 190

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.1	80.7	97.6	108.8	79.9	79.8	82.0	81.5
0200	80.1	80.5	97.3	108.7	79.7	79.7	82.0	81.5
0300	80.2	80.7	97.2	108.5	79.8	79.8	82.0	81.5
0400	80.3	80.8	97.0	108.5	79.8	79.8	81.9	81.4
0500	80.3	80.8	96.9	108.5	80.3	80.0	82.0	81.2
0600	80.1	80.7	96.7	108.3	79.9	79.9	81.8	81.4
0700	80.0	80.6	96.5	108.0	79.7	79.8	81.5	81.2
0800	80.1	80.5	96.4	108.0	79.8	79.7	81.5	81.2
0900	80.0	80.5	95.5	107.6	79.9	79.9	81.4	80.9
1000	80.0	80.6	95.0	107.3	79.7	79.7	80.5	80.6
1100	80.0	80.5	95.0	107.3	80.3	79.8	80.3	80.6
1200	80.1	80.7	95.4	107.5	80.0	79.8	81.4	80.7
1300	80.2	81.0	95.7	107.8	80.0	79.8	81.3	81.0
1400	80.3	81.2	96.5	108.5	81.0	79.8	80.4	81.0
1500	80.3	81.2	97.0	108.7	80.4	80.0	82.0	81.0
1600	80.6	81.5	97.7	109.2	80.5	80.1	82.0	81.0
1700	80.8	81.8	97.8	109.6	80.6	80.5	82.0	81.0
1800	80.8	81.8	98.3	109.8	80.8	80.4	81.5	81.1
1900	80.5	81.6	98.5	109.8	80.7	80.3	81.3	81.2
2000	80.5	81.7	98.9	109.9	80.5	80.2	80.8	81.2
2100	80.6	81.6	99.0	109.9	80.5	80.0	82.4	81.5
2200	80.7	81.7	99.2	110.0	80.5	80.0	82.2	81.5
2300	80.5	81.5	99.1	109.9	80.3	80.0	82.5	81.7
2400	80.5	81.5	98.8	109.7	80.2	79.9	81.0	81.6

TABLE 191

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	80.5	81.2	98.3	109.5	80.2	79.9	82.5	81.8
0200	80.5	81.4	98.0	109.0	80.2	80.0	82.7	81.9
0300	80.5	81.2	97.7	109.0	80.2	80.1	82.7	81.9
0400	80.6	81.5	97.7	109.0	80.5	80.1	82.7	81.9
0500	80.7	81.5	97.2	108.9	80.6	80.3	82.5	81.7
0600	80.7	81.4	96.7	108.5	80.4	80.0	82.7	81.4
0700	81.0	81.2	96.4	108.5	80.0	79.8	82.2	81.0
0800	81.1	81.2	96.0	108.5	80.0	79.4	82.0	80.4
0900	82.5	81.0	96.3	108.3	80.1	79.7	82.0	80.3
1000	80.5	81.2	96.7	108.5	80.3	80.0	82.3	81.5
1100	80.5	81.2	97.0	108.5	80.4	80.0	82.2	81.5
1200	80.5	81.7	97.4	108.7	80.5	79.9	82.0	81.3
1300	80.7	81.9	97.7	109.1	80.5	79.9	82.1	81.4
1400	80.7	82.2	98.0	109.5	80.5	79.8	82.4	81.5
1500	81.0	82.3	98.6	109.9	80.7	80.0	82.3	81.7
1600	81.0	82.4	98.9	110.1	81.0	80.0	82.5	82.0
1700	81.1	82.6	99.0	110.1	81.0	80.3	82.6	82.4
1800	81.2	82.5	99.2	110.2	81.1	80.0	82.8	82.5
1900	81.2	82.4	98.9	110.0	81.2	80.2	83.0	82.8
2000	81.3	82.4	98.8	110.1	81.2	80.3	83.0	82.9
2100	81.3	82.4	98.6	109.9	81.2	80.5	82.9	82.9
2200	81.3	82.4	98.3	109.5	81.4	80.6	82.6	82.9
2300	81.3	82.3	98.0	109.5	81.3	80.5	82.5	82.9
2400	81.3	81.8	96.9	108.5	80.5	[1]	82.5	82.6

[1] Sensor malfunction - no data

TABLE 192

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	88.7	81.8	95.4	108.5	[4]	[4]	[4]	87.7
0200	88.8	81.6	95.0	107.7				86.5
0300	88.8	81.6	94.4	107.2				86.3
0400	88.6	81.3	93.8	107.0				85.5
0500	88.7	81.3	93.6	106.9				85.2
0600	89.0	81.0	93.9	106.0				85.5
0700	89.0	81.0	93.5	105.7				85.9
0800	86.7	80.7	93.5	106.0				86.1
0900	87.4	80.4	93.4	106.2				85.9
1000	88.4	80.5	94.0	106.3				85.7
1100	86.9	80.8	94.0	106.4				85.4
1200	86.8	80.8	94.0	106.3				85.1
1300	87.0	81.0	94.6	106.8				85.2
1400	87.0	81.2	95.0	107.2				85.4
1500	87.1	81.3	95.3	107.5				85.5
1600	87.3	81.4	95.6	107.7				85.5
1700	87.4	81.6	95.8	107.9				85.5
1800	87.5	81.7	95.9	108.0				85.4
1900	87.3	81.6	96.0	108.0				85.3
2000	87.0	81.5	96.0	108.0				85.3
2100	87.0	81.4	95.8	107.8				84.8
2200	87.0	81.1	95.8	107.7				84.3
2300	86.8	82.0	95.5	107.5				84.3
2400	86.8	80.7	95.3	107.2				84.0

[4] Sensor malfunction - no data

TABLE 193

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	86.6	80.4	95.0	107.0	[4]	[4]	[4]	83.8
0200	86.4	80.2	94.7	106.7				83.8
0300	86.3	80.0	94.7	106.6				83.7
0400	86.3	79.8	94.4	106.4				83.7
0500	85.9	79.7	93.3	106.2				84.4
0600	87.2	79.3	93.7	106.0				83.8
0700	88.2	79.0	93.7	105.9				83.0
0800	88.2	78.8	93.7	105.7				82.5
0900	87.2	79.0	93.6	105.7				83.7
1000	88.0	79.0	93.6	105.7				84.0
1100	79.5	79.2	93.7	105.5	79.9	80.5		80.0
1200	80.2	79.2	93.7	105.6	79.7	80.8		79.6
1300	78.9	79.4	93.7	105.4	79.9	81.2		79.2
1400	78.7	79.7	94.0	105.7	80.2	81.3		78.7
1500	78.7	80.0	94.2	105.7	80.3	81.5		79.3
1600	78.8	80.2	94.5	106.0	80.3	81.4		79.5
1700	78.9	80.5	95.0	106.5	80.5	81.4		79.3
1800	78.9	80.7	95.1	106.8	80.5	81.4		79.3
1900	79.0	80.5	95.4	107.0	80.5	81.4		79.0
2000	78.7	80.1	94.9	106.7	80.2	81.4		78.8
2100	78.5	80.0	94.6	106.4	80.0	81.2		78.5
2200	78.4	79.5	94.5	106.2	79.8	81.2		79.0
2300	78.2	79.3	94.0	105.9	79.6	81.0		78.5
2400	77.9	79.0	93.7	105.5	79.6	80.9		78.0

[4] Sensor malfunction - no data

TABLE 194

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	77.6	78.6	93.3	205.3	79.1	80.5	4/	77.5
0200	77.3	78.3	93.0	105.0	78.8	80.4		77.5
0300	77.3	78.0	92.7	104.8	78.8	80.4		77.5
0400	77.0	77.7	92.4	104.4	78.5	80.2		77.4
0500	77.0	77.7	92.4	104.4	78.5	80.2		77.4
0600	76.8	77.3	91.7	104.0	78.5	80.2		77.5
0700	76.7	77.2	91.5	103.8	78.4	80.1		77.5
0800	76.7	77.0	91.3	103.7	78.4	80.1		77.5
0900	77.2	77.2	91.5	103.8	78.5	79.5		77.3
1000	77.2	77.5	91.8	104.0	78.7	79.5		77.3
1100	77.5	77.8	92.4	104.4	78.9	79.7		77.5
1200	77.5	78.5	92.8	104.7	79.0	79.8		77.3
1300	77.7	78.8	93.5	105.5	77.5	77.1		77.3
1400	77.7	78.8	93.5	105.5	77.5	77.1		77.3
1500	77.8	79.1	93.8	105.5	77.6	77.2		77.7
1600	77.8	79.3	94.0	105.8	77.8	77.3		77.7
1700	77.7	79.3	94.3	105.8	77.7	77.2		77.5
1800	77.7	79.2	94.3	105.7	77.7	77.2		77.3
1900	77.6	78.7	94.2	105.7	77.5	77.0		77.2
2000	77.5	78.5	94.0	105.2	77.2	77.0		77.0
2100	77.2	78.2	94.0	105.2	77.0	77.0		77.0
2200	77.2	77.8	93.8	105.0	77.0	77.0		77.0
2300	77.0	77.5	93.6	104.8	76.9	77.0		77.0
2400	76.9	77.3	93.4	104.8	76.9	76.9		76.9

4/ Sensor malfunction - no data

TABLE 195

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.0	77.2	93.2	104.5	76.5	76.7	[4/]	77.0
0200	77.0	77.0	92.5	104.0	76.5	76.8		77.2
0300	76.8	77.0	92.0	103.7	76.5	76.8		77.3
0400	76.8	76.8	91.7	102.6	76.5	76.8		77.4
0500	77.0	77.0	91.5	101.8	76.6	76.8		77.7
0600	77.0	76.8	91.2	102.3	77.0	77.0		77.7
0700	77.0	76.8	91.0	102.9	77.0	77.0		77.7
0800	77.2	76.8	91.0	102.9	76.8	76.8		77.7
0900	77.5	77.0	90.0	102.6	76.8	76.7		77.6
1000	77.3	77.3	89.8	102.3	77.1	76.9		77.5
1100	77.5	77.5	90.3	102.8	77.3	76.9		77.2
1200	77.5	78.0	91.2	103.5	77.4	76.9		77.2
1300	77.5	78.2	91.7	103.9	77.4	77.0		77.8
1400	77.5	78.4	92.3	104.4	77.4	77.0		77.7
1500	77.6	78.5	92.9	104.9	77.4	77.0		77.5
1600	77.6	78.7	93.5	105.0	77.5	77.1		77.3
1700	77.6	78.6	94.0	105.3	77.5	77.2		77.0
1800	77.5	78.6	94.7	105.8	77.4	77.2		77.0
1900	77.3	78.3	94.7	104.8	77.2	77.0		76.7
2000	77.2	78.0	94.7	105.7	77.0	76.9		76.2
2100	77.2	77.7	95.0	105.8	76.9	76.7		76.2
2200	77.2	77.2	94.8	105.5	76.6	76.7		76.2
2300	76.5	76.9	94.7	105.5	76.5	76.5		76.2
2400	76.2	76.6	94.6	105.2	76.4	76.4		76.2

[4/] Sensor malfunction - no data

TABLE 136

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	75.8	76.2	94.4	105.0	76.2	76.3	[4]	76.5
0200	75.9	76.0	94.3	104.9	76.2	76.3		76.6
0300	75.9	76.0	94.2	104.9	76.0	76.3		76.6
0400	76.2	76.0	93.8	104.0	76.0	76.3		76.6
0500	76.1	76.0	93.5	102.6	76.3	76.5		76.8
0600	76.3	76.0	93.2	103.2	76.4	76.6		77.0
0700	76.3	76.2	93.0	103.5	76.5	76.6		77.2
0800	76.5	76.2	92.9	103.6	76.5	76.5		77.3
0900	76.5	76.5	92.5	103.7	76.6	76.5		77.3
1000	76.8	76.6	92.0	103.7	76.8	76.7		77.0
1100	77.0	77.0	92.5	103.7	76.8	76.8		76.4
1200	77.0	77.1	93.1	104.3	76.9	76.8		76.4
1300	77.0	77.1	93.5	104.4	76.8	76.7		76.4
1400	77.1	77.3	93.7	104.7	76.9	76.8		76.4
1500	77.2	77.7	94.1	105.0	77.0	76.8		76.5
1600	77.2	77.7	93.8	105.0	77.0	76.8		76.3
1700	77.3	77.5	94.2	105.1	77.0	76.8		76.3
1800	77.2	77.2	94.4	105.2	77.0	76.7		76.2
1900	77.3	77.3	94.3	105.1	77.0	76.8		75.8
2000	77.2	77.1	94.2	105.0	76.9	76.7		76.0
2100	77.0	77.0	94.0	105.0	76.9	76.7		75.8
2200	76.8	76.8	93.8	104.9	76.6	76.5		75.6
2300	76.7	76.6	93.6	104.6	76.5	76.5		76.2
2400	76.6	76.4	93.6	104.3	76.4	76.5		76.2

[4] Sensor malfunction - no data

TABLE 197

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	76.5	76.3	93.5	104.3	76.3	76.4	[4]	76.3
0200	76.5	76.2	93.2	104.0	76.2	76.3		7.5
0300	76.5	76.0	92.7	103.7	76.2	76.3		76.5
0400	76.5	76.0	92.5	103.6	76.2	76.2		76.7
0500	76.4	75.8	92.0	103.4	76.1	76.1		76.5
0600	76.3	75.7	92.0	103.2	76.1	76.2		76.5
0700	76.3	75.7	91.8	103.0	76.1	76.2		76.3
0800	76.3	75.7	91.6	103.0	76.0	76.1		76.1
0900	76.3	75.8	91.5	103.0	76.0	76.0		76.1
1000	76.3	76.0	91.5	103.0	76.1	76.2		76.1
1100	76.8	76.3	92.0	103.6	76.5	76.3	79.2	76.2
1200	76.5	76.2	91.8	103.7	76.3	76.0	78.8	76.0
1300	76.5	76.3	92.0	103.9	76.3	76.0	78.8	76.0
1400	76.5	76.4	92.3	104.2	76.3	76.0	78.7	76.0
1500	76.5	76.4	92.6	104.5	76.4	76.0	77.2	75.9
1600	76.5	76.5	92.5	104.4	76.3	76.0	76.9	75.9
1700	76.5	76.5	92.4	104.4	76.2	76.2	76.9	75.7
1800	76.4	76.4	92.3	104.3	76.1	76.1	76.5	75.5
1900	76.1	76.1	92.0	104.2	76.0	76.0	76.5	75.5
2000	76.1	75.9	91.8	103.8	75.8	76.0	76.4	75.3
2100	76.0	75.6	91.5	103.6	75.7	76.0	76.3	74.9
2200	75.7	75.3	91.2	103.3	75.5	76.0	76.3	74.7
2300	75.6	75.0	90.8	102.8	75.3	76.0	76.5	74.5
2400	75.4	74.8	90.6	102.7	75.2	76.0	76.2	74.7

[4] Sensor malfunction - no data

TABLE 198

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.3	74.5	90.2	102.6	75.0	76.0	76.3	74.5
0200	75.3	74.3	89.9	102.0	75.0	75.8	76.3	74.5
0300	75.3	74/2	89.5	101.8	75.0	75.7	76.3	74.6
0400	75.3	74.0	89.1	101.7	74.9	75.8	76.4	74.5
0500	75.3	74.0	88.9	101.5	75.0	75.8	76.4	74.5
0600	75.3	74.0	88.7	101.3	74.9	75.8	76.4	74.5
0700	75.2	73.8	88.4	101.2	75.0	76.0	76.2	74.5
0800	75.4	73.8	87.8	100.5	74.8	75.7	75.5	74.2
0900	75.5	73.8	87.6	100.0	74.7	75.7	75.7	74.3
1000	75.1	73.6	87.3	100.3	74.6	74.7	75.5	74.0
1100	75.0	73.5	87.0	100.3	74.5	75.7	75.3	73.5
1200	74.8	73.5	86.9	100.0	74.5	75.7	74.9	73.5
1300	75.0	73.2	86.5	99.8	74.2	75.3	74.5	73.3
1400	75.2	72.8	86.0	99.4	73.8	75.0	74.3	73.5
1500	74.8	72.5	85.5	99.5	73.6	74.8	73.7	73.5
1600	74.5	72.3	85.4	99.0	73.6	74.8	73.5	73.5
1700	74.4	72.0	85.3	98.8	73.3	74.5	73.3	73.4
1800	74.0	71.7	85.3	98.8	73.0	74.3	72.8	73.2
1900	74.0	71.4	85.3	98.9	72.8	74.0	72.7	72.7
2000	73.6	71.1.	84.7	98.8	72.5	74.0	72.4	72.3
2100	73.8	71.0	84.7	98.8	72.5	74.0	72.4	72.3
2200	72.3	70.7	86.0	98.9	72.4	74.0	72.3	72.2
2300	73.5	70.5	86.2	99.0	72.2	73.9	72.1	72.0
2400	73.2	70.4	86.3	98.8	72.2	73.9	72.3	72.0

TABLE 199

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.2	70.5	86.3	97.5	72.1	74.1	72.3	72.3
0200	72.2	70.1	76.0	95.7	72.0	74.0	72.2	72.2
0300	72.8	70.0	86.0	94.0	72.0	74.3	72.0	72.0
0400	73.0	69.9	86.2	92.3	71.9	74.2	72.0	71.4
0500	73.0	69.7	86.0	91.8	71.7	74.2	71.3	71.5
0600	72.1	69.5	85.6	89.7	71.7	74.0	71.5	71.2
0700	73.5	69.5	84.7	91.5	71.5	73.7	71.5	[4]
0800	73.5	69.5	83.6	91.0	71.5	73.7	71.3	
0900	73.6	69.4	82.8	91.4	71.5	73.8	71.1	
1000	73.3	69.5	83.2	92.4	71.5	74.3	71.3	
1100	72.2	69.6	83.7	93.8	71.5	74.3	71.5	
1200	72.3	69.8	84.1	94.5	71.6	74.3	71.7	
1300	72.3	69.8	84.5	95.3	71.5	74.4	71.7	
1400	72.4	70.0	85.5	96.5	71.7	74.4	71.8	
1500	72.5	70.5	86.5	97.5	72.0	74.4	72.0	
1600	72.7	70.6	88.0	98.8	72.1	74.5	72.1	
1700	72.7	70.6	88.7	99.3	72.2	74.6	72.2	
1800	72.7	70.7	89.2	99.3	72.3	74.7	72.2	
1900	72.7	70.7	89.9	99.8	72.2	74.7	72.0	
2000	72.8	70.5	90.4	100.0	72.2	74.5	72.1	
2100	72.8	70.5	91.0	100.3	72.2	74.5	72.1	
2200	72.5	70.4	91.0	100.5	72.2	74.4	72.0	
2300	72.4	70.3	90.5	100.2	72.0	74.2	72.0	
2400	72.3	70.1	90.6	100.3	71.9	74.2	72.0	

[4] Sensor malfunction - no data

TABLE 200

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.3	70.0	90.5	100.4	71.9	74.3	72.3	[4]
0200	72.3	70.0	90.5	100.5	72.0	74.3	72.6	
0300	72.4	70.0	90.4	100.3	72.0	74.3	72.8	
0400	72.4	69.9	90.1	100.3	72.2	74.5	72.8	
0500	72.6	69.9	90.0	99.7	72.1	74.5	72.9	
0600	72.6	69.9	89.9	100.0	72.3	74.5	73.0	
0700	73.6	70.0	89.7	100.2	72.3	74.5	73.0	
0800	74.2	70.0	89.5	100.3	72.4	74.5	73.0	
0900	72.8	70.3	89.9	100.5	72.4	74.7	73.2	
1000[2]	73.2	70.7	90.0	100.6	72.5	74.7	73.2	69.4
1100[2]	71.7	71.3	90.7	101.3	72.3	71.3	73.2	71.1
1200	71.7	71.5	91.3	101.5	72.4	71.4	73.3	71.5
1300	72.0	71.7	91.8	102.0	72.5	71.4	73.5	71.3
1400	72.3	72.3	92.3	102.4	72.8	71.5	73.5	71.8
1500	72.5	72.5	92.5	102.5	73.0	71.8	73.5	72.0
1600	72.5	72.8	93.0	103.0	73.2	72.0	73.5	72.0
1700	72.6	73.0	93.5	103.5	73.4	71.8	73.6	72.2
1800	72.6	73.0	93.8	103.4	73.4	71.8	73.5	71.9
1900	72.6	73.0	94.0	103.7	73.3	71.8	73.6	71.5
2000	72.6	72.8	94.0	103.7	73.2	71.7	73.6	71.5
2100	72.6	72.8	94.0	103.5	73.1	71.5	73.5	71.5
2200	72.5	72.6	94.0	103.5	73.1	71.5	73.5	71.5
2300	72.3	72.5	93.8	103.5	73.2	71.5	73.5	71.7
2400	72.3	72.3	93.6	103.3	73.0	71.4	73.9	71.9

[2] Instruments zeroed to ground truth data

[4] Sensor malfunction - no data

TABLE 201

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	72.1	72.1	93.2	103.0	72.8	71.5	74.2	72.5
0200	72.3	72.1	93.2	103.2	73.0	71.3	74.5	72.3
0300	72.4	72.0	93.0	103.0	73.1	71.3	74.7	72.3
0400	72.5	72.2	92.8	103.0	73.3	71.3	75.1	72.3
0500	72.5	72.2	92.5	102.8	73.3	71.4	75.1	72.5
0600	[4]	72.0	92.3	102.8	[4]	[4]	74.7	71.2
0700		72.0	92.2	102.7			74.9	71.1
0800		72.3	92.3	102.8			75.0	71.0
0900		72.5	92.6	102.9			75.0	71.1
1000[2]	73.9	72.9	92.9	103.3	73.8	74.3	75.4	72.8
1100	73.4	73.7	93.5	103.5	74.3	73.1	75.7	73.5
1200	73.6	74.2	93.8	104.0	74.5	73.2	75.7	73.8
1300	74.2	74.7	94.7	104.8	74.8	73.4	76.0	74.2
1400	74.0	75.2	95.0	105.2	75.0	73.5	76.0	74.5
1500	74.3	75.7	95.7	105.5	75.3	73.6	76.3	74.9
1600	74.3	75.8	96.2	105.8	75.3	74.0	76.3	75.0
1700	74.3	76.0	96.3	106.1	75.3	73.8	76.3	75.0
1800	74.5	75.8	96.5	106.2	75.5	73.8	76.2	75.1
1900	74.3	75.7	96.5	106.0	75.3	74.0	76.3	75.0
2000	74.5	75.5	96.5	106.0	75.4	74.0	76.3	75.0
2100	74.3	75.3	96.5	106.0	75.3	74.0	76.0	74.8
2200	74.3	75.2	96.5	106.0	75.4	74.0	75.9	74.6
2300	74.3	75.0	96.5	105.7	75.2	74.0	75.8	74.5
2400	74.3	74.8	96.3	105.7	75.1	74.0	75.9	74.3

[2] Instruments zeroed to ground truth data

[4] Sensor malfunction - no data

TABLE 202

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	74.3	74.8	96.0	105.5	75.2	74.1	76.2	74.2
0200	74.2	74.5	95.7	105.5	75.0	74.0	76.2	74.3
0300	74.2	74.5	95.5	105.3	75.0	74.0	76.5	74.3
0400	74.1	74.4	95.3	105.0	75.2	74.0	76.8	74.5
0500	74.2	74.5	95.0	105.0	75.3	74.3	77.0	74.5
0600	74.3	74.4	95.0	105.0	75.2	74.2	77.3	74.7
0700	74.3	74.4	95.0	105.0	75.3	74.3	77.5	74.7
0800	74.5	74.5	94.7	104.7	75.3	74.4	77.4	74.1
0900	74.3	74.7	94.7	104.7	75.5	74.5	77.5	74.7
1000	74.6	75.0	95.0	105.0	75.7	74.5	78.0	75.0
1100	74.8	75.5	95.5	105.3	76.2	74.9	78.3	75.5
1200	74.9	76.0	95.7	105.9	76.4	74.9	78.4	75.7
1300	75.1	76.5	96.0	106.2	76.6	74.9	78.5	76.0
1400	75.2	77.0	96.3	106.5	76.7	75.1	78.7	76.3
1500	75.5	77.3	96.5	106.7	77.0	75.4	79.0	77.0
1600	75.7	77.8	96.7	107.0	77.3	75.4	79.0	77.1
1700	75.8	78.2	96.8	107.1	77.5	75.5	79.5	77.5
1800	76.0	78.3	96.8	107.4	77.5	75.5	79.5	77.5
1900	76.0	79.3	96.8	107.4	78.0	75.7	79.5	77.7
2000	76.0	78.2	96.7	107.3	77.5	75.7	79.4	77.2
2100	[4]	77.8	96	107.0	[4]	[4]	[4]	78.1
2200		77.3	95	106.8				79.4
2300		77.0	95.	106.4				79.3
2400		76.9	94.6	106.1				79.0

[4] Sensor malfunction - no data

TABLE 203

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	[4]	76.7	94.0	105.5	[4]	[4]	[4]	77.0
0200		76.5	93.7	105.5				76.9
0300		76.4	93.7	105.5				76.9
0400		76.1	93.4	105.3				76.6
0500		76.0	93.4	105.0				76.5
0600		75.9	93.3	105.0				76.6
0700		75.7	93.0	104.8				76.5
0800		75.8	93.0	104.8				76.5
0900		76.2	93.4	104.8				76.6
1000		76.4	93.3	104.9				77.0
1100		76.6	93.2	104.8				76.8
1200		77.0	93.4	105.0				77.4
1300		77.5	93.4	105.0				77.6
1400[2]	77.0	76.8	93.7	105.6	76.3	76.5	79.0	76.5
1500	77.2	77.2	93.7	105.8	76.5	76.7	79.0	76.9
1600	77.7	77.7	93.8	106.1	76.9	76.9	79.3	77.9
1700	77.5	77.7	93.8	106.2	77..	77.0	79.4	77.9
1800	77.5	77.5	93.6	106.0	77.0	76.8	79.0	78.0
1900	77.3	77.3	93.4	105.8	76.8	76.8	78.8	77.7
2000	77.3	77.2	93.3	105.7	76.7	76.8	78.5	77.7
2100	77.2	77.0	93.6	105.7	76.7	76.8	78.4	77.5
2200	77.2	76.8	93.8	105.7	76.5	76.7	78.2	77.5
2300	77.2	76.8	93.7	105.7	76.4	76.7	77.9	77.4
2400	77.0	76.5	93.7	105.7	76.2	76.7	78.0	77.2

[2] Instrument zeroed to ground trugh data

[4] Sensor malfunction - no data

TABLE 204

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	76.3	76.3	93.6	105.4	76.0	76.5	77.8	77.0
0200	77.0	76.0	93.3	105.3	76.0	76.3	78.0	77.0
0300	76.8	75.8	93.0	105.0	75.8	76.7	78.0	76.7
0400	76.8	75.8	92.8	104.8	75.6	76.4	78.0	76.7
0500	76.5	75.5	92.8	104.7	75.6	76.3	78.1	76.6
0600	76.6	75.3	92.3	104.3	75.6	76.3	78.2	76.5
0700	76.5	75.1	91.9	104.2	75.5	76.5	78.2	76.5
0800	76.5	75.1	91.7	104.1	75.6	76.5	78.2	76.1
0900	76.6	75.3	91.7	104.0	75.7	76.5	78.0	75.8
1000	76.8	75.7	92.1	104.3	75.8	76.7	78.0	76.0
1100	77.0	76.0	92.5	104.6	76.1	76.9	78.1	76.3
1200	77.0	76.4	92.8	104.0	76.2	76.8	78.0	76.5
1300	77.2	76.8	93.5	105.5	76.2	76.8	78.2	76.5
1400	77.4	77.3	93.8	105.9	76.7	77.0	78.0	76.8
1500	77.5	77.5	94.3	106.3	76.8	76.7	78.3	77.5
1600	77.5	77.7	94.3	106.5	76.8	76.5	78.1	77.7
1700	77.5	77.7	94.6	106.6	76.8	76.7	78.0	77.8
1800	77.3	77.5	94.5	106.5	76.5	76.5	78.0	77.5
1900	77.2	76.8	94.4	106.3	76.2	76.5	77.5	77.4
2000	77.0	76.8	94.4	106.1	76.0	76.3	77.4	77.3
2100	76.8	76.7	94.3	106.0	76.0	76.3	77.3	77.0
2200	76.7	76.2	94.1	105.7	75.7	76.2	77.3	76.9
2300	76.7	76.0	93.6	105.5	75.5	76.0	77.3	76.7
2400	76.7	75.7	93.4	105.3	75.5	76.0	77.5	76.5

TABLE 20

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	76.6	75.5	93.5	105.3	75.3	76.0	77.7	76.3
0200	76.7	75.4	93.4	105.2	75.5	76.0	78.0	76.4
0300	76.5	75.3	92.8	104.8	75.5	75.9	78.3	76.3
0400	76.6	75.2	92.5	104.5	75.5	76.0	78.5	76.6
0500	76.6	75.2	92.2	104.4	75.6	76.0	78.7	76.3
0600	76.7	75.1	91.7	104.3	75.6	76.3	78.8	77.3
0700	76.7	75.0	91.4	104.0	75.7	76.0	78.7	76.2
0800	76.5	75.0	91.2	104.0	75.7	76.0	78.7	76.2
0900	76.9	75.4	91.5	104.0	75.8	76.3	78.5	75.8
1000	77.0	75.7	91.7	104.4	76.0	76.3	78.3	75.9
1100	77.2	75.9	92.2	104.6	76.0	76.3	78.5	76.4
1200	77.2	76.3	92.7	104.9	76.3	76.5	78.5	76.3
1300	77.2	76.7	93.2	105.5	76.4	76.5	78.5	76.3
1400	77.5	77.3	93.5	105.9	76.7	76.8	78.4	77.0
1500	77.5	77.5	93.8	106.0	76.7	76.6	78.5	76.7
1600	77.6	77.8	94.2	106.4	76.8	76.8	78.6	77.7
1700	77.8	77.5	94.3	106.5	76.9	76.8	78.5	77.5
1800	77.5	78.0	94.5	106.6	76.9	76.9	78.4	77.5
1900	77.5	77.5	94.3	106.5	76.8	76.8	78.3	78.2
2000	77.5	77.5	94.3	106.5	76.5	76.6	78.0	77.5
2100	77.3	77.0	94.2	106.2	76.4	76.4	78.0	77.2
2200	77.1	76.7	93.8	106.0	76.2	76.1	77.8	76.8
2300	77.0	76.4	93.7	105.7	76.0	76.1	77.8	76.8
2400	76.9	76.2	93.3	105.3	75.7	75.8	77.9	76.5

TABLE 206

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	76.9	75.9	93.0	105.2	75.7	75.7	78.1	76.8
0200	76.8	75.8	92.5	104.0	75.5	75.5	78.1	76.5
0300	76.7	75.5	92.2	104.0	75.5	75.7	78.5	76.0
0400	76.5	75.4	91.8	104.0	75.5	75.8	78.7	76.3
0500	76.7	75.3	91.8	103.9	75.7	76.0	78.8	76.3
0600	76.7	75.3	91.4	103.8	75.7	76.0	78.8	76.3
0700	76.8	75.2	90.8	103.7	76.0	76.0	78.8	76.3
0800	76.9	75.5	90.8	103.7	75.9	76.4	78.9	75.9
0900	77.0	75.5	91.4	103.8	76.0	76.3	78.8	75.5
1000	77.1	75.8	91.5	104.0	76.1	76.2	78.8	75.5
1100	77.3	76.0	92.0	104.5	76.3	76.5	78.5	75.4
1200	77.5	76.5	92.6	105.0	76.5	76.5	78.5	75.7
1300	77.5	77.0	93.0	105.3	76.5	76.6	78.5	76.0
1400	77.5	77.3	93.5	105.8	76.7	76.7	78.5	76.8
1500	77.5	77.8	94.0	106.0	76.9	76.5	78.5	76.8
1600	77.6	77.8	94.2	106.2	76.8	76.7	78.5	76.5
1700	77.5	77.8	94.2	106.4	76.7	76.7	78.5	76.8
1800	77.5	77.5	94.4	106.5	76.7	76.5	78.2	76.3
1900	77.5	77.5	94.5	106.5	76.5	76.5	78.2	76.7
2000	77.2	77.1	94.5	106.0	76.3	76.2	78.0	76.7
2100	77.2	76.8	94.7	106.3	76.2	76.2	77.6	76.7
2200	77.0	76.5	94.5	106.2	76.0	76.0	77.5	76.8
2300	77.0	76.2	94.3	106.0	75.7	75.8	77.3	76.7
2400	76.8	75.8	94.0	105.5	75.7	75.7	4/	76.5

4/ Sensor malfuction - no data

TABLE 207

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	76.7	75.5	93.7	105.4	75.5	75.7	4/	75.9
0200	76.5	75.3	93.5	105.1	75.4	75.7		76.0
0300	76.5	75.1	93.0	104.8	75.2	75.7		75.7
0400	76.5	75.0	92.7	104.5	75.1	75.7		75.9
0500	76.3	74.7	92.2	104.2	75.0	75.6		75.5
0600	76.3	74.5	92.0	104.0	75.0	75.5		75.1
0700	76.2	74.5	91.8	103.8	75.0	75.5		75.3
0800	76.2	74.5	91.6	103.7	75.0	75.5		75.2
0900	76.0	74.3	91.5	103.5	75.0	75.5		75.0
1000 2/	75.5	75.3	91.5	104.2	76.0	76.2	78.0	4/
1100	75.7	75.7	91.7	104.5	76.4	76.4	78.2	
1200	75.7	76.1	92.3	104.8	76.6	76.4	78.3	
1300	76.0	76.5	93.0	105.5	76.8	76.5	78.4	
1400	76.2	77.0	93.5	105.8	77.0	76.6	78.5	
1500	76.2	77.4	93.4	106.2	77.2	76.8	78.5	
1600	76.3	77.8	94.3	106.5	77.5	76.9	78.5	
1700	76.5	77.9	94.4	106.7	77.5	76.9	78.8	
1800	76.5	77.9	94.6	106.8	77.5	77.0	78.8	
1900	76.4	77.8	94.8	106.8	77.5	77.1	78.8	
2000	76.3	77.6	94.7	106.7	77.4	77.1	78.8	
2100	76.3	77.4	94.6	106.7	77.2	77.0	78.5	
2200	76.3	77.3	94.6	106.5	77.0	76.9	78.5	
2300	76.0	77.0	94.5	106.5	76.9	76.8	78.0	
2400	76.0	76.8	94.2	106.5	77.0	76.7	77.8	

2/ Instruments zeroed to ground truth data

4/ Sensor malfuction - no data

TABLE 208

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	75.9	76.5	93.7	105.8	76.5	76.5	77.5	4/
0200	75.6	76.3	93.5	105.8	76.3	76.4	77.5	
0300	75.5	76.0	93.2	105.5	76.3	76.3	77.5	
0400	75.5	75.8	93.0	105.2	76.0	76.3	77.5	
0500	75.5	75.7	92.9	105.1	76.1	76.2	77.6	
0600	75.5	75.5	92.7	105.1	76.0	76.2	77.8	
0700	75.6	75.6	92.5	105.0	76.0	76.2	78.0	
0800	75.5	75.5	92.5	104.9	75.8	76.3	78.3	
0900	75.5	75.5	92.4	105.0	76.0	76.3	78.0	77.0
1000	75.5	75.7	92.8	105.3	76.2	76.4	78.5	77.0
1100	75.6	75.9	93.2	105.4	76.5	76.6	78.5	77.7
1200	75.8	86.3	93.8	106.0	76.8	76.7	78.7	77.7
1300	76.0	76.7	94.5	106.3	77.0	77.0	78.9	78.2
1400	76.2	77.2	95.0	107.0	77.4	77.3	79.3	78.7
1500	76.3	77.6	95.6	107.4	77.5	77.3	79.5	78.9
1600	76.7	77.9	96.0	107.9	78.0	77.6	79.7	79.2
1700	76.7	78.2	96.2	108.0	77.9	77.7	79.9	79.3
1800	76.7	78.3	96.3	108.3	78.3	78.0	79.9	79.9
1900	76.7	78.3	96.5	108.3	78.3	82.0*	79.7	79.2
2000	76.7	78.1	96.5	108.3	78.3	81.8	79.5	79.8
2100	76.5	77.9	96.6	108.2	78.2	81.8	79.4	79.5
2200	76.2	77.8	96.4	108.2	78.2	81.8	79.4	79.4
2300	76.2	77.7	96.3	108.0	78.2	81.5	79.2	79.4
2400	76.2	77.7	96.0	107.8	77.8	81.5	79.0	79.3

4/ Sensor malfuction - no data
*Unknown reason for jump

TABLE 209

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	76.0	77.5	95.7	107.8	77.8	81.5	78.8	79.0
0200	76.0	77.4	95.5	107.5	77.7	81.4	78.8	79.0
0300	76.0	77.3	95.3	107.3	77.6	81.3	78.5	79.3
0400	75.9	77.0	94.8	107.1	77.4	81.2	78.5	78.8
0500	75.7	76.9	94.4	106.7	77.3	81.2	78.5	78.6
0600	75.7	76.7	94.0	106.3	77.3	81.2	78.5	78.5
0700	75.5	76.5	93.5	106.0	77.0	81.0	78.5	78.5
0800	75.6	76.5	93.4	106.0	77.0	81.1	78.8	78.2
0900	75.6	76.5	93.5	106.7	77.0	81.3	79.0	78.2
1000	75.6	76.8	93.8	105.8	77.3	81.2	79.3	78.5
1100	75.9	77.0	94.4	106.2	77.6	81.4	79.5	78.7
1200	77.2	77.2	95.0	106.7	77.1	77.3*	79.9	77.7
1300	77.5	78.1	95.7	107.4	77.3	77.5	80.0	78.3
1400	77.7	78.5	96.2	107.7	77.5	77.5	80.3	79.0
1500	77.7	78.7	96.5	108.4	77.8	77.7	80.5	78.8
1600	78.0	79.0	96.9	108.9	78.2	77.9	80.5	79.0
1700	78.3	79.3	97.2	109.2	78.5	78.0	80.8	79.3
1800	78.3	79.4	97.3	109.4	78.5	78.2	81.0	79.5
1900	78.3	79.4	97.5	109.4	78.3	78.2	80.9	79.5
2000	78.3	79.3	97.5	109.3	78.4	78.5	80.8	79.5
2100	78.0	79.0	97.3	109.2	78.1	78.2	80.5	79.5
2200	78.0	78.8	96.8	108.8	78.2	78.2	80.1	79.2
2300	78.0	78.7	96.2	108.5	78.0	77.8	80.0	79.5
2400	78.0	78.7	95.5	108.3	77.8	77.8	79.9	79.2

*Unknown reason for decrease

TABLE 210

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.8	78.7	94.7	107.7	77.7	77.7	79.6	79.0
0200	77.2	78.5	94.2	107.3	77.5	77.5	79.5	78.8
0300	77.5	78.4	93.9	107.0	77.3	77.3	79.2	78.5
0400	77.4	78.0	93.7	106.8	77.3	77.2	79.2	78.3
0500	77.4	77.7	93.4	106.6	77.0	77.2	79.2	78.3
0600	77.3	77.5	93.3	106.5	77.0	77.3	79.4	78.0
0700	77.3	77.4	93.2	106.2	76.8	77.2	79.5	77.8
0800	77.2	77.3	93.1	106.2	76.8	77.3	79.3	77.9
0900	77.4	77.4	93.4	106.3	76.8	77.5	79.5	78.0
1000	77.3	77.5	93.5	106.3	77.0	77.5	80.0	78.0
1100	77.5	77.7	94.0	106.7	77.2	77.7	80.2	78.3
1200	77.7	78.2	94.5	108.0	77.6	77.8	80.2	78.7
1300	77.7	78.5	95.0	107.5	77.6	77.8	80.2	78.7
1400	77.7	79.0	95.5	108.0	77.8	78.3	80.2	79.0
1500	78.0	79.2	96.2	108.5	78.0	78.5	80.5	79.5
1600	78.2	79.5	96.5	108.9	78.2	78.4	80.5	79.5
1700	78.2	79.7	96.9	109.0	78.4	78.7	80.5	79.6
1800	78.2	79.5	97.2	109.3	78.4	78.4	80.5	79.6
1900	78.1	79.5	97.5	109.5	78.4	78.4	80.5	79.5
2000	78.3	79.5	97.7	109.5	78.4	78.5	80.2	79.7
2100	78.1	79.4	97.7	109.5	78.0	78.3	80.0	79.7
2200	78.0	79.2	97.7	109.5	78.0	78.2	79.9	79.7
2300	78.0	79.0	97.7	109.3	77.8	78.2	79.8	79.5
2400	77.8	79.0	97.7	109.3	77.7	78.2	79.5	79.5

TABLE 211

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.7	78.7	97.5	109.3	77.6	78.2	79.5	79.5
0200	77.7	78.7	97.3	109.1	77.6	78.2	79.5	79.5
0300	77.7	78.5	97.1	109.0	77.5	77.7	79.5	79.3
0400	77.5	78.3	96.8	108.5	77.3	77.7	79.5	79.0
0500	77.5	78.0	96.7	108.5	77.3	77.7	79.7	78.8
0600	77.5	78.0	96.5	108.5	77.3	77.7	79.9	79.0
0700	77.5	77.8	96.0	108.3	77.3	78.0	80.2	78.8
0800	77.4	77.8	96.0	107.8	77.2	78.0	80.2	78.8
0900	77.5	77.8	95.8	107.8	77.2	77.8	80.2	79.0
1000	77.7	78.0	95.7	107.8	77.5	78.2	80.5	79.1
1100	77.7	78.2	95.7	107.6	77.7	78.0	80.5	79.2
1200	77.7	78.5	95.9	108.0	77.8	78.3	80.7	79.4
1300	77.8	79.0	96.3	108.4	77.9	78.3	81.0	79.6
1400	78.0	79.3	96.4	108.6	78.2	78.7	81.1	80.0
1500	78.2	79.5	96.7	108.7	78.4	78.7	81.0	80.0
1600	78.5	80.0	96.5	108.7	78.8	79.0	81.5	80.5
1700	78.7	80.2	96.3	108.7	79.0	79.0	81.3	80.8
1800	78.7	80.2	96.2	108.7	79.0	79.3	81.3	80.4
1900	78.7	80.2	96.1	108.6	79.1	79.5	81.0	81.0
2000	78.7	80.1	95.8	108.5	79.0	79.3	81.0	80.5
2100	78.7	80.0	95.5	108.3	79.0	79.3	80.9	80.2
2200	78.5	79.9	95.4	108.2	78.8	79.0	80.7	80.1
2300	78.4	79.8	95.3	105.7	78.5	78.8	80.5	80.0
2400	78.2	79.6	95.0	101.7	78.4	78.8	80.2	80.0

TABLE 212

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	78.0	79.3	94.8	101.3	78.0	78.7	79.9	79.8
0200	78.0	79.0	94.2	101.1	78.0	78.6	79.9	79.5
0300	77.8	78.8	94.1	100.9	77.8	78.5	79.9	79.8
0400	77.7	78.6	92.8	100.5	77.7	78.2	79.9	79.5
0500	77.6	78.3	91.0	99.0	77.4	78.0	79.9	79.2
0600	77.5	78.1	90.6	98.6	77.4	78.0	79.8	78.8
0700	77.5	78.0	90.3	96.0	77.4	78.0	79.9	78.5
0800	77.5	78.0	90.0	95.8	77.3	78.0	79.9	78.7
0900	77.5	77.8	90.0	95.7	77.3	77.9	79.8	78.8
1000	77.6	78.0	89.5	95.4	77.5	78.0	79.9	78.6
1100	77.7	78.2	89.5	95.3	77.5	78.1	80.0	78.5
1200	77.7	78.0	88.0	94.7	77.5	78.1	80.0	78.4
1300	77.8	78.0	87.9	94.5	77.6	78.2	79.8	78.4
1400	77.7	78.1	87.6	94.5	77.7	78.2	79.7	78.3
1500	77.7	78.1	87.0	93.8	77.5	78.2	79.6	78.7
1600	77.7	78.0	86.7	95.0	77.5	78.2	79.4	78.4
1700	77.6	78.0	86.6	95.5	77.5	78.4	79.3	78.2
1800	77.7	78.0	86.3	96.0	77.5	78.2	79.0	78.1
1900	77.7	78.0	86.4	96.0	77.7	78.3	79.0	78.1
2000	77.7	78.0	85.2	96.0	77.4	78.1	78.8	78.0
2100	77.6	77.8	86.6	96.2	77.4	78.0	78.7	77.7
2200	77.4	77.6	87.3	95.9	77.2	77.9	78.5	77.5
2300	77.5	77.5	87.5	94.9	77.2	77.7	78.3	77.4
2400	77.2	77.3	87.4	93.8	77.0	77.5	78.0	77.2

TABLE 213

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
AUGUST 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	77.0	77.1	87.2	93.5	76.5	77.5	78.0	77.0
0200	77.0	77.0	87.0	93.0	76.5	77.5	77.7	76.5
0300	77.0	76.9	86.[illegible]	93.0	76.3	77.2	77.3	76.3
0400	77.0	76.5	86.0	91.1	76.2	77.0	77.3	76.8
0500	76.8	76.3	86.2	90.6	76.0	76.8	77.3	76.0
0600	76.8	76.1	85.0	90.[illegible]	76.0	76.8	77.2	76.0
0700	76.8	76.0	84.4	89.[illegible]	75.7	76.7	76.8	75.9
0800	76.7	75.7	84.3	89.8	75.7	76.5	76.8	75.5
0900	76.7	75.9	83.6	89.6	75.7	76.5	76.8	75.9
1000	76.3	75.7	82.9	89.1	75.5	76.5	76.8	75.9
1100	76.5	75.7	82.8	88.9	75.4	76.4	76.8	75.5
1200	76.7	75.7	83.0	89.0	75.4	76.5	76.8	75.7
1300	76.5	76.0	83.3	89.3	75.7	76.5	76.9	75.7
1400	76.5	76.0	83.5	89.5	75.7	76.8	77.0	75.9
1500	76.7	76.2	83.5	89.6	75.9	76.9	77.0	76.4
1600	76.7	76.5	83.9	90.1	76.0	76.5	77.0	77.0
1700	76.8	76.5	84.0	90.1	76.0	76.5	77.0	77.0
1800	76.7	76.6	84.2	90.6	75.9	76.5	76.9	77.0
1900	76.6	76.5	84.5	90.6	75.8	76.3	76.8	76.5
2000	76.5	76.5	84.7	90.8	75.7	76.3	76.8	76.6
2100	76.6	76.3	84.7	90.8	75.7	76.1	76.7	76.4
2200	76.5	76.3	84.7	91.0	75.7	76.1	76.7	76.5
2300	76.5	76.0	84.7	91.2	75.7	76.0	76.5	76.5
2400	76.5	76.0	84.6	91.3	75.5	75.8	76.5	77.0

TABLE 214

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	76.5	75.7	84.5	91.0	75.5	75.7	76.5	77.0
0200	76.5	75.4	83.9	90.7	75.4	75.7	76.5	77.0
0300	76.3	75.0	83.0	89.8	75.2	75.4	76.4	77.0
0400	76.2	74.8	82.5	89.8	75.0	75.3	76.4	76.7
0500	76.2	74.8	82.5	89.7	75.0	75.0	76.4	76.7
0600	76.1	74.5	82.2	89.5	74.8	74.9	76.3	76.5
0700	76.1	74.5	82.0	91.3	74.8	74.9	76.3	76.6
0800	76.0	74.4	82.0	91.3	74.8	75.0	76.3	76.8
0900	76.0	74.3	81.5	91.3	74.7	75.0	76.2	77.0
1000	76.5	74.3	81.3	91.2	74.5	74.3	75.9	77.5
1100	76.8	74.8	81.5	100.5	74.5	74.3	75.6	77.6
1200	76.4	74.8	82.6	100.0	74.8	75.4	76.0	77.7
1300	76.3	74.8	82.5	99.9	74.8	75.7	76.0	77.7
1400	76.3	75.0	82.4	100.0	74.8	75.7	76.0	77.7
1500	76.3	75.0	82.3	99.8	74.9	75.7	75.9	77.7
1600	76.5	75.3	82.3	100.2	75.3	75.7	75.9	77.7
1700	76.5	75.5	82.4	100.4	75.1	75.8	75.9	77.6
1800	76.5	75.7	86.5	101.7	75.3	75.8	75.8	77.6
1900	76.4	75.5	88.0	104.2	75.0	75.7	75.8	77.4
2000	76.4	75.3	88.2	104.8	75.0	75.5	75.5	77.3
2100	76.2	75.0	88.1	104.7	74.7	75.3	75.3	77.0
2200	76.0	74.8	88.0	104.7	74.7	75.3	75.3	77.0
2300	76.0	74.6	88.0	105.0	74.5	75.1	75.1	77.0
2400	75.7	74.4	88.0	104.9	74.5	75.0	75.1	76.8

TABLE 215

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
SEPTEMBER 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.7	74.1	88.2	105.0	74.3	75.0	75.1	76.7
0200	75.5	74.0	89.3	105.5	74.3	75.0	75.1	76.5
0300	75.5	73.8	89.8	106.3	74.3	75.0	75.1	76.5
0400	75.5	73.7	89.8	106.3	74.1	75.0	75.3	76.5
0500	75.5	73.5	89.7	106.4	74.0	75.0	75.3	76.3
0600	75.5	73.5	89.3	106.3	74.0	75.2	75.3	76.4
0700	75.5	73.3	88.9	106.1	73.9	75.2	75.3	76.5
0800	75.5	73.2	88.7	106.2	73.8	75.2	75.3	76.4
0900	75.5	73.3	88.7	106.2	73.8	75.3	75.0	76.4
1000	75.6	73.5	89.3	106.4	74.0	75.1	74.7	76.4
1100	75.7	73.8	89.7	107.1	74.2	75.3	74.7	76.5
1200	75.9	74.1	90.0	107.7	74.5	75.0	75.0	76.5
1300[2/]	76.0	74.5	90.6	108.2	74.5	75.0	74.8	76.5
1400	75.3	75.1	90.9	108.5	74.6	75.2	75.2	74.2
1500	75.4	75.3	91.2	108.7	74.8	75.2	75.4	74.2
1600	75.5	75.5	91.3	108.7	74.9	75.3	75.5	74.3
1700	75.5	75.6	91.5	108.7	75.0	75.4	75.4	74.3
1800	75.6	75.6	91.7	108.7	75.1	75.4	75.4	74.2
1900	75.5	75.5	91.9	108.8	75.0	75.5	75.3	74.3
2000	75.4	75.2	91.9	108.9	74.8	75.5	75.1	73.7
2100	75.3	75.0	92.2	109.0	74.8	75.5	75.1	73.5
2200	75.3	74.8	92.0	109.0	74.5	75.5	75.1	73.5
2230	75.0	74.5	91.7	108.7	74.5	75.5	75.1	73.5
2400	75.1	74.2	91.5	108.5	74.4	75.1	75.1	73.5

[2/] Instruments zeroed to ground truth data

TABLE 216

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.0	74.0	91.2	108.2	74.2	75.2	75.4	73.4
0200	75.0	73.9	91.1	108.0	74.3	75.0	75.5	73.5
0300	75.0	73.7	91.0	107.8	74.2	74.9	75.5	73.8
0400	75.0	73.7	90.6	107.5	74.3	75.2	75.7	73.8
0500	75.0	73.6	90.4	107.5	74.3	75.5	76.0	74.1
0600	75.1	73.6	90.0	107.2	74.5	75.4	75.8	74.3
0700	75.1	73.6	89.9	106.9	74.5	75.2	75.8	74.2
0800	75.1	73.7	89.7	95.5	74.4	75.0	75.5	74.2
0900	75.1	73.7	91.0	99.3	74.4	75.0	75.5	74.6
1000	75.3	74.0	93.6	102.9	74.6	75.0	75.5	74.7
1100	75.3	74.5	95.5	105.3	74.7	75.5	75.5	74.8
1200	75.5	74.9	90.0	104.3	74.9	75.2	75.5	74.9
1300	75.5	75.2	91.3	102.0	75.0	75.0	75.5	75.0
1400	75.5	75.5	93.9	104.5	75.1	75.0	75.6	75.1
1500	75.6	76.0	95.5	105.8	75.3	74.9	75.4	75.0
1600	75.7	76.2	94.7	106.5	75.4	75.4	75.6	75.0
1700	75.5	76.2	93.6	104.2	75.4	75.5	75.5	75.0
1800	75.7	76.0	94.7	104.7	75.5	75.5	75.5	75.0
1900	75.5	75.8	95.5	105.5	75.2	75.3	75.4	74.7
2000	75.5	75.6	95.3	106.0	75.1	75.2	75.3	74.3
2100	75.4	75.4	94.2	104.9	74.9	75.0	75.0	74.0
2200	75.2	75.0	94.2	104.6	74.7	74.9	74.9	74.0
2300	75.2	74.8	94.6	104.8	74.5	74.9	74.9	73.8
2400	75.1	75.4	94.5	105.0	74.5	75.0	75.0	73.8

TABLE 217

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
SEPTEMBER 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.0	74.3	93.5	104.2	74.3	75.0	75.2	73.7
0200	74.9	74.0	93.5	104.0	74.3	75.0	75.2	73.7
0300	74.9	73.7	93.7	103.9	74.2	75.0	75.5	73.8
0400	75.1	73.7	93.2	103.9	73.9	75.2	75.7	74.4
0500	75.4	73.6	92.6	103.8	73.9	75.1	75.7	74.7
0600	75.6	73.4	92.3	103.0	73.9	74.9	75.9	75.4
0700	75.7	73.4	92.0	103.2	73.9	74.9	75.8	75.5
0800	75.5	73.4	92.0	103.0	74.0	74.9	75.5	75.5
0900	75.5	73.5	92.1	103.0	74.1	75.4	75.6	75.6
1000	75.4	73.7	91.9	99.5	74.5	75.5	75.6	75.9
1100	75.3	74.3	92.0	99.3	74.8	75.9	75.8	75.7
1200	75.3	74.3	91.9	98.7	74.9	76.0	75.7	75.5
1300	75.4	74.5	91.8	98.8	75.0	76.0	75.7	75.5
1400	75.3	74.7	91.3	98.5	75.0	76.0	75.7	75.5
1500	75.5	74.7	89.8	97.9	75.0	76.0	75.4	75.4
1600	75.3	74.8	89.3	97.3	75.0	76.0	75.2	75.1
1700	75.5	75.0	89.4	97.6	75.1	76.1	75.2	75.1
1800	75.4	74.9	89.5	97.5	75.0	76.2	75.2	75.0
1900	75.3	74.8	89.4	97.7	74.8	76.0	75.1	74.8
2000	75.1	74.5	89.0	97.3	75.4	75.8	74.8	74.5
2100	75.0	74.2	88.5	96.9	74.5	75.8	74.6	74.3
2200	74.9	74.0	88.3	96.8	74.1	75.7	74.5	74.1
2300	74.7	73.7	88.0	96.4	74.1	75.7	74.5	74.0
2400	74.7	73.5	87.7	96.3	74.0	75.5	74.5	74.1

TABLE 218

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	74.6	73.3	87.5	95.9	73.8	75.5	74.5	74.1
0200	74.4	73.0	87.0	95.7	73.8	75.3	74.5	74.1
0300	74.5	72.9	86.5	95.1	73.7	75.1	74.7	74.0
0400	74.4	72.7	86.1	95.1	73.7	74.8	74.8	74.2
0500	74.4	72.7	85.9	94.7	73.6	75.0	75.0	74.2
0600	74.4	72.6	85.5	94.8	73.6	75.0	75.0	74.3
0700	74.5	72.6	85.1	94.4	72.7	75.0	75.0	74.5
0800	74.4	72.6	84.8	94.3	73.7	75.3	75.0	74.5
0900	74.4	72.5	84.6	94.4	73.5	75.5	75.5	74.3
1000	74.4	72.6	84.5	94.5	73.7	75.2	74.9	74.4
1100	74.6	72.8	84.5	94.5	73.8	75.3	74.9	74.4
1200	74.7	73.3	84.9	94.9	74.1	75.5	74.9	74.2
1300	74.8	73.6	85.5	95.4	74.2	75.6	75.0	74.5
1400	75.0	74.0	86.2	96.0	74.4	75.8	75.0	74.7
1500	75.0	74.3	87.0	96.5	74.5	75.8	75.0	74.7
1600	75.0	74.5	87.5	96.8	74.5	75.5	75.2	74.8
1700	75.1	74.5	88.0	97.2	74.7	75.8	75.2	74.8
1800	75.2	74.7	88.5	97.7	74.7	75.8	75.2	74.6
1900	75.2	74.5	88.5	97.6	74.5	75.8	75.0	74.5
2000	75.0	74.4	88.5	97.7	74.5	75.5	74.9	74.3
2100	75.0	74.0	88.5	97.7	74.4	75.5	74.6	74.0
2200	75.0	74.0	88.5	97.5	74.2	75.5	74.6	74.0
2300	74.8	73.8	88.5	97.5	74.2	75.3	74.5	73.8
2400	74.5	73.5	88.3	97.5	73.9	75.1	74.5	73.8

TABLE 219

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	74.5	73.3	88.0	97.3	73.9	75.0	74.5	73.8
0200	74.3	73.0	88.0	97.0	73.8	75.0	74.5	73.8
0300	74.5	72.8	87.8	96.9	73.8	75.0	74.5	73.9
0400	74.4	72.8	87.6	96.8	73.7	75.0	75.0	74.2
0500	74.4	72.7	87.3	96.4	73.7	74.8	75.2	74.5
0600	74.3	72.7	87.0	96.2	73.7	74.9	75.2	74.8
0700	75.4	72.6	86.7	96.3	73.9	74.9	75.5	75.0
0800	74.5	72.6	86.3	96.0	73.7	74.9	75.5	75.1
0900	74.4	72.6	86.1	96.0	73.8	74.8	75.3	75.2
1000	74.8	73.2	86.7	96.2	74.2	75.5	75.6	75.2
1100	74.9	73.4	87.4	96.3	74.5	75.5	75.6	75.3
1200	75.0	74.0	88.0	97.2	74.7	75.7	75.5	75.5
1300	75.3	74.5	88.5	97.5	75.0	75.9	75.9	75.8
1400	75.5	75.0	89.0	98.0	75.2	76.1	76.0	76.0
1500	75.6	75.3	89.2	98.5	75.4	76.5	76.0	76.0
1600	75.5	75.4	89.3	98.2	75.4	76.5	76.0	76.0
1700	75.7	75.4	89.5	98.5	75.5	76.5	76.0	76.0
1800	75.5	75.2	89.2	98.1	75.4	76.3	75.7	75.8
1900	75.5	75.2	89.0	98.0	75.4	76.3	75.7	75.7
2000	75.5	75.0	89.0	98.0	75.2	76.0	75.5	75.5
2100	75.4	74.8	88.8	97.9	75.0	76.0	75.5	75.5
2200	75.2	74.6	88.5	97.8	74.9	75.8	75.4	75.5
2300	75.2	74.5	88.7	97.7	74.9	75.8	75.4	75.5
2400	75.1	74.4	88.3	97.5	74.7	75.8	75.7	75.3

TABLE 220

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.0	74.1	88.0	97.3	74.5	75.5	75.6	75.3
0200	74.9	74.0	87.7	96.0	74.5	75.5	75.7	75.3
0300	74.9	73.8	87.5	95.5	74.4	75.5	76.0	75.5
0400	74.9	73.8	87.4	95.3	74.4	75.7	76.0	75.5
0500	75.0	73.7	86.9	93.8	74.7	75.5	76.6	75.5
0600	75.0	73.7	86.7	92.7	74.6	75.5	76.0	75.4
0700	75.0	73.5	85.4	91.8	74.5	75.5	75.8	75.4
0800	75.0	73.5	84.9	91.5	74.8	75.5	75.8	75.3
0900	75.1	73.5	84.7	92.2	74.7	75.5	75.7	74.7
1000	75.0	73.7	84.0	92.7	74.7	75.5	75.7	75.2
1100	75.2	74.0	83.7	92.7	74.8	75.6	75.7	75.3
1200	75.2	74.5	83.6	92.9	74.9	75.6	75.7	75.6
1300	75.5	74.7	84.0	93.3	75.2	75.8	75.9	75.9
1400	75.5	75.0	84.7	94.0	75.2	76.0	75.9	75.9
1500	75.6	75.5	85.5	94.5	75.5	76.2	76.0	75.9
1600	75.6	75.6	86.0	95.2	75.5	76.2	76.0	75.9
1700	75.7	75.7	86.2	95.4	75.5	76.3	75.8	75.7
1800	75.6	75.6	86.7	95.8	75.5	76.3	75.7	75.6
1900	75.5	75.5	87.0	96.0	75.4	76.0	75.5	75.4
2000	75.3	75.2	87.3	96.3	75.1	75.9	75.4	75.2
2100	75.3	75.0	87.5	96.3	75.0	76.0	75.3	74.9
2200	75.1	74.6	87.7	96.4	74.9	75.8	74.9	74.7
2300	75.0	74.5	87.7	96.5	74.7	75.8	74.8	74.6
2400	75.0	74.3	87.7	96.5	74.5	75.6	75.0	74.7

TABLE 221

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	74.7	74.0	87.5	96.2	74.4	75.5	75.0	74.7
0200	74.7	73.8	87.3	96.4	74.3	75.5	75.0	74.9
0300	74.7	73.7	87.1	96.1	74.3	75.5	75.5	75.0
0400	74.7	73.5	86.9	96.0	74.2	75.5	75.5	75.1
0500	74.7	73.5	86.5	96.0	74.2	75.5	75.7	75.4
0600	74.7	73.5	86.3	96.0	74.3	75.5	75.7	75.3
0700	75.0	73.5	86.2	96.2	74.5	75.5	75.7	75.5
0800	74.9	73.4	86.0	96.0	74.5	75.6	75.7	75.5
0900	75.0	73.7	86.2	96.0	74.7	75.6	75.6	75.5
1000	75.2	74.0	86.3	96.3	74.7	75.7	75.7	75.5
1100	75.2	74.3	87.0	96.8	74.9	75.9	75.0	75.5
1200	75.4	75.8	87.8	97.3	75.2	76.0	75.0	75.5
1300	75.5	75.3	88.5	98.0	75.3	76.2	76.1	75.6
1400	75.7	75.6	89.5	98.5	75.5	76.4	76.4	75.9
1500	76.0	76.0	90.3	99.2	75.7	76.7	76.4	76.0
1600	76.1	76.2	91.0	99.9	76.0	76.7	76.4	76.1
1700	76.1	76.5	91.4	100.0	76.0	76.7	76.5	76.4
1800	76.1	76.5	91.5	100.3	76.0	76.7	76.5	76.4
1900	76.1	76.2	91.8	100.5	76.0	76.5	76.3	76.4
2000	76.1	76.1	92.0	100.5	76.0	76.5	76.3	76.3
2100	76.0	76.0	92.0	100.5	75.9	76.5	76.2	76.0
2200	75.8	75.8	92.2	100.7	75.7	76.5	76.2	76.0
2300	75.7	75.5	92.0	100.0	75.5	76.3	76.2	75.9
2400	75.7	75.5	91.7	100.1	75.5	76.1	76.2	76.0

TABLE 222

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.7	75.2	91.5	100.0	75.5	76.2	76.5	76.2
0200	75.7	75.1	91.2	99.7	75.5	76.2	76.5	76.2
0300	75.7	75.1	91.0	99.5	75.5	76.0	77.1	76.5
0400	75.8	75.1	90.8	99.2	75.5	76.0	77.5	77.0
0500	75.9	75.0	90.2	99.2	75.6	76.1	77.5	76.5
0600	76.1	75.0	89.9	98.8	75.5	76.1	77.6	77.0
0700	76.0	75.0	89.7	98.7	75.8	76.4	77.5	77.2
0800	76.0	75.2	89.5	98.4	75.8	76.5	77.5	77.2
0900	76.0	75.3	89.0	98.4	76.0	76.5	77.5	77.2
1000	76.1	75.5	88.5	98.0	76.0	76.5	77.5	77.2
1100	76.1	75.7	88.0	98.0	76.0	76.7	77.3	77.2
1200	76.2	75.8	87.7	97.8	76.4	76.7	77.1	77.1
1300[2/]	76.2	76.0	87.6	97.7	76.3	76.7	77.9	77.1
1400	76.1	76.1	87.5	97.7	76.3	76.8	77.0	77.0
1500	76.3	76.3	87.5	97.7	76.5	77.0	77.0	77.0
1600	76.5	76.5	87.5	97.7	76.5	77.0	76.9	76.9
1700	76.4	76.5	87.0	97.5	76.5	76.8	76.7	76.7
1800	76.2	76.2	86.2	97.0	76.3	76.8	76.7	76.5
1900	76.1	76.1	86.0	96.8	76.2	76.7	76.5	76.3
2000	76.0	75.5	85.5	96.5	75.9	76.5	76.3	76.0
2100	75.7	75.3	85.2	96.0	75.7	76.0	76.0	75.7
2200	75.5	75.0	85.0	95.8	75.4	76.0	75.7	75.4
2300	75.5	74.7	84.5	95.5	75.1	75.5	75.5	75.1
2400	75.4	74.4	84.3	95.2	75.0	75.5	75.5	74.8

[2/] Instruments zeroed to ground truth data

TABLE 223

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
SEPTEMBER 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	75.2	74.0	84.0	94.9	74.7	75.5	75.5	74.6
0200	75.0	73.7	83.6	94.5	74.7	75.5	75.3	74.5
0300	75.0	73.5	83.5	94.3	74.5	75.5	75.2	74.5
0400	74.8	83.5	83.2	94.3	74.4	75.5	75.2	74.5
0500	74.8	83.2	82.9	94.0	74.2	75.5	75.2	74.5
0600	74.8	73.0	82.7	93.8	74.2	75.5	75.0	74.4
0700	74.9	73.0	82.3	93.4	74.1	75.2	74.7	74.0
0800	74.6	72.8	82.0	93.4	73.9	75.2	74.6	73.9
0900	74.6	72.8	82.2	93.5	74.0	75.4	74.5	73.6
1000	74.6	73.0	82.4	93.5	74.0	75.4	74.5	73.5
1100	74.7	73.3	82.8	93.8	74.0	75.4	74.5	73.6
1200	74.5	73.3	83.0	94.0	74.0	75.0	74.4	73.5
1300	74.8	73.5	83.4	94.4	74.1	75.5	74.3	73.6
1400	74.7	73.6	83.7	94.7	74.0	75.6	74.3	73.5
1500	74.7	73.8	83.9	95.0	74.2	75.6	74.3	73.6
1600	74.6	73.8	84.3	95.0	74.1	75.6	74.3	73.5
1700	74.7	73.8	84.4	95.2	74.1	75.6	74.2	73.5
1800	74.6	73.8	84.4	95.0	74.0	75.5	74.2	73.3
1900	74.7	73.5	84.4	95.0	73.9	75.4	74.0	73.1
2000	75.6	73.4	84.2	106.5	73.7	75.2	73.7	72.9
2100	74.5	73.1	83.8	105.3	73.7	75.4	73.9	72.8
2200	74.4	72.6	83.0	104.0	73.6	75.2	73.9	72.8
2300	74.4	72.5	82.6	103.3	73.5	75.2	74.4	72.8
2400	74.4	72.3	81.8	102.4	73.4	75.3	74.5	73.0

TABLE 224

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	74.5	72.3	81.5	102.2	73.5	75.3	75.0	73.4
0200	74.4	72.1	80.5	101.5	73.5	75.4	75.0	73.6
0300	74.5	72.1	83.7	101.5	73.7	75.2	75.3	74.1
0400	74.5	72.0	86.3	104.5	73.7	75.2	75.4	74.3
0500	74.5	72.1	86.5	105.5	74.0	75.5	75.5	74.5
0600	74.5	72.1	85.7	105.3	74.0	75.8	75.5	74.5
0700	74.7	72.2	85.3	105.0	74.0	75.8	75.5	74.5
0800	74.7	72.3	85.0	104.7	74.0	75.5	75.1	74.3
0900	74.6	72.5	84.8	104.5	73.8	74.4	74.0	74.1
1000	74.6	72.5	84.8	104.5	73.8	75.5	74.8	73.9
1100	74.6	72.8	86.3	105.0	74.0	75.5	74.5	73.8
1200	74.7	73.0	87.7	106.2	74.0	75.4	74.5	73.8
1300	74.5	73.2	88.4	106.5	73.7	75.0	74.4	73.5
1400	74.5	73.2	88.6	107.0	73.7	75.0	74.4	73.5
1500	74.6	73.4	88.8	107.0	73.8	75.0	74.2	73.5
1600	74.5	73.4	89.0	107.2	73.8	75.0	73.9	73.2
1700	74.5	73.3	89.0	107.4	73.7	74.9	73.9	73.0
1800	74.4	73.2	89.2	107.5	73.5	74.8	73.7	73.0
1900	74.2	72.9	89.5	107.5	73.5	74.8	73.7	72.9
2000	74.2	72.7	89.9	107.7	73.5	74.8	73.5	72.7
2100	74.2	72.5	89.9	107.5	73.3	74.6	73.5	72.5
2200	74.0	72.3	90.0	107.5	73.2	74.5	73.4	72.4
2300	73.8	72.0	89.8	107.5	73.0	74.5	73.5	72.4
2400	73.9	71.8	89.3	107.3	73.0	74.1	73.5	72.5

TABLE 225

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	73.8	71.7	89.7	107.2	72.7	74.0	74.0	72.7
0200	74.0	71.6	89.6	107.2	72.7	74.3	74.2	72.7
0300	73.9	71.5	89.5	107.0	72.8	74.3	74.3	73.0
0400	74.0	71.5	89.3	106.8	72.8	74.0	74.3	73.3
0500	74.0	71.4	89.1	104.5	72.8	74.0	74.2	73.6
0600	74.0	71.5	89.2	105.1	73.0	74.1	74.1	73.6
0700	74.0	71.5	88.9	106.3	73.1	74.2	74.1	73.5
0800	73.8	71.5	88.9	106.3	73.0	74.2	73.8	73.1
0900	73.9	71.6	89.0	106.3	72.9	74.0	73.5	72.8
1000	73.8	71.6	88.9	106.5	72.9	73.9	73.5	72.8
1100	74.0	71.7	89.4	106.8	72.8	73.8	73.3	72.3
1200	74.0	72.1	89.0	107.0	73.0	74.0	73.3	72.5
1300	74.0	72.2	89.4	106.9	73.0	74.0	73.2	72.5
1400	74.0	72.4	90.5	107.6	73.0	74.0	73.2	72.7
1500	74.0	72.5	91.3	108.4	73.1	74.0	73.2	72.5
1600	74.0	72.7	91.3	108.5	73.1	74.3	73.0	72.5
1700	74.0	72.5	91.5	108.5	73.0	74.2	73.0	72.5
1800	74.0	72.5	91.9	109.3	73.0	74.0	72.7	72.4
1900	74.0	72.5	92.3	108.4	73.0	74.0	73.7	73.3
2000	73.9	72.2	92.0	107.0	72.9	73.9	73.5	73.2
2100	73.8	72.0	92.5	105.7	72.7	74.0	73.5	72.8
2200	73.7	72.0	92.6	105.7	72.5	73.8	73.5	72.6
2300	73.5	71.5	92.7	105.7	72.4	73.8	73.5	71.5
2400	73.5	71.2	92.0	105.5	71.8	73.0	72.8	71.5

TABLE 226

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	73.5	71.2	91.7	105.4	72.0	73.0	73.8	71.7
0200	73.2	70.8	91.0	105.0	72.0	73.0	72.7	71.9
0300	73.0	70.8	90.4	105.0	72.0	73.4	73.2	72.1
0400	73.2	70.6	89.5	104.0	72.3	73.4	73.2	72.3
0500	73.2	70.5	89.0	103.7	72.3	73.4	73.2	72.5
0600	73.2	70.5	89.0	103.7	72.4	73.4	73.2	72.5
0700	73.1	70.5	88.7	103.5	72.3	73.2	72.8	72.6
0800	73.1	70.6	89.0	103.7	72.5	73.4	72.9	72.6
0900	73.4	70.8	89.2	103.9	72.5	73.8	72.9	72.2
1000	73.2	71.2	89.7	104.0	72.3	73.8	73.0	72.0
1100	73.4	71.5	90.0	104.7	72.5	73.5	73.0	72.0
1200	73.4	71.7	90.3	105.0	72.8	73.5	72.9	72.0
1300	73.5	72.0	90.7	105.5	72.8	73.5	72.8	72.0
1400	73.5	72.4	91.2	105.7	72.8	73.5	72.3	72.0
1500	73.6	72.5	91.5	106.0	73.0	73.6	71.9	72.0
1600	73.6	72.4	92.0	106.4	73.0	74.0	72.3	72.0
1700	73.5	72.5	92.0	106.7	73.1	74.1	72.6	72.1
1800	73.5	72.7	72.5	106.7	82.8	74.0	72.6	72.0
1900	73.5	72.4	92.6	106.7	72.8	73.5	72.6	72.0
2000	73.5	72.4	92.4	106.6	72.4	73.8	72.7	71.7
2100	73.3	72.1	92.4	106.6	72.4	73.8	72.7	71.7
2200	73.3	71.8	92.2	106.5	72.5	74.0	73.0	71.8
2300	73.3	71.5	91.8	106.4	72.5	74.0	73.3	72.0
2400	73.4	71.6	91.6	106.3	72.7	74.0	73.6	72.4

TABLE 227

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	73.5	71.9	91.2	106.2	72.7	74.0	73.8	72.4
0200	73.5	72.4	90.7	105.6	73.0	74.2	73.8	72.5
0300	73.5	71.8	90.3	105.4	72.9	74.4	73.8	72.7
0400	73.5	71.7	89.7	105.0	73.0	74.2	73.7	72.7
0500	73.5	71.8	89.0	104.7	72.8	74.0	73.5	72.8
0600	73.5	72.0	88.7	104.4	72.8	73.8	73.3	72.6
0700	73.5	71.8	88.4	104.2	72.8	73.5	73.0	72.5
0800	73.2	71.5	87.9	103.7	72.5	73.5	72.7	72.4
0900	73.2	71.5	87.8	103.7	72.4	73.9	72.5	72.0
1000	73.0	71.3	87.5	103.5	72.1	73.5	72.3	71.6
1100	73.0	71.5	87.7	103.6	72.0	73.2	72.2	71.5
1200	72.8	71.0	87.5	103.5	71.8	73.0	72.0	71.0
1300	72.8	70.7	87.4	103.0	71.6	73.3	71.8	70.7
1400	72.6	70.5	87.2	102.9	71.7	73.3	71.5	70.5
1500	72.5	70.5	87.3	102.9	71.5	73.2	71.4	70.3
1600	72.5	70.2	87.0	102.7	71.3	73.0	71.2	70.2
1700	72.4	70.1	87.0	102.5	71.3	72.6	71.1	70.1
1800	72.5	69.9	86.9	102.5	71.1	72.7	71.1	70.0
1900	72.3	69.0	86.8	102.4	71.0	73.0	71.1	69.9
2000	72.2	69.5	86.5	102.0	70.7	72.8	71.1	69.9
2100	72.0	69.2	86.4	102.0	70.7	72.8	71.1	70.0
2200	72.0	69.0	86.0	102.1	70.6	72.5	71.0	70.0
2300	71.9	69.0	85.7	101.8	70.5	72.4	71.0	69.8
2400	72.0	68.8	85.5	101.7	70.5	72.4	71.0	69.7

TABLE 228

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	72.0	68.5	85.4	101.4	70.5	72.5	71.0	69.5
0200	71.8	68.5	85.1	101.5	70.4	73.0	71.0	69.5
0300	72.0	68.5	85.0	102.0	70.5	73.0	71.0	69.5
0400	71.8	68.3	84.9	102.0	70.3	73.0	71.0	69.5
0500	71.8	68.0	84.7	102.2	70.3	72.8	70.8	69.5
0600	71.5	68,0	84,7	102.4	70.1	72.8	70.5	69.5
0700	71.7	67.9	84.7	102.5	70.0	73.0	70.5	69.5
0800	71.5	67.7	84.5	102.6	69.9	72.9	70.1	69.2
0900	71.5	67.7	84.6	102.9	69.9	72.7	70.1	68.9
1000	71.5	67.7	85.1	103.1	69.8	72.6	70.1	68.7
1100	71.5	67.7	85.3	103.5	69.8	72.5	70.0	68.7
1200	71.3	67.7	85.6	103.7	69.8	72.3	69.9	68.7
1300	71.4	67.9	86.0	104.2	69.8	72.4	70.0	68.9
1400	71.4	67.8	86.4	104.5	69.7	72.4	70.0	68.8
1500	71.4	67.8	86.5	104.8	69.7	72.3	70.0	68.8
1600	71.3	67.7	86.7	105.1	69.7	72.3	70.1	68.7
1700	71.3	67.7	87.0	105.5	69.7	72.3	70.0	68.6
1800	71.3	67.7	87.2	105.5	69.7	72.3	70.0	68.4
1900	71.3	67.6	87.2	105.7	69.5	72.3	70.0	68.5
2000	71.3	67.4	87.2	105.8	69.5	72.2	69.9	68.4
2100	71.3	67.3	87.4	105.8	69.5	72.3	70.0	68.4
2200	71.2	67.5	87.5	105.8	69.4	72.3	70.0	68.4
2300	71.2	67.0	87.4	105.5	69.3	72.3	70.1	68.5
2400	71.3	67.0	87.7	105.7	69.4	72.3	70.4	68.7

TABLE 229

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	71.2	66.9	87.6	105.7	69.5	72.4	70.4	69.0
0200	71.2	66.8	87.6	105.6	69.5	72.4	70.5	69.1
0300	71.2	66.9	87.5	105.5	69.5	72.5	70.7	68.4
0400	71.3	67.0	87.6	105.5	69.8	72.7	70.7	69.2
0500	71.4	67.1	87.7	105.7	69.8	72.7	70.6	68.7
0600	71.4	67.1	87.9	105.7	69.8	72.7	70.5	69.2
0700	71.4	67.3	88.2	105.9	69.9	72.6	70.4	68.5
0800	71.2	67.2	88.3	106.4	69.9	72.6	70.1	68.7
0900	71.2	67.5	88.7	106.6	69.9	72.5	70.0	68.1
1000	71.3	67.5	89.0	107.0	69.7	72.5	69.9	68.6
1100	71.4	67.7	89.3	107.0	69.7	72.5	69.9	68.4
1200	71.5	67.6	89.5	107.3	69.8	72.5	69.7	68.5
1300	71.4	67.6	89.7	107.5	69.7	72.2	69.5	68.4
1400	71.5	67.6	89.4	107.0	69.5	72.0	69.5	68.4
1500	71.5	67.2	88.8	106.0	69.2	71.7	69.3	68.0
1600	71.2	67.3	88.0	106.6	69.3	71.8	69.3	68.0
1700	71.0	66.8	87.5	106.5	69.2	71.8	69.0	67.5
1800	71.0	67.0	86.8	105.7	68.7	71.5	69.0	67.7
1900	71.0	66.3	86.5	105.3	68.6	71.5	68.8	67.5
2000	70.8	66.0	85.8	105.1	68.6	71.5	68.8	67.4
2100	70.7	66.0	85.5	104.5	68.5	71.3	68.7	67.3
2200	70.5	65.5	85.1	104.3	68.5	71.4	68.7	67.4
2300	70.2	65.5	85.1	104.0	68.1	71.5	68.6	67.4
2400	70.1	65.3	84.8	104.0	68.1	71.4	68.5	67.4

TABLE 230

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	70.1	65.0	84.6	103.8	68.1	71.3	68.4	67.3
0200	70.1	65.2	84.4	103.5	68.0	71.3	68.0	66.9
0300	70.1	64.9	84.3	103.5	68.0	71.3	68.0	66.7
0400	70.0	64.9	83.9	103.1	67.7	71.1	67.7	66.0
0500	69.9	64.6	83.6	102.8	67.5	70.9	67.5	66.2
0600	69.8	64.3	83.3	102.0	67.5	70.9	67.2	66.0
0700	69.7	64.0	83.2	101.8	67.3	70.8	67.1	65.5
0800	69.4	63.7	83.0	101.8	66.9	70.6	66.9	65.2
0900	69.4	63.7	83.0	101.6	66.8	70.5	66.7	64.7
1000	69.4	63.7	83.4	101.8	66.8	70.5	66.5	64.7
1100	69.4	64.0	83.7	102.0	66.8	70.4	66.4	64.7
1200	69.4	64.2	84.0	102.2	66.8	70.5	66.4	64.7
1300	69.5	64.2	84.2	102.5	66.8	70.4	66.5	64.8
1400[2/]	65.0	65.2	86.3	102.7	64.7	64.8	65.5	63.3
1500	65.0	65.5	86.5	102.9	64.8	64.7	65.5	63.2
1600	65.1	65.5	86.8	103.1	64.9	64.8	65.5	63.2
1700	65.0	65.3	86.9	103.2	64.9	64.9	65.5	63.1
1800	65.0	65.3	87.0	103.4	64.8	64.8	65.4	63.0
1900	65.0	65.0	87.0	103.4	64.6	64.6	65.3	63.0
2000	64.9	65.0	87.0	103.2	64.5	64.5	65.3	62.9
2100	64.9	64.5	86.9	103.0	64.4	64.5	65.4	62.9
2200	64.6	64.2	86.6	102.8	64.2	64.4	65.5	62.9
2300	64.6	64.0	86.5	102.4	64.1	64.4	65.8	62.9
2400	64.6	63.9	86.1	102.3	64.1	64.4	66.2	63.1

[2/] Instuments zeroed to ground truth data

TABLE 231

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	64.7	63.8	86.1	102.2	64.2	64.5	66.5	63.4
0200	64.9	63.7	86.0	102.0	64.5	64.7	66.9	63.7
0300	65.0	64.0	86.0	100.3	64.5	65.0	67.1	64.0
0400	65.0	64.0	85.7	99.0	64.6	65.0	67.1	64.1
0500	65.0	63.9	85.6	99.9	64.8	64.9	67.0	64.3
0600	65.0	63.8	85.5	100.5	64.8	64.9	66.9	64.3
0700	65.0	64.0	85.5	101.0	64.9	65.0	66.7	64.0
0800	65.0	64.3	85.5	101.3	64.9	65.0	66.4	63.9
0900	65.2	64.3	85.6	101.3	64.9	65.0	66.2	63.9
1000	65.2	64.5	85.5	101.8	65.0	65.0	66.0	63.8
1100	65.2	64.6	84.9	101.3	64.9	65.0	65.8	63.5
1200	65.2	65.0	85.4	101.5	65.0	64.9	65.8	63.5
1300	65.3	65.3	86.5	102.5	65.0	65.0	65.7	63.6
1400	65.3	65.5	87.2	103.1	65.0	65.0	65.7	63.5
1500	65.4	65.8	88.1	104.0	65.2	65.0	65.7	63.7
1600	65.4	66.4	88.8	104.5	65.2	65.0	65.7	63.7
1700	65.4	66.0	89.2	104.5	65.2	65.0	65.7	63.7
1800	65.3	66.0	89.5	104.9	65.0	65.0	65.6	63.7
1900	65.3	65.5	89.7	104.7	65.0	65.0	65.6	63.5
2000	65.1	65.1	90.0	104.8	64.9	64.9	65.7	63.3
2100	65.1	65.1	90.1	105.0	64.9	64.8	65.7	63.3
2200	65.0	65.0	90.2	105.0	64.7	64.7	65.8	63.4
2300	65.0	64.8	90.2	105.0	64.7	64.8	66.1	63.4
2400	65.1	64.9	90.0	105.0	64.7	64.9	66.3	63.5

TABLE 232

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	65.1	64.7	89.8	104.7	64.7	64.8	66.7	63.8
0200	65.3	64.7	89.5	104.4	64.9	65.0	66.9	64.0
0300	65.3	64.5	89.2	104.4	65.0	65.1	67.0	64.2
0400	65.4	64.4	88.9	104.0	65.1	65.3	67.1	64.4
0500	65.5	64.7	88.4	103.9	65.2	65.3	67.1	64.4
0600	65.5	64.7	88.0	103.5	65.4	65.3	66.9	64.6
0700	65.5	64.6	87.8	103.5	65.2	65.2	66.8	64.5
0800	65.4	64.6	87.7	103.4	65.1	65.1	66.5	64.3
0900	65.5	64.8	87.7	103.4	65.1	65.1	66.2	63.9
1000	65.5	65.4	87.9	103.4	65.1	65.0	66.0	63.8
1100	65.5	65.4	88.7	103.8	65.1	65.0	66.0	63.8
1200	65.5	65.9	89.2	104.0	65.3	65.0	65.8	63.7
1300	65.6	65.9	89.6	104.7	65.4	65.0	65.8	63.7
1400	65.6	66.2	89.8	104.8	65.5	65.0	65.8	63.5
1500	65.5	66.0	89.7	105.0	65.4	65.0	65.7	63.5
1600	65.6	66.2	89.9	105.1	65.5	65.2	65.7	63.7
1700	65.6	66.0	98.7	105.1	65.5	65.0	65.7	63.7
1800	65.5	66.1	89.0	104.5	65.4	64.9	65.7	63.7
1900	65.5	65.7	88.8	104.5	65.3	64.9	65.7	63.4
2000	65.4	65.7	89.3	104.4	65.2	64.9	65.7	63.3
2100	65.4	65.4	89.3	104.4	65.1	64.8	65.9	63.3
2200	65.4	65.4	89.3	104.4	65.1	64.7	66.1	63.3
2300	65.4	65.2	89.0	104.3	65.0	64.9	66.5	63.5
2400	65.4	65.2	89.0	104.0	65.0	64.8	66.8	63.7

TABLE 233

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	65.4	65.2	88.9	104.2	65.2	65.1	66.0	64.0
0200	65.4	65.2	88.7	103.8	65.3	65.1	67.0	64.2
0300	65.6	65.4	88.5	103.7	65.5	65.3	67.0	64.3
0400	65.4	65.3	88.7	104.0	65.5	65.5	67.2	64.3
0500	65.6	65.5	89.1	104.2	65.6	65.5	66.9	64.4
0600	65.5	65.5	89.5	104.5	65.6	65.5	66.8	64.3
0700	65.7	65.7	89.7	104.8	65.8	65.5	66.8	64.3
0800	65.6	66.0	89.9	104.8	65.6	65.4	66.4	64.3
0900	65.6	65.6	0.3	105.3	65.6	65.3	66.4	64.0
1000	65.7	66.0	90.7	105.5	65.7	65.3	66.2	63.9
1100	65.7	66.3	91.1	105.6	65.7	65.3	66.2	63.9
1200	65.7	66.3	91.6	106.0	65.7	65.4	66.2	63.8
1300	65.7	66.8	92.1	106.4	65.7	65.4	66.2	63.8
1400	65.8	66.8	92.6	106.8	65.9	65.5	66.4	64.0
1500	66.0	66.9	92.9	107.0	66.0	65.5	66.4	64.1
1600	66.0	67.2	93.5	107.3	66.1	65.7	66.5	64.1
1700	66.0	67.2	93.7	107.6	66.1	65.7	66.7	64.1
1800	66.0	67.4	93.7	107.6	66.2	65.7	66.7	64.1
1900	66.0	67.1	93.1	107.2	66.1	65.5	66.7	64.1
2000	66.0	67.2	93.0	106.8	66.1	65.5	66.7	64.1
2100	66.0	67.4	93.0	10.70	66.2	65.5	67.0	64.3
2200	66.0	66.9	92.4	106.7	66.2	65.5	67.3	64.5
2300	66.0	67.5	92.0	106.4	66.2	65.7	67.6	64.7
2400	66.0	66.9	91.5	105.7	66.2	65.7	67.7	64.9

TABLE 234

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	66.2	67.0	91.0	105.5	66.7	66.0	68.1	65.3
0200	66.2	67.0	90.5	105.3	66.6	66.2	68.4	65.5
0300	66.3	66.9	90.0	104.0	66.6	66.2	68.4	65.7
0400	66.3	67.3	90.0	101.0	66.7	66.3	68.5	65.9
0500	66.5	67.6	90.0	98.1	66.7	66.0	68.0	65.7
0600	66.4	67.7	89.8	96.5	66.7	66.2	68.0	65.8
0700	66.3	67.3	89.5	96.3	66.7	66.1	67.7	65.6
0800	66.3	67.5	89.5	96.9	66.7	66.0	67.3	65.3
0900	66.0	67.3	89.4	98.4	66.5	65.8	67.0	64.9
1000	66.0	67.0	88.3	99.7	66.5	66.0	67.0	64.5
1100	66.0	67.3	88.3	101.4	66.5	66.0	67.0	64.3
1200	66/2	67.5	87.3	102.4	66.5	66.0	67.2	64.5
1300	66.2	67.5	86.7	102.5	66.7	66.2	67.2	64.6
1400	66.3	67.7	86.7	102.4	66.9	66.1	67.0	64.6
1500	66.5	67.7	87.3	102.8	67.0	66.3	67.2	64.6
1600	66.6	68.1	88.0	103.3	67.2	66.3	67.2	64.5
1700	66.5	68.0	89.0	104.0	67.0	66.5	67.1	64.5
1800	66.5	68.1	89.9	105.0	67.1	66.2	67.0	64.4
1900	66.5	68.0	90.3	105.2	67.0	66.2	67.0	64.3
2000	66.3	67.7	90.5	105.5	66.8	66.0	67.0	64.3
2100	66.2	67.5	90.3	105.5	66.7	65.9	67.1	64.1
2200	66.2	68.0	90.0	105.3	66.7	65.7	67.5	64.4
2300	66.2	67.4	89.0	105.3	66.6	65.7	67.7	64.5
2400	66.2	67.1	90.0	105.0	66.6	66.0	68.0	65.0

TABLE 235

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	66.3	67.5	90.4	105.3	66.6	66.2	68.3	65.2
0200	66.3	67.3	90.7	105.5	66.8	66.3	68.5	65.5
0300	66.5	67.7	91.1	106.0	66.8	66.4	68.5	65.5
0400	66.5	68.0	91.4	106.4	67.0	66.5	68.6	65.6
0500	66.5	67.7	91.4	105.8	67.3	66.4	68.4	65.7
0600	66.5	67.7	91.3	106.5	67.3	66.2	68.0	65.5
0700	66.5	68.1	01.5	106.5	67.4	66.0	68.0	65.7
0800	66.5	67.7	91.7	106.6	67.1	65.7	67.7	65.7
0900	66.3	67.7	92.3	106.8	67.0	65.5	67.4	65.4
1000	66.3	67.7	92.3	106.7	66.5	65.6	67.3	64.9
1100	66.5	67.7	92.3	106.9	66.1	65.6	67.3	64.7
1200	66.1	68.2	92.3	107.0	66.7	65.7	67.1	64.8
1300	66.1	68.2	92.1	106.7	66.7	65.7	67.3	64.7
1400	66.1	68.1	92.0	106.6	66.7	65.7	67.3	64.8
1500	66.3	68.7	91.5	106.5	66.9	65.6	67.4	64.9
1600	66.2	67.9	90.9	106.1	66.7	65.6	67.4	65.0
1700	66.1	68.3	90.0	105.6	66.7	65.5	67.3	64.9
1800	66.1	67.7	89.3	105.1	66.7	65.6	67.4	64.9
1900	66.1	68.0	88.7	104.7	66.7	65.7	67.3	64.7
2000	66.0	67.4	88.3	104.4	66.5	65.7	67.5	64.8
2100	66.0	67.3	87.8	104.0	66.5	65.7	67.4	64.8
2200	65.9	67.0	87.7	103.7	66.5	65.6	67.4	64.7
2300	66.0	66.7	87.4	103.7	66.5	65.7	67.4	64.7
2400	66.0	66.6	87.0	103.4	66.5	65.7	67.5	64.7

TABLE 236

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	66.0	66.7	86.7	103.0	66.2	65.7	67.4	64.8
0200	65.8	66.5	86.4	102.7	66.2	65.5	67.3	64.8
0300	65.9	66.5	86.0	102.7	66.2	65.7	67.2	64.6
0400	65.7	66.3	85.5	101.8	66.2	65.4	66.8	64.4
0500	65.7	66.1	85.0	99.3	66.0	65.2	66.4	64.1
0600	65.5	66.1	84.7	99.0	65.7	64.9	66.0	63.7
0700	65.4	65.7	84.4	100.5	65.5	64.9	65.8	63.5
0800	65.1	65.6	84.3	100.6	65.1	64.7	65.6	63.0
0900	65.0	65.5	84.2	100.6	65.0	64.5	65.5	62.8
1000	65.0	65.0	84.7	100.0	64.9	64.4	65.3	62.7
1100	65.0	65.9	84.9	101.2	64.9	64.4	65.3	62.6
1200	65.0	65.5	84.4	101.0	64.7	64.4	65.3	62.6
1300	65.0	65.5	84.7	101.0	64.7	64.6	65.3	62.6
1400	64.9	65.5	85.5	101.5	64.7	74.7	65.3	62.5
1500	65.0	65.8	86.0	102.0	64.9	64.9	65.4	62.8
1600	65.0	65.7	86.5	102.5	64.9	64.9	65.4	62.9
1700	65.0	65.5	86.6	102.7	65.0	65.0	65.5	62.8
1800	65.0	65.3	86.6	102.7	64.7	64.8	65.6	62.8
1900	65.0	65.0	86.2	102.4	64.7	64.8	65.7	62.7
2000	64.7	64.5	85.9	102.2	64.5	64.7	65.7	62.8
2100	64.9	64.9	85.7	102.0	64.6	64.7	66.4	63.1
2200	64.9	64.3	85.7	101.9	64.6	64.7	66.6	63.4
2300	64.9	64.3	85.7	101.9	64.6	64.7	66.6	63.4
2400	65.0	64.3	85.5	101.9	65.0	64.9	66.9	63.7

TABLE 237

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	65.1	64.7	85.4	101.7	65.1	65.1	66.9	63.8
0200	65.2	64.5	85.1	101.6	65.5	65.1	66.9	63.9
0300	65.2	64.8	84.9	101.4	65.7	65.1	66.8	63.7
0400	65.2	64.8	84.7	101.4	65.7	65.1	66.7	63.8
0500	65.2	64.6	84.6	101.2	65.7	65.0	66.4	63.6
0600	65.0	64.7	84.5	101.0	65.5	65.1	66.0	63.4
0700	65.0	64.5	84.2	101.1	65.7	64.9	65.5	63.1
0800	65.0	64.4	84.0	101.0	65.9	64.9	65.5	62.9
0900	64.7	64.5	84.3	101.3	66.0	64.8	65.4	62.5
1000	64.7	64.6	84.5	101.5	66.3	64.8	65.2	62.5
1100	64.7	64.6	85.0	101.7	66.7	64.7	65.0	62.5
1200	65.0	65.0	85.5	101.9	67.0	64.5	66.0	62.5
1300[2/]	64.9	64.9	86.0	102.5	67.0	64.5	65.0	62.5
1400	65.0	64.7	86.4	102.8	63.7	64.2	65.1	64.5
1500	65.0	64.5	86.5	102.7	63.9	64.2	65.0	64.4
1600	64.7	64.5	86.8	102.8	63.7	64.0	65.0	64.3
1700	64.7	64.9	87.1	103.0	63.7	64.1	65.0	64.4
1800	64.7	64.7	87.4	103.2	63.5	64.0	65.0	64.4
1900	64.6	64.2	87.4	102.7	63.5	64.0	65.2	64.3
2000	64.5	64.4	87.6	102.7	63.4	64.2	65.3	64.3
2100	64.6	63.6	87.8	102.8	63.5	64.3	65.4	64.4
2200	64.6	63.6	87.8	102.9	63.6	64.7	65.6	64.6
2300	64.7	64.2	87.7	102.6	63.7	64.4	65.7	64.8
2400	64.8	63.8	87.6	102.7	63.6	64.5	65.8	65.0

[2/] Instruments zeroed to ground truth data

TABLE 238

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	64.7	64.1	87.6	102.6	63.8	64.5	65.7	65.1
0200	64.4	64.4	87.5	102.7	63.9	64.5	65.7	65.0
0300	64.8	64.2	87.3	102.6	63.9	64.5	65.5	64.8
0400	64.7	64.3	87.3	102.4	63.9	64.6	65.5	64.7
0500	64.7	64.7	87.4	102.6	63.9	64.6	64.2	64.6
0600	64.6	64.2	87.3	102.6	63.6	64.2	65.0	64.5
0700	64.5	64.4	87.3	102.8	63.7	64.0	64.9	64.3
0800	64.5	64.4	87.1	102.7	63.4	64.1	64.8	64.0
0900	64.4	64.3	87.2	102.6	63.3	63.9	64.6	63.8
1000	64.4	64.4	87.3	102.6	63.4	63.9	64.5	63.7
1100	64.4	64.3	87.4	102.6	63.4	64.3	64.5	64.0
1200	64.5	64.4	87.0	102.4	63.5	64.0	64.5	64.0
1300	64.4	64.6	87.6	102.6	63.4	64.1	64.7	64.0
1400	64.4	64.6	86.3	102.4	63.4	63.9	64.6	63.9
1500	64.4	64.5	85.9	102.0	63.5	63.8	64.7	64.0
1600	64.4	64.3	85.3	101.7	63.5	64.0	64.8	64.0
1700	64.3	64.4	84.8	101.3	63.4	63.9	64.7	64.0
1800	64.2	53.8	83.8	100.7	63.3	63.6	64.7	63.7
1900	64.1	63.2	83.3	100.3	63.2	63.6	64.7	63.7
2000	64.1	63.0	83.0	99.8	63.2	63.6	64.7	63.7
2100	64.1	63.2	83.0	99.8	63.1	63.9	64.6	63.8
2200	64.0	62.8	82.7	99.6	63.0	63.8	64.7	63.7
2300	64.0	62.8	82.7	99.6	63.0	63.8	64.7	63.7
2400	64.0	62.7	82.5	99.6	62.9	63.7	64.5	63.5

TABLE 239

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	63.8	62.8	82.3	99.4	62.7	63.6	64.2	63.3
0200	63.7	62.7	82.0	99.2	62.6	63.3	63.8	63.2
0300	63.7	62.8	81.7	99.1	62.6	63.4	63.4	62.8
0400	63.5	62.2	81.6	98.9	62.4	63.0	63.1	62.6
0500	63.4	62.3	81.6	98.9	62.2	63.0	63.0	62.3
0600	63.3	61.8	81.5	98.7	61.7	62.7	62.7	62.0
0700	63.1	61.6	81.6	98.7	61.5	62.3	62.3	61.6
0800	63.0	61.4	81.5	98.7	61.3	62.3	62.1	61.4
0900	63.2	61.4	81.7	98.7	61.2	62.4	62.2	61.2
1000	63.2	61.3	82.2	99.0	61.2	62.5	62.2	61.2
1100	63.2	61.3	82.8	99.4	61.2	62.6	62.3	61.3
1200	63.3	61.6	83.5	100.4	61.3	62.6	62.3	61.3
1300	63.3	61.8	83.9	100.0	61.3	62.6	62.4	61.4
1400	63.3	61.5	84.3	100.4	61.4	62.5	62.4	61.4
1500	63.3	61.6	84.7	100.6	61.4	62.5	62.4	62.6
1600	63.4	61.5	84.7	100.8	61.4	62.6	62.6	61.5
1700	63.3	61.5	84.8	100.8	61.3	62.6	62.5	61.5
1800	63.3	61.5	85.0	100.8	61.2	62.7	62.6	61.4
1900	63.3	61.4	85.0	100.8	61.2	62.7	62.7	61.5
2000	63.3	60.9	85.0	100.8	61.2	62.7	62.7	61.5
2100	63.3	61.0	84.8	100.7	61.2	63.0	63.1	61.8
2200	63.3	60.5	84.6	100.5	61.4	62.8	63.2	62.0
2300	63.4	60.6	84.5	100.4	61.3	62.8	63.2	62.3
2400	63.3	60.5	84.4	100.3	61.5	62.9	63.3	62.3

TABLE 240

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	63.4	60.7	84.3	100.3	61.6	63.0	63.4	62.6
0200	63.5	61.6	84.2	100.2	61.6	63.1	63.4	62.6
0300	63.6	60.8	84.1	100.0	61.7	63.2	63.2	62.6
0400	63.5	61.2	83.9	100.2	61.7	63.2	63.2	62.4
0500	63.5	61.3	84.2	100.2	61.7	63.0	62.8	62.2
0600	63.5	61.6	83.9	100.2	61.5	63.0	62.7	61.8
0700	63.4	60.8	83.9	100.0	60.4	63.6	63.3	61.4
0800	63.3	61.1	83.7	100.0	61.2	62.7	62.1	61.3
0900	63.2	61.3	83.9	99.7	60.9	62.3	61.8	61.0
1000	63.0	60.6	83.7	99.7	60.7	62.3	61.8	60.8
1100	62.8	60.5	83.6	99.6	60.5	62.2	61.6	60.6
1200	62.8	61.0	84.0	100.0	60.5	62.2	61.4	60.6
1300	62.8	60.6	84.2	99.8	60.5	62.3	61.4	60.6
1400	62.7	60.5	84.4	100.1	60.5	62.3	61.4	60.6
1500	62.8	60.5	85.0	100.4	60.5	62.3	61.4	60.5
1600	62.9	60.9	85.3	100.5	60.4	62.2	61.4	60.4
1700	62.7	60.4	85.6	101.0	60.5	62.2	61.3	60.5
1800	62.7	60.2	85.7	100.8	60.4	62.2	61.3	60.4
1900	62.7	60.2	85.8	101.0	60.4	61.8	61.3	60.4
2000	62.7	60.2	85.8	100.9	60.2	61.7	61.2	60.2
2100	62.5	59.6	86.6	100.8	60.0	61.7	61.2	60.1
2200	62.6	59.8	85.8	97.8	60.2	61.7	61.3	60.2
2300	62.6	59.8	85.8	97.8	60.2	61.7	61.3	60.2
2400	62.5	59.8	85.7	97.7	60.0	61.9	61.5	60.3

TABLE 241

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
SEPTEMBER 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	62.5	59.4	85.7	97.6	60.1	61.9	61.6	60.5
0200	62.5	59.7	85.6	97.6	60.2	62.1	61.6	60.5
0300	62.6	59.7	85.4	97.4	60.3	62.0	61.5	60.5
0400	62.6	59.6	85.4	95.0	60.4	62.2	61.4	60.4
0500	62.6	60.2	85.4	94.7	60.4	62.0	61.3	60.4
0600	62.5	59.8	84.4	96.4	60.2	61.9	61.3	60.2
0700	61.5	59.7	83.6	93.5	60.2	61.8	61.1	60.2
0800	62.5	59.6	83.6	93.5	60.3	62.0	61.0	60.2
0900	61.4	59.2	83.6	93.6	60.1	61.7	60.9	60.2
1000	62.4	60.0	83.7	93.6	60.1	61.8	60.9	60.1
1100	62.5	60.0	84.9	94.3	60.2	61.7	60.9	60.1
1200	62.5	59.8	83.3	94.3	60.2	61.7	60.9	60.1
1300	62.5	60.0	83.4	95.4	60.2	61.7	61.0	60.3
1400	62.4	60.0	83.3	96.4	60.1	61.7	61.2	60.4
1500	62.6	59.9	83.3	96.8	60.3	62.0	61.2	60.4
1600	62.5	60.2	83.2	97.0	60.2	62.0	61.3	60.4
1700	62.6	60.2	83.2	97.0	60.2	62.0	61.4	60.5
1800	62.6	60.0	83.2	97.0	60.2	62.1	61.4	60.5
1900	62.5	59.9	83.0	97.0	60.1	61.9	61.3	60.4
2000	62.4	60.0	83.3	97.2	60.0	61.8	61.3	60.4
2100	62.4	59.6	83.6	97.7	60.0	61.7	61.3	60.3
2200	62.5	59.7	83.8	98.3	60.0	61.7	61.3	60.3
2300	62.3	59.4	84.0	98.3	60.1	61.7	61.3	60.3
2400	62.4	60.0	83.8	98.4	60.0	61.8	61.3	60.3

TABLE 242

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	62.3	59.4	83.6	98.2	60.0	61.8	61.3	60.6
0200	62.3	59.4	83.3	97.7	60.0	61.8	61.3	60.4
0300	62.3	59.5	83.3	97.6	60.0	62.0	61.4	60.6
0400	62.5	59.4	83.2	97.6	60.1	61.9	61.2	60.6
0500	62.4	59.3	83.4	97.8	60.1	60.7	61.1	60.5
0600	62.4	59.7	83.3	98.1	60.0	61.7	61.0	60.3
0700	62.4	59.8	83.3	98.6	60.1	61.7	61.0	60.3
0800	62.3	59.7	83.2	98.7	59.9	61.4	60.8	60.3
0900	62.4	59.3	83.4	98.7	60.0	61.6	61.0	60.0
1000	62.3	59.4	83.7	99.0	59.9	61.7	61.1	60.0
1100	62.3	59.5	84.3	99.2	59.9	61.7	61.0	60.0
1200	62.4	59.7	84.9	99.4	60.0	61.7	61.2	60.2
1300	62.5	60.5	85.6	99.8	60.0	61.7	61.2	60.2
1400	62.5	61.0	86.4	100.5	60.3	62.0	61.4	60.5
1500	62.7	61.0	86.7	100.7	60.4	62.0	61.4	60.5
1600	62.7	60.5	87.2	101.3	60.5	62.0	61.5	60.9
1700	62.8	60.8	87.4	101.5	60.5	62.0	61.6	60.9
1800	62.8	60.8	87.6	101.6	60.6	62.2	61.6	60.7
1900	62.8	60.7	87.7	101.6	60.5	62.1	61.8	60.9
2000	62.9	61.3	88.2	101.7	60.5	52.3	62.0	61.1
2100	63.0	60.8	88.2	101.7	60.7	62.5	62.3	61.3
2200	63.2	60.8	88.2	101.7	60.9	62.5	62.5	61.3
2300	63.2	60.6	88.2	101.8	60.2	62.7	62.6	61.7
2400	63.2	61.7	88.0	102.9	60.3	62.7	62.6	61.6

TABLE 243

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

SEPTEMBER 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	63.3	61.6	88.0	101.8	61.3	62.7	62.7	61.7
0200	63.2	60.9	87.5	101.7	61.4	62.7	62.6	61.7
0300	63.3	61.6	87.4	101.6	61.5	62.7	62.5	61.7
0400	63.3	61.6	87.4	101.6	61.4	62.7	62.3	61.6
0500	63.2	61.9	88.0	101.6	60.4	62.4	62.4	61.3
0600	63.2	61.5	88.0	101.4	61.2	62.4	62.0	61.2
0700	62.8	61.2	86.5	101.2	60.8	62.2	61.8	60.8
0800	62.8	60.6	86.5	101.2	60.8	62.2	61.5	59.9
0900	62.9	60.6	86.7	101.0	60.6	62.0	61.4	60.3
1000	63.0	61.0	88.0	101.2	60.6	62.2	61.4	60.1
1100	63.0	61.2	87.7	101.4	60.6	62.2	61.4	60.3
1200	63.0	60.6	88.6	102.0	60.7	62.3	61.5	60.3
1300	63.2	61.3	89.3	102.4	60.8	62.4	61.7	60.5
1400	63.3	61.9	89.7	102.8	61.2	62.5	61.6	60.7
1500	63.4	61.8	90.2	103.1	61.3	62.4	62.0	60.8
1600	63.4	62.2	90.5	103.4	61.4	62.7	62.1	61.0
1700	63.5	61.8	90.7	103.5	61.4	62.6	62.2	60.8
1800	63.5	62.1	90.7	103.4	61.4	62.6	62.3	60.7
1900	63.3	62.3	90.6	103.3	61.3	62.5	62.4	60.7
2000	63.4	61.6	90.6	103.3	61.3	62.6	62.5	61.0
2100	63.4	62.1	90.4	103.2	61.5	62.7	62.6	61.2
2200	63.5	61.8	90.4	103.4	61.6	63.0	62.9	61.4
2300	63.6	61.9	90.3	103.2	61/7	63.0	63.0	61.6
2400	63.7	62.8	90.3	103.0	62.0	63.0	63.0	62.0

TABLE 244

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION

OCTOBER 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	63.7	62.0	90.0	102.7	62.1	63.0	63.1	62.2
0200	63.7	62.4	89.6	102.7	62.1	63.2	63.2	62.3
0300	63.7	62.9	89.4	102.7	62.1	63.2	63.0	62.3
0400	63.7	62.9	89.2	102.5	62.1	63.1	62.9	62.0
0500	63.7	62.5	89.0	102.4	62.1	63.1	62.7	61.7
0600	63.6	62.5	89.0	102.4	61.9	63.1	62.6	61.4
0700	63.6	62.2	88.7	102.3	61.8	63.0	62.5	61.2
0800	63.5	62.9	88.2	102.0	61.6	63.0	62.3	61.2
0900	63.5	63.1	88.0	101.6	61.6	63.0	62.3	61.0
1000	63.5	62.4	88.0	102.0	61.5	63.0	62.2	61.0
1100	63.4	62.7	88.2	101.7	61.5	63.0	62.2	61.0
1200[2/]	63.3	62.5	88.3	101.7	61.5	62.8	62.1	61.0
1300	63.3	63.5	88.5	101.7	61.7	63.7	62.1	60.6
1400	62.3	63.8	88.7	101.9	61.6	63.0	62.4	61.2
1500	62.3	63.6	88.5	102.0	61.6	63.0	62.4	61.3
1600	62.4	63.8	88.2	102.0	61.7	63.0	62.4	61.1
1700	62.3	64.3	87.8	101.6	61.7	63.0	62.4	61.1
1800	62.3	64.3	87.5	101.7	61.6	62.9	62.5	61.1
1900	62.3	63.7	87.3	101.4	61.5	62.9	62.6	61.0
2000	62.2	63.0	87.0	101.1	61.5	62.8	62.6	61.1
2100	62.3	63.4	86.5	101.0	61.6	62.8	62.7	61.1
2200	62.2	63.9	86.2	100.5	61.6	63.0	62.7	61.2
2300	62.3	63.7	86.0	100.5	61.7	63.0	62.7	61.4
2400	62.3	63.2	85.7	100.4	61.7	63.0	62.5	61.3

[2/] Instruments zeroed to ground truth data.

TABLE 245

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	62.3	63.6	85.5	100.2	61.6	63.0	62.6	61.2
0200	62.3	64.6	85.1	100.1	61.6	62.9	62.5	61.2
0300	62.3	64.4	84.8	100.0	61.5	62.7	62.3	61.0
0400	62.2	63.6	84.6	99.9	61.5	62.9	62.0	60.9
0500	62.0	63.3	84.2	99.5	61.2	62.7	61.8	60.5
0600	61.9	63.1	83.8	99.3	61.0	62.5	61.5	60.4
0700	61.7	62.9	83.7	99.1	60.9	62.3	61.4	60.0
0800	61.6	62.2	83.7	99.2	60.6	62.2	61.2	60.0
0900	61.2	62.3	83.5	98.8	60.1	61.9	61.0	59.7
1000	61.2	61.0	83.4	98.5	60.0	61.7	61.0	59.6
1100	61.2	62.3	83.5	98.6	60.0	61.7	60.8	59.5
1200	61.1	61.6	83.6	98.8	60.0	61.8	60.8	59.5
1300	61.1	61.5	84.0	98.8	60.0	61.8	60.9	59.6
1400	61.1	63.0	84.1	98.8	59.9	61.7	61.0	59.7
1500	61.1	63.4	84.1	98.9	60.0	61.7	61.0	59.6
1600	61.3	61.6	83.8	98.8	60.0	61.7	61.0	59.6
1700	61.1	63.0	83.0	98.5	59.9	61.7	60.9	59.7
1800	61.2	61.5	82.3	97.4	59.9	61.7	60.7	59.6
1900	61.1	61.1	81.8	97.3	59.9	61.5	60.8	59.5
2000	61.1	61.1	81.3	96.9	59.9	61.6	60.8	59.5
2100	61.2	61.3	81.0	96.6	60.0	61.7	61.0	59.7
2200	61.3	60.7	80.5	96.3	59.9	61.8	61.1	59.9
2300	61.0	61.0	80.5	96.5	60.2	62.0	61.3	60.0
2400	61.7	61.1	80.5	96.5	60.4	62.2	61.3	60.0

TABLE 246

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	61.5	61.4	80.3	96.4	60.4	62.2	61.2	60.0
0200	61.4	61.1	80.0	96.2	60.1	62.0	61.0	59.6
0300	61.1	61.1	79.9	96.0	60.0	61.9	60.5	59.9
0400	61.0	60.8	79.8	95.8	59.8	61.7	60.3	59.3
0500	60.7	60.6	79.7	95.7	59.5	61.4	60.0	59.0
0600	60.7	60.0	79.5	95.7	59.4	61.2	59.7	58.7
0700	60.5	60.5	79.5	95.6	59.1	61.1	59.5	58.5
0800	60.2	59.8	79.4	95.5	58.9	60.8	59.4	58.5
0900	60.2	59.5	79.5	95.4	58.7	60.8	59.4	58.3
1000	60.2	59.5	79.5	95.4	58.6	60.7	59.2	58.2
1100	60.3	59.8	79.5	95.4	58.5	60.7	59.1	58.2
1200	60.2	59.5	79.6	95.4	58.6	60.8	59.1	58.2
1300	60.2	59.5	79.6	95.1	58.4	60.7	59.1	58.0
1400	60.0	58.9	79.7	95.4	58.1	60.5	58.9	58.1
1500	60.0	59.1	79.8	95.4	58.0	60.5	59.0	57.9
1600	60.0	59.3	79.9	95.5	58.0	60.5	59.0	58.0
1700	60.0	58.7	80.0	95.6	58.1	60.5	59.0	57.9
1800	59.9	58.5	80.0	95.5	58.0	60.3	58.8	57.7
1900	59.9	58.8	80.2	95.6	58.0	60.3	59.0	57.7
2000	59.7	58.4	80.2	95.6	58.0	60.3	59.0	57.7
2100	59.7	58.2	80.5	95.5	57.9	60.3	59.0	57.7
2200	59.7	58.2	80.4	95.5	57.9	60.3	59.0	57.7
2300	59.8	58.0	80.3	95.5	57.9	60.2	59.0	57.7
2400	59.7	58.0	80.1	95.3	58.0	60.3	59.1	57.7

TABLE 247

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	59.7	58.0	80.1	95.3	57.8	60.2	59.0	57.8
0200	59.8	57.6	79.9	95.2	57.7	60.2	58.8	57.7
0300	59.7	58.0	79.8	95.1	57.7	60.2	58.8	57.6
0400	59.6	57.7	79.6	95.1	57.6	60.1	58.6	57.5
0500	59.5	57.4	79.4	94.8	57.5	60.0	58.5	57.3
0600	59.5	57.2	79.4	94.8	57.4	60.0	58.5	57.2
0700	59.5	57.1	79.4	94.9	57.5	60.0	58.2	57.2
0800	59.4	57.6	79.4	94.9	57.2	59.9	58.3	57.0
0900	59.4	56.9	79.5	94.9	57.2	60.0	58.3	57.1
1000	59.4	57.3	79.4	95.0	57.2	60.0	58.2	57.1
1100	59.4	57.2	80.0	95.1	57.3	60.3	58.5	57.3
1200	59.5	57.0	80.3	95.2	57.3	60.1	58.5	57.3
1300	59.6	57.8	80.7	95.7	57.5	60.4	58.5	57.5
1400	59.6	57.7	80.9	95.9	57.5	60.2	58.5	57.5
1500	59.6	57.8	81.1	96.0	57.5	60.2	58.7	57.5
1600	59.6	57.7	81.0	96.2	57.5	60.4	58.6	57.6
1700	59.7	57.8	81.0	96.2	57.5	60.0	58.6	57.6
1800	59.7	57.6	81.1	96.5	57.7	60.2	58.6	57.7
1900	59.7	57.5	81.0	96.5	57.5	60.1	58.6	57.7
2000	59.6	57.3	81.1	96.2	57.5	60.2	58.8	57.6
2100	59.6	57.6	81.0	96.2	57.5	60.1	58.9	57.6
2200	59.6	57.4	81.0	96.2	57.7	60.3	59.0	58.0
2300	59.6	57.1	80.7	96.1	57.7	60.3	59.0	57.9
2400	59.7	57.4	80.6	96.0	57.6	60.3	59.2	58.0

TABLE 248

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	59.6	57.0	80.5	94.9	57.7	60.3	59.2	58.0
0200	59.8	57.1	80.2	92.3	57.8	60.5	58.9	57.9
0300	59.9	57.2	80.2	89.5	57.9	60.5	58.8	57.9
0400	59.9	57.2	79.5	86.5	57.9	60.4	58.5	57.7
0500	59.8	57.1	79.4	83.9	57.7	60.4	58.2	57.5
0600	59.6	57.0	79.1	83.3	57.6	60.2	57.9	57.2
0700	59.5	56.7	79.0	82.9	57.4	60.2	57.6	57.0
0800	59.3	56.5	78.5	82.8	57.2	59.7	57.2	56.7
0900	59.1	56.6	77.2	82.1	57.0	59.7	57.2	56.4
1000	59.0	56.1	75.6	81.2	56.7	59.5	56.9	56.2
1100	59.9	56.1	74.6	80.2	56.8	58.6	56.8	56.1
1200	59.0	56.0	73.5	79.0	56.7	59.6	56.7	56.1
1300	59.0	56.2	73.5	78.6	56.7	59.6	56.9	56.2
1400	59.1	56.4	73.6	79.0	56.7	59.6	56.8	56.2
1500	59.0	56.5	74.2	66.7	56.7	59.6	56.8	56.2
1600	59.0	56.6	75.0	67.5	56.7	59.8	57.0	56.4
1700	59.1	56.6	74.9	68.0	56.7	59.8	57.0	56.5
1800	59.0	56.7	74.5	67.6	56.5	59.7	57.0	56.5
1900	58.9	56.4	73.7	66.7	56.4	59.5	57.0	56.5
2000	58.8	56.2	73.0	66.1	56.4	59.6	57.2	56.4
2100	58.7	56.1	72.4	65.5	56.2	59.6	57.2	56.3
2200	58.7	55.8	65.6	62.7	56.3	59.8	57.2	56.3
2300	58.6	55.7	64.2	59.8	56.1	59.8	57.2	56.4
2400	58.7	55.5	64.0	59.0	56.3	59.5	57.4	56.5

TABLE 249

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	58.8	55.3	63.7	59.0	56.4	59.8	57.5	56.6
0200	58.7	55.2	63.0	58.6	56.1	59.8	57.6	56.7
0300	58.9	55.2	62.2	58.0	56.5	59.9	57.8	57.0
0400	58.7	55.2	61.7	57.5	56.5	60.0	57.7	57.0
0500	59.0	55.2	60.7	57.3	56.8	60.0	57.6	57.1
0600	58.9	55.2	58.2	55.6	56.9	60.1	57.5	57.1
0700	59.0	55.2	57.2	54.7	56.7	60.0	57.3	57.0
0800	59.0	55.4	57.0	54.5	56.7	60.0	57.2	56.9
0900	59.0	55.5	56.8	55.5	56.6	60.0	56.9	56.6
1000	59.0	55.7	56.8	58.7	56.5	60.0	56.7	56.5
1100	59.0	56.0	56.9	60.9	56.7	59.9	56.7	56.6
1200	59.4	56.3	57.3	61.4	57.1	60.0	56.7	56.6
1300[1/]								
1400								
1500								
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

[1/] Recorder not printing

TABLE 250

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100								
0200								
0300								
0400								
0500								
0600								
0700								
0800								
0900	58.9	55.2	70.2	81.1	57.1	59.3	57.9	56.9
1000	59.0	55.4	70.5	81.5	57.0	59.8	57.9	57.0
1100	59.3	56.1	71.3	82.4	57.4	60.0	58.0	57.3
1200	59.5	56.5	72.4	83.4	57.7	60.1	58.0	57.5
1300	59.6	57.1	73.8	84.5	57.7	60.2	58.2	57.7
1400	59.8	57.6	75.4	86.1	58.0	60.3	58.2	57.9
1500	60.0	58.2	76.5	87.5	58.3	60.6	58.3	58.2
1600	60.1	58.4	77.5	88.2	58.5	60.6	58.4	58.2
1700	60.2	58.6	78.0	88.9	58.6	60.7	58.4	58.1
1800	60.1	58.6	78.1	89.0	58.5	60.5	58.4	58.0
1900	60.0	58.2	78.3	89.3	58.4	60.5	58.2	58.0
2000	60.0	58.2	78.8	89.7	58.4	60.5	58.0	57.8
2100	59.9	58.1	79.4	90.6	58.2	60.2	57.8	57.5
2200	59.9	58.1	79.6	90.8	58.2	60.3	57.8	57.4
2300	59.8	57.8	79.9	91.5	58.2	60.1	57.5	57.2
2400	59.7	57.7	80.0	91.6	57.9	60.0	57.6	57.1

TABLE 251

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	59.7	57.6	80.0	92.0	57.9	60.0	57.9	57.2
0200	59.8	57.4	80.1	91.9	57.9	60.0	58.2	57.0
0300	59.8	57.4	80.4	92.1	57.8	60.3	58.3	57.5
0400	59.7	57.2	80.6	92.3	57.7	60.1	58.5	57.5
0500	59.7	57.1	80.9	92.5	57.7	60.1	58.6	57.7
0600	59.7	57.1	81.0	92.7	57.6	60.2	58.7	57.8
0700	59.7	57.0	81.1	92.8	57.8	60.1	58.9	58.0
0800	59.7	57.0	81.5	93.3	57.7	60.2	58.9	58.0
0900	59.7	57.0	81.7	94.0	58.0	60.4	59.0	58.2
1000	60.0	57.2	81.9	84.2	58.1	60.5	58.9	58.2
1100	60.0	57.6	82.5	94.9	58.3	60.6	58.9	58.2
1200	60.2	58.0	83.2	95.8	58.6	61.0	59.0	58.5
1300	60.4	58.4	84.0	96.5	58.8	60.9	59.1	58.6
1400	60.6	58.9	84.9	97.5	59.1	61.3	59.1	58.7
1500	60.7	59.5	85.7	98.8	59.3	61.2	59.1	58.7
1600	60.7	59.6	86.4	99.4	59.5	61.4	59.1	58.9
1700	61.0	59.9	86.7	99.8	59.5	61.4	59.0	58.5
1800	60.9	59.6	86.9	100.0	59.5	61.3	58.9	58.3
1900	60.7	59.4	87.0	100.2	59.4	61.3	58.7	58.3
2000	60.7	59.3	87.0	100.3	59.3	61.0	58.5	58.1
2100	60.6	59.3	86.9	100.6	59.3	61.0	58.5	58.0
2200	60.5	59.1	87.0	100.5	59.2	60.8	58.4	58.0
2300	60.3	58.8	87.0	100.6	59.0	60.6	58.2	57.8
2400	60.2	58.7	87.1	100.5	58.8	60.6	58.3	57.8

TABLE 252

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	60.2	58.6	87.0	100.9	58.7	60.6	58.5	57.9
0200	60.1	58.3	87.2	100.2	58.6	60.7	58.7	58.0
0300	60.1	58.4	86.7	100.1	58.6	60.7	58.9	58.1
0400	60.1	58.2	86.5	100.0	58.5	60.7	59.0	58.2
0500	60.0	58.1	86.1	99.2	58.0	60.8	59.3	58.4
0600	60.1	58.0	86.0	99.0	58.3	60.7	59.5	58.5
0700	60.0	57.7	85.7	98.7	58.3	60.8	59.4	58.6
0800	60.0	57.7	85.5	99.1	58.3	60.7	59.4	58.7
0900	60.0	58.0	85.1	99.0	58.3	60.8	59.4	58.6
1000	60.1	58.0	85.1	99.0	58.4	61.0	59.5	58.8
1100	60.1	58.1	85.2	98.9	58.7	61.0	59.5	58.8
1200	60.3	58.3	85.4	99.0	59.0	61.2	59.6	59.0
1300	60.4	58.7	85.7	99.0	59.0	61.5	59.7	59.2
1400	60.5	59.1	86.1	99.8	59.2	61.5	59.8	59.3
1500[2/]	57.9	59.2	84.8	100.0	58.0	58.3	59.7	59.5
1600	58.0	59.5	85.5	100.6	58.1	58.5	59.7	59.6
1700	58.3	59.7	85.7	100.9	58.4	58.5	59.7	59.6
1800	58.2	59.6	85.6	100.8	58.4	58.5	59.6	59.5
1900	58.2	59.9	85.7	100.8	58.4	58.5	59.5	59.5
2000	58.2	59.6	85.6	100.6	58.4	58.4	59.3	59.1
2100	58.0	59.5	85.6	100.7	58.2	58.2	59.0	59.0
2200	58.0	59.2	85.1	100.1	58.0	58.0	58.9	58.9
2300	57.7	59.0	84.9	99.5	57.9	57.9	58.7	58.5
2400	57.7	58.9	84.5	99.0	57.6	57.7	58.7	58.5

[2/] Instruments zeroed to ground truth data.

TABLE 253

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	57.6	58.6	84.3	97.4	57.4	57.8	58.7	58.3
0200	57.5	58.5	83.8	95.7	57.2	57.7	58.8	58.2
0300	57.5	58.2	83.5	94.9	57.1	57.5	58.8	58.1
0400	57.4	57.9	83.5	92.8	57.0	57.5	59.0	58.3
0500	57.3	57.9	83.3	86.6	57.0	57.5	59.1	58.3
0600	57.2	58.0	83.2	81.3	56.9	57.2	59.2	58.4
0700	57.2	57.8	83.0	77.0	56.9	57.5	59.5	58.6
0800	57.0	57.5	82.8	77.0[2/]	56.5	57.5	59.5	58.6
0900	57.2	57.5	82.8	99.8	57.0	57.7	59.6	58.7
1000	57.4	57.7	83.0	100.6	57.0	57.6	59.6	58.8
1100	57.6	57.7	83.0	102.7	57.3	57.7	59.5	58.9
1200	57.6	58.2	83.2	104.0	57.3	57.8	59.5	59.0
1300	57.9	58.8	83.3	106.0	57.5	58.0	59.6	59.0
1400	57.9	58.8	83.3	106.1	57.9	58.2	59.6	59.1
1500	57.9	59.4	83.2	109.5	57.9	58.1	59.7	59.2
1600	58.0	59.4	82.[illegible]	108.6	57.9	58.2	59.7	59.2
1700	58.0	59.5	82.3	108.8	58.1	58.1	59.7	59.2
1800	58.1	59.3	.1	103.3	58.0	58.1	59.5	59.0
1900	58.0	59.0	81.5	107.8	58.0	58.1	59.4	58.9
2000	58.0	58.8	81.3	119.6	58.0	58.0	59.3	58.8
2100	58.0	58.5	81.5	109.4	57.9	57.9	59.1	58.5
2200	57.9	58.4	81.5	107.2	57.9	57.9	59.0	58.4
2300	57.6	58.2	81.3	105.5	57.5	57.5	58.6	58.2
2400	57.5	58.1	81.2	101.8	57.2	57.4	58.5	58.0

[2/] Instruments zeroed to ground truth data.

TABLE 254

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	57.6	57.8	81.0	96.3	57.1	57.2	58.3	57.9
0200	57.4	57.5	80.0	97.6	56.8	57.1	58.2	57.7
0300	57.3	57.3	79.3	100.8	56.9	57.0	58.1	57.5
0400	57.2	57.2	78.8	98.5	56.6	56.8	58.0	57.5
0500	57.0	57.0	78.4	94.7	56.5	56.7	58.2	57.3
0600	56.9	56.7	78.5	95.2	56.4	56.7	58.2	57.3
0700	56.9	56.6	78.3	98.7	56.3	56.6	58.2	57.4
0800	56.8	56.5	78.3	94.0	56.2	56.5	58.3	57.4
0900	56.7	56.2	78.3	90.8	56.0	56.5	58.3	57.4
1000	56.6	56.2	78.0	93.4	56.0	56.5	58.2	57.2
1100	56.5	56.0	77.7	94.3	56.0	56.5	58.2	57.5
1200	56.6	56.0	77.4	92.6	56.0	56.5	58.1	57.5
1300	56.6	55.9	77.0	91.2	55.6	56.5	58.0	57.3
1400	56.6	56.0	76.7	92.9	55.8	56.4	58.0	57.3
1500	56.6	56.0	76.6	92.2	56.0	56.5	58.1	57.2
1600	56.6	56.0	76.5	91.0	56.0	56.4	57.8	57.2
1700	56.6	56.0	76.7	93.1	56.0	56.4	57.6	57.0
1800	56.6	56.0	76.8	93.4	55.9	56.5	57.1	56.8
1900	56.5	55.8	76.0	93.3	55.8	56.4	57.0	56.5
2000	56.4	55.6	76.0	93.2	55.6	56.2	56.7	56.3
2100	56.4	55.5	77.0	89.9	55.5	55.8	56.0	56.5
2200	56.1	55.2	77.2	85.5	55.2	55.8	56.3	55.8
2300	56.0	55.1	77.2	84.0	55.0	55.5	56.0	55.5
2400	55.9	55.0	77.3	80.7	55.0	55.5	55.8	55.4

TABLE 255

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.8	54.8	77.3	78.4	54.8	55.5	55.5	55.1
0200	55.5	54.5	77.4	77.1	54.5	55.3	55.3	54.8
0300	55.5	54.2	77.4	76.8	54.2	55.0	55.2	54.7
0400	55.2	53.8	77.3	74.0	54.0	54.9	55.0	54.4
0500	55.0	53.6	77.0	74.3	53.6	54.8	54.8	54.2
0600	55.0	53.3	77.0	73.3	53.5	54.6	54.8	54.1
0700	55.0	53.0	76.8	72.0	53.4	54.4	54.6	54.5
0800	54.8	53.0	76.7	72.3	53.2	54.4	54.8	54.4
0900	54.8	52.7	76.8	78.0	53.1	54.2	54.7	53.8
1000	54.5	52.8	77.3	78.0	53.0	54.3	54.9	54.0
1100	54.7	52.8	77.6	78.5	53.1	54.4	54.9	53.9
1200	54.9	53.2	78.0	80.3	53.4	54.7	55.0	54.0
1300	55.0	53.5	78.5	82.0	53.4	54.9	55.1	54.2
1400	55.1	53.7	78.6	84.5	53.6	54.9	55.2	54.3
1500	55.2	54.0	79.0	85.7	53.8	55.0	55.3	54.5
1600	55.3	54.3	79.2	85.4	53.8	55.0	55.2	54.5
1700	55.4	54.3	79.5	86.3	53.9	55.2	55.3	54.7
1800	55.3	54.0	79.5	84.9	53.9	55.0	55.2	54.7
1900	55.4	54.3	79.7	83.3	53.9	55.2	55.2	54.4
2000	55.5	53.9	79.5	81.7	53.9	55.1	55.2	55.4
2100	55.3	54.0	79.3	79.8	54.0	55.1	55.0	55.3
2200	55.3	53.8	79.3	79.5	53.8	55.0	54.9	55.3
2300	55.3	53.6	79.1	78.5	53.8	54.9	54.8	53.8
2400	55.1	53.6	79.0	79.0	53.8	54.9	54.5	53.7

TABLE 256

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.0	53.5	78.8	77.2	53.5	54.5	54.2	53.5
0200	55.0	53.3	78.9	77.3	53.5	54.5	54.2	53.3
0300	54.8	53.0	78.7	76.7	53.2	54.4	54.2	53.2
0400	54.8	52.8	78.5	78.4	53.2	54.3	54.1	53.1
0500	54.6	53.0	78.4	78.5	53.1	54.2	54.2	53.0
0600	54.5	52.8	78.2	78.9	53.0	54.3	54.4	53.2
0700	54.5	52.5	77.7	76.0	53.0	54.1	54.5	53.2
0800	54.5	52.2	77.7	76.4	53.0	54.2	54.7	53.4
0900	54.4	52.4	77.7	78.9	52.7	54.5	54.9	53.3
1000	54.5	52.4	77.8	82.4	52.8	54.5	55.0	53.6
1100	54.7	52.7	78.3	87.4	53.0	54.5	55.0	54.0
1200	54.8	53.0	78.7	90.5	53.1	54.4	55.2	54.3
1300	55.0	53.2	79.2	92.8	53.3	54.8	55.5	54.6
1400	55.0	53.5	79.5	92.3	53.5	54.9	55.6	54.8
1500	55.1	53.8	79.5	96.7	53.6	55.0	56.0	55.1
1600	55.4	53.8	79.6	94.3	53.8	55.2	56.0	55.4
1700	55.4	53.8	79.5	93.9	54.0	55.2	56.0	55.3
1800	55.5	54.0	79.5	92.8	54.1	55.3	56.0	55.4
1900	55.5	53.8	79.4	90.8	54.2	55.4	55.9	55.4
2000	55.5	53.9	79.1	89.4	54.3	55.5	55.9	55.4
2100	55.5	54.1	78.9	88.9	54.2	55.3	55.6	55.1
2200	55.6	54.0	78.5	88.0	54.3	55.4	55.6	55.1
2300	55.5	53.8	78.4	88.7	54.1	55.4	55.5	55.0
2400	55.5	54.0	78.5	88.5	54.0	55.3	55.3	54.9

TABLE 257

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.3	54.0	78.4	87.9	53.9	55.1	55.2	54.7
0200	55.4	53.7	78.0	87.5	54.0	54.9	55.0	54.2
0300	55.2	53.6	78.0	86.5	53.7	54.9	55.0	54.4
0400	55.1	53.5	77.9	86.3	53.5	54.7	54.7	54.2
0500	55.1	53.2	78.0	86.1	53.5	54.7	54.9	54.2
0600	55.0	53.4	78.0	86.3	53.2	54.5	54.9	54.2
0700	55.0	53.2	78.0	86.1	53.3	54.6	55.1	54.3
0800	54.7	53.0	77.7	83.7	53.0	54.6	55.1	54.3
0900	54.7	52.9	77.2	90.6	53.0	54.6	55.2	54.4
1000	54.9	53.1	76.7	90.5	53.0	54.0	55.3	54.5
1100	54.9	53.3	76.3	91.3	53.0	54.1	55.3	53.7
1200	55.0	53.2	76.3	93.3	53.3	54.7	55.3	54.7
1300	55.0	53.3	76.7	95.7	53.4	54.9	55.4	54.8
1400	55.1	53.6	77.7	96.2	53.6	55.0	55.5	54.7
1500	55.2	53.9	78.1	98.0[2/]	53.7	55.1	55.5	54.9
1600	55.5	54.5	78.5	98.8	54.0	55.2	55.7	55.2
1700	55.5	54.5	78.5	98.9	54.1	55.3	55.8	55.3
1800	55.5	54.5	76.8	99.6	54.2	55.3	55.6	55.1
1900	55.6	54.2	76.5	96.9	54.1	55.4	55.6	55.2
2000	55.5	54.3	76.3	95.9	54.2	55.4	55.5	55.1
2100	55.7	54.2	76.0	93.5	54.3	55.4	55.4	55.0
2200	55.5	54.0	75.7	92.1	54.1	55.2	55.2	54.8
2300	55.5	54.1	75.6	93.3	54.2	55.3	55.3	54.9
2400	55.5	54.0	75.3	93.5	54.1	55.2	55.2	54.8

[2/] Instruments zeroed to ground truth data.

TABLE 258

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.4	54.0	75.2	96.7	54.0	55.0	55.1	54.7
0200	55.3	53.8	73.4	105.3	53.9	54.9	54.9	54.5
0300	55.2	53.7	75.5	103.8	53.7	54.9	54.9	54.5
0400	55.0	53.6	75.9	108.8	53.7	54.7	54.7	54.3
0500	55.0	53.5	75.8	108.6	53.5	54.7	54.7	54.3
0600	55.0	53.3	75.5	109.0	53.3	54.7	54.7	54.1
0700	54.9	53.3	75.4	108.7	53.3	54.5	54.7	54.1
0800	55.0	53.2	75.5	110.8	53.2	54.5	55.0	54.1
0900	54.8	53.0	75.4	108.7	53.0	54.6	54.7	53.8
1000	54.8	53.0	75.5	110.4	53.0	54.6	55.0	54.4
1100	54.9	53.0	75.9	111.4	53.0	54.6	55.0	54.5
1200	54.9	53.0	76.0	111.5	53.2	54.6	55.2	54.5
1300	54.9	53.0	77.4	113.2	53.0	54.6	55.1	54.5
1400	54.8	52.9	77.6	113.7	52.9	54.5	55.1	54.5
1500	54.9	53.0	78.0	115.1	53.1	54.7	55.2	54.7
1600	55.0	53.2	78.0	115.4	53.2	54.5	55.2	54.6
1700	55.0	53.1	78.2	114.3	53.2	54.8	55.2	54.7
1800	55.0	53.2	78.4	115.7	53.2	54.7	55.2	54.5
1900	55.0	53.3	78.7	115.9	53.2	54.7	55.2	54.5
2000	55.1	53.2	89.5	116.5	53.4	54.9	55.1	54.5
2100	55.0	53.2	79.3	115.4	53.4	54.9	55.1	54.4
2200	55.0	53.1	79.5	117.0	53.4	54.8	55.1	54.5
2300	54.9	53.1	79.5	116.5	53.3	54.8	54.9	54.3
2400	54.8	53.3	79.4	116.5	53.3	54.6	54.9	54.5

TABLE 259

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	54.8	53.1	79.4	116.5	53.2	54.6	54.9	54.5
0200	54.7	53.0	79.3	115.8	53.1	54.4	54.7	54.4
0300	54.6	53.0	79.5	115.2	53.0	54.2	54.5	54.2
0400	54.6	52.8	80.0	114.0	53.0	54.4	54.5	54.2
0500	54.6	52.9	80.1	112.8	53.0	54.3	54.6	54.2
0600	54.6	52.8	80.4	109.0	53.0	54.1	54.4	54.2
0700	54.7	52.8	81.0	108.0	52.9	54.0	54.5	54.2
0800	54.5	52.6	81.0	108.5	52.7	54.0	54.4	54.2
0900	54.5	52.7	81.4	108.5	52.9	54.1	54.4	54.3
1000	54.5	52.7	81.7	109.6	52.9	54.3	54.6	54.2
1100	54.7	53.0	82.0	110.0	53.1	54.5	54.9	54.8
1200	55.0	53.0	82.7	113.6	53.3	54.7	55.0	54.5
1300	55.0	53.4	83.0	117.2	53.3	54.8	55.1	55.0
1400	55.0	53.2	83.5	115.2	53.3	54.6	55.1	54.5
1500	54.8	53.3	83.8	119.5	53.3	54.6	55.1	54.7
1600	54.7	53.3	84.2	119.5	53.4	54.7	55.2	54.9
1700	55.0	53.5	84.4	120.0	53.5	54.7	55.2	54.7
1800	55.0	53.5	84.5	119.1	53.6	55.0	55.3	54.8
1900	55.2	53.8	84.6	120.0	53.7	55.0	55.3	54.8
2000	55.3	54.1	84.9	120.0	53.9	55.0	55.4	54.8
2100	55.3	53.8	84.5	120.0	53.7	55.0	55.5	55.0
2200	55.3	54.0	84.5	120.0	54.0	54.9	55.5	54.7
2300	55.2	54.5	84.2	120.0	53.7	55.0	55.5	55.0
2400	55.4	54.3	84.1	118.5	54.0	55.0	55.4	55.0

TABLE 260

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.2	54.3	84.3	113.8	53.9	55.0	55.5	55.0
0200	55.3	54.8	84.3	117.1	54.0	55.0	55.5	54.9
0300	55.3	54.3	84.3	117.1	54.1	55.0	55.5	54.9
0400	55.3	54.5	84.6	116.7	54.0	55.0	55.7	54.9
0500	55.3	54.3	84.5	117.8	54.0	55.0	55.7	55.0
0600	55.2	54.3	84.7	113.7	54.1	55.2	55.7	55.2
0700	55.5	54.5	84.5	111.3	54.0	55.2	55.8	55.2
0800	55.4	54.3	84.4	109.2	54.1	55.1	56.1	55.1
0900	55.4	54.3	84.3	104.4	54.1	55.1	56.0	55.0
1000	55.3	54.2	84.1	99.0	54.1	55.0	56.0	55.0
1100	55.4	54.5	84.0	98.6	54.3	55.4	56.2	55.1
1200	55.5	55.0	83.5	97.4	54.6	55.3	56.2	55.3
1300	55.7	55.3	83.5	96.2	54.6	55.3	56.5	55.6
1400	56.0	55.3	83.5	95.9	55.0	55.5	56.5	56.0
1500	56.4	56.2	84.3	93.0	55.4	55.6	57.0	56.2
1600[2/]	56.4	56.5	83.1	90.7	55.4	55.5	57.0	56.3
1700	56.5	56.5	82.5	87.5	55.4	55.6	57.1	56.5
1800	56.5	56.3	82.5	86.5	55.4	55.5	57.0	56.5
1900	56.4	56.0	81.7	82.8	55.2	55.7	57.0	56.6
2000	56.5	55.6	81.0	80.1	55.1	56.0	57.0	56.3
2100	56.3	55.6	80.0	80.0	55.0	56.0	56.8	56.5
2200	56.3	55.4	78.7	78.0	55.0	56.0	56.7	56.7
2300	56.2	55.4	77.2	76.4	55.0	55.9	56.7	56.7
2400	56.2	55.2	75.6	76.4	54.8	56.0	56.4	56.7

[2/] Instruments zeroed to ground truth data.

TABLE 261

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 18, 198[illegible]

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	56.2	54.9	73.8	74.9	54.9	55.9	56.5	56.5
0200	56.1	54.8	71.8	73.7	54.7	55.8	56.3	56.3
0300	56.1	54.7	70.00	73.0	54.6	55.7	56.2	56.3
0400	55.8	54.5	68.6	73.0	54.4	55.6	56.0	56.0
0500	56.1	54.4	67.8	71.7	54.5	55.5	55.9	55.9
0600	55.9	55.7	67.0	70.6	54.3	55.5	55.9	55.8
0700	56.0	54.6	65.7	71.4	54.2	55.4	55.9	55.7
0800	55.9	54.0	65.0	72.3	54.2	55.3	55.8	55.7
0900	55.7	54.6	64.4	77.0	54.2	54.8	56.0	55.7
1000	55.7	54.7	64.4	76.1	54.2	54.9	56.1	55.7
1100	55.8	54.7	64.4	76.7	54.5	55.0	56.3	55.7
1200	55.9	54.9	64.7	77.5	54.6	55.2	56.4	55.9
1300	56.0	55.1	65.2	78.0	54.7	55.3	56.5	56.1
1400	56.1	55.5	65.4	79.0	54.9	55.4	56.7	56.3
1500	56.0	55.5	65.5	78.3	55.0	55.4	56.6	56.4
1600	56.3	55.8	65.3	79.2	55.1	55.6	56.8	56.5
1700	56.2	55.5	64.9	76.9	54.9	55.5	56.2	56.2
1800	56.1	55.3	64.5	75.5	54.9	55.7	56.2	56.2
1900	56.1	54.9	63.8	74.9	54.6	55.6	56.0	56.1
2000	56.0	54.8	62.9	74.2	54.6	55.5	55.9	55.9
2100	56.2	54.5	62.3	73.6	54.9	55.5	55.7	55.7
2200	56.0	54.5	61.5	73.0	54.5	55.3	55.5	55.5
2300	55.9	54.2	60.7	72.7	54.4	55.2	55.2	55.2
2400	55.7	54.0	60.3	72.1	54.2	55.3	55.2	55.2

TABLE 262

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	55.4	53.4	59.3	71.8	53.8	54.5	54.5	54.5
0200	55.4	53.6	58.9	71.4	53.7	54.7	54.4	54.3
0300	55.3	53.4	58.7	70.8	53.4	54.5	54.3	54.1
0400	55.1	53.3	58.4	70.0	53.4	54.5	54.1	54.0
0500	55.0	53.2	58.3	67.8	53.0	54.4	54.0	53.7
0600	55.0	52.8	57.9	66.9	53.0	54.3	53.9	53.7
0700	54.9	52.7	57.5	67.4	53.2	54.4	54.0	53.7
0800	55.0	52.6	57.2	67.7	53.0	54.2	54.0	53.7
0900	54.9	52.5	57.0	71.7	52.8	54.2	54.0	53.7
1000	54.8	52.4	58.2	73.7	52.7	54.1	54.0	53.7
1100	54.8	52.4	58.2	73.7	52.7	54.1	54.0	53.7
1200	54.8	52.7	59.0	75.0	52.9	54.1	54.1	53.9
1300	54.9	53.0	60.3	76.0	52.8	54.2	54.1	54.0
1400	54.8	53.2	60.4	77.7	53.0	54.6	54.3	54.0
1500	54.8	53.4	60.8	79.0	52.9	54.5	54.3	54.1
1600	54.8	53.4	60.6	79.7	53.0	54.6	54.3	54.1
1700	54.9	53.3	61.0	79.8	53.0	54.5	54.3	54.1
1800	54.8	53.1	60.9	79.5	52.8	54.5	54.1	54.1
1900	54.8	52.9	60.9	78.6	52.9	54.6	54.1	54.1
2000	54.9	52.8	60.5	78.3	53.0	54.6	54.1	53.9
2100	55.0	52.7	60.2	78.5	53.1	54.5	54.1	53.8
2200	54.9	52.6	59.6	78.6	53.0	54.5	53.9	53.8
2300	55.0	52.6	59.2	78.3	53.0	54.5	53.9	53.8
2400	54.5	52.5	58.7	78.0	52.7	54.4	53.5	53.3

TABLE 263

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	54.6	52.4	58.5	77.0	52.7	54.1	53.3	53.0
0200	54.7	52.4	58.1	77.1	52.5	54.2	53.1	53.1
0300	54.5	52.4	57.8	76.8	52.7	54.1	53.0	52.7
0400	54.5	52.2	57.5	76.3	52.4	54.0	53.1	52.7
0500	54.4	52.2	57.2	75.3	52.4	54.0	53.2	52.7
0600	54.2	52.1	57.1	74.7	52.1	54.0	53.4	52.7
0700	54.3	52.1	57.0	73.2	52.2	54.0	53.5	52.7
0800	54.4	52.0	56.7	75.0	52.1	54.1	53.5	52.7
0900	54.2	51.5	56.3	75.7	51.9	53.7	53.3	52.7
1000	54.1	51.7	56.8	78.7	52.0	53.7	53.5	52.9
1100	54.3	52.0	57.3	79.5	52.2	53.6	53.6	53.1
1200	54.3	52.2	57.6	80.4	52.5	54.0	53.8	53.4
1300	54.5	52.5	59.1	81.7	52.0	54.1	54.0	53.6
1400	54.5	52.7	58.6	82.8	52.7	54.3	54.0	53.9
1500	54.7	53.0	61.4	84.3	52.6	54.5	54.1	54.1
1600	54.8	53.1	61.8	84.6	52.5	54.5	54.1	54.1
1700	55.0	53.6	61.5	83.9	53.3	54.3	54.2	54.3
1800	54.9	53.3	61.2	82.3	53.3	54.5	54.3	54.2
1900	55.0	53.2	60.5	80.2	53.2	54.6	54.4	54.3
2000	55.0	53.0	60.1	78.2	53.3	54.6	54.3	54.2
2100	55.0	52.9	59.5	77.8	53.3	54.6	54.3	54.2
2200	55.0	52.9	59.3	77.3	53.2	54.8	54.4	54.1
2300	54.8	52.7	59.0	77.0	52.9	54.6	54.4	54.2
2400	54.9	52.7	58.7	75.8	53.0	54.6	54.2	54.2

TABLE 264

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	54.9	52.7	58.2	75.6	52.9	54.6	54.2	54.1
0200	54.9	52.6	57.7	75.5	53.1	54.5	54.2	54.1
0300	54.7	52.5	57.4	75.4	52.7	54.4	54.2	54.0
0400	54.7	52.5	56.9	75.3	52.7	54.5	54.4	54.0
0500	54.6	52.2	56.5	75.3	52.6	54.4	54.4	54.0
0600	54.6	52.3	56.0	75.1	52.6	54.5	54.5	54.2
0700	54.5	52.2	55.7	75.0	52.4	54.5	54.5	54.3
0800	54.5	52.0	55.2	75.0	52.4	54.5	54.6	54.2
0900	54.4	52.0	54.7	75.0	52.4	54.6	54.6	54.3
1000	54.5	52.0	54.7	75.0	52.0	54.6	54.6	54.3
1100	54.5	52.1	55.0	75.3	52.5	54.7	54.7	54.5
1200	54.8	52.4	55.7	75.6	52.5	54.8	54.8	54.6
1300	54.9	52.8	59.0	76.1	52.5	55.0	54.9	54.9
1400	55.0	53.3	59.0	79.4	53.2	55.0	54.9	54.9
1500	55.2	53.6	59.0	80.5	53.3	55.1	55.0	54.9
1600	55.3	53.7	58.5	80.7	53.5	55.1	55.0	55.0
1700	55.3	53.9	58.4	80.5	53.5	55.2	54.8	54.8
1800	55.5	53.8	58.3	80.5	53.3	55.1	54.8	54.5
1900	55.2	53.8	58.3	80.5	53.3	55.0	54.6	54.6
2000	55.3	53.7	58.4	80.5	53.3	55.0	54.5	54.5
2100	55.2	53.6	57.7	79.5	53.0	55.0	54.4	54.4
2200	55.1	53.6	57.1	79.3	53.0	54.6	54.3	54.3
2300	55.0	53.4	55.8	78.8	52.8	54.5	54.1	54.1
2400	54.8	53.2	53.3	78.0	52.3	54.5	54.0	54.0

TABLE 265

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	54.7	53.1	50.8	76.8	52.3	54.3	53.6	53.6
0200	54.6	52.9	50.0	76.3	52.3	54.2	53.6	53.6
0300	54.6	52.6	51.6	77.0	52.3	54.2	53.7	53.5
0400	54.4	52.5	51.3	77.3	52.0	54.0	53.9	53.6
0500	54.4	52.4	50.7	77.3	52.0	54.0	54.0	53.7
0600	54.4	52.1	50.3	77.0	51.8	54.0	54.0	53.7
0700	54.3	52.0	49.7	78.8	51.7	54.1	54.3	53.9
0800	54.5	51.8	48.6	79.2	52.2	54.1	54.3	53.9
0900	54.2	51.6	47.8	80.3	52.3	54.0	54.3	53.8
1000	54.3	51.7	47.9	80.1	52.4	54.1	54.2	53.8
1100	54.3	51.8	48.7	80.5	52.4	54.1	54.1	54.0
1200[2/]	54.5	52.1	49.0	81.0	52.8	54.1	54.1	54.0
1300	53.5	52.4	54.8	60.0	53.0	54.1	54.1	54.0
1400	53.6	52.7	55.8	59.8	53.0	54.2	54.1	54.0
1500	53.9	53.0	57.5	63.8	53.1	54.5	54.3	54.2
1600	53.7	53.0	58.2	66.3	53.1	54.5	54.3	54.3
1700	53.9	53.1	58.4	67.3	53.2	54.6	54.3	54.3
1800	53.9	53.0	58.5	65.9	53.2	54.5	54.3	54.3
1900	53.7	52.9	58.6	62.2	53.0	54.3	54.0	54.0
2000	53.7	52.7	58.6	61.5	52.0	54.3	53.9	53.6
2100	53.6	52.6	58.5	58.8	52.8	54.0	53.7	53.7
2200	53.5	52.5	59.8	59.5	52.7	53.9	53.5	53.5
2300	53.5	52.4	61.7	59.4	52.5	53.9	53.3	53.3
2400	53.2	52.2	63.6	59.5	52.3	53.4	53.0	53.0

[2/] Instruments zeroed to ground truth data.

TABLE 266

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	53.2	52.0	64.0	60.0	52.3	53.5	52.8	52.8
0200	53.2	51.8	63.8	63.8	52.0	53.5	53.0	52.6
0300	53.0	51.6	64.0	68.8	52.0	53.5	53.0	52.5
0400	53.0	51.3	64.1	72.3	51.7	53.5	53.0	52.5
0500	52.8	51.2	64.0	74.0	51.7	53.3	53.2	53.4
0600	52.7	51.0	65.0	75.0	51.5	53.3	53.2	52.5
0700	52.7	50.9	66.3	77.0	51.5	52.3	53.2	52.5
0800	52.7	50.8	67.5	78.8	51.3	53.2	53.2	52.5
0900	52.6	60.5	68.2	79.7	51.3	53.1	53.1	52.5
1000	52.8	50.9	68.7	82.0	51.5	53.2	53.2	52.7
1100	52.8	50.9	69.0	832.4	51.5	53.2	53.2	53.7
1200	53.0	51.2	69.6	83.3	51.9	53.3	53.3	52.8
1300	52.8	51.2	70.0	84.0	52.0	53.6	53.4	52.8
1400	52.9	51.5	71.5	84.9	52.1	53.5	53.4	53.0
1500	53.3	51.8	73.1	86.3	52.3	53.8	53.5	53.3
1600	53.3	51.9	74.0	87.7	52.5	53.9	53.5	53.3
1700	53.3	52.1	75.0	88.5	52.6	54.1	53.6	53.5
1800	53.3	52.2	75.9	89.5	52.6	54.0	53.6	53.2
1900	53.4	52.3	76.5	90.0	52.6	54.0	53.7	53.2
2000	53.4	52.2	77.1	90.7	52.5	54.2	53.7	53.4
2100	53.5	52.1	77.3	91.0	52.7	54.1	53.6	53.2
2200	53.4	52.1	77.7	91.5	52.6	54.0	53.5	53.1
2300	53.5	52.2	78.5	92.3	52.5	54.0	53.6	53.0
2400	53.4	52.2	79.0	92.7	52.5	54.1	53.5	52.9

TABLE 267

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	53.4	52.2	79.5	93.0	52.5	54.0	53.5	53.0
0200	53.3	52.1	79.8	93.3	52.3	54.0	53.4	52.9
0300	53.3	52.1	80.5	93.8	52.3	54.0	53.5	52.8
0400	53.3	52.0	80.8	94.7	52.4	54.1	53.6	52.8
0600	53.2	51.9	81.3	94.3	52.3	54.0	53.9	53.0
0700	53.2	51.7	81.3	94.3	52.1	54.0	54.0	52.7
0800	53.0	51.6	81.2	94.5	52.1	53.8	53.8	52.9
0900	52.8	51.0	80.3	93.5	51.8	53.5	53.7	52.7
1000	52.0	50.9	77.0[2/]	91.5[2/]	51.8	53.5	53.6	52.7
1100	52.6	50.8	77.0	91.0	51.8	53.6	53.7	52.9
1200	52.7	50.8	76.8	90.7	51.9	53.6	53.6	53.1
1300	53.0	50.8	76.3	90.5	51.9	53.6	53.7	53.3
1400	53.2	50.8	76.3	90.2	52.0	54.0	54.0	53.5
1500	53.0	50.9	76.1	89.9	52.0	54.0	54.0	53.6
1600	53.1	51.0	76.0	89.6	52.2	53.7	53.9	53.5
1700	53.0	50.7	75.5	89.7	52.0	54.0	54.0	53.5
1800	53.0	50.7	75.1	89.5	52.1	53.9	53.9	53.4
1900	53.0	50.5	74.8	88.8	51.8	53.8	53.8	53.3
2000	52.9	50.4	74.5	89.0	51.6	53.9	53.7	53.2
2100	52.8	50.5	74.2	88.2	51.6	53.8	53.7	53.0
2200	52.8	50.2	73.7	87.6	51.6	53.6	53.5	52.9
2300	52.8	50.0	73.5	87.8	51.6	53.5	53.5	52.9
2400	52.6	49.9	73.4	87.3	51.4	53.3	53.3	52.7

[2/] Instruments zeroed to ground truth data.

TABLE 268

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	52.7	49.8	73.3	85.8	51.5	53.4	53.5	52.5
0200	52.7	49.8	72.9	82.9	51.2	53.1	53.1	52.5
0300	52.5	49.6	72.7	80.6	51.1	53.3	53.0	52.5
0400	52.5	49.5	72.5	81.4	51.2	53.2	53.0	52.3
0600	52.4	49.3	72.5	81.3	51.1	53.2	52.6	52.0
0700	52.3	49.1	72.3	82.0	50.9	52.9	52.5	51.7
0800	52.3	49.1	72.0	82.1	51.0	52.9	52.4	51.5
0900	52.0	58.9	70.6	81.2	50.7	52.9	52.0	51.4
1000	52.0	48.9	69.0	80.0	50.5	52.8	51.7	51.1
1100	52.0	48.9	68.5	79.2	50.2	52.3	51.5	50.9
1200	51.8	48.7	68.7	79.4	50.2	52.3	51.3	50.6
1300	51.8	48.6	68.5	79.5	50.2	52.4	51.1	50.6
1400	51.8	48.5	68.5	79.9	50.1	52.4	51.0	50.3
1500	51.8	48.5	68.5	79.9	50.1	52.4	51.0	50.4
1600	51.6	48.3	68.3	79.9	49.8	52.1	50.7	50.2
1700	51.4	48.1	67.7	79.9	49.7	52.0	50.5	50.0
1800	51.4	47.8	66.8	79.2	49.4	51.9	50.4	49.9
1900	51.3	47.5	66.8	79.3	49.0	51.7	50.3	49.9
2000	51.1	47.3	66.8	79.6	49.0	51.5	50.0	49.5
2100	51.0	47.0	67.0	79.7	48.7	51.4	40.0	49.5
2200	51.0	46.9	67.1	79.6	49.0	51.5	49.9	49.4
2300	50.9	46.7	67.2	80.1	48.9	51.4	49.8	49.3
2400	50.7	46.5	67.1	80.2	48.8	51.2	49.7	49.1

TABLE 269

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	50.5	46.3	67.0	80.1	48.6	51.2	49.5	48.9
0200	50.5	46.1	66.7	79.9	48.4	51.0	49.2	48.6
0300	50.5	46.0	66.8	80.3	48.4	50.8	49.0	48.4
0400	50.5	45.7	66.7	80.0	48.3	50.7	48.9	48.3
0500	50.2	45.7	66.7	80.1	48.1	50.6	49.0	48.1
0600	50.2	45.6	67.0	80.8	48.1	50.6	48.7	48.0
0700	50.2	45.6	67.2	81.3	48.0	50.7	48.9	48.0
0800	50.1	45.3	67.2	81.4	47.9	50.7	48.8	48.0
0900	50 0	45,2	67.1	81.4	47.6	50.5	48.6	47.8
1000	50.0	45.2	67.4	81.7	47.6	50.5	48.6	47.8
1100	50.1	45.2	67.5	82.2	47.8	50.4	48.5	47.6
1200	50.1	45.2	67.6	82.2	47.6	50.3	48.5	47.6
1300	50.0	45.3	68.0	82.1	47.6	50.4	48.3	47.6
1400	50.2	45.6	61.5	82.6	47.8	50.5	48.4	47.8
1500	50.0	45.6	68.5	83.0	47.8	50.5	48.4	47.7
1600	50.0	45.6	68.8	83.3	47.6	50.5	48.2	47.7
1700	50.0	45.6	68.9	83.6	47.6	50.5	48.2	47.7
1800	50.0	45.2	69.2	84.0	47.5	50.5	48.2	47.4
1900	50.0	45.2	69.2	84.0	47.5	50.5	48.2	47.4
2000	50.0	35.0	69.2	84.2	47.5	50.4	48.0	47.5
2100	49.9	44.8	69.1	84.9	47.4	50.3	48.0	47.3
2200	49.7	44.6	69.2	84.8	47.2	50.0	47.5	46.9
2300	49.6	44.6	69.6	85.3	47.2	49.8	47.5	47.2
2400	49.5	44.5	69.7	85.5	47.0	49.8	47.5	47.0

TABLE 270

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	49.4	44.3	69.8	85.7	46.8	49.6	47.5	46.7
0200	49.4	44.1	69.9	86.7	46.6	49.5	47.5	46.6
0300	49.3	44.1	70.0	86.2	46.5	49.4	47.6	46.6
0400	49.1	43.9	70.0	86.1	41.5	49.3	47.6	46.7
0500	49.1	43.8	70.3	86.3	46.3	49.3	47.8	46.9
0600	49.1	43.7	70.6	86.7	46.3	49.3	47.8	47.0
0700	49.0	43.5	70.5	87.0	46.2	49.3	48.0	47.0
0800	49.0	43.3	70.7	87.3	46.2	49.4	47.7	47.0
0900	49.1	43.3	70.8	88.4	46.3	49.4	48.0	47.1
1000	49.0	43.3	71.1	88.6	46.3	49.4	48.0	47.0
1100	49.2	43.3	71.2	88.4	46.4	49.4	47.9	47.0
1200	49.2	43.3	71.3	88.5	46.3	49.5	47.9	47.0
1300	49.2	43.4	72.9	89.0	46.5	49.5	47.9	47.0
1400	49.2	43.5	74.0	90.5	46.5	49.3	47.7	46.9
1500	49.2	43.5	74.3	90.7	46.4	49.2	47.8	46.7
1600	49.7	43.3	74.6	91.0	46.4	49.3	47.5	46.9
1700	49.0	43.3	74.7	90.9	46.3	49.3	47.6	46.8
1800	48.8	43.2	75.5	91.0	46.2	49.3	47.4	46.8
1900	49.0	43.1	75.3	91.3	46.3	49.2	47.2	46.6
2000	49.0	43.0	75.2	91.3	46.1	49.0	47.2	46.4
2100	48.9	42.6	75.9	91.3	45.9	48.7	47.0	46.2
2200	48.8	42.5	76.0	91.6	45.9	48.7	46.9	45.9
2300	48.8	42.5	76.6	91.9	45.7	48.4	46.7	45.8
2400	48.8	42.3	76.7	91.8	45.6	48.5	46.7	45.9

TABLE 271

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	48.8	42.2	76.9	92.0	45.5	48.5	46.7	45.8
0200	48.8	42.1	77.4	92.8	45.5	48.5	46.7	45.9
0300	48.4	41.9	77.5	92.4	45.3	48.4	46.6	46.0
0400	48.2	41.8	77.4	92.5	45.2	48.5	46.6	46.0
0500	48.2	41.6	77.6	92.6	45.1	48.5	46.5	45.6
0600	48.2	41.3	77.9	93.0	45.0	48.5	46.2	45.4
0700	48.2	41.3	77.9	93.0	45.0	48.5	46.2	45.4
0800	48.2	41.3	78.0	92.8	45.0	48.5	46.2	45.3
0900	48.2	41.2	78.5	93.0	45.0	48.4	46.2	45.2
1000	48.1	41.6	78.5	93.1	45.0	48.3	46.0	45.3
1100	48.2	42.1	78.7	93.4	45.1	48.5	46.0	45.2
1200	48.3	42.3	79.2	93.6	45.1	48.4	46.1	45.3
1300	48.4	42.5	79.5	94.0	45.2	48.4	46.0	45.5
1400	48.4	42.7	80.4	94.2	45.3	48.4	46.0	45.6
1500	48.4	42.9	80.7	94.5	45.2	48.5	46.0	45.4
1600	48.4	42.9	80.7	94.5	45.2	48.5	46.0	45.4
1700	48.4	42.9	80.7	94.5	45.1	48.4	45.9	45.4
1800	48.4	42.4	80.7	94.6	45.0	48.4	45.7	45.2
1900	48.2	42.4	80.7	94.7	45.0	48.3	45.5	45.2
2000	48.2	42.3	80.9	94.7	44.9	48.2	45.4	44.9
2100	48.1	42.2	80.9	94.5	44.7	48.0	45.3	44.8
2200	48.0	41.6	80.9	94.5	44.7	48.0	45.2	44.6
2300	47.9	42.1	80.9	94.6	44.5	47.7	45.2	44.5
2400	47.8	41.7	80.7	94.4	44.2	47.8	45.2	44.5

TABLE 272

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	47.7	41.2	80.9	94.3	44.2	47.7	45.3	44.5
0200	47.7	41.2	80.8	94.3	44.2	47.7	45.5	44.5
0300	47.7	40.9	80.8	94.3	44.1	47.7	45.6	44.7
0400	47.5	40.5	80.6	93.9	44.0	47.7	45.6	44.8
0500	47.4	40.4	80.5	93.8	43.9	47.7	45.6	44.8
0600	47.4	40.6	79.9	93.7	43.9	47.9	45.6	44.8
0700	47.4	40.0	80.0	93.5	43.9	47.7	35.7	44.8
0800	47.3	40.0	80.0	93.5	43.9	47.7	45.3	44.7
0900	47.5	40.1	80.0	93.5	44.1	48.0	45.3	44.7
1000	47.6	40.3	80.0	93.8	44.2	48.0	45.3	44.7
1100	47.8	40.7	80.1	94.0	44.5	48.0	45.3	44.8
1200	47.8	41.1	80.8	94.6	44.5	48.2	45.5	44.8
1300[2/]	47.9	41.7	81.2	94.8	44.7	48.2	45.4	44.9
1400	42.6	42.3	81.5	94.1	44.7	42.5	45.5	45.0
1500	42.7	42.2	81.6	94.7	44.9	42.5	45.2	44.9
1600	42.7	42.5	82.0	94.8	44.9	42.5	45.2	45.0
1700	42.7	42.3	82.0	94.8	44.9	42.5	45.1	45.0
1800	42.6	42.3	81.9	94.6	44.9	42.4	45.0	45.0
1900	42.8	41.9	82.0	94.5	44.8	42.3	44.7	44.6
2000	42.5	42.1	82.1	94.5	44.6	42.3	44.7	44.6
2100	42.5	42.0	82.0	94.5	44.6	42.0	44.6	44.5
2200	42.4	41.8	82.0	94.2	44.4	41.8	44.5	44.5
2300	42.3	41.6	82.0	94.2	44.2	41.8	44.5	44.2
2400	42.2	41.6	81.9	94.2	44.1	41.7	44.6	44.1

[2/] Instruments zeroed to ground truth data.

TABLE 273

HOURL. 'TER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.1	41.0	81.8	94.0	44.0	41.7	44.8	44.2
0200	42.0	40.9	81.5	93.8	43.8	41.7	45.0	44.2
0300	41.9	40.7	81.6	93.8	43.8	41.7	45.2	44.3
0400	41.9	40.6	81.3	93.5	43.7	41.7	45.2	44.5
0500	41.9	40.5	81.0	93.5	43.7	41.7	45.2	44.6
0600	42.0	40.2	81.1	93.5	43.7	41.8	45.5	44.5
0700	41.8	39.9	80.8	93.2	43.7	41.8	45.2	44.6
0800	42.1	40.4	81.0	93.0	43.9	43.0	45.2	44.6
0900	42.5	40.1	81.0	93.2	44.0	42.0	45.3	44.6
1000	42.6	40.4	81.1	93.2	44.1	42.1	45.3	44.7
1100	42.8	40.6	81.1	93.4	44.4	42.2	45.3	44.9
1200	43.0	41.3	81.1	93.4	44.6	42.4	45.3	45.0
1300	43.0	41.8	81.4	93.6	44.9	42.5	45.3	45.1
1400	43.3	42.3	81.4	93.9	45.0	42.5	45.3	45.2
1500	43.3	42.6	81.4	94.0	45.1	42.6	45.3	45.2
1600	43.3	43.2	81.4	94.0	45.1	42.7	45.2	45.1
1700	43.4	42.6	81.4	94.0	45.1	42.6	45.2	45.0
1800	43.3	42.6	81.6	94.2	45.1	42.5	45.0	45.0
1900	43.3	42.3	81.8	94.5	45.1	42.5	45.0	45.0
2000	43.3	42.6	82.0	94.5	45.0	42.5	44.7	44.6
2100	43.2	42.6	82.3	94.7	45.0	42.4	44.6	44.6
2200	43.1	42.6	82.5	94.8	44.7	42.3	44.5	44.4
2300	43.0	42.2	82.3	94.6	44.6	42.1	44.5	44.2
2400	42.8	42.1	82.7	94.8	44.5	42.0	44.5	44.0

TABLE 274

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

OCTOBER 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.8	42.2	82.4	94.6	44.3	42.0	44.5	44.0
0200	42.8	41.7	82.3	94.5	44.2	41.7	44.7	44.0
0300	42.6	41.7	82.3	94.5	44.1	42.0	44.9	44.0
0400	42.6	41.9	82.6	94.4	44.1	42.0	45.0	44.1
0500	42.6	41.5	82.5	94.4	44.1	41.9	45.1	44.0
0600	42.7	41.2	82.7	94.5	44.2	42.0	45.2	44.3
0700	42.7	41.1	82.2	94.4	44.2	42.1	45.2	44.5
0800	42.8	41.5	82.4	94.5	44.4	42.1	45.2	44.5
0900	43.0	41.1	82.5	94.5	44.5	42.3	45.3	44.7
1000	43.1	42.1	82.7	94.7	44.7	42.5	45.3	44.7
1100	43.3	42.1	83.0	95.0	44.9	42.5	45.3	44.9
1200	43.5	42.7	83.5	95.5	45.1	42.7	45.4	44.9
1300	43.5	43.3	84.0	96.0	45.3	42.9	45.5	45.2
1400	43.7	43.4	84.5	96.2	45.5	42.9	45.5	45.3
1500	43.9	43.9	84.2	96.4	45.7	43.2	45.7	45.4
1600	44.0	43.6	84.4	96.5	45.7	43.2	45.7	45.5
1700	44.0	43.3	84.3	96.2	45.8	43.1	45.5	45.4
1800	44.0	43.3	84.3	96.2	45.8	43.1	45.5	45.4
1900	43.9	43.1	84.5	96.2	45.7	43.1	45.2	45.2
2000	43.8	43.4	84.5	96.2	45.6	42.9	45.1	45.0
2100	43.8	43.0	85.0	96.2	45.6	42.9	45.0	44.8
2200	43.7	42.9	85.0	96.5	45.4	42.7	45.0	44.6
2300	43.6	42.7	85.0	96.7	45.4	42.7	45.1	44.6
2400	43.6	43.2	84.8	96.4	45.4	42.7	45.0	44.4

TABLE 275

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION

NOVEMBER 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.3	42.6	84.4	96.2	45.1	42.6	45.3	44.5
0200	43.4	42.3	84.3	96.0	45.0	42.7	45.3	44.5
0300	43.3	42.3	84.1	95.6	44.8	42.6	45.3	44.7
0400	43.3	42.2	83.8	95.4	44.9	42.5	45.3	44.7
0500	43.4	41.8	83.7	95.3	45.0	42.6	45.5	44.8
0600	43.3	41.9	83.5	95.1	45.1	42.6	45.5	44.7
0700	43.5	42.0	83.5	95.1	45.2	42.8	45.5	44.9
0800	43.3	42.0	83.5	94.9	45.0	42.7	45.5	44.8
0900	43.4	42.1	83.4	94.8	45.1	42.8	45.3	44.9
1000	43.6	42.6	83.5	94.9	45.4	43.0	45.5	45.0
1100	43.6	42.6	83.6	95.0	45.4	43.0	45.5	45.0
1200	43.6	42.6	83.6	95.1	45.4	43.0	45.5	45.0
1300	43.9	42.9	83.8	95.4	45.5	43.1	45.5	45.1
1400	43.8	43.2	84.0	95.6	45.6	43.0	45.4	45.0
1500	43.8	43.3	84.0	95.9	45.8	43.2	45.4	45.2
1600	43.8	43.7	84.1	96.0	45.8	43.1	45.3	45.2
1700	43.7	43.3	84.0	95.7	45.6	42.9	45.1	45.0
1800	43.7	43.3	84.0	95.8	45.7	42.8	45.0	44.9
1900	43.7	43.2	84.0	95.9	45.5	42.6	45.0	44.6
2000	43.6	43.2	84.0	95.7	45.4	42.6	45.0	44.5
2100	43.5	42.7	84.1	95.7	45.2	42.5	44.8	44.3
2200	43.4	42.6	84.0	95.7	45.0	42.3	44.6	44.1
2300	43.3	42.4	83.6	95.3	44.9	42.2	44.5	44.0
2400	43.2	42.2	83.4	93.7	44.7	42.0	44.5	44.0

TABLE 276

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.1	42.0	83.3	90.9	44.8	42.2	44.8	44.1
0200	43.2	42.1	83.3	88.5	44.7	42.2	44.7	44.1
0300	43.1	41.7	83.0	87.2	44.7	42.4	45.0	44.3
0400	43.1	41.5	82.7	87.9	44.6	42.3	45.0	44.5
0500	43.1	41.2	82.5	86.3	44.6	42.3	44.9	44.4
0600	43.1	41.3	82.2	84.8	44.6	42.3	45.0	44.4
0700	43.2	41.2	81.5	85.5	44.7	42.3	45.0	44.4
0800	43.2	41.3	79.5	85.6	44.7	42.5	45.0	44.4
0900	43.3	41.0	78.2	84.4	44.9	42.6	45.0	44.4
1000	43.4	41.2	77.2	83.2	45.0	42.6	45.0	44.5
1100	43.3	41.6	77.6	80.0	44.5	42.6	45.0	44.8
1200	43.3	41.9	77.2	67.2	44.5	42.8	44.7	44.7
1300	43.5	42.1	76.1	66.5	44.7	42.7	44.7	44.8
1400	43.6	42.4	76.3	66.0	44.9	42.8	44.7	45.0
1500	43.6	42.5	77.0	66.5	45.0	42.9	44.7	45.0
1600	43.7	42.6	76.8	66.7	45.1	42.9	44.7	44.9
1700	43.5	42.6	76.0	66.0	44.8	42.8	44.6	44.9
1800	43.5	42.5	75.5	65.5	44.8	42.8	44.8	44.8
1900	43.5	42.4	68.4	63.0	44.7	42.5	44.3	44.6
2000	43.2	42.2	64.3	59.0	44.6	42.4	44.1	44.4
2100	43.2	42.1	63.5	58.0	44.4	42.3	44.0	44.2
2200	43.1	42.0	63.1	57.5	44.5	42.2	43.9	44.0
2300	43.1	41.8	63.3	57.8	44.5	42.2	43.9	44.0
2400	43.0	41.7	63.0	57.7	44.2	42.0	44.0	44.1

TABLE 277

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.1	41.6	62.7	58.3	44.1	42.0	44.3	44.3
0200	43.0	41.6	61.9	60.5	44.1	42.0	44.5	44.4
0300	43.1	41.4	58.9	62.0	44.6	42.1	44.8	44.5
0400	43.2	41.3	57.5	59.5	44.8	42.3	45.0	44.7
0500	43.2	41.3	57.0	60.5	44.8	42.3	45.0	44.9
0600	43.4	41.5	57.0	62.0	44.9	42.5	45.1	45.0
0700	43.5	41.5	57.0	62.0	45.1	42.6	45.3	45.0
0800	43.5	41.5	57.1	62.0	45.1	42.6	45.1	45.0
0900	43.3	41.5	58.1	62.5	45.1	42.5	44.9	44.9
1000	43.4	41.7	59.8	61.4	45.3	42.7	45.0	45.0
1100	43.4	42.0	58.4	59.5	45.2	42.7	45.0	45.0
1200	43.5	42.3	58.7	57.3	45.0	42.8	45.0	45.1
1300	43.6	42.6	59.8	56.7	45.0	43.0	45.0	45.1
1400	43.6	42.6	60.3	55.5	45.1	43.0	45.0	45.3
1500	43.6	42.7	60.3	55.5	45.0	43.0	45.0	45.3
1600	43.6	42.6	60.6	55.7	45.0	42.8	44.8	45.0
1700	43.5	42.6	60.0	55.7	45.0	42.9	44.8	44.9
1800	43.6	42.6	59.0	55.2	45.1	42.9	44.8	45.0
1900	43.7	42.7	57.3	54.0	45.0	42.8	44.8	45.1
2000	43.7	42.7	56.7	53.2	44.8	42.8	44.8	45.1
2100	43.6	42.6	55.4	52.1	44.9	42.8	44.8	45.0
2200	43.5	42.5	55.1	52.0	44.9	42.8	44.6	45.0
2300	43.4	42.5	55.2	51.7	44.9	42.8	44.6	44.9
2400	43.3	42.4	55.3	51.5	44.8	42.8	45.0	45.0

TABLE 278

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
NOVEMBER 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.5	42.3	55.1	45.0	44.9	43.0	44.9	44.9
0200	43.5	42.2	54.8	42.6	44.9	43.0	44.9	45.0
0300	43.5	42.2	54.7	42.0	44.9	42.8	45.0	45.1
0400	43.5	42.2	54.2	41.5	44.6	43.0	44.9	45.1
0500	43.5	42.1	53.7	41.2	44.8	43.0	44.9	45.1
0600	43.5	42.1	53.3	41.2	44.8	43.0	44.9	45.1
0700	43.5	42.0	52.8	41.0	44.8	43.0	44.9	45.0
0800	43.5	42.1	52.5	40.9	45.0	43.1	44.9	45.0
0900	43.5	42.2	52.2	41.0	44.9	43.1	44.8	45.0
1000	43.7	42.3	52.5	41.3	45.0	43.0	45.0	45.1
1100	43.7	42.6	53.7	41.3	45.1	43.1	45.0	45.4
1200	43.8	42.9	54.4	42.0	45.3	43.3	45.1	45.5
1300	44.0	43.1	56.3	42.1	45.5	43.5	45.1	45.6
1400	44.0	43.3	56.2	42.1	45.5	43.5	45.1	45.6
1500	44.0	43.3	56.1	42.5	45.6	43.6	45.1	46.0
1600	44.0	43.5	55.9	42.5	45.6	43.5	45.1	45.8
1700	44.2	43.4	55.4	42.3	45.7	43.5	45.0	45.8
1800	44.0	43.3	55.0	42.3	45.5	43.6	45.0	45.8
1900	43.9	43.2	54.6	42.0	45.5	43.4	44.9	45.5
2000	43.9	43.1	54.3	42.1	45.4	43.3	44.9	45.1
2100	43.9	42.9	54.0	42.0	45.5	53.2	44.6	45.1
2200	43.8	42.8	53.3	41.9	45.2	43.0	44.6	45.1
2300	43.6	42.7	52.9	41.7	45.0	43.0	44.6	45.0
2400	43.6	42.6	52.6	41.3	44.9	42.9	44.9	45.0

TABLE 279

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.5	42.3	52.0	41.3	44.9	42.8	44.8	45.1
0200	43.4	42.1	51.7	41.3	44.8	42.8	44.9	45.2
0300	43.4	42.0	51.3	40.8	44.7	42.8	45.1	45.1
0400	43.3	41.8	50.8	40.6	44.5	42.8	45.0	45.1
0500	43.2	41.8	50.8	40.6	44.5	42.8	45.0	45.1
0600	43.2	41.0	50.4	40.6	44.5	43.0	44.9	45.2
0700	43.3	41.7	50.0	40.4	44.6	42.9	44.8	45.0
0800	43.3	41.7	50.0	40.4	44.5	42.8	44.7	45.0
0900	43.3	41.6	50.0	40.6	44.5	42.8	44.5	44.7
1000	43.3	41.9	50.1	40.7	44.5	42.8	44.5	44.7
1100	43.4	42.2	52.0	40.9	44.8	42.9	44.7	45.1
1200	43.5	42.5	52.0	41.3	45.0	43.0	44.8	45.1
1300	43.5	42.8	53.0	41.5	45.0	42.9	44.8	45.3
1400	43.7	42.9	53.8	41.8	45.1	43.1	44.8	45.5
1500	43.7	43.1	54.3	41.8	45.1	43.1	44.8	45.6
1600	43.7	43.1	53.8	41.9	45.2	43.0	44.8	45.5
1700	43.5	43.0	53.3	41.8	45.1	43.0	44.6	45.1
1800	43.7	42.7	53.0	41.7	45.0	42.9	44.5	45.3
1900	43.6	42.7	52.7	41.5	44.9	42.9	44.4	45.3
2000	43.5	42.5	52.4	41.6	44.8	42.7	44.4	45.0
2100	43.4	42.4	52.1	41.3	44.6	42.4	44.2	45.0
2200	43.4	42.1	51.7	41.3	44.6	42.4	44.1	44.5
2300	43.2	42.0	51.5	50.9	44.5	42.4	44.1	44.6
2400	43.2	41.9	51.1	40.7	44.2	42.2	44.2	44.6

TABLE 280

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.2	41.8	51.1	40.7	44.4	42.3	44.4	44.5
0200	43.2	41.8	51.0	40.7	44.2	42.3	44.6	44.7
0300	43.1	41.7	50.6	40.7	44.5	42.5	44.8	44.9
0400	43.2	41.7	50.3	40.5	44.4	42.4	45.0	45.1
0500	43.2	41.6	50.1	40.4	44.4	42.5	45.2	45.2
0600	43.2	41.5	49.8	40.7	44.6	42.4	45.2	45.2
0700	43.2	41.5	49.5	40.5	44.6	42.5	45.2	45.4
0800	43.3	41.5	49.3	40.5	44.6	42.6	45.2	45.5
0900	43.6	41.8	49.3	40,8	44.8	42.6	45.2	45.4
1000	43.5	41.9	49.7	41.0	44.8	42.8	45.2	45.6
1100	43.8	42.3	50.2	41.2	45.0	42.9	45.3	45.8
1200	43.6	42.6	51.0	41.7	44.9	43.0	45.3	45.8
1300[2/]	43.8	42.9	51.6	45.0	45.2	43.0	45.3	46.0
1400	43.8	43.1	52.2	45.5	45.1	43.1	45.5	46.2
1500	43.9	43.5	52.8	45.5	45.6	43.3	45.5	46.5
1600	44.0	43.5	53.4	45.8	45.5	43.3	45.5	46.5
1700	43.9	43.5	53.2	45.6	45.7	43.3	45.4	46.5
1800	43.9	43.5	53.6	45.7	45.8	43.3	45.4	46.5
1900	44.0	43.5	53.6	45.7	45.7	43.3	45.4	46.2
2000	44.0	43.6	53.3	45.7	45.7	43.2	45.2	46.2
2100	44.1	43.6	53.5	45.7	46.0	43.3	45.3	46.2
2200	44.1	43.5	53.5	45.7	45.5	43.3	45.1	46.2
2300	44.0	43.4	53.4	45.6	45.3	43.1	45.1	46.1
2400	44.0	43.4	53.3	45.6	45.5	43.3	45.2	46.0

2/Instruments zeroed to ground truth data

TABLE 281

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.9	43.2	53.1	45.1	45.6	43.1	45.1	46.0
0200	43.7	43.2	53.0	45.4	45.2	42.9	45.3	45.9
0300	43.7	43.0	52.9	45.4	45.2	43.0	45.5	45.9
0400	43.7	43.0	52.8	45.6	45.3	43.2	45.7	46.0
0500	43.5	42.8	52.8	45.6	45.3	43.2	45.7	46.2
0600	43.5	43.0	52.7	48.7	45.3	43.3	46.0	46.4
0700	43.9	42.8	52.0	55.5	45.8	43.3	46.4	46.4
0800	43.8	42.8	51.4	54.9	45.8	43.4	46.4	46.5
0900	44.0	42.9	51.0	57.3	46.0	43.4	46.6	46.6
1000	44.0	43.0	51.2	59.9	46.1	43.6	46.7	46.7
1100	44.0	43.2	48.0	62.4	46.3	43.7	46.7	46.7
1200	44.2	43.6	45.5	60.8	46.5	43.7	46.9	46.9
1300	44.3	44.0	46.6	61.5	46.6	43.8	47.1	47.2
1400	44.5	44.2	52.8	66.0	46.9	44.0	47.2	47.4
1500	44.7	44.5	54.0	68.2	47.1	44.0	47.3	47.3
1600	44.7	44.7	54.8	68.4	47.1	44.0	47.5	47 6
1700	44.7	44.6	56.6	69.7	47.2	44.2	47.5	47.6
1800	44.8	44.5	57.6	70.2	47.3	44.3	47.4	47.5
1900	44.8	44.5	57.6	70.0	47.3	44.2	47.5	47.5
2000	44.9	44.4	57.2	66.0	47.3	44.2	47.4	47.7
2100	44.9	44.4	58.0	63.0	47.3	44.1	47.4	47.4
2200	44.7	44.4	61.0	63.8	47.2	44.2	47.2	47.2
2300	44.7	44.4	62.4	60.7	47.0	44.0	47.1	47.2
2400	44.7	44.4	62.4	60.7	47.0	44.0	47.1	47.2

TABLE 282

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.8	44.3	63.5	61.5	46.9	44.0	47.1	47.1
0200	44.7	44.3	64.3	62.9	47.0	44.1	47.1	47.1
0300	44.7	44.2	64.3	65.0	46.9	44.1	47.1	47.1
0400	44.7	44.2	64.0	64.8	46.7	44.0	47.1	47.1
0500	44.5	44.0	64.5	66.2	46.7	43.9	47.3	47.2
0600	44.5	43.9	65.7	71.9	46.7	43.7	47.3	47.2
0700	44.5	43.9	66.0	70.4	46.6	43.7	47.4	47.4
0800	44.5	43.9	66.2	71.0	46.5	43.9	47.3	47.3
0900	44.6	44.0	66.8	72.8	46.6	44.1	47.6	47.5
1000	44.5	43.9	67.2	73.1	46.6	44.0	47.5	47.5
1100	44.5	44.0	67.3	72.8	46.8	44.0	47.5	47.5
1200	44.6	44.2	67.5	75.0	47.0	44.1	47.5	47.4
1300	44.6	44.2	68.0	75.6	47.2	44.1	47.3	47.3
1400	44.6	44.5	68.7	78.7	47.2	44.0	47.5	47.4
1500	44.9	44.7	69.3	78.9	47.3	44.2	47.5	47.4
1600	44.9	44.6	69.8	79.0	47.3	44.2	47.5	47.5
1700	44.9	44.8	70.4	78.1	47.2	44.1	47.4	47.4
1800	45.0	44.8	71.0	77.4	47.3	44.1	47.4	47.4
1900	44.9	44.7	71.3	77.6	47.3	44.1	47.3	47.3
2000	44.9	44.8	71.5	78.3	47.3	44.2	47.3	47.3
2100	44.9	44.9	71.5	76.6	47.3	44.1	47.2	47.2
2200	44.9	44.9	72.3	75.6	47.2	44.0	47.2	47.2
2300	44.9	44.7	72.6	80.2	47.2	44.2	47.2	47.2
2400	44.7	44.6	72.7	81.1	43.2	44.1	47.1	47.1

TABLE 283

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.7	44.7	72.8	69.0	47.1	44.1	47.1	47.1
0200	44.7	44.6	72.8	67.0	47.1	44.0	47.0	47.0
0300	44.7	44.6	72.6	66.4	47.0	44.1	47.3	46.8
0400	44.8	44.3	72.4	77.5	47.1	44.1	47.3	47.0
0500	44.8	44.3	72.3	75.2	47.0	44.0	47.3	47.0
0600	44.7	44.2	72.4	79.0	47.0	44.0	47.3	47.0
0700	44.7	44.0	72.1	78.9	47.0	44.0	47.3	47.1
0800	44.5	43.9	72.0	80.0	46.9	43.9	47.4	47.0
0900	44.5	43.9	71.0	79.5	46.9	44.0	47.4	47.1
1000	44.6	44.1	70.1	79.1	47.0	44.0	47.5	47.3
1100	44.7	44.3	70.3	79.1	47.3	44.3	47.8	47.3
1200	44.8	44.7	70.4	75.5	47.3	44.5	48.0	47.5
1300	45.0	45.0	71.3	80.1	47.5	44.5	48.1	47.8
1400	45.1	45.1	72.2	80.3	47.7	44.6	48.3	48.0
1500	45.2	45.4	72.5	82.5	47.8	44.6	48.3	48.0
1600	45.1	45.3	72.3	82.2	47.8	44.6	48.3	48.1
1700	45.2	45.2	72.0	83.0	47.8	44.7	48.3	47.8
1800	45.2	45.2	71.8	82.0	47.9	44.6	48.2	48.2
1900	45.2	45.2	71.8	82.0	47.7	44.5	48.3	48.2
2000	45.1	45.1	71.3	81.7	47.8	44.6	48.2	48.0
2100	45.1	45.1	71.3	81.9	47.7	44.5	47.9	48.0
2200	45.0	44.9	71.2	80.6	47.5	44.5	47.9	47.8
2300	45.0	44.8	71.2	82.0	47.6	44.5	47.7	47.6
2400	45.0	44.7	71.2	82.3	47.5	44.4	47.6	47.6

TABLE 284

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
NOVEMBER 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	45.0	44.6	70.9	82.1	47.5	44.4	47.5	47.5
0200	45.0	44.3	70.2	81.5	47.3	44.2	47.6	47.3
0300	44.9	44.3	69.9	81.3	47.2	44.3	47.6	47.4
0400	44.7	44.1	69.7	81.3	47.1	44.1	47.6	47.2
0500	44.6	44.1	69.5	81.5	46.9	44.0	47.7	47.3
0600	44.6	44.0	69.5	81.5	47.0	43.9	47.9	47.4
0700	44.5	43.9	69.9	82.2	46.8	43.9	48.1	47.5
0800	44.6	43.9	70.0	83.0	47.0	44.0	48.1	47.6
0900	44.7	43.9	70.0	83.6	47.0	44.0	48.3	47.6
1000	44.7	44.0	69.8	83.3	47.0	44.0	48.3	47.7
1100	44.6	44.2	69.5	83.5	47.2	44.1	48.4	48.0
1200	44.9	44.5	69.8	84.0	47.3	44.3	48.4	48.1
1300	45.0	44.6	70.3	84.5	47.5	44.5	48.4	48.3
1400	45.0	45.0	70.7	84.5	47.6	44.6	48.5	48.2
1500	45.0	45.0	71.1	85.1	47.7	44.6	48.5	48.3
1600	45.0	45.0	71.4	85.6	47.8	44.7	48.3	48.2
1700	45.0	45.0	71.6	85.8	47.6	44.7	48.2	48.2
1800	45.0	45.0	71.5	86.2	47.7	44.7	48.0	47.9
1900	45.1	44.9	71.5	85.8	47.6	44.7	48.0	47.7
2000	45.0	44.8	71.3	84.8	47.6	44.4	47.8	47.7
2100	45.0	44.6	71.0	84.4	47.6	44.4	47.5	47.5
2200	45.0	44.5	71.2	83.4	47.5	44.4	47.2	47.2
2300	44.9	44.5	71.5	81.2	47.2	44.2	47.3	47.2
2400	44.6	44.5	71.8	80.7	47.1	44.0	47.0	46.7

TABLE 285

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.7	44.1	72.0	74.0	47.0	43.8	46.9	46.7
0200	44.5	44.0	72.0	72.0	46.7	43.7	46.6	46.6
0300	44.5	43.9	72.1	68.9	46.6	43.6	46.7	46.5
0400	44.4	43.9	72.2	68.7	46.5	43.7	46.7	46.5
0500	44.3	43.6	72.0	70.4	46.4	43.5	46.9	46.5
0600	44.3	43.5	72.2	75.7	46.2	43.4	46.9	46.6
0700	44.1	43.3	72.5	71.8	46.2	43.4	47.0	46.6
0800	44.1	43.3	73.0	70.0	46.1	43.5	47.0	46.7
0900	44.0	43.1	73.1	74.1	46.1	43.5	47.2	46.8
1000	44.0	43.4	73.5	75.0	46.2	43.7	47.3	47.0
1100	44.0	43.3	73.7	76.0	46.3	43.7	47.3	47.0
1200	44.0	43.7	74.0	75.1	46.4	43.9	47.4	47.2
1300	44.3	43.8	74.3	73.8	46.4	43.9	47.4	47.2
1400	44.5	43.9	74.7	77.3	46.4	43.9	47.3	47.3
1500	44.5	43.6	75.0	79.0	46.5	43.9	47.3	47.3
1600	44.5	43.6	75.3	76.2	46.5	43.9	47.1	47.0
1700	44.5	43.7	75.9	79.2	46.6	43.8	47.1	47.0
1800	44.5	43.6	76.0	76.9	46.8	43.9	47.0	47.0
1900	44.5	43.7	76.1	78.8	46.6	44.0	47.0	47.0
2000	44.5	43.7	75.9	79.0	46.6	43.8	46.8	46.5
2100	44.5	43.7	75.9	79.5	46.6	43.8	46.8	46.8
2200	44.4	43.6	75.9	82.3	46.5	43.6	46.6	46.5
2300	44.3	43.7	75.8	79.5	46.5	43.6	46.5	46.5
2400	44.2	43.6	75.6	82.1	46.3	43.5	46.5	46.4

TABLE 286

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.2	43.5	75.7	77.0	46.2	43.3	46.5	46.0
0200	44.0	43.4	75.7	77.9	46.1	43.4	46.4	46.3
0300	44.0	43.2	75.9	82.0	46.1	43.3	46.4	46.2
0400	44.0	43.2	75.6	82.1	46.0	43.3	46.5	46.0
0500	44.0	43.1	75.5	82.0	46.0	43.3	46.5	46.2
0600	43.9	43.0	75.5	81.2	46.0	43.3	46.6	46.2
0700	43.9	42.8	75.5	82.0	45.7	43.3	46.5	46.2
0800	43.7	42.8	75.2	82.0	45.5	43.3	46.8	46.3
0900	43.7	42.5	75.4	82.0	45.5	43.2	46.8	46.5
1000	43.8	42.6	75.7	82.0	45.7	43.3	47.0	46.6
1100	44.0	42.9	76.0	81.0	45.4	43.4	47.0	46.6
1200	44.2	43.1	75.7	75.3	46.1	43.6	47.0	46.8
1300	44.3	43.2	75.8	72.3	46.2	43.7	47.0	47.0
1400	44.3	43.5	76.2	73.7	46.3	43.7	47.0	47.0
1500	44.5	43.5	76.0	70.0	46.4	43.9	47.0	47.0
1600	44.5	43.7	76.4	67.2	46.4	44.0	46.9	47.0
1700	44.5	43.6	76.5	65.5	46.4	43.8	46.8	46.8
1800	44.3	43.5	96.9	62.9	46.4	43.8	47.0	47.0
1900	44.3	43.6	77.2	64.0	46.5	43.7	47.0	46.9
2000	44.3	43.6	77.1	64.5	46.5	43.9	46.9	46.9
2100	44.5	43.6	76.9	63.8	46.6	44.1	46.9	46.9
2200	44.5	43.7	76.5	63.2	46.6	44.1	46.9	46.9
2300	44.5	43.7	75.6	63.3	46.6	44.0	46.7	46.7
2400	44.4	43.6	75.2	63.5	46.5	44.0	46.6	46.6

TABLE 287

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.4	43.6	75.3	64.0	46.3	43.8	46.6	46.6
0200	44.4	43.7	76.1	65.0	46.5	43.9	46.6	46.6
0300	44.4	43.6	76.2	65.2	46.4	44.0	46.6	46.5
0400	44.5	43.5	76.3	65.7	46.4	43.8	46.6	46.6
0500	44.3	43.5	76.2	66.8	46.3	43.9	46.6	46.5
0600	44.3	43.6	75.9	66.3	46.3	43.8	46.5	46.6
0700	44.3	43.6	75.6	66.3	46.3	43.8	46.8	46.6
0800	44.3	43.6	75.6	66.5	46.4	44.0	47.0	46.8
0900	44.3	43.5	75.8	67.0	46.4	43.8	47.0	46.7
1000	44.3	47.6	76.3	68.7	46.4	43.7	47.3	47.0
1100	44.3	43.7	76.8	70.4	46.4	43.7	47.3	47.0
1200	44.3	43.7	77.0	72.3	46.5	43.8	47.3	47.0
1300	44.5	43.9	77.3	76.0	46.5	44.0	47.3	47.8
1400	44.3	44.0	77.5	78.2	46.7	43.8	47.3	47.1
1500	44.5	44.0	77.7	84.5	46.7	43.8	47.5	47.1
1600	44.5	44.1	78.0	87.5	46.8	43.8	42.5	47.1
1700	44.5	44.0	78.4	90.7	46.8	43.9	47.5	47.1
1800	44.5	44.0	78.7	82.0	46.8	44.1	47.5	47.1
1900	44.5	43.9	78.9	92.5	46.8	43.9	47.4	47.0
2000	44.9	43.9	79.0	91.9	46.8	43.7	47.4	47.1
2100	44.9	43.9	78.6	90.4	46.8	43.8	47.3	47.0
2200	44.9	44.1	78.6	90.1	46.9	43.8	47.2	47.2
2300	44.8	43.9	78.2	89.8	46.8	43.8	47.2	47.2
2400	44.8	43.9	78.2	90.6	46.8	43.9	47.2	47.1

TABLE 288

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	44.5	44.0	78.0	88.9	46.7	43.7	47.2	47.2
0200	44.2	43.7	77.8	88.5	46.7	43.8	47.2	47.2
0300	44.2	43.6	77.5	89.0	46.7	43.8	47.0	47.0
0400	44.4	43.5	77.2	88.0	46.6	43.8	47.0	47.0
0500	44.2	43.5	77.0	89.2	46.6	43.8	47.2	47.0
0600	44.2	43.4	77.0	88.0	46.5	43.8	47.2	47.0
0700	44.3	43.4	76.7	88.7	46.5	43.6	47.3	46.9
0800	44.3	43.2	76.5	87.0	46.4	43.7	47.3	46.9
0900	44.2	43.2	76.5	85.7	46.3	43.7	47.4	46.9
1000	44.2	43.2	76.6	87.9	46.3	43.6	47.3	46.8
1100[2/]	44.3	43.2	76.4	89.9	44.5	43.6	46.1	45.6
1200	44.2	43.2	76.2	90.0	44.2	43.5	46.3	45.8
1300	44.4	43.1	76.2	91.8	44.1	43.6	46.5	45.9
1400	44.4	43.2	76.0	91.6	44.1	43.2	46.5	45.9
1500	44.2	43.1	76.0	91.4	44.6	43.6	46.4	45.9
1600	44.2	42.9	75.9	91.2	44.0	43.4	46.3	45.8
1700	44.2	43.0	76.1	92.0	44.0	43.7	46.2	45.7
1800	44.2	43.0	76.1	92.4	44.0	43.4	46.0	45.5
1900	44.3	43.0	76.2	92.0	44.0	43.5	46.0	45.5
2000	44.1	42.8	76.2	92.3	44.0	43.2	45.9	45.4
2100	44.2	42.9	76.3	92.3	44.0	43.3	45.7	45.3
2200	44.0	42.8	76.1	92.5	44.0	43.3	45.6	45.1
2300	44.0	42.7	75.8	92.0	43.8	43.4	45.5	44.9
2400	43.9	42.6	75.8	92.0	43.5	43.2	45.3	45.0

[2/] Instruments zeroed to ground truth data.

TABLE 289

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	43.9	42.5	75.6	92.2	43.5	43.2	45.2	44.8
0200	43.9	42.4	75.6	92.0	43.5	43.2	45.1	44.7
0300	43.8	42.3	75.7	91.8	43.5	43.0	45.1	44.7
0400	43.8	42.3	75.6	91.7	43.4	43.0	45.0	44.5
0500	43.6	42.1	75.8	91.9	43.3	42.9	44.9	44.4
0600	43.5	41.9	75.2	91.7	43.1	42.9	44.9	44.4
0700	43.5	41.9	75.6	92.1	43.0	42.9	44.7	44.2
0800	43.4	41.8	75.5	92.1	42.9	42.7	44.8	44.2
0900	44.3	41.7	75.5	92.0	42.8	42.5	44.6	44.0
1000	43.4	41.6	75.4	92.1	42.9	42.6	44.7	44.1
1100	43.3	41.6	75.3	92.0	42.6	42.5	44.5	44.0
1200	43.3	41.7	75.5	92.0	42.8	42.5	44.5	44.0
1300	43.3	41.7	75.5	91.9	42.7	42.5	44.5	44.0
1400	43.3	41.8	75.9	92.1	42.7	42.5	44.6	43.9
1500	43.2	41.9	76.0	92.1	42.7	42.4	44.5	43.9
1600	43.3	42.0	76.2	92.5	42.7	42.4	44.5	44.0
1700	43.2	41.7	76.2	92.2	42.6	42.4	44.4	43.9
1800	43.2	41.5	76.2	91.9	42.6	42.4	44.3	43.7
1900	43.2	41.2	76.2	91.1	42.5	42.4	44.2	43.5
2000	43.1	41.1	76.2	92.0	42.5	42.4	44.2	43.5
2100	43.1	41.1	76.1	92.3	42.3	42.3	44.2	43.5
2200	43.1	40.8	76.0	92.1	42.3	42.2	44.1	43.2
2300	43.0	40.8	76.1	92.0	42.2	42.1	44.0	43.2
2400	42.8	40.6	76.0	91.8	42.0	41.9	43.9	42.9

TABLE 290

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.8	40.5	76.1	91.7	42.0	41.9	43.9	43.0
0200	42.6	40.2	75.6	88.6	41.7	41.7	43.7	42.7
0300	42.6	40.2	75.8	87.6	41.7	41.7	43.7	42.7
0400	42.6	40.0	75.6	87.3	41.6	41.7	43.6	42.6
0500	42.5	39.9	75.5	86.1	41.5	41.5	43.6	42.5
0600	42.4	39.9	75.5	85.0	41.4	41.4	43.7	42.6
0700	42.4	39.8	75.4	81.8	41.2	41.2	43.7	42.6
0800	42.3	39.6	75.3	80.0	41.1	41.3	43.8	42.6
0900	42.0	39.6	74.3	79.4	41.1	41.1	43.6	42.6
1000	42.3	39.7	73.6	78.5	41.2	41.3	43.7	42.8
1100	42.4	39.9	73.5	77.4	41.4	41.4	43.8	42.6
1200	42.5	40.1	73.5	77.5	41.5	41.6	43.9	43.3
1300	42.5	40.2	72.9	77.1	41.7	41.7	43.9	43.3
1400	42.6	40.5	71.6	76.6	41.7	41.7	43.9	43.3
1500	42.6	40.5	70.0	78.1	41.7	41.7	44.0	43.4
1600	42.6	40.4	69.5	79.0	41.7	41.7	43.9	43.5
1700	42.8	40.3	68.9	81.3	41.7	41.7	43.9	43.4
1800	42.8	40.3	68.0	80.8	41.8	41.9	44.0	43.3
1900	42.8	40.2	67.5	81.5	41.8	41.9	43.8	43.3
2000	42.8	40.1	67.0	81.5	41.7	41.7	43.7	43.1
2100	42.6	40.0	66.4	81.1	41.7	41.7	43.7	43.0
2200	42.5	40.0	66.5	80.7	41.5	41.5	43.5	42.9
2300	42.4	39.9	67.2	81.2	41.5	41.5	43.4	42.8
2400	42.4	39.9	68.1	81.6	41.4	41.4	43.3	42.8

TABLE 291

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 17, 1983

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.3	39.7	68.3	82.2	41.4	41.4	43.2	42.5
0200	42.3	39.6	68.6	82.0	41.3	41.3	43.1	42.5
0300	42.2	39.4	68.5	81.7	41.1	41.1	43.1	42.5
0400	42.1	39.4	68.5	81.5	41.1	41.1	43.1	42.5
0500	42.0	39.1	68.3	81.0	40.9	40.9	43.1	42.3
0600	42.0	39.1	68.3	80.5	40.9	41.0	43.3	42.3
0700	42.0	39.0	68.7	80.0	40.9	41.0	43.3	42.5
0800	41.9	38.9	69.1	79.4	40.9	41.0	43.5	42.5
0900	41.9	38.9	69.3	80.0	41.0	41.0	43.5	42.7
1000	41.9	38.8	69.4	80.1	41.0	41.2	43.4	42.7
1100	42.0	38.9	69.7	80.0	40.9	41.2	43.7	42.7
1200	42.3	38.9	69.7	82.5	41.1	41.3	43.7	42.9
1300	42.3	39.2	69.8	85.3	41.2	41.3	43.7	42.9
1400	42.3	39.2	69.9	86.6	41.2	41.4	43.7	42.9
1500	42.4	39.2	70.0	87.0	40.9	41.5	43.7	42.9
1600[2/]	42.6	39.3	70.2	87.6	41.1	41.5	43.7	43.0
1700	42.7	39.5	70.5	88.5	41.2	41.8	43.7	42.8
1800	42.9	39.5	70.6	88.7	41.2	41.8	43.6	43.0
1900	42.8	39.4	70.8	89.2	41.2	41.8	43.7	43.0
2000	42.7	39.5	70.4	89.2	41.1	41.7	43.7	42.9
2100	42.7	39.4	70.8	89.0	41.1	41.5	43.6	42.8
2200	42.7	39.4	71.0	89.6	41.1	41.5	43.6	42.9
2300	42.9	39.3	71.0	89.6	41.6	41.6	43.3	42.6
2400	42.5	39.3	71.2	89.9	41.5	41.5	43.3	42.6

TABLE 292

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	42.5	39.3	71.4	90.0	41.4	41.5	43.0	42.3
0200	42.5	39.0	71.5	90.0	41.4	41.4	42.7	42.2
0300	42.4	39.0	71.5	90.2	41.2	41.2	42.9	42.2
0400	42.3	38.9	70.1	89.8	41.1	41.1	42.8	42.1
0500	42.3	38.9	70.2	89.2	40.9	41.0	42.7	42.0
0600	42.1	38.6	70.3	89.2	40.7	41.0	42.7	41.8
0700	42.0	38.5	70.2	89.2	40.2	40.8	42.3	41.8
0800	41.9	38.3	70.4	89.2	40.1	40.8	42.5	41.6
0900	41.8	38.3	70.4	89.4	40.0	40.8	42.5	41.5
1000	42.0	38.4	71.0	98.5	40.0	40.8	42.5	41.5
1100	42.0	38.6	71.2	89.8	40.2	41.0	42.6	41.5
1200	42.2	38.9	71.2	89.9	40.2	41.0	42.8	41.5
1300	42.2	39.0	71.6	90.0	40.2	41.0	42.6	41.6
1400	42.2	39.2	71.8	90.3	40.2	41.0	42.5	41.9
1500	42.1	39.2	71.8	90.5	40.2	40.9	42.5	42.0
1600	42.2	39.2	71.9	90.6	40.1	40.9	42.5	41.9
1700	42.0	39.0	71.8	90.7	40.0	40.9	42.3	41.9
1800	42.0	38.9	71.8	90.7	40.1	41.0	42.3	42.0
1900	42.0	38.5	71.7	90.4	40.1	40.9	42.1	41.7
2000	42.0	38.3	71.6	90.2	40.0	40.8	42.0	41.4
2100	41.9	38.2	71.5	90.0	40.0	40.7	42.0	41.4
2200	41.8	38.0	71.5	90.0	39.9	40.5	41.7	41.1
2300	41.8	38.0	71.5	90.2	40.0	40.5	41.7	41.0
2400	41.8	37.8	71.5	90.0	39.8	40.5	41.7	41.2

TABLE 293

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	41.5	37.7	71.5	90.1	39.5	40.4	41.5	40.9
0200	41.5	37.6	71.3	89.8	39.4	40.2	41.3	40.8
0300	41.4	37.4	71.2	89.7	39.2	40.2	41.0	40.5
0400	41.4	37.3	70.9	89.4	39.6	40.0	41.3	40.5
0500	41.3	37.1	70.7	89.4	39.5	39.9	41.2	40.3
0600	41.1	37.0	70.6	89.2	39.3	40.0	41.2	40.2
0700	41.1	36.9	70.6	89.0	39.4	40.0	41.0	40.0
0800	41.2	36.7	70.5	89.1	39.4	40.0	41.5	40.1
0900	41.2	36.7	70.5	89.0	39.2	39.9	41.4	40.2
1000	41.2	36.7	70.5	89.0	39.5	40.0	41.7	40.4
1100	41.3	36.9	70.9	89.2	39.6	40.1	41.6	40.6
1200	41.2	37.2	71.2	89,8	39.8	40.1	42.0	40.9
1300	41.5	37.5	71.9	90.0	39.9	40.2	42.0	41.2
1400	41.6	37.6	72.3	90.2	39.9	40.3	42.1	41.3
1500	41.7	38.0	72.6	90.5	40.0	40.4	42.2	41.6
1600	41.9	38.1	72.7	90.9	40.0	40.5	42.0	41.5
1700	41.9	38.1	72.4	91.2	40.0	40.5	42.0	41.5
1800	41.9	38.0	72.8	91.0	40.5	40.5	42.0	41.5
1900	42.0	37.8	73.1	91.0	40.1	40.5	42.0	41.5
2000	42.0	37.8	73.4	91.1	40.0	40.6	42.0	41.2
2100	42.0	37.8	73.5	91.1	40.1	40.5	41.8	41.2
2200	41.9	37.8	73.3	91.0	40.2	40.5	42.0	40.9
2300	41.8	37.6	72.7	90.9	40.1	40.5	41.7	41.2
2400	41.5	37.5	73.0	90.8	40.1	40.2	41.5	40.9

TABLE 294

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	41,5	37.4	72.7	90.7	40.0	40.0	41.5	41.1
0200	41.5	37.3	72.5	90.6	39.8	40.1	41.2	40.5
0300	41.3	37.3	71.9	90.4	39.7	40.0	41.0	40.3
0400	41.3	37.1	72.3	90.3	39.6	40.0	40.9	40.2
0500	41.2	37.1	72.1	90.1	39.5	39.9	41.0	40.0
0600	41.2	37.0	72.2	90.0	39.5	39.9	41.0	40.0
0700	41.2	36.9	72.1	90.0	39.4	39.7	41.0	39.8
0800	41.2	36.8	72.0	89.7	39.3	39.7	41.0	39.9
0900	41.3	36/9	71.9	90.3	39.2	39.9	41.2	39.9
1000	41.3	37.0	71.9	90.0	39.4	39.9	41.4	40.0
1100	41.3	37.2	72.0	90.6	39.5	40.0	41.5	40.3
1200[2]	41.4	37.3	72.0	90.1	39.6	39.9	41.7	40.5
1300[2]	41.3	37.4	72.5	90.1	39.7	40.0	41.7	40.6
1400	40.3	41.5	4/	86.2	40.0	40.2	41.2	40.4
1500	40.3	41.7		85.5	40.1	40.1	41.2	40.6
1600	41.4	41.9		86.1	40.3	40.5	41.3	40.7
1700	41.2	41.7		86.0	40.4	40.5	41.2	40.8
1800	40.9	41.5		86.2	40.4	40.5	41.4	40.8
1900	41.2	41.5		85.9	40.4	40.5	41.2	40.8
2000	40.8	41.5		85.9	40.5	40.5	41.2	41.0
2100	40.4	41.5		85.6	40.5	40.5	41.2	40.9
2200	40.6	41.4		85.8	40.5	40.5	41.0	40.9
2300	40.7	41.4		85.2	40.5	40.5	41.0	40.9
2400	40.4	41.4		85.5	40.5	40.5	41.0	40.9

2/Instruments zeroed to ground truth data.

4/Sensor malfunction - no data.

TABLE 295

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.4	41.3		85.1	40.4	40.5	41.0	40.8
0200	41.2	41.2		85.1	40.4	40.4	40.5	40.2
0300	41.0	41.0		85.1	40.1	40.3	40.5	40.0
0400	41.0	41.0		84.8	40.0	40.1	40.5	40.0
0500	41.0	41.0		84.6	39.9	40.0	40.3	39.7
0600	40.9	40.6		84.4	39.6	39.9	40.3	39.6
0700	40.8	40.5		84.3	39.6	40.0	40.4	39.7
0800	40.7	40.5		84.4	39.5	39.9	40.4	39.6
0900	40.6	40.6		84.4	39.5	39.8	40.6	39.6
1000	40.6	40.5		84.8	39.5	39.9	40.8	39.7
1100	40.9	40.7		85.0	39.6	40.0	40.8	39.9
1200	40.9	40.9		85.3	39.9	40.0	41.0	40.1
1300	41.0	41.0		85.7	40.0	40.2	41.2	40.3
1400	41.5	41.5		86.2	40.0	40.2	41.2	40.7
1500	41.1	41.5		86.5	40.2	40.4	41.2	40.7
1600	41.1	41.5		86.7	40.0	40.4	41.2	40.9
1700	41.2	41.5		83.7	40.3	40.5	41.2	40.6
1800	41.2	41.5		83.6	40.4	40.5	41.2	40.6
1900	41.3	41.3		83.9	40.5	40.5	41.0	40.6
2000	41.3	41.3		83.5	40.5	40.5	41.0	40.5
2100	41.4	41.2		83.4	40.5	40.6	41.0	40.4
2200	41.2	41.2		83.6	40.5	40.5	40.8	40.2
2300	41.2	41.2		83.5	40.5	40.5	40.5	40.2
2400	41.2	41.2		83.1	40.2	40.1	40.3	39.9

TABLE 296

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	41.0	41.0		80.0	40.1	40.1	40.1	39.6
0200	41.0	41.0		77.0	40.0	40.0	39.9	39.5
0300	41.0	41.0		75.2	40.0	40.0	40.0	39.7
0400	40.9	40.9		71.8	40.0	40.0	40.0	39.3
0500	40.7	40.7		67.5	39.9	39.9	39.9	39.9
0600	40.6	40.6		63.5	39.7	39.7	39.7	39.2
0700	40.4	40.4		62.0	39.5	39.5	39.5	39.2
0800	40.2	40.2		59.8	39.3	39.3	39.5	39.2
0900	40.1	40.1		56.8	39.1	39.2	39.5	39.3
1000	40.2	40.2		55.9	39.4	39.4	39.5	39.4
1100	40.4	40.4		55.1	39.4	39.5	39.6	39.6
1200	40.5	40.5		53.9	39.5	39.6	39.9	39.7
1300	40.6	40.6		52.2	39.6	39.8	39.9	39.8
1400	40.6	40.6		50.8	39.7	30.8	40.0	40.0
1500	40.6	41.2		50.2	39.8	39.9	40.0	40.0
1600	40.7	41.0		48.8	39.9	40.0	40.0	40.1
1700	40.8	41.0		47.7	39.9	40.0	40.0	40.1
1800	40.8	40.8		47.3	40.0	40.0	40.0	40.0
1900	41.0	41.0		46.6	40.0	40.0	40.0	40.0
2000	41.0	41.0		45.7	40.0	40.0	39.9	39.9
2100	40.9	40.9		44.5	40.0	40.0	39.7	39.7
2200	41.0	41.0		43.8	40.0	40.0	39.6	39.6
2300	40.8	40.9		43.2	40.0	40.0	39.5	39.6
2400	40.8	40.9		42.4	39.9	399.9	39.4	39.4

[2/] Instruments zeroed to ground truth data.

TABLE 297

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION

NOVEMBER 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.8	40.8		41.8	39.9	39.9	39.3	39.3
0200	40.7	40.7		41.4	39.9	39.9	39.2	39.2
0300	40.6	40.6		41.3	39.8	39.8	39.2	39.2
0400	40.6	40.6		43.4	39.6	39.6	39.2	39.1
0500	40.8	40.8		45.3	39.6	39.6	39.4	39.0
0600	40.7	40.7		46.4	39.6	39.6	39.5	39.1
0700	40.7	40.7		46.9	39.6	39.6	39.5	39.3
0800	40.7	40.7		48.0	39.6	39.6	39.6	39.5
0900	40.5	40.5		50.8	39.5	39.5	39.5	39.4
1000	40.5	40.5		51.5	39.5	39.5	39.6	39.4
1100	40.5	40.5		52.8	39.5	39.5	39.7	39.6
1200	40.6	40.6		54.2	39.6	30.6	39.8	39.6
1300	40.6	40.6		56.0	39.7	39.9	40.0	39.9
1400	40.7	40.7		56.5	39.8	40.0	40.0	39.9
1500	40.7	40.7		57.0	39.7	39.9	39.9	39.9
1600	40.7	40.7		58.1	39.9	40.0	40.0	40.0
1700	40.8	40.8		59.3	39.9	39.9	39.9	39.9
1800	40.9	40.9		59.6	39.9	39.9	39.9	39.9
1900	41.0	41.0		60.2	39.9	39.9	40.0	39.9
2000	40.8	40.8		61.2	39.9	39.9	39.9	39.3
2100	41.0	41.0		62.0	39.8	39.8	39.9	39.7
2200	40.8	40.8		62.4	39.9	39.9	40.0	40.0
2300	40.6	40.6		62.6	39.8	39.9	40.0	39.4
2400	40.6	40.6		63.2	39.6	39.8	39.9	39.4

TABLE 298

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
NOVEMBER 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	40.6	40.6		63.5	39.6	39.6	39.6	39.3
0200	40.6	40.5		63.6	39.6	39.7	39.8	39.4
0300	40.6	40.5		63.8	39.6	39.7	39.8	39.3
0400	40.6	40.3		64.2	39.5	39.6	39.8	39.3
0500	40.5	40.3		64.5	39.5	39.6	39.7	39.3
0600	40.5	40.0		64.7	39.4	39.6	39.7	39.2
0700	40.5	40.0		65.0	39.3	39.4	39.6	39.2
0800	40.4	39.9		65.3	39.2	39.5	39.6	39.0
0900	40.4	39.9		65.3	39.2	39.4	39.6	39.0
1000	40.4	39.9		65.6	39.2	39.5	39.7	39.2
1100	40.5	40.0		65.9	39.3	39.5	39.7	39.1
1200	40.5	40.3		66.2	39.4	39.6	39.7	39.2
1300	40.5	40.3		66.4	39.5	39.6	39.7	39.2
1400	40.6	40.5		66.9	39.5	39.7	39.7	39.2
1500	40.6	40.6		67.0	39.4	39.6	39.6	39.4
1600[2/]	40.6	40.6		67.0	39.4	39.7	39.7	39.5
1700	40.7	40.5		68.2	39.5	39.6	39.7	39.4
1800	40.8	40.4		68.8	39.5	39.6	39.6	39.1
1900	40.8	40.2		68.8	39.5	39.6	39.6	39.0
2000	40.7	40.2		69.0	39.5	39.5	39.5	38.9
2100	40.5	40.0		68.8	39.4	39.4	39.3	38.9
2200	40.5	40.0		69.1	39.2	39.4	29.1	29.6
2300	40.4	39.8		69.1	39.1	39.2	39.0	38.5
2400	40.2	39.2		69.4	39.0	38.9	38.9	38.4

[2/] Instruments zeroed to ground truth data.

TABLE 299

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	40.2	39.5		69.8	38.8	38.9	39.0	38.1
0200	40.1	39.2		70.1	38.7	39.0	38.9	38.0
0300	40.0	39.1		70.0	38.4	38.5	38.8	37.8
0400	40.0	39.0		70.4	38.3	38.7	39.9	37.8
0500	39.9	38.9		70.6	38.2	38.5	38.6	37.9
0600	39.8	38.7		70.7	38.0	38.5	38.6	37.8
0700	39.7	38.5		70.7	38.0	38.4	38.6	37.8
0800	39.6	38.3		70.9	37.8	38.5	38.6	37.9
0900	39.5	38.1		71.2	37.5	38.3	38.6	37.7
1000	39.5	38.2		71.4	37.5	38.4	38.5	37.7
1100	39.5	38.3		71.6	37.9	38.5	38.5	37.6
1200	39.5	38.5		72.3	38.0	38.9	38.4	37.7
1300[2/]	39.5	38.7		73.2	38.0	38.5	38.5	37.9
1400	37.1	37.0		77.1	35.7	36.9	38.2	37.9
1500	37.1	37.1		77.3	35.7	37.0	38.2	37.7
1600	37.0	37.0		77.5	35.6	36.9	38.2	37.7
1700	37.0	37.0		78.2	35.6	37.0	38.0	37.5
1800	37.0	36.8		78.4	35.6	36.9	38.0	37.5
1900	37.0	36.7		78.6	35.6	37.0	37.9	37.2
2000	37.0	36.7		79.0	35.5	36.8	37.7	37.2
2100	37.0	36.6		79.5	35.4	36.7	37.7	37.2
2200	37.0	36.6		79.5	35.0	36.7	37.5	37.0
2300	36.8	36.5		79.5	35.0	36.7	37.5	37.0
2400	36.8	36.2		80.0	34.9	36.2	37.2	36.8

2/Instruments zeroed to ground truth data.

TABLE 300

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.8	36.1		79.9	34.7	36.3	37.3	36.7
0200	36.8	36.0		80.0	34.6	36.1	37.4	36.5
0300	36.5	35.8		80.4	34.4	36.1	37.5	36.5
0400	36.4	35.6		80.1	34.3	36.0	37.5	36.5
0500	36.5	35.5		80.2	34.2	36.0	37.5	36.5
0600	36.3	35.2		80.2	34.1	36.0	37.6	36.5
0700	36.3	35.2		80.2	34.0	35.9	37.6	36.6
0800	36.2	35.1		80.2	34.0	36.0	37.7	36.8
0900	36.2	35.1		80.8	34.0	36.2	37.7	36.7
1000	36.4	35.2		81.4	34.2	36.2	27.9	36.8
1100	36.5	35.3		81.5	34.5	36.3	37.5	37.0
1200	36.6	35.4		82.0	34.6	36.3	37.9	37.0
1300	36.5	35.7		82.5	34.7	36.4	38.0	37.1
1400	36.6	35.9		82.7	34.8	36.4	38.0	37.1
1500	36.7	35.9		82.9	35.0	36.5	38.0	37.2
1600	37.0	36.0		83.2	35.0	36.6	37.8	37.3
1700	36.7	36.0		83.5	35.0	36.5	37.8	37.2
1800	36.8	36.0		84.2	35.0	36.5	37.8	37.1
1900	36.8	35.9		84.2	34.9	36.5	37.9	37.0
2000	36.8	36.0		84.3	35.0	36.5	37.5	37.0
2100	36.7	36.0		84.1	34.9	36.5	37.5	36.9
2200	36.7	36.0		84.2	35.0	36.6	37.5	36.9
2300	36.7	36.0		84.2	34.9	36.4	37.5	36.9
2400	36.7	36.0		84.5	36.4	36.5	37.2	36.7

TABLE 301

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.7	36.0		84.4	36.2	36.5	37.0	36.5
0200	36.7	35.8		84.4	36.2	36.5	37.2	36.6
0300	36.6	35.9		84.2	36.0	36.0	37.2	36.5
0400	36.5	35.8		84.1	35.9	36.2	37.2	36.4
0500	36.5	35.6		84.2	35.9	36.2	37.4	36.5
0600	36.5	35.6		84.0	35.6	36.0	37.5	36.5
0700	36.4	35.4		84.0	35.5	36.0	37.5	36.5
0800	36.5	35.2		83.6	35.5	36.0	37.4	36.5
0900	36.5	35.1		84.0	35.3	36.0	37.5	36.5
1000	36.5	35.1		83.8	35.4	36.0	37.4	36.8
1100	36.6	35.1		83.6	35.5	35.7	37.4	36.7
1200	36.7	35.4		84.0	35.7	36.0	37.5	36.9
1300	36.5	35.6		83.6	35.9	36.1	37.5	37.0
1400	36.7	35.6		83.8	35.9	36.1	37.5	36.9
1500	36.5	35.6		83.5	35.9	36.1	37.5	37.0
1600	36.5	35.6		83.6	36.0	36.2	37.5	37.0
1700	36.5	35.6		83.6	36.0	36.2	37.5	37.0
1800	36.7	35.6		83.8	36.0	36.3	37.5	37.0
1900	36.7	35.6		83.6	36.0	36.3	37.5	37.0
2000	36.7	35.6		83.6	36.0	36.3	37.7	36.8
2100	36.6	35.6		83.6	36.0	36.3	37.7	36.8
2200	36.6	35.6		83.5	36.1	36.2	37.5	36.9
2300	36.7	35.6		83.5	36.1	36.2	37.5	36.8
2400	36.6	35.6		83.7	36.0	36.3	37.5	36.8

TABLE 302

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.7	35.6		83.6	36.0	36.3	37.6	36.8
0200	36.7	35.7		84.0	36.2	36.2	37.5	36.8
0300	36.7	35.7		84.3	36.0	36.2	37.5	36.6
0400	36.6	35.6		84.2	36.0	36.2	37.5	36.6
0500	36.5	35.6		84.1	36.0	36.1	37.5	36.6
0600	36.5	35.6		84.0	36.0	36.3	37.5	36.8
0700	36.5	35.6		83.9	35.9	36.1	37.6	36.8
0800	36.5	35.4		84.1	35.7	36.1	37.6	36.9
0900	36.6	35.4		83.8	35.7	36.0	37.6	36.9
1000	36.5	35.4		84.0	35.7	36.0	37.8	37.0
1100	36.5	35.6		84.2	35.9	36.0	37.6	37.0
1200	36.6	35.6		84.4	36.0	36.4	37.9	37.0
1300	36.8	35.9		84.4	36.0	36.2	37.9	37.2
1400	36.6	36.0		84.6	36.0	36.5	37.8	37.2
1500	36.8	36.0		84.6	36.1	36.2	37.9	37.3
1600	36.7	36.0		84.5	36.0	36.2	37.9	37.3
1700	36.7	35.9		84.5	36.0	36.4	37.8	37.3
1800	36.7	35.9		84.8	36.1	36.4	37.8	37.2
1900	36.7	35.7		84.5	36.1	36.3	37.6	37.1
2000	36.6	35.6		84.4	36.1	36.3	37.6	37.0
2100	36.7	35.6		84.4	36.2	36.3	37.6	37.0
2200	36.7	35.7		84.2	36.2	36.2	37.7	37.1
2300	36.9	35.7		83.5	36.2	36.4	37.5	37.0
2400	36.6	35.9		83.2	36.2	36.4	37.5	37.0

TABLE 303

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.7	35.8		82.9	36.1	36.3	37.4	36.8
0200	36.8	35.7		83.1	36.0	36.1	37.4	36.9
0300	36.7	35.5		83.0	36.0	36.2	37.4	36.7
0400	36.7	35.5		82.4	35.9	36.2	37.4	36.7
0500	36.7	35.4		82.7	35.8	36.0	37.2	36.6
0600	36.7	35.2		82.8	35.8	36.2	37.3	36.7
0700	36.6	35.3		81.9	35.7	36.0	37.5	36.6
0800	36.6	35.2		82.2	35.7	36.0	37.5	36.6
0900	36.6	35.3		82.8	35.7	36.0	37.5	36.4
1000	36.5	35.4		83.0	35.9	36.0	37.5	36.5
1100	36.7	35.6		83.2	36.0	36.0	37.5	36.5
1200	36.9	36.9		82.7	36.0	36.3	37.7	36.9
1300	36.9	36.2		83.3	36.2	36.2	37.6	37.0
1400	36.9	36.3		83.1	36.2	36.4	38.2	37.2
1500	37.0	36.5		83.7	36.4	36.5	38.3	37.5
1600	37.0	36.5		83.6	36.4	36.5	38.0	37.5
1700	37.0	36.4		84.4	36.4	36.4	38.0	37.5
1800	37.0	36.2		84.4	36.2	36.5	38.1	37.6
1900	37.0	36.1		84.4	36.3	36.4	38.0	37.3
2000	37.0	36.0		84.8	36.3	36.5	38.0	37.5
2100	37.0	36.0		84.8	36.3	36.5	37.9	37.3
2200	37.0	36.0		85.0	36.3	36.4	38.0	37.1
2300	36.9	35.9		85.1	36.3	36.4	37.8	37.1
2400	37.0	36.0		85.0	36.3	36.3	37.9	37.2

TABLE 304

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

NOVEMBER 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.9	35.9		84.7	36.3	36.5	37.7	37.3
0200	37.0	35.9		82.2	36.2	36.2	37.5	37.0
0300	36.9	35.8		82.1	36.1	36.1	37.5	37.5
0400	36.8	35.7		82.8	36.1	36.3	37.4	36.9
0500	36.5	35.7		82.6	36.0	36.5	37.3	36.8
0600	36.7	35.7		82.6	36.0	36.4	37.3	36.8
0700	36.7	35.7		81.8	36.0	36.4	37.5	36.7
0800	36.7	35.7		82.2	36.0	36.3	37.5	36.5
0900	36.7	35.7		82.5	36.0	36.2	37.5	36.6
1000	36.7	35.8		82.2	36.0	36.2	37.5	36.6
1100	36.5	36.0		82.5	36.1	36.1	37.7	36.8
1200	36.7	36.4		82.8	36.2	36.2	37.5	37.0
1300	36.7	36.7		83.5	36.5	36.5	38.2	37.2
1400	37.0	37.0		84.4	36.6	36.6	38.3	37.5
1500	37.1	37.1		84.5	36.6	36.7	38.4	37.8
1600	37.0	37.0		84.7	36.5	36.5	38.5	38.0
1700	37.0	37.0		85.3	36.5	36.6	38.5	38.1
1800	36.9	36.9		85.9	36.6	36.6	38.5	38.1
1900	36.9	36.9		86.4	36.6	36.6	38.4	38.3
2000	37.0	36.9		86.7	36.6	36.6	38.4	38.2
2100	37.0	36.9		86.9	36.7	36.9	38.5	38.1
2200	37.0	36.9		87.3	36.9	36.9	38.5	38.0
2300	37.0	36.9		87.2	36.8	36.9	38.4	38.00
2400	37.0	36.9		87.4	36.9	36.9	38.3	37.5

TABLE 305

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION

DECEMBER 1, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	37.2	36.7	4/	87.4	36.9	36.9	38.3	37.7
0200	37.0	36.7		87.4	36.9	37.0	38.5	37.7
0300	37.2	36.7		87.5	36.9	36.9	38.3	37.5
0400	37.0	36.7		87.8	36.8	36.9	38.0	37.5
0500	37.1	36.6		87.3	36.7	36.7	38.1	37.5
0600	37.0	36.7		87.3	36.6	36.6	38.0	37.5
0700	37.0	36.6		87.4	36.6	36/6	37.9	37.2
0800	37.0	36.5		87.9	36.6	36.6	37.9	37.2
0900	37.3	36.9		88.1	37.2	37.2	38.5	37.5
1000	37.5	37.1		88.1	37.3	37.3	38.3	37.7
1100	37.5	37.4		88.1	37.2	37.2	38.6	37.5
1200	37.6	37.4		88.1	37.2	37.2	38.7	37.7
1300	37.4	37.2		86.4	37.3	37.8	39.0	37.7
1400	38.0	37.6		85.1	37.4	37.8	39.0	38.0
1500	37.7	37.6		84.3	37.4	37.8	39.0	38.0
1600	37.6	37.6		83.7	37.3	37.9	39.2	38.3
1700	37.6	37.5		83.2	37.3	37.9	39.2	37.8
1800	37.8	37.3		83.5	37.3	37.9	39.1	38.4
1900	38.1	37.2		82.8	37.1	37.3	39.0	38.0
2000	38.3	37.2		82.4	37.2	37.2	39.0	38.5
2100	38.6	37.2		81.8	37.4	37.5	39.1	38.3
2200	39.1	37.1		81.6	37.4	37.5	39.1	38.2
2300	39.1	37.0		80.8	37.4	37.4	39.2	38.3
2400	39.1	36.9		80.1	37.4	47.3	39.3	38.3

4/ Sensor malfuntion - no data

TABLE 306

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMMBER 2, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	39.0	36.9		79.7	37.4	37.5	39.3	38.3
0200	38.9	36.9		79.7	37.4	37.5	38.9	38.0
0300	38.1	36.7		78.9	37.4	37.5	38.7	38.5
0400	37.8	36.6		79.2	37.3	37.7	38.7	38.5
0500	37.6	36.5		78.4	37.3	37.5	38.7	38.3
0600	37.5	36.3		78.1	37.0	37.3	38.5	38.0
0700	37.5	36.1		77.5	36.9	37.5	38.5	38.0
0800	37.3	35.9		76.7	36.7	37.2	38.3	37.8
0900	37.3	35.7[2/]	63.0	76.7	36.7	37.4	38.2	37.7
1000	37.2	35.7	62.5	76.4	36.7	37.0	38.2	37.5
1100	37.3	35.9	62.1	75.9	36.7	37.2	38.5	37.5
1200	37.3	36.0	62.0	75.7	36.6	37.2	38.5	37.5
1300	37.2	36.1	62.1	75.5	36.6	36.6	38.5	37.6
1400	37.2	36.3	61.7	75.7	36.7	37.5	38.4	37.8
1500	37.1	36.1	61.7	75.7	36.5	37.0	38.3	37.9
1600	37.0	36.0	61.3	75.5	36.5	37.0	38.3	37.3
1700	36.4	35.6	60.7	75.0	36.3	37.0	37.9	37.5
1800	36.7	35.2	60.6	74.6	36.1	36.9	37.9	37.4
1900	36.6	35.0	60.4	74.3	36.0	36.5	37.4	37.2
2000	36.7	34.8	60.0	74.1	35.9	36.5	37.4	37.0
2100	36.5	34.6	59.9	73.9	35.9	36.5	37.4	36.9
2200	36.5	34.6	59.9	73.9	35.7	36.5	37.2	36.7
2300	36.4	34.2	59.6	73.5	35.7	36.7	37.2	36.7
2400	36.4	34.2	59.6	73.4	35.5	36.5	37.0	36.6

TABLE 307

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 3, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.3	34.0	59.6	73.6	35.4	36.2	36.7	36.3
0200	36.1	34.1	59.4	73.0	35.2	36.4	36.7	36.1
0300	36.1	34.1	59.5	73.3	35.2	36.4	36.6	36.1
0400	36.1	34.1	59.5	73.4	35.2	36.3	36.6	36.1
0500	36.1	34.2	59.7	73.7	35.0	36.3	36.5	36.0
0600	36.1	34.2	59.7	73.7	35.0	36.3	36.3	35.6
0700	36.1	34.3	59.9	73.7	35.0	36.2	36.2	35.6
0800	36.0	34.2	59.9	73.8	34.9	36.1	36.0	35.5
0900	35.8	34.0	59.9	73.7	34.4	35.7	35.9	35.0
1000	35.8	34.0	60.0	73.7	34.4	35.7	35.7	34.9
1100	35.7	34.1	60.3	73.7	34.3	35.5	35.6	34.8
1200	35.7	34.1	60.5	74.0	34.3	35.4	35.6	34.7
1300	35.7	34.2	60.9	73.9	34.2	35.6	35.7	34.7
1400	35.4	34.2	61.2	62.1	34.1	35.6	35.6	34.9
1500	35.4	34.2	61.2	49.8	34.0	35.0	35.0	34.9
1600	35.3	33.9	61.2	50.0	33.7	34.7	34.7	34.7
1700	35.1	33.4	61.3	49.7	33.6	34.6	34.6	34.6
1800	35.0	33.4	61.7	50.0	33.6	34.5	34.5	34.5
1900	35.0	33.1	61.7	50.0	33.4	34.5	34.5	34.5
2000	34.9	33.0	62.0	49.9	33.4	34.4	34.4	34.2
2100	34.9	33.0	61.9	49.9	33.4	34.5	34.5	34.0
2200	34.9	32.9	59.4	50.0	33.4	34.3	34.3	34.3
2300	34.9	32.8	49.0	43.9	33.3	34.2	34.2	34.0
2400	34.8	32.8	47.5	40.5	33.3	34.5	34.0	34.0

TABLE 308

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 4, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	34.7	32.5	47.1	39.9	33.2	34.0	34.0	34.0
0200	34.7	32.5	47.1	39.5	33.1	34.0	34.0	34.0
0300	34.8	32.5	47.1	39.1	33.1	34.0	33.9	33.8
0400	34.7	32.5	47.0	38.9	33.1	33.9	33.8	33.8
0500	34.9	32.6	47.1	39.5	33.2	34.0	33.9	33.9
0600	34.7	32.7	47.3	41.4	33.3	34.0	33.9	33.9
0700	35.0	32.7	44.4	40.0	33.3	[illegible]	34.0	33.9
0800	35.0	32.6	42.6	36.9	33.3	34.0	34.0	34.0
0900	35.0	32.6	42.6	36.0	33.4	34.0	34.0	34.0
1000	35.0	32.6	42.7	34.5	33.4	34.1	34.1	34.1
1100	34.9	32.8	42.9	34.6	33.5	34.2	34.2	34.2
1200	35.0	32.8	43.1	34.3	33.5	34.2	34.2	34.3
1300[2/]	35.0	33.0	43.4	34.7	33.5	34.2	34.2	34.3
1400	35.0	32.8	43.7	38.2	33.5	34.2	34.2	34.4
1500	34.9	32.9	44.0	38.4	33.4	34.1	34.1	34.2
1600	34.9	32.9	44.3	38.4	33.4	34.1	34.1	34.2
1700	34.8	32.8	44.4	38.4	33.3	34.1	34.1	34.3
1800	34.9	32.6	44.7	38.9	33.3	34.0	34.1	34.3
1900	34.9	32.7	44.1	38.4	33.3	34.2	34.3	34.3
2000	35.0	32.8	43.2	38.3	33.5	34.5	34.5	34.5
2100	34.0	32.7	42.5	37.9	33.5	34.4	34.3	34.3
2200	35.0	32.8	[illegible].6	37.5	33.6	34.2	34.7	34.6
2300	35.0	32.8	1	37.2	33.6	34.2	34.7	34.7
2400	35.1	33.0		36.5	33.6	34.1	34.6	34.6

[2/] Instruments zeroed to ground [illegible]uth data

TABLE 309

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 5, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	35.0	32.9	39.0	36.6	33.6	34.0	34.0	34.7
0200	35.2	33.1	38.9	36.5	33.7	34.2	34.1	34.7
0300	35.4	33.2	39.0	36.5	33.7	34.2	34.2	34.7
0400	35.5	33.2	39.0	36.8	33.8	34.2	34.2	34.9
0500	35.5	33.2	39.0	36.5	33.9	34.2	34.2	34.9
0600	35.5	33.1	39.0	36.7	33.9	34.2	34.2	34.8
0700	35.6	33.1	39.0	36.7	33.9	34.3	34.3	34.7
0800	35.9	33.2	39.2	36.9	33.9	34.2	34.2	34.9
0900	35.7	33.2	39.0	36.7	33.9	34.3	34.3	34.0
1000	35.4	33.3	38.8	36.6	33.9	34.2	34.2	35.0
1100	35.1	33.3	38.7	36.7	33.7	34.2	34.2	34.7
1200	35.2	33.6	38.7	36.5	33.8	34.2	34.2	34.9
1300	35.2	33.6	38.4	36.8	33.9	34.4	34.4	34.9
1400	35.4	33.8	38.4	36.7	34.0	34.4	34.4	35.0
1500	35.4	34.0	38.2	36.6	34.0	34.5	34.5	35.0
1600	35.5	33.9	38.2	36.8	34.0	34.6	34.6	35.2
1700	35.5	34.0	38.2	36.8	34.1	34.6	34.6	35.1
1800	35.4	33.9	38.2	36.8	34.1	34.6	34.6	35.2
1900	35.5	34.0	38.2	36.7	34.2	34.6	34.6	35.2
2000	35.6	33.9	38.5	37.0	34.3	34.7	34.7	35.2
2100	35.8	34.2	38.5	36.9	34.5	35.0	35.0	35.5
2200	36.0	34.5	38.8	37.2	34.7	35.0	35.0	35.8
2300	36.0	34.7	38.9	37.5	34.9	35.2	35.2	36.0
2400	36.0	34.6	38.8	37.5	35.0	35.2	35.2	35.9

TABLE 310

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 6, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.1	34.5	38.9	37.4	35.0	35.4	35.4	36.1
0200	36.1	34.5	38.9	37.4	35.0	35.5	35.4	35.6
0300	36.1	34.7	38.6	37.4	35.0	35.2	35.3	35.6
0400	36.2	34.8	38.7	37.3	35.0	35.4	35.4	36.0
0500	36.2	34.9	38.6	37.4	35.0	35.3	35.3	36.1
0600	36.3	34.9	38.6	37.4	35.0	35.3	35.3	36.0
0700	36.3	34.8	38.5	37.3	35.1	35.2	35.3	36.0
0800	36.2	34.7	38.4	37.3	35.1	35.2	35.2	36.0
0900	36.4	34.9	38.4	37.3	35.0	35.2	35.2	36.0
1000	36.3	35.1	38.4	37.6	35.2	35.2	35.2	36.0
1100	36.3	35.1	38.6	37.5	35.2	35.5	35.4	36.0
1200	36.4	35.5	38.9	37.7	35.4	35.5	35.5	36.0
1300	36.4	35.1	38.8	38.0	35.4	35.5	35.7	36.0
1400	36.5	35.6	39.0	37.8	35.4	35.5	35.7	36.1
1500	36.5	35.5	38.8	38.0	35.4	35.5	35.7	36.3
1600	36.4	35.4	38.8	37.8	35.4	35.5	35.6	36.4
1700	36.5	35.5	38.7	38.0	3.55	35.8	35.8	36.5
1800	36.5	35.5	38.7	37.9	35.4	35.7	35.8	36.9
1900	4/	35.5	38.9	37.8	34.4	4/	4/	37.2
2000		35.5	38.9	38.1	34.9			37.4
2100		35.5	38.9	37.8	35.0			37.1
2200		35.4	38.7	38.0	35.1			36.8
2300		35.4	38.7	37.7	35.0			37.1
2400		35.3	38.7	38.0	35.1			37.2

4/ Sensor malfunction - no data

TABLE 311

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 7, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		35.1	38.6	37.8	35.1			37.4
0200		35.1	38.6	37.8	35.3			37.0
0300		35.2	38.7	37.7	35.3			37.0
0400		35.3	38.6	37.6	35.4			36.8
0500		35.3	38.6	37.6	35.4			36.8
0600		35.3	38.5	37.6	35.4			36.6
0700		35.2	38.6	37.6	35.5			36.8
0800		35.1	38.5	37.6	35.5			36.5
0900		35.2	38.5	37.6	35.5			36.6
1000		35.1	38.6	37.8	35.6			36.6
1100		35.1	38.6	37.8	35.6			36.6
1200		35.4	38.6	38.0	35.7			36.6
1300		35.3	38.5	38.0	35.9			36.1
1400		35.3	38.5	37.8	36.0			36.8
1500		35.5	38.5	38.0	36.0			36.6
1600		35.7	38.4	38.5	36.0			36.3
1700		35.9	38.4	38.3	36.3			37.3
1800		35.9	38.4	48.0	36.4			37.2
1900		35.9	38.4	38.0	36.5			37.4
2000		35.9	38.5	38.0	36.5			37.0
2100		36.1	38.6	38.2	36.8			37.0
2200		36.2	38.6	38.5	36.8			37.1
2300		36.2	38.6	38.5	36.8			37.0
2400		36.2	38.6	38.6	36.9			36.9

TABLE 312

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 8, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100		36.1	38.6	39.1	36.9			36.7
0200		36.2	38.4	40.5	37.0			36.8
0300		36.2	38.5	42.5	37.0			36.6
0400		36.2	38.8	43.1	37.0			37.0
0500		36.2	38.4	44.6	36.9			36.6
0600		36.1	38.1	47.9	37.0			36.8
0700		36.1	38.3	51.7	37.0			36.8
0800		36.1	38.5	53.5	36.9			36.8
0900		36.2	39.2	54.9	36.9			36.9
1000		36.2	40.6	56.2	36.8			37.1
1100[2/]		36.1	41.0	57.1	36.6	[2/]	[2/]	36.9
1200	36.6	36.4	42.3	57.6	36.7	35.0	36.4	37.0
1300	36.7	36.6	43.9	58.8	36.8	35.1	36.8	37.3
1400	36.9	36.7	46.6	60.8	36.9	35.3	36.7	37.2
1500	37.0	36.9	48.6	62.8	36.9	35.5	36.8	37.7
1600	36.8	36.8	49.6	64.0	37.0	35.7	37.0	37.9
1700	36.7	36.7	50.8	64.9	36.9	35.7	36.9	37.9
1800	36.6	36.6	51.5	65.4	36.8	35.8	36.7	37.7
1900	36.5	36.5	51.6	65.9	36.8	35.7	36.7	37.4
2000	36.4	36.4	52.0	66.1	36.7	35.8	36.7	37.2
2100	36.8	36.2	53.1	54.2	36.6	35.8	37.1	37.4
2200	36.8	36.1	54.5	56.5	36.6	35.9	37.1	37.3
2300	37.0	36.1	56.3	58.7	36.6	36.0	37.3	37.3
2400	36.9	46.1	57.9	60.6	36.5	35.9	37.3	37.2

[2/] Instruments zeroed to ground truth data

TABLE 313

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 9, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.9	36.1	58.8	61.1	36.5	36.0	37.3	37.2
0200	36.8	36.0	50.7	57.8	36.5	36.0	37.2	37.1
0300	36.8	35.9	50.5	55.3	36.5	36.0	37.0	37.1
0400	36.8	35.9	52.3	56.8	36.4	35.9	36.8	37.3
0500	36.8	35.8	53.3	57.3	36.4	36.0	36.9	37.0
0600	36.8	35.7	53.7	58.7	36.2	36.0	37.0	37.0
0700	36.6	35.6	52.0	58.6	36.0	35.9	36.9	36.9
0800	36.6	35.5	49.9	56.4	36.2	36.0	36.8	37.5
0900	36.6	35.5	50.5	56.9	36.1	35.9	36.7	36.7
1000	36.5	35.3	51.4	57.6	36.0	35.8	36.7	36.7
1100	36.4	35.5	52.0	57.6	37.6	35.9	36.9	36.7
1200	36.3	35.5	52.0	58.4	37.6	36.0	36.7	36.7
1300	36.2	35.6	51.0	57.4	37.6	35.9	36.7	36.7
1400	36.4	35.7	51.4	57.9	37.6	36.0	36.6	36.8
1500	36.5	35.7	51.9	58.5	37.6	36.0	36.6	36.6
1600	36.6	35.7	52.3	58.8	37.5	35.9	36.6	36.7
1700	36.3	35.5	52.5	59.4	37.5	35.9	36.6	36.9
1800	36.4	35.4	52.0	59.1	37.6	36.0	36.6	36.7
1900	36.4	35.3	52.0	59.1	37.5	36.0	36.5	36.4
2000	36.4	35.3	52.2	59.4	37.5	36.0	36.5	36.9
2100	36.4	35.2	52.5	59.6	37.4	36.0	36.5	36.5
2200	36.4	35.1	52.6	59.2	37.3	35.8	36.4	36.4
2300	36.3	35.0	52.6	59.7	37.2	35.9	36.4	36.1
2400	36.3	35.0	52.6	59.6	37.2	35.8	36.5	36.1

TABLE 314

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 10, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	36.2	34.8	52.6	60.0	37.0	36.8	36.6	36.1
0200	36.1	34.8	52.9	56.3	36.9	35.7	36.6	35.9
0300	36.1	34.5	52.9	55.1	36.7	35.7	36.3	35.7
0400	36.1	34.5	53.0	56.6	36.7	35.7	36.2	36.2
0500	36.0	34.3	52.9	58.0	36.6	35.7	36.1	36.0
0600	36.0	34.1	52.8	58.7	36.6	35.7	36.2	35.6
0700	36.0	33.9	50.2	58.0	36.5	35.5	36.0	36.0
0800	35.8	33.9	49.6	56.7	36.5	35.7	36.1	35.7
0900	35.8	33.5	51.1	57.6	36.3	35.5	36.0	35.5
1000	35.8	33.5	52.3	58.0	36.3	35.7	36.1	35.6
1100	35.8	33.5	51.3	58.0	36.3	35.7	36.1	35.6
1200	35.8	33.5	52.3	58.3	36.3	35.7	36.2	35.9
1300	35.9	33.6	50.2	57.7	36.3	35.9	36.2	35.9
1400	35.9	33.6	50.4	58.0	36.3	35.8	36.2	35.7
1500	35.9	33.6	51.0	57.9	36.4	35.9	36.2	35.6
1600	35.9	33.5	51.2	58.3	36.2	35.7	36.0	35.5
1700	35.8	33.4	51.2	58.3	36.2	35.7	36.0	35.5
1800	35.9	33.4	50.8	58,3	36.2	35.8	36.2	35.9
1900	35.8	33.3	50.8	58.1	36.2	35.8	35.9	35.7
2000	35.9	33.2	50.7	57.9	36.1	35.8	36.0	35.6
2100	35.9	33.1	50.9	58.4	36.1	35.9	36.0	35.5
2200	35.9	33.1	51.0	58.4	36.1	35.9	35.9	35.4
2300	35.9	33.0	50.8	58.4	36.0	35.6	35.7	35.1
2400	35.7	33.0	50.6	58.4	36.0	35.6	35.6	35.0

TABLE 315

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 11, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	35.7	32.8	50.6	58.4	35.6	35.5	35.6	35.1
0200	35.5	32.6	50.6	58.5	35.6	35.5	35.5	34.7
0300	35.5	32.5	50.6	58.3	35.4	35.4	35.4	34.5
0400	35.4	32.4	50.5	58.6	35.2	35.2	35.2	34.2
0500	35.4	32.3	50.5	58.4	35.2	35.2	35.2	34.2
0600	35.3	32.3	50.5	58.4	35.1	35.1	35.1	34.1
0700	35.3	32.2	50.5	58.2	35.1	35.1	35.1	34.1
0800	35.2	32.2	50.5	58.2	35.0	35.1	35.1	34.0
0900	35.2	32.1	50.6	58.5	35.0	35.1	35.2	33.8
1000	35.2	32.0	50.7	58.3	35.0	35.1	35.1	33.8
1100	35.1	32.0	50.7	58.2	34.9	35.0	35.1	34.0
1200	35.0	31.9	50.9	58.0	34.9	35.0	35.1	33.7
1300	35.0	31.7	51.1	58.5	34.9	35.0	35.1	33.7
1400	35.0	31.9	51.1	58.6	34.9	35.0	35.0	33.6
1500	35.1	31.9	51.2	59.0	34.9	35.0	35.0	33.5
1600	35.3	32.1	51.1	58.8	35.0	35.2	35.2	33.5
1700	35.2	31.9	50.9	58.6	35.0	35.2	35.2	33.6
1800	35.3	31.9	50.9	58.7	35.0	35.3	35.3	33.6
1900	35.5	32.0	51.1	58.4	35.0	35.4	35.4	33.1
2000	35.4	32.0	51.3	58.6	35.0	35.5	35.4	33.9
2100	35.3	32.0	51.2	58.4	35.0	35.3	35.3	33.5
2200	35.3	31.9	51.1	58.5	35.0	35.3	35.3	33.6
2300	35.4	32.0	51.2	59.1	35.0	35.4	35.4	33.6
2400	35.3	32.0	51.3	50.2	35.0	35.4	35.4	33.6

TABLE 316

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 12, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	35.3	31.9	51.5	45.4	35.0	35.3	34.7	33.6
0200	35.3	31.8	51.6	45.3	35.0	35.3	34.7	33.6
0300	35.1	31.6	51.4	45.2	34.9	35.3	34.6	33.5
0400	35.0	31.6	51.5	45.1	34.9	35.0	34.6	33.4
0500	35.1	31.8	47.7	44.4	34.9	35.0	34.6	33.4
0600	35.0	31.7	42.9	40.0	34.9	35.0	34.2	33.4
0700	35.0	31.8	42.7	39.6	34.8	35.0	34.2	33.5
0800	35.1	31.6	42.7	39.6	34.8	35.0	34.3	33.5
0900	35.1	31.9	42.9	39.8	34.9	34.9	34.3	33.5
1000	35.3	32.1	42.1	39.7	34.9	35.0	34.5	33.6
1100	35.2	32.1	40.0	38.3	35.0	35.1	34.6	33.5
1200	35.3	32.1	39.4	37.8	35.4	35.5	34.1	33.6
1300	35.1	32.1	39.4	37.8	35.6	35.6	34.1	33.8
1400	35.0	32.3	39.8	38.7	35.7	35.8	34.2	34.1
1500	35.1	32.5	39.9	41.3	35.8	35.8	34.4	34.3
1600	35.3	34.1	39.3	45.8	35.9	36.0	34.5	34.0
1700	35.3	32.7	38.9	45.0	35.8	35.8	34.6	24.0
1800	35.1	32.6	38.6	48.0	35.9	35.9	34.5	34.0
1900	35.3	32.5	38.5	49.5	35.9	35.9	34.7	34.0
2000	35.3	32.5	38.6	50.1	35.9	36.0	34.7	33.9
2100	35.3	32.5	39.1	51.0	36.0	36.0	34.7	34.1
2200	35.3	32.3	39.9	52.1	36.0	36.0	34.8	34.1
2300	35.2	32.4	42.8	54.6	36.1	36.1	35.0	34.1
2400	35.2	32.3	44.1	56.6	36.1	36.1	35.1	34.0

TABLE 317

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
DECEMBER 13, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	35.4	32.4	45.4	57.2	36.0	36.0	35.0	33.8
0200	35.4	32.5	46.8	58.2	36.0	36.0	35.1	33.8
0300	35.5	32.6	47.6	59.1	35.7	35.7	35.3	34.0
0400	35.5	32.5	47.8	59.9	35.5	35.5	35.3	34.0
0500	35.5	32.5	48.0	50.8	35.5	35.5	35.2	34.1
0600	35.2	32.1	47.9	60.4	35.5	35.5	35.3	34.0
0700	35.3	31.9	50.0	61.0	35.4	35.4	35.2	33.8
0800	35.2	31.8	50.0	61.2	35.4	35.4	35.2	33.8
0900	35.2	31.6	50.5	61.4	35.2	35.2	35.2	33.6
1000	35.2	31.7	51.0	62.3	35.2	35.3	35.2	33.6
1100	35.2	31.7	51.2	62.9	35.3	35.3	35.2	33.7
1200	35.3	31.9	51.7	62.9	35.3	35.4	35.3	33.7
1300	35.3	32.3	52.2	63.7	35.5	35.5	35.6	34.0
1400	35.4	32.4	52.7	62.7	35.5	35.5	35.5	34.1
1500	35.4	32.5	53.4	65.1	35.5	35.5	35.5	34.3
1600	35.4	32.6	54.0	65.6	35.4	35.5	35.4	34.2
1700	35.2	32.3	54.4	65.8	35.4	35.4	35.4	34.3
1800	35.2	32.1	55.0	66.5	35.4	35.4	35.4	34.2
1900	35.3	31.9	55.0	66.7	35.2	35.2	35.2	34.1
2000	35.4	31.8	55.0	66.7	35.3	35.3	35.3	34.0
2100	35.4	31.7	55.4	66.6	35.2	35.3	35.3	33.9
2200	35.3	31.5	55.7	67.0	35.2	35.2	35.2	33.9
2300	35.3	31.4	56.0	67.4	35.2	35.5	35.4	33.8
2400	35.2	31.4	56.2	66.2	35.1	35.2	35.2	33.6

TABLE 318

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 14, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	35.2	31.3	56.5	67.5	35.0	35.2	35.2	33.6
0200	35.2	31.4	56.6	67.6	35.0	35.3	35.3	33.6
0300	35.1	31.3	56.9	67.7	34.8	35.1	35.2	33.5
0400	35.0	31.2	57.0	68.1	34.9	35.1	35.1	33.4
0500	35.1	31.3	57.2	68.0	34.9	35.1	35.1	33.4
0600	35.1	31.3	57.6	67.5	34.8	35.1	35.1	33.4
0700	35.1	31.5	58.3	67.5	34.9	35.2	35.2	33.4
0800	35.1	31.3	58.3	67.6	34.8	35.1	35.1	33.2
0900	35.1	31.5	58.5	67.6	34.8	35.2	35.2	33.4
1000	35.0	31.5	58.9	68.3	34.9	35.2	35.2	33.4
1100	35.1	31.6	59.3	68.6	34.9	35.5	35.5	33.5
1200	35.2	31.6	59.4	69.4	34.9	35.5	35.5	33.5
1300	35.0	31.6	59.1	69.2	35.0	35.5	35.5	33.4
1400	35.2	31.8	59.1	69.0	35.2	35.6	35.5	33.6
1500	35.1	32.0	59.1	69.2	35.3	35.6	35.6	33.6
1600	35.2	32.1	59.1	69.6	35.2	35.6	35.6	33.8
1700	35.0	32.1	59.6	69.8	35.2	35.5	35.6	33.7
1800	35.0	32.0	59.9	70.5	35.1	35.5	35.6	33.7
1900	35.2	31.8	60.4	70.5	35.1	35.3	35.9	33.8
2000	35.2	31.8	60.2	70.6	35.0	35.1	35.9	33.9
2100	35.1	31.8	60.2	69.7	35.1	35.5	36.0	33.8
2200	35.1	31.6	60.0	68.2	35.1	35.2	36.0	33.7
2300	35.1	31.7	59.9	62.6	35.1	35.5	36.0	33.6
2400	35.2	31.7	60.0	66.9	35.1	35.6	36.0	33.5

TABLE 319

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 15, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	35.2	31.7	60.0	49.5	35.1	35.5	36.0	33.6
0200	35.2	31.6	60.2	57.0	35.0	36.0	36.0	33.7
0300	35.1	31.6	60.6	68.1	35.0	35.8	36.0	33.3
0400	35.0	31.5	60.6	63.0	35.0	35.6	36.0	33.2
0500	35.0	31.5	60.3	65.7	34.9	35.7	36.0	33.1
0600	35.0	31.6	60.2	60.8	34.9	35.6	36.0	33.1
0700	35.0	31.5	60.4	60.6	34.9	35.9	36.1	33.1
0800	35.1	31.5	60.5	57.6	34.9	36.1	36.1	33.2
0900	35.1	31.5	60.8	62.8	35.0	35.7	36.1	33.2
1000	35.1	31.5	60.1	66.7	35.0	36.0	36.1	33.2
1100	35.2	31.6	61.6	64.5	35.0	35.9	36.3	33.2
1200	35.4	32.0	62.2	64.8	35.2	35.8	36.3	33.4
1300	35.8	32.1	62.5	58.8	35.4	36.0	37.2	33.4
1400	35.8	32.1	62.5	63.2	35.3	36.0	36.5	33.7
1500	35.8	32.3	65.0	65.5	35.4	36.0	36.6	33.9
1600	35.7	32.3	66.0	65.9	35.4	36.0	36.6	34.0
1700	35.8	32.3	67.2	67.2	35.4	36.0	36.9	34.0
1800	35.7	32.3	60.6	67.2	35.3	36.0	37.0	34.0
1900	35.7	32.1	58.2	60.1	35.3	36.0	36.5	34.0
2000	35.8	32.1	57.1	61.0	35.2	35.6	36.6	33.9
2100	35.7	32.1	58.0	62.1	35.3	35.7	36.9	34.0
2200	35.7	32.1	58.8	63.0	35.3	35.8	36.9	33.9
2300	35.8	32.2	58.6	63.4	35.3	35.6	36.7	34.0
2400	35.7	32.1	54.0	60.2	35.7	35.7	36.6	33.9

TABLE 320

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 16, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	35.8	32.1	54.7	60.0	35.4	35.6	36.5	33.9
0200	35.8	32.1	54.8	60.6	35.4	35.7	36.7	33.9
0300	35.9	32.2	55.4	61.0	35.4	35.6	36.6	33.9
0400	35.7	32.1	55.5	61.2	35.5	35.6	36.7	33.9
0500	35.7	32.0	53.8	60.2	35.5	36.0	36.5	34.0
0600	35.7	32.0	53.5	59.8	35.5	35.7	36.3	33.9
0700	35.7	32.1	53.8	60.0	35.5	35.6	36.5	33.8
0800	35.7	32.1	53.9	60.2	35.4	36.0	36.5	33.8
0900	35.7	31.9	54.0	60.7	35.3	35.8	34.5	33.9
1000	35.7	38.6	53.7	38.8	35.4	35.6	34.5	33.9
1100	35.7	50.7	52.1	38.5	35.5	35.5	34.5	34.0
1200	35.8	41.0	53.5	40.5	35.7	35.6	34.7	34.2
1300	36.0	40.0	53.6	40.0	35.7	35.7	34.7	34.4
1400	36.0	40.6	54.9	40.0	35.8	35.8	34.8	34.5
1500[2/]	36.0	40.8	62.8	40.0	36.0	36.0	34.6	34.6
1600	32.6	45.6	53.5	65.9	32.9	32.1	20.2	33.3
1700	32.6	44.5	53.2	62.7	32.7	32.1	33.4	33.4
1800	32.6	45.2	53.2	64.0	32.5	32.0	33.3	33.3
1900	32.5	44.5	53.5	63.2	32.5	32.0	33.4	33.4
2000	32.4	44.6	53.7	63.5	32.4	32.0	33.2	33.2
2100	32.5	46.3	61.0	61.8	32.5	32.6	33.3	33.2
2200	32.4	45.0	60.8	62.3	32.4	32.6	33.1	33.1
2300	32.5	48.4	60.5	62.2	23.5	32.8	33.3	33.1
2400	32.5	48.2	60.2	61.5	32.4	32.6	33.2	33.0

[2/] Instruments zeroed to ground truth data

TABLE 321

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 17, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	47.5	60.0	61.0	32.4	32.6	33.1	33.0
0200	32.5	44.8	60.5	63.5	32.5	32.6	33.1	33.0
0300	32.4	45.1	63.4	59.5	32.5	32.5	33.1	32.7
0400	32.4	47.4	63.3	61.6	32.5	32.6	33.2	33.0
0500	32.4	47.5	63.3	62.8	32.4	32.6	33.3	33.0
0600	32.4	47.7	63.8	64.4	32.4	32.6	33.3	33.0
0700	32.3	48.2	62.5	64.0	32.4	32.7	33.3	32.7
0800	32.3	43.2	55.4	94.6	32.3	32.1	35.1	32.9
0900	32.4	36.8	55.2	81.4	32.5	32.0	35.3	33.0
1000	32.5	36.9	56.4	81.0	32.5	32.1	35.4	32.7
1100	32.4	36.8	57.0	85.5	32.6	33.0	35.3	32.8
1200	32.6	37.1	55.8	82.8	32.6	32.9	35.3	32.7
1300	32.6	37.1	54.1	87.0	32.6	32.9	35.3	32.7
1400	32.6	37.4	54.4	84.0	32.6	33.0	35.3	33.0
1500	32.7	37.4	55.0	85.5	32.7	33.0	35.3	33.1
1600	37.7	37.7	55.9	83.9	32.7	32.7	35.3	33.0
1700	32.6	37.6	55.0	88.0	32.6	32.6	35.2	33.0
1800	32.6	37.6	55.0	90.0	32.6	32.6	35.3	33.0
1900	32.6	37.2	55.0	101.7	32.5	32.6	35.3	33.0
2000	32.6	37.4	54.8	101.5	32.6	32.7	35.4	33.1
2100	32.5	37.4	53.7	99.9	32.6	32.6	35.2	33.1
2200	32.5	37.4	53.5	100.0	32.6	32.6	35.2	33.1
2300	32.5	37.3	53.7	101.4	32.6	32.6	35.3	33.0
2400	32.6	373.3	54.2	105.5	32.6	32.4	35.2	33.1

TABLE 322

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 18, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.6	37.1	54.6	105.7	32.5	32.4	35.2	33.1
0200	32.6	37.1	54.9	96.7	32.6	32.4	35.0	33.1
0300	32.6	36.8	54.8	96.7	32.6	32.2	34.8	33.0
0400	32.5	37.0	54.8	100.0	32.6	32.2	35.0	33.1
0500	32.4	36.8	54.5	103.5	32.6	32.1	34.9	33.0
0600	32.5	36.9	54.5	106.2	32.6	32.1	34.9	33.0
0700	32.5	36.8	55.6	109.0	32.5	32.0	35.0	32.9
0800	32.5	36.8	55.6	109.0	32.5	32.0	35.0	32.9
0900	32.5	36.7	51.0	106.6	32.6	32.1	34.9	32.9
1000	32.5	36.8	49.4	104.5	32.5	32.1	34.7	33.0
1100	32.5	36.8	50.8	104.1	32.5	32.1	34.7	33.0
1200	32.3	36.7	52.2	105.3	32.5	32.0	34.6	32.7
1300	32.2	36.7	53.5[2/]	105.6[2/]	32.3	32.4	35.6	32.8
1400	32.2	36.7	64.7	77.3	32.3	32.4	34.8	32.8
1500	32.3	36.6	65.0	76.9	32.3	32.4	34.5	32.8
1600	32.3	36.5	63.5	77.3	32.3	32.4	34.6	32.9
1700	32.3	36.5	63.5	77.3	32.3	32.4	34.6	32.9
1800	32.2	36.4	61.9	76.3	32.2	32.3	34.5	32.6
1900	32.2	36.3	61.2	75.9	32.1	32.3	34.2	32.6
2000	32.1	36.2	61.6	58.6	32.0	32.2	34.5	32.6
2100	32.1	36.0	61.5	61.2	31.9	32.2	34.9	32.6
2200	32.0	35.9	61.6	63.0	31.8	32.2	34.9	32.4
2300	32.0	36.0	61.9	63.6	31.9	32.4	34.9	32.4
2400	32.0	35.9	61.4	62.7	31.9	32.1	34.6	32.1

[2/] Instruments zeored to ground truth data

TABLE 323

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 19, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	36.0	53.4	59.9	32.0	32.4	45.6	32.1
0200	32.0	35.8	48.6	54.8	31.9	32.4	34.2	31.8
0300	32.1	36.1	49.7	55.2	31.9	32.2	34.3	31.8
0400	32.0	35.9	49.9	55.6	31.8	32.2	34.3	31.8
0500	32.1	36.0	49.9	56.0	31.9	32.3	34.3	31.8
0600	32.0	35.9	49.0	55.2	31.8	32.2	34.2	31.8
0700	32.1	36.0	45.5	53.8	31.8	32.2	34.2	31.8
0800	31.8	35.8	44.6	52.7	31.8	32.1	34.1	31.7
0900	31.8	36.0	45.1	52.7	31.8	32.1	34.2	31.7
1000	31.8	36.1	45.6	54.0	31.9	32.0	34.1	31.9
1100	31.8	36.1	45.6	54.0	31.9	32.0	34.1	31.9
1200	31.8	36.0	45.0	53.8	31.9	32.2	34.0	31.9
1300	31.9	35.9	44.2	53.1	32.8	32.3	34.0	32.0
1400	31.9	36.1	44.6	53.2	32.8	32.3	34.0	32.0
1500	31.9	36.0	45.2	54.0	32.8	32.3	33.9	32.1
1600	31.9	36.0	34.7	36.7	32.6	32.2	33.6	32.0
1700	32.0	36.0	45.5	46.4	32.5	32.2	33.6	32.0
1800	32.0	36.1	45.0	46.2	32.6	32.3	33.5	32.1
1900	31.9	36.0	44.8	48.2	32.6	32.1	33.7	32.0
2000	32.0	36.2	44.9	48.6	32.4	32.2	34.0	32.1
2100	32.1	36.1	41.1	49.0	32.4	32.1	33.9	32.1
2200	32.1	36.2	40.2	48.5	32.9	32.2	33.9	32.1
2300	32.0	36.1	40.1	48.5	32.8	32.2	33.9	32.1
2400	32.0	36.1	41.0	48.8	32.8	32.5	34.0	32.0

TABLE 324

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 20, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	31.9	36.0	41.9	49.0	32.6	32.5	33.9	32.0
0200	31.9	36.0	41.6	49.2	32.6	32.6	33.9	32.0
0300	31.9	35.0	41.0	48.8	32.6	32.5	33.8	32.0
0400	31.8	36.0	40.8	48.5	32.2	32.4	33.9	32.0
0500	31.8	36.0	41.0	48.9	32.3	32.4	33.9	31.9
0600	31.8	36.0	41.1	49.0	32.7	32.7	33.8	31.8
0700	31/9	36.0	41.4	49.5	32.8	32.8	33.8	31.9
0800	31.8	35.9	41.0	49.2	32.5	32.4	33.8	31.9
0900	31.8	36.0	41.1	49.6	32.6	32.4	33.9	31.9
1000	31.8	36.0	41.2	50.0	32.6	32.3	33.9	32.0
1100	31.9	36.1	41.6	50.3	33.0	32.3	34.0	32.0
1200	32.0	36.1	42.2	51.0	32.8	32.3	34.0	32.0
1300	32.0	36.1	42.7	51.3	33.1	32.3	34.1	32.1
1400	32.1	36.1	43.0	51.8	32.9	32.3	34.1	32.2
1500	32.1	36.1	43.5	52.6	32.1	32.1	34.1	32.2
1600	32.0	36.3	44.0	53.1	32.1	32.1	34.3	32.2
1700	32.1	36.3	44.3	53.8	32.1	32.2	34.3	32.2
1800	32.1	36.2	44.6	53.8	32.1	32.3	34.2	32.2
1900	32.1	36.1	44.7	54.7	32.0	32.3	34.3	32.3
2000	32.1	36.3	45.0	55.5	32.1	32.3	34.5	32.3
2100	32.1	36.2	45.3	56.2	32.1	32.4	34.4	32.1
2200	32.1	36.3	46.1	56.6	32.1	32.5	34.5	32.3
2300	32.0	35.3	46.1	55.3	32.0	32.3	34.3	32.1
2400	32.0	35.3	46.3	55.7	32.1	32.3	34.3	32.3

TABLE 325

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 21, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.0	36.3	47.4	56.3	32.0	32.2	34.3	32.2
0200	32.0	35.3	47.9	55.5	32.1	32.4	34.3	32.2
0300	32.1	36.3	48.5	55.0	32.0	32.4	34.3	32.2
0400	32.0	36.2	47.6	54.9	32.0	32.2	34.2	32.1
0500	32.1	36.2	47.6	55.6	32.0	32.4	34.2	32.1
0600	32.0	36.2	48.0	56.4	32.0	32.0	34.3	32.1
0700	32.0	36.1	47.5	57.5	32.0	32.1	34.3	32.2
0800	32.0	36.1	47.0	57.1	32.0	32.4	34.3	32.2
0900	31.9	36.1	47.2	57.2	32.0	32.2	34.3	32.2
1000	31.9	31.3	47.8	57.8	32.0	32.0	34.3	32.2
1100	32.0	36.3	48.4	58.0	32.0	32.1	34.4	32.2
1200	32.0	36.4	49.4	58.6	32.1	32.3	34.6	32.3
1300	32.0	36.4	49.5	58.6	32.1	32.3	34.4	32.4
1400	32.1	36.5	49.9	63.6	32.2	32.3	34.4	32.5
1500	32.1	36.4	50.0	55.6	32.1	32.3	34.3	32.5
1600	32.1	36.6	50.4	56.7	32.1	32.3	34.5	32.6
1700	32.1	36.4	50.6	57.6	32.1	32.3	34.6	32.6
1800	32.1	36.5	50.7	57.8	32.1	32.5	34.6	32.6
1900	32.3	36.5	47.5	56.7	32.1	32.5	34.6	32.6
2000	32.1	36.5	48.9	57.3	32.1	32.5	34.6	32.5
2100	32.1	36.5	48.9	57.3	32.1	32.5	34.6	32.5
2200	32.1	36.3	49.5	57.3	32.0	32.5	34.5	32.4
2300	32.2	36.4	50.0	58.3	32.0	32.5	34.5	32.4
2400	32.0	36.3	49.3	58.5	32.0	32.2	34.5	32.2

TABLE 326

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
DECEMBER 22, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	32.0	36.4	48.9	57.3	32.0	32.3	34.5	32.3
0200	32.1	36.3	49.3	58.3	32.0	32.3	34.5	32.3
0300	32.1	36.3	49.6	58.4	32.0	32.3	34.5	32.3
0400	32.0	35.3	50.0	59.2	32.0	32.3	34.5	32.3
0500	32.0	35.3	50.0	60.0	32.0	32.5	34.5	32.3
0600	32.1	36.4	49.8	59.7	32.0	32.5	34.5	32.3
0700	32.1	36.4	49.8	60.0	32.0	32.4	34.6	32.2
0800	32.1	36.4	50.1	60.5	32.0	32.4	34.6	32.3
0900	32.1	36.3	50.5	61.0	32.0	32.5	34.7	32.2
1000	32.1	36.5	50.9	60.9	32.0	32.5	34.6	32.3
1100	32.2	36.5	51.4	61.0	32.0	32.5	34.7	32.5
1200	32.2	36.5	51.8	61.0	32.0	32.5	34.8	32.5
1300	32.4	36.7	52.3	62.0	32.6	32.2	34.9	32.6
1400	32.3	36.6	53.2	62.2	32.1	32.7	34.8	32.6
1500	32.3	36.8	53.5	62.7	32.1	32.7	35.0	32.7
1600	32.4	36.7	53.6	63.2	32.1	32.8	35.0	32.7
1700	32.3	36.6	32.6	64.0	32.1	32.5	35.0	32.7
1800	32.2	36.6	53.8	64.5	32.0	32.5	35.0	32.7
1900	32.2	36.5	54.1	64.3	32.0	32.5	35.0	32.7
2000	32.2	36.6	54.5	65.9	32.1	32.7	35.2	32.6
2100	32.3	36.5	54.7	66.3	32.0	32.5	35.2	32.6
2200	32.3	36.6	55.4	66.8	32.0	32.5	35.2	32.6
2300	32.3	36.5	56.0	67.1	32.0	32.5	35.3	32.6
2400	32.2	36.5	56.5	67.3	32.0	32.5	35.2	32.6

TABLE 327

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 23, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	36.5	57.2	67.5	32.0	32.5	35.3	32.6
0200	32.2	36.4	57.5	68.0	31.9	32.5	35.2	32.5
0300	32.2	36.5	57.9	67.9	32.0	32.5	35.3	32.5
0400	32.2	36.3	58.2	68.3	32.0	32.5	35.2	32.5
0500	32.3	36.4	58.3	68.1	32.0	32.5	35.3	32.5
0600	32.3	36.4	58.5	68.5	32.0	32.5	35.2	32.5
0700	32.3	36/4	59.0	68.6	32.0	32.6	35.2	32.5
0800	32.3	36.4	59.0	68.6	32.0	32.6	35.2	32.5
0900	32.2	36.5	59.0	68.6	32.0	32.6	35.4	32.5
1000	32.3	36.6	59.3	69.0	32.1	32.6	35.4	32.6
1100	32.3	36.5	59.6	69.2	32.0	32.6	35.3	32.6
1200	32.3	36.6	59.9	72.2	32.0	32.3	35.1	32.6
1300	32.4	36.6	60.6	73.6	32.1	32.5	35.1	32.7
1400	32.3	36.6	61.3	74.2	32.1	32.5	35.1	32.9
1500	32.4	36.7	61.8	49.0	32.1	32.5	33.9	32.9
1600	32.3	42.6	65.1	80.6	32.0	32.4	33.7	32.8
1700	32.3	37.2	66.5	84.6	31.9	32.7	33.3	32.9
1800	32.2	36.7	67.8	85.8	31.9	32.8	33.3	32.9
1900	32.3	37.3	72.1	89.2	32.0	33.0	33.3	32.8
2000	32.3	37.6	74.9	92.4	32.1	32.9	33.2	32.8
2100	32.3	38.6	76.1	94.4	32.1	33.0	33.2	32.8
2200	32.3	38.9	78.7	96.3	32.1	32.9	33.2	32.7
2300	32.3	41.6	80.8	98.4	32.0	33.0	33.2	32.7
2400	32.3	41.6	82.4	100.2	32.0	33.0	33.2	32.6

TABLE 328

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 24, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.2	46.6	83.4	100.8	32.0	32.9	33.2	32.6
0200	32.2	42.6	84.9	101.9	32.0	33.0	33.1	32.6
0300	32.3	47.1	86.1	103.2	32.0	32.9	33.1	32.6
0400	32.2	49.1	86.5	103.9	31.8	32.9	33.0	32.6
0500	32.2	47.6	86.8	104.2	32.0	33.0	33.0	32.6
0600	32.1	50.0	87.2	104.5	32.1	32.6	32.0	32.6
0700	32.1	51.7	87.7	105.3	32.0	32.5	33.0	32.5
0800	32.2	52.6	87.4	104.3	32.0	32.9	33.1	32.5
0900	32.2	52.4	87.8	106.0	32.0	32.6	33.0	32.5
1000	32.3	49.3	88.0	106.6	32.0	32.6	33.0	32.5
1100	32.3	49.8	88.0	107.0	32.0	32.6	33.0	32.5
1200	32.2	52.7	88.0	106.5 [2/]	32.0	32.5	33.0	32.5
1300	32.4	53.8 [2/]	88.4	106.9 [2/]	32.0	32.6	33.0	32.5
1400	32.6	48.5	80.2	104.0	32.6	33.2	33.4	33.0
1500	32.7	47.9	85.2	103.9	32.6	33.4	33.5	33.0
1600	32.6	47.6	85.6	104.4	32.6	33.4	33.3	32.9
1700	32.5	47.3	86.0	104.6	32.6	33.2	33.3	32.9
1800	32.5	[illegible]	86.2	105.5	32.6	33.4	33.4	32.9
1900	32.6		86.2	105.7	32.6	33.3	33.4	32.9
2000	32.5		86.5	106.2	32.6	33.3	33.3	32.9
2100	32.5	49.9	86.8	106.9	32.6	33.4	33.5	32.8
2200	32.5	48.1	87.0	107.2	32.6	33.4	33.4	32.9
2300	32.4	47.3	87.6	107.7	32.6	33.3	33.3	32.7
2400	32.4	46.9	88.2	108.2	32.5	33.5	33.5	32.7

TABLE 329

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 25, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	32.4	44.2	88.4	108.6	32.6	34.5	34.0	32.6
0200	32.4	51.0	88.6	109.0	32.5	33.4	33.5	32.6
0300	32.6	36.6	88.0	90.4	46.3	34.0	38.5	32.6
0400	32.5	36.6	85.2	63.8	35.6	33.6	35.9	32.6
0500	32.6	36.6	82.1	76.4	33.6	33.0	34.9	32.7
0600	32.6	36.6	87.5	87.8	37.6	33.0	35.1	32.6
0700	32.5	38.3	78.2	4/	32.5	33.0	34.6	32.5
0800	32.5	44.1	58.8		32.5	33.0	34.4	32.5
0900	32.5	36.4	67.2		32.4	32.6	34.1	32.5
1000	32.4	36.4	72.5		32.4	33.0	35.0	33.3
1100	32.4	36.4	72.2		32.3	32.8	35.0	33.2
1200	32.2	36.3	65.2		32.1	33.1	34.7	33.5
1300	32.1	36.3	63.0		32.1	33.0	34.5	33.1
1400	32.1	36.2	64.5		32.1	33.0	34.5	33.4
1500	32.1	36.3	64.0		32.1	33.1	34.5	33.6
1600	32.2	36.3	61.0		32.1	33.0	34.7	33.6
1700	32.2	36.3	56.4		32.2	33.2	34.8	34.0
1800	32.2	36.3	58.0		32.2	33.0	34.8	33.6
1900	32.2	36.3	57.6		32.2	33.0	34.8	34.0
2000	32.2	36.2	56.9		32.2	33.3	34.8	34.2
2100	32.4	36.4	54.3		32.4	32.8	34.9	34.0
2200	32.5	36.5	54.4		32.5	33.0	34.7	34.1
2300	32.6	36.6	54.7		32.6	33.1	35.0	34.4
2400	32.8	36.7	54.7		32.7	33.3	35.0	34.5

4/ Sensor malfunction, no data

TABLE 330

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 26, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors A	B	C	D
0100	32.6	36.8	54.0		32.7	33.3	35.0	34.5
0200	32.6	36.7	53.9		32.7	33.1	35.1	34.4
0300	32.5	36.6	54.5		32.6	33.5	35.0	34.5
0400	32.5	36.6	54.5		32.6	33.6	35.1	34.5
0500	32.5	36.7	54.2		32.5	33.2	35.0	34.3
0600	32.4	36.7	54.2		32.5	33.2	35.0	34.3
0700	32.5	36.6	54.0		32.5	33.0	35.0	34.2
0800	32.4	36.5	53.8		32.3	32.8	34.7	34.1
0900	32.1	36.4	53.7		32.2	32.7	34.8	34.0
1000	32.4	36.5	54.3		32.5	33.0	35.0	34.2
1100	32.4	36.7	54.7		32.6	33.4	35.0	34.5
1200	32.5	36.7	54.6		32.6	33.4	35.0	34.4
1300	32.7	36.8	54.7		32.7	33.5	35.0	34.2
1400	32.8	36.8	54.7		32.7	33.5	35.0	34.6
1500	32.8	36.8	54.7		32.6	33.5	35.1	34.5
1600	32.8	36.8	54.7	2/	32.6	33.5	35.2	34.9
1700	32.8	36.7	53.9	65.5	32.6	33.5	35.8	32.9
1800	32.8	36.7	53.9	64.9	32.6	33.5	35.8	32.9
1900	32.6	36.6	54.6	65.7	32.5	33.2	35.8	32.7
2000	32.5	36.5	55.8	67.5	32.4	32.7	35.7	32.6
2100	32.4	36.4	56.1	68.8	32.3	32.7	35.7	32.5
2200	32.5	36.3	55.6	68.9	32.2	32.7	35.7	32.5
2300	32.4	36.3	55.7	69.2	32.1	32.6	35.7	32.5
2400	32.3	36.3	57.3	70.4	32.1	32.6	35.7	32.5

2/ Instrument zeroed to ground truth data

TABLE 331

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
DECEMBER 27, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.3	36.3	58.5	72.2	32.1	32.6	35.8	32.4
0200	32.3	36.2	58.6	71.8	32.1	33.2	35.8	32.5
0300	32.3	36.2	58.8	72.1	32.1	33.2	35.9	32.5
0400	32.4	36.2	59.4	72.4	32.1	33.3	35.8	32.5
0500	32.4	36.2	60.4	73.5	32.2	33.3	35.9	32.5
0600	32.4	36.2	60.5	74.6	32.2	33.3	35.9	32.5
0700	32.3	36.2	60.4	74.6	32.2	33.3	36.0	32.4
0800	32.5	36.3	60.6	75.2	32.2	33.3	36.0	32.5
0900	32.5	36.4	61.7	76.1	32.2	33.5	36.1	32.6
1000	32.7	36.6	63.0	77.2	32.5	33.7	36.4	32.9
1100	32.9	36.8	63.5	71.2	32.7	33.7	36.5	33.0
1200	33.0	36.9	64.1	74.3	32.7	33.3	36.5	33.0
1300	32.9	36.9	65.0	77.1	32.4	33.3	36.5	33.0
1400	33.0	37.0	66.0	78.6	32.5	33.2	36.6	33.1
1500	32.9	36.9	62.6	77.2	32.6	33.2	36.6	33.1
1600	32.9	37.0	64.1	77.4	32.6	33.2	36.5	33.0
1700	32.8	36.9	65.9	75.9	32.6	33.2	36.6	33.0
1800	32.7	36.8	67.1	77.1	32.6	33.2	36.4	32.9
1900	32.7	36.7	66.1	78.6	32.5	33.0	36.4	32.8
2000	32.5	36.6	66.1	77.5	23.4	33.7	36.4	32.8
2100	32.5	36.5	65.0	77.5	32.2	33.6	36.2	32.6
2200	32.5	36.3	65.5	76.8	32.2	33.6	36.0	32.5
2300	32.4	36.3	66.7	77.2	32.1	33.6	36.1	32.5
2400	32.5	36.4	66.0	73.9	32.1	33.6	36.0	32.6

TABLE 332

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 28, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors. A	B	C	D
0100	32.4	36.4	66.0	75.1	32.1	33.6	36.1	32.6
0200	32.4	36.4	65.2	76.0	32.1	33.7	36.1	32.6
0300	32.4	36.3	65.7	76.5	32.1	33.7	36.1	32.5
0400	32.4	36.3	63.5	75.1	32.1	33.6	36.1	32.5
0500	32.4	36.3	64.0	76.4	32.1	33.0	36.0	32.5
0600	32.5	36.4	65.0	77.9	32.2	33.0	36.2	32.5
0700	32.6	36.4	65.6	78.6	32.4	33.0	36.2	32.6
0800	32.6	36.5	64.9	78.5	32.5	33.0	36.4	32.7
0900	32.7	36.7	66.0	78.7	32.6	33.1	36.5	32.8
1000	32.8	36.9	67.6	80.9	33.9	33.5	36.7	33.0
1100	32.9	36.9	68.2	81.5	32.7	33.3	36.7	33.0
1200	33.0	37.0	68.5	82.1	32.6	33.4	36.8	33.1
1300	32.9	37.0	68.8	82.4	32.6	33.4	36.8	33.1
1400	32.9	37.0	70.2	83.2	32.6	33.5	36.8	33.1
1500	32.9	37.0	70.7	83.9	32.6	33.4	36.9	33.1
1600	32.8	36.9	71.2	84.4	32.5	33.4	36.8	33.0
1700	32.7	36.9	71.2	84.4	32.6	33.5	36.8	33.0
1800	32.6	36.7	71.9	84.5	32.4	33.0	36.6	32.9
1900	32.5	36.6	72.4	85.0	32.2	33.3	36.6	32.9
2000	32.5	36.6	72.7	85.5	23.8	33.3	36.5	32.7
2100	32.4	36.5	73.0	85.9	32.1	33.1	36.6	32.7
2200	32.4	36.5	73.2	85.8	32.1	33.1	36.6	32.7
2300	32.4	36.5	73.5	86.2	32.2	33.0	36.5	32.7
2400	32.4	36.5	73.8	86.2	32.2	33.0	36.5	32.8

TABLE 333

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 29, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	36.4	74.0	86.5	32.2	33.0	36.5	32.7
0200	32.4	36.5	74.0	86.3	32.2	33.1	36.5	32.7
0300	32.4	36.5	74.0	86.3	32.2	33.0	36.6	32.9
0400	32.4	36.5	74.0	86.0	32.2	33.2	36.7	32.9
0500	32.6	36.6	74.0	86.4	32.2	33.0	36.6	32.9
0600	32.5	36.6	74.0	86.0	32.3	33.2	36.7	32.9
0700	32.7	36.7	74.1	85.1	32.5	33.1	36.8	33.1
0800	32.8	36.8	74.1	86.2	32.6	33.4	36.9	33.2
0900	33.0	37.0	74.5	87.0	23.8	33.4	32.0	33.4
1000	33.0	37.1	74.7	86.6	32.9	34.0	37.1	33.5
1100	33.0	37.1	74.7	86.6	32.9	34.0	37.1	33.5
1200	33.0	37.1	74.9	87.2	32.9	33.9	37.2	33.5
1300	33.0	37.4	75.5	87.4	32.8	33.7	37.2	33.6
1400	33.0	37.5	75.7	87.5	33.9	33.9	37.4	33.8
1500	33.0	37.4	75.7	86.7	35.1	34.2	37.4	33.8
1600	33.0	37.4	75.4	86.2	35.0	34.0	37.2	33.8
1700	32.9	37.4	75.1	85.7	35.3	34.1	37.2	33.7
1800	37.8	37.1	75.3	86.1	33.9	33.9	37.0	33.6
1900	32.6	37.0	74.7	85.5	34.9	34.1	36.9	33.6
2000	32.6	36.9	73.9	85.0	32.6	34.0	36.9	33.5
2100	32.5	36.8	73.5	84.1	33.6	33.7	36.9	33.4
2200	32.4	36.7	73.4	84.1	34.0	33.9	36.7	33.3
2300	32.4	36.7	72.1	83.4	34.2	34.0	36.7	33.2
2400	32.5	36.6	71.3	83.5	34.7	33.3	36.6	33.3

TABLE 334

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,
DECEMBER 30, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.4	36.6	71.0	84.1	34.0	33.1	36.8	33.2
0200	32.4	36.6	70.8	84.1	35.4	33.1	36.7	33.2
0300	32.4	36.6	70.6	83.9	34.8	33.0	36.7	33.2
0400	32.4	36.5	70.6	83.7	34.3	33.0	36.5	33.2
0500	32.4	36.6	71.2	84.2	34.0	33.1	36.7	33.2
0600	32.4	36.6	71.2	84.4	34.3	33.1	36.6	33.2
0700	32.4	36.7	70.8	84.3	34.3	33.1	36.6	33.1
0800	32.5	36.7	70.4	84.1	33.5	33.1	36.5	33.1
0900	32.8	36.9	70.6	68.8	33.9	35.0	36.9	36.6
1000	32.8	36.9	70.2	70.6	33.4	33.8	36.3	33.2
1100	32.8	37.0	70.0	73.4	32.9	33.2	36.6	33.4
1200	32.7	37.0	69.7	73.7	33.1	33.2	36.5	33.2
1300[2/]	32.8	36.9	62.1	75.8	32.0	33.6	35.3	32.9
1400	32.8	33.4	68.6	71.3	29.9	33.3	34.2	36.9
1500	32.9	32.6	72.2	77.9	29.1	33.4	34.6	26.9
1600	32.8	33.5	73.0	80.2	28.6	33.4	34.9	26.8
1700	32.8	33.5	71.5	80.5	29.3	33.3	34.7	26.9
1800	32.9	33.5	63.6	74.4	29.3	33.4	34.5	27.0
1900	32.9	33.5	67.6	78.2	29.1	33.4	34.5	26.9
2000	32.9	33.5	69.4	80.5	30.0	33.4	34.7	27.0
2100	33.0	33.5	69.6	82.1	28.9	33.4	34.9	27.0
2200	32.9	33.5	66.4	80.5	28.6	33.4	34.9	27.0
2300	32.9	33.5	68.0	81.8	28.5	33.3	34.7	27.0
2400	32.9	33.5	70.1	84.0	28.5	33.4	34.9	27.0

[2/] Instruments zeroed to ground truth data

TABLE 335

HOURLY WATER TEMPERATURE (°F) DATA, QUAD-CITIES STATION,

DECEMBER 31, 1980

Time	Upstream	Intake	Cooling Canal Cold End	Discharge	Downstream Sensors			
					A	B	C	D
0100	32.8	33.4	71.8	84.2	28.6	33.4	35.0	27.0
0200	32.9	33.4	70.5	85.5	29.9	33.5	34.9	27.0
0300	32.7	33.3	71.0	85.2	28.8	33.2	34.9	26.9
0400	32.7	33.2	72.4	86.7	28.5	33.2	34.9	26.9
0500	32.7	33.2	73.0	87.3	28.6	33.2	35.0	26.9
0600	32.7	33.2	73.8	88.2	28.6	33.1	35.0	26.9
0700	32.7	33.2	73.8	88.5	29.1	33.1	34.9	26.6
0800	32.7	33.1	74.7	88.6	29.1	33.1	34.9	26.8
0900	32.7	33.2	75.4	88.6	29.0	33.1	34.9	26.7
1000	32.6	33.1	76.4	88.6	28.4	33.1	34.8	26.7
1100	32.6	33.1	76.4	88.6	28.4	33.1	34.8	26.7
1200	32.6	33.1	76.4	4/	29.0	33.0	34.1	28.0
1300	32.6	33.2	75.1		28.5	33.1	34.1	28.9
1400	32.6	33.3	75.9		28.5	33.1	34.1	28.7
1500	32.8	33.5	76.7		28.6	33.5	34.2	28.7
1600	32.8	33.4	77.8		28.6	33.3	34.5	29.0
1700	32.8	33.4	77.5		28.6	33.2	34.4	28.9
1800	32.8	33.4	78.6		28.6	33.9	34.5	29.0
1900	32.6	33.2	78.7		28.6	33.9	34.5	29.1
2000	32.7	33.3	79.2		28.6	34.0	34.5	29.3
2100	32.7	33.3	79.4		28.6	33.8	34.4	29.1
2200	23.7	33.3	79.3		28.6	34.0	34.4	29.4
2300	32.6	33.2	78.8		28.5	34.0	34.5	29.2
2400	32.6	33.2	78/8		28.4	34.1	34.5	29.2

4/ Sensor malfunction - no data