



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

June 22, 1992

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Gentlemen:

In the Matter of  
Tennessee Valley Authority

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Docket Nos. 50-327  
50-328

EMERGENCY RESPONSE DATA SYSTEM (ERDS) - DATA POINT LIBRARY

Enclosed is TVA's updated Data Point Library for Sequoyah Nuclear Plant Units 1 and 2. This update supplies the additional information requested by the NRC ERDS Project Manager. Please process as soon as possible so that software testing with NUS may begin.

If you have questions, please telephone S. W. Spencer at (615) 751-4778.

Sincerely,

Mark J. Burzynski  
Manager  
Nuclear Licensing and Regulatory Affairs

Enclosure  
cc: See page 2

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Updated Unit 1

SEQUOYAH UNIT 1 - ERDS DATA POINT LIBRARY

	SIMULATION	INDICATES REAL OR SIMULATED DATA
1.		
2.	NI POWER RNG	UN2000 POWER RNG AVG
3.	NI INTER RNG	UN1015 INTER RNG FLUX (LOG)
4.	NI SOURC RNG	UN1014 Source Range Flux (Log)
5.	REAC VES LEV	UL6000 RVLIS LOWER RANGE AVERAGE
6.	TEMP CORE EX	UT1003 CORE EXIT TEMP MAX
7.	CUB MARGIN	UT1005 MIN SUBCOOL
8.	SG LEVEL 1/A	UL1001 SG 1 NR LEVEL AVG
9.	SG LEVEL 2/B	UL1002 SG 2 NR LEVEL AVG
10.	SG LEVEL 3/C	UL1003 SG 3 NR LEVEL AVG
11.	SG LEVEL 4/D	UL1004 SG 4 NR LEVEL AVG
12.	SG PRESS 1/A	UP1002 SG 1 MS PRESSURE AVG
13.	SG PRESS 2/B	UP1003 SG 2 MS PRESSURE AVG
14.	SG PRESS 2/C	UP1004 SG 3 MS PRESSURE AVG
15.	SG PRESS 4/D	UP1005 SG 4 MS PRESSURE AVG
16.	MN FD FL 1/A	UF1000 SG 1 FW FLOW AVG
17.	MN FD FL 2/B	UF1001 SG 2 FW FLOW AVG
18.	MN FD FL 3/C	UF1002 SG 3 FW FLOW AVG
19.	MN FD FL 4/D	UF1003 SG 4 FW FLOW AVG
20.	AX FW FL 1/A	1-FM3-163B STM GEN 1 AFW INLET FLOW
21.	AX FW FL 2/B	1-FM3-155B STM GEN 2 AFW INLET FLOW
22.	AX FW FL 3/C	1-FM3-147B STM GEN 3 AFW INLET FLOW
23.	AX FW FL 4/D	1-FM3-170B STM GEN 4 AFW INLET FLOW
24.	HL TEMP 1/A	1-TM68-1B LP 1 HL WID RNG TEMP
25.	HL TEMP 2/B	1-TM68-24B LP 2 HL WID RNG TEMP
26.	HL TEMP 3/C	1-TM68-43B LP 3 HL WID RNG TEMP
27.	HL TEMP 4/D	1-TM68-65B LP 4 HL WID RNG TEMP
28.	CL TEMP 1/A	1-TE68-18 LP 1 CL WID RNG TEMP
29.	CL TEMP 2/B	1-TE68-41 LP 2 CL WID RNG TEMP
30.	CL TEMP 3/C	1-TE68-60 LP 3 CL WID RNG TEMP
31.	CL TEMP 4/D	1-TE68-83 LP 4 CL WID RNG TEMP
32.	RCS PRESSURE	UP1000 RCS WIDE RNG PRESS AVG
33.	PRZR LEVEL	UL1005 PRZR LEV AVG
34.	RCS CHG/MU	UF1016 NET CHG FLO
35.	HP SI FLOW	UF1010 SI FLOW TOTAL
36.	LP SI FLOW	UF1011 RHR COLD LEG TOTAL FLOW
37.	CNTMT SMP WR	UL1011 CNTMT SUMP LEV AVG
38.	EPF GAS RAD	1-RM90-400 Unit 1 Shield Bldg Release Rate
39.	LFF GAS RAD	2-RM90-400 Unit 2 Shield Bldg Release Rate
40.	LFF LIQ RAD	0-RE90-122 WDS Liquid Effluent
41.	COND A/E RAD	UR1006 Low Range COND VAC PUMP AIR EXH RAD MON
42.	COND A/E RAD	UR1007 Mid Rng COND VAC PUMP AIR EXH RAD MON
43.	COND A/E RAD	UR1008 High Rng COND VAC PUMP AIR EXH RAD MON
44.	CNTMT RAD	UR6021 UPPER CONTAINMENT RADIATION
45.	CNTMT RAD	UR6022 LOWER CONTAINMENT RADIATION
46.	MAIN SL 1/A	UR1001 MN STEAM LINE 1 RAD LEV
47.	MAIN SL 2/B	UR1002 MN STEAM LINE 2 RAD LEV
48.	MAIN SL 3/C	UR1003 MN STEAM LINE 3 RAD LEV
49.	MAIN SL 4/D	UR1004 MN STEAM LINE 4 RAD LEV
50.	SG BD RAD 1A	1-RE90-120 Steam Generator Blowdown Liquid Monitor
51.	SG BD RAD 2B	1-RE90-121 Steam Generator Blowdown Liquid Monitor
52.	CNTMT PRESS	UP6000 CNTMT PRESSURE AVERAGE
53.	CNTMT TEMP	UT1004 CONTAINMENT TEMP MAX DEV
54.	H2 CONC	UY1005 H2 CONC AVG
55.	RWST LEVEL	UL1000 RWST LEVEL
56.	WIND SPEED	91M VECTOR WIND SPEED (15 MIN AVG)
57.	WIND SPEED	46M VECTOR WIND SPEED (15 MIN AVG)
58.	WIND SPEED	10M VECTOR WIND SPEED (15 MIN AVG)
59.	WIND DIR	91M VECTOR WIND DIR (15 MIN AVG)
60.	WIND DIR	46M VECTOR WIND DIR (15 MIN AVG)
61.	WIND DIR	10M VECTOR WIND DIR (15 MIN AVG)
62.	STAB CLASS	Stability Class Upper



63. STAB CLASS  
64. STAB CLASS

Stability Class Intermediate  
Stability Class Lower

ERDS point number 1.

SIMULATION

REAL/SIMULATED DATA

Date: 06/09/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter:  
Point ID: SIMULATION  
Plant Spec Point Desc: INDICATES REAL OR SIMULATED DATA  
Generic/Cond Desc: REAL/SIMULATED DATA

Analog/Digital: D  
Engr Units/Dig States: REAL/SIMUL  
Engr Units Conversion: N/A  
Minimum Instr Range: N/A  
Maximum Instr Range: N/A  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 0  
How Processed: 0 IF REAL, 1 IF SIMULATED  
Sensor Locations: N/A  
Alarm/Trip Set Points: N/A

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: N/A  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: THIS POINT IS USED TO INDICATE WHETHER THE DATA IS COMING FROM THE UNIT OR FROM THE SIMULATOR

ERDS point number 2. NI POWER RNG UN2000 Reactor Power

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: NI POWER RNG  
Point ID: UN2000  
Plant Spec Point Desc: POWER RNG AVG  
Generic/Cond Desc: Reactor Power

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: 0-10V = 0-120% Power (Linear)  
Minimum Instr Range: 0  
Maximum Instr Range: 120  
Zerc Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 8  
How Processed: AVG  
Sensor Locations: Upper & Lower excore detectors  
Alarm/Trip Set Points: Rod Stop=103% Overpwr Reactor Trip=109%

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (No forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: From TSC Upper & Lower detection inputs for  
1-NE92-41,42,43,44.

ERDS point number 3. NI INTER RNG UN1015 Reactor Power - Intermediate Rng

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: NI INTER RNG  
Point ID: UN1015  
Plant Spec Point Desc: INTER RNG FLUX (LOG)  
Generic/Cond Desc: Reactor Power - Intermediate Rng

Analog/Digital: A  
Engr Units/Dig States: LOGPC  
Engr Units Conversion: OUTPUT(V) = [LOG(%Power)]+8  
Minimum Instr Range: -8  
Maximum Instr Range: 2.301  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVG  
Sensor Locations: AZ 0 deg & 180 deg Excore  
Alarm/Trip Set Points: Rod Stop - 20% , Reactor Trip - 25% Pwr

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (no forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Avg of XI-92-5003(channel N35) and 5004 (channel N36)

ERDS point number 4. NI SOURC RNG UN1014 Reactor Power - Source Range

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: NI SOURC RNG  
Point ID: UN1014  
Plant Spec Point Desc: Source Range Flux (Log)  
Generic/Cond Desc: Reactor Power - Source Range

Analog/Digital: A  
Engr Units/Dig States: CPS  
Engr Units Conversion:  $OUTPUT(V) = [Log(CPS)] * 1.667$   
Minimum Instr Range: 10E0  
Maximum Instr Range: 10E6  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Avg.  
Sensor Locations: AZ 0 deg. & 180 deg. Excore  
Alarm/Trip Set Points: Reactor Trip - 10E5 CPS

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (No forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Avg of XI-92-5001(channel N31) & 5002 (channel N32) Detectors  
(2 chambers/detector)



ERDS point number 5. REAC VES LEV UL6000 Reactor Vessel Water Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: REAC VES LEV  
Point ID: UL6000  
Plant Spec Point Desc: RVLIS LOWER RANGE AVERAGE  
Generic/Cond Desc: Reactor Vessel Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 70  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote location in the Penetration Rooms  
Alarm/Trip Set Points: High at 50 % Low at 0%

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: This is the lower range portion of the Rx Vessel level indication. The lower range provides indication of the reactor vessel level from the bottom of the vessel to the hot leg during natural circulation conditions. Average of 1-LM-58-368E and -371E.

ERDS point number 6. TEMP CORE EX UT1003 Highest Core Exit Temperature

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: TEMP CORE EX  
Point ID: UT1003  
Plant Spec Point Desc: CORE EXIT TEMP MAX  
Generic/Cond Desc: Highest Core Exit Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: TYPE K T Table  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 59  
How Processed: HIGHEST  
Sensor Locations: Throughout core  
Alarm/Trip Set Points: High at 700 DEGF Low at 0 DEGF

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Eliminates open TC's  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: INCORE Thermocouples processed through "Exosensor" system. The system is divisionalized into 2 divisions. Total of 60 elements with one TC inoperable. The numeric is the higher of 1-XM-94-103-69 and 1-XM-94-103-75.

ERDS point number 7. SUB MARGIN UT1005 Saturation Temp. - Highest CET

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SUB MARGIN  
Point ID: UT1005  
Plant Spec Point Desc: MIN SUBCOOL  
Generic/Cond Desc: Saturation Temp. - Highest CET

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: TYPE K TC Table  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 59  
How Processed: Highest  
Sensor Locations: Throughout Core  
Alarm/Trip Set Points: Low at 15 DEGF, High at 130 DEGF

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Eliminates open TC's  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: INCORE Thermocouples processed through "Exosensor" System.  
The system is divisionalized into 2 divisions. Total of 60  
TC with one TC inoperable.



ERDS point number 8. SG LEVEL 1/A UL1001 Steam Generator 1 Water Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 1/A  
Point ID: UL1001  
Plant Spec Point Desc: SG 1 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 1 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #1 Water Level. Average of 1-LT-3-39 and -42

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 2/B  
Point ID: UL1002  
Plant Spec Point Desc: SG 2 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 2 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #2 Water Level. Average of 1-LT-3-52 and -55

ERDS point number 10. SG LEVEL 3/C UL1003 Steam Generator 3 Water Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 3/C  
Point ID: UL1003  
Plant Spec Point Desc: SG 3 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 3 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #3 Water Level. Average of 1-LT-3-94 and -97

ERDS point number 11. SG LEVEL 4/D UL1004 Steam Generator 4 Water Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 4/D  
Point ID: UL1004  
Plant Spec Point Desc: SG 4 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 4 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #4 Water Level. Average of 1-LT-3-107 and -110.

ERDS point number 12.      SG PRESS 1/A      UP1002      Steam Generator 1 Pressure

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 1/A  
Point ID: UP1002  
Plant Spec Point Desc: SG 1 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 1 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote Location in Penetration Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #1 Pressure. Average of 1-PT-1-2A and 1-PT-1-2B.



ERDS point number 13.      SG PRESS 2/B      UP1003      Steam Generator 2 Pressure

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 2/B  
Point ID: UP1003  
Plant Spec Point Desc: SG 2 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 2 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote location in East Valve Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #2 Pressure. Average of 1-PT-1-9A and 1-PT-1-9B.

ERDS point number 14.

SG PRESS 3/C

UP1004

Steam Generator 3 Pressure

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 3/C  
Point ID: UP1004  
Plant Spec Point Desc: SG 3 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 3 Pressure

Analog/Digital: A  
Engr Units/Dig States: ISIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote Location in East Valve Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #3 Pressure. Average of 1-PT-1-20A and 1-PT-1-20B.

ERDS point number 15.

SG PRESS 4/D

UP1005

Steam Generator 4 Pressure

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 4/D  
Point ID: UP1005  
Plant Spec Point Desc: SG 4 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 4 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SEWS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote location in Penetration Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #4 Pressure. Average of 1-PT-1-27A and 1-PT-1-27B.



ERDS point number 16.      MN FD FL 1/A      UF1000      Stm Gen 1 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 1/A  
Point ID: UF1000  
Plant Spec Point Desc: SG 1 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 1 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 1, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH      Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 1 Main Feedwater Flow. Average of 1-FT-3-35A and 1-FT-3-35B.

ERDS point number 17.

MN FD FL 2/B

UF1001

Stm Gen 2 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 2/B  
Point ID: UF1001  
Plant Spec Point Desc: SG 2 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 2 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 2, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 2 Main Feedwater Flow. Average of 1-FT-3-48A and 1-FT-3-48B.

ERDS point number 18.

MN FD FL 3/C

UF1002

Stm Gen 3 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 3/C  
Point ID: UF1002  
Plant Spec Point Desc: SG 3 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 3 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 3, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 3 Main Feedwater Flow. Average of 1-FT-3-90A and 1-FT-3-90B.

ERDS point number 19.

MN FD FL 4/D

UF1003

Stm Gen 4 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 4/D  
Point ID: UF1003  
Plant Spec Point Desc: SG 4 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 4 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 4, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 4 Main Feedwater Flow. Average of  
1-FT-3-103A and 1-FT-3-103B.

ERDS point number 20. AX FW FL 1/A 1-FM3-163B Stm Gen 1 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 1 'A  
Point ID: 1-FM3-163B  
Plant Spec Point Desc: STM GEN 1 A/V INLET FLOW  
Generic/Cond Desc: Stm Gen 1 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Down Stream of MDAFW, TDAFW tie to S/G1  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPS share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPS and turbine-driven AFWP, is 440 and 880 gpm, respectively.



ERDS point number 21.      AX FW FL 2/B      1-FM3-155B      Stm Gen 2 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 2/B  
Point ID: 1-FM3-155B  
Plant Spec Point Desc: STM GEN 2 AFW INLET FLOW  
Generic/Cond Desc: Stm Gen 2 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Lig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC cr SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 2  
Alarm/Trip Set Points: No alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPS share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPS and turbine-driven AFWP, is 440 and 880 gpm, respectively.

ERDS point number 22. AX FW 1 1-FM3-147B Stm Gen 3 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 3/C  
Point ID: 1-FM3-147B  
Plant Spec Point Desc: STM GEN 3 AFW INLET FLOW  
Generic/Cond Desc: Stm Gen 3 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 3  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPS share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPS and turbine-driven AFWP, is 440 and 880 gpm, respectively.

ERDS point number 23. AX FW FL 4/D 1-FM3-170B Stm Gen 4 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 4/D  
Point ID: 1-FM3-170B  
Plant Spec Point Desc: STM GEN 4 AFW INLET FLOW  
Generic/Cond Desc: Stm Gen 4 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 410  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 4  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System De.

There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPs share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPs and Turbine-driven AFWP, is 440 and 880 gpm, respectively.



ERDS point number 24. HL TEMP 1/A 1-TM68-1B Stm Gen 1 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 1/A  
Point ID: 1-TM68-1B  
Plant Spec Point Desc: LP 1 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 1 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On Loop 1 RCS hot leg piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temperature within required limits.

ERDS point number 25. HL TEMP 2/B 1-TM68-24B Stm Gen 2 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC YR13 Parameter: HL TEMP 2/B  
Point ID: 1-TM68-24B  
Plant Spec Point Desc: LP 2 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 2 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 2 RCS Hot Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temp. within required limits.

ERDS point number 26. HL TEMP 3/C 1-TM68-43B Stm Gen 3 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 3/C  
Point ID: 1-TM68-43B  
Plant Spec Point Desc: LP 3 HL WID RNG TEMP  
Generic/Cozd Desc: Stm Gen 3 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 3 RCS Hot Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temp. is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temp. within required limits.

ERDS point number 27. HL TEMP 4/D 1-TM68-65B Stm Gen 4 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 4/D  
Point ID: 1-TM68-65B  
Plant Spec Point Desc: LP 4 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 4 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 7^0  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 4 RCS Hot Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temp. indication is also used to control RCS pressure and temperature within required limits.

ERDS point number 28. CL TEMP 1/A 1-TE68-18 Stm Gen 1 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 1/A  
Point ID: 1-TE68-18  
Plant Spec Point Desc: LP 1 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 1 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 1 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS cold leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verifying natural circulation.

ERDS point number 29. CL TEMP 2/B 1-TE68-41 Stm Gen 2 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 2/B  
Point ID: 1-TE68-41  
Plant Spec Point Desc: LP 2 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 2 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 2 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS cold leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling APW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natural circulation.

ERDS point number 30. CL TEMP 3/C 1-TE68-60 Stm Gen 3 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC EFSS Parameter: CL TEMP 3/C  
Point ID: 1-TE68-60  
Plant Spec Point Desc: LP 3 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 3 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1.5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 3 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS Cold Leg Temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natural circulation.

ERDS point number 31. CL TEMP 4/D 1-TE68-83 Stm Gen 4 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 4/D  
Point ID: 1-TE68-83  
Plant Spec Point Desc: LP 4 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 4 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 4 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS Cold Leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temp. while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natural circulation.



ERDS point number 32.      RCS PRESSURE      UP1000      Reactor Coolant System Pressure

Date: 05/21/92  
Reactor Unit: SE1  
Peta feeder: 1  
NRC ERDS Parameter: RCS PRESSURE  
Point ID: UP1000  
Plant Spec Point Desc: RCS WIDE RNG PRESS AVG  
Generic/Cond Desc: Reactor Coolant System Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: 1-5 VDC=0-3000 PSIG  
Minimum Instr Range: 0  
Maximum Instr Range: 3000  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 3  
How Processed: AVERAGE  
Sensor Locations: RCS Hot Legs 1,3,4  
Alarm/Trip Set Points: Low 1865 PSIG RxTrip, High 2390 PSIG RxTr

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS pressure determined by this point is the average of 3 signals which measure wide range hot leg pressures. (1-PT-68-62, -66, and -68) RCS pressure indication is utilized by the operators to identify events for SI actuation and termination, starting and stopping RHR pumps, and controlling cooldown to prevent PTS. The alarm trip setpoints are actuated by pressurized pressure transmitters at the given setpoints.

ERDS point number 33. PRZR LEVEL UL1005 Primary System Pressurizer Level

Date: 05/21/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: PRZR LEVEL  
Point ID: UL1005  
Plant Spec Point Desc: PRZR LEV AVG  
Generic/Cond Desc: Primary System Pressurizer Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 3  
How Processed: Average  
Sensor Locations: TAPs from Pressurizer  
Alarm/Trip Set Points: High at 92% Rx Trip

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: The pressurizer level is an averaged signal from 3 level transmitters. (1-IT-68-320, -335, -339) Pressurized level indication is used for manual action throughout the emergency procedures such as: SI initiation and termination, isolation of letdown and charging, and identify a LOCA. The level is measured through use of sealed bellows on the reference leg.

ERDS point number 34.      RCS CHG/MU      UF1016      Primary System Charging / Makeup

Date:                              05/21/92  
Reactor Unit:                      SE1  
Data feeder:                        1  
NRC ERDS Parameter:                RCS CHG/MU  
Point ID:                            UF1016  
Plant Spec Point Desc:              NET CHG FLO  
Generic/Cond Desc:                 Primary System Charging / Makeup

Analog/Digital:                    A  
Engr Units/Dig States:              GPM  
Engr Units Conversion:              N/A  
Minimum Instr Range:                -200  
Maximum Instr Range:                176  
Zero Point Reference:                N/A  
Reference Point Notes:               N/A

PROC or SENS:                      P  
Number of Sensors:                  6  
How Processed:                      Subtraction  
Sensor Locations:                    COP Pmp, RCP Seal/Leakoff, RCS Letdown  
Alarm/Trip Set Points:               No Alarms

NID power cutoff level:             N/A  
NID power cut-on level:             N/A  
Instrument Failure Mode:            Multiple due to number of sensors  
Temperature Compensation:          N  
Level Reference Leg:                 N/A

Unique System Desc:                The net charging flow is calculated by subtracting RCP seal return, and CVCS letdown flow from the discharge flow of the charging pump. The design charging flow is between 55 and 100 GPM during normal operation.

ERDS point number 35.      HP SI FLOW      UF1010      High Pressure Safety Inj. Flow

Date: 05/21/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: HP SI FLOW  
Point ID: UF1010  
Plant Spec Point Desc: SI FLOW TOTAL  
Generic/Cond Desc: High Pressure Safety Inj. Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1600  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: F  
Number of Sensors: 2  
How Processed: Sum  
Sensor Locations: Discharge of Safety Injection Pumps  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The total flow is measured by adding the discharge flow rates from two Safety Injection Pumps. The total accident flow rates for cold leg injection or recirculation and hot leg recirculation can be monitored by this point. Safety Injection Pumps on miniflow will not show flow since miniflow path is upstream of flow element. The design flow rate is 425 GPM @ 2500 ft of head for each SI Pump.  
(Sum of 1-PT-63-20 and -151)

ERDS point number 36.      LP SI FLOW      UF1011      Low Pressure Safety Inj. Flow

Date: 05/21/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: LP SI FLOW  
Point ID: UF1011  
Plant Spec Point Desc: RHR COLD LEG TOTAL FLOW  
Generic/Cond Desc: Low Pressure Safety Inj. Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 11000  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Average  
Sensor Locations: RHR Cold Legs 2,3, and 1,4 Piping  
Alarm/Trip Set Points: None

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The RHR Cold Leg Flow Rate value is calculated by summing the average flow from cold legs 2 and 3 with the average flow from cold legs 1 and 4. The design flow rate for a RHR pump is 3000 GPM at 375 feet of head. Flow sensors include 1-FT-63-91A and -91B, 1-FT-63-92A and -92B.

ERDS point number 37. CNTMT SMP WR UL1011 Containment Sump Wide Rng Lvl

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CNTMT SMP WR  
Point ID: UL1011  
Plant Spec Point Desc: CNTMT SUMP LEV AVG  
Generic/Cond Desc: Containment Sump Wide Rng Lvl

Analog/Digital: A  
Engr Units/Dig States: 4  
Engr Units Conversion: 14=2.4 inches of water  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: CNTFLR  
Reference Point Notes: The containment floor is elevation 680

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Average, Redundant Sensor Algorithm  
Sensor Locations: Containment Sump  
Alarm/Trip Set Points: 114 Containment Sump Swapover

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The containment average sump level is calculated by a redundant sensor algorithm using four sump level transmitters. The containment sump level indicates loss of coolant in the containment and determines if sufficient volume of water for recirculation mode. The transfer from RWST to containment sump setpoint is 114, which is approximately 2.5 feet above containment floor elevation. (averages 1-LT-63-176, -177, -178, and -179)



ERDS point number 38.      EFF GAS RAD      1-RM90-400      Release Rt of Radioactive Gases

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: EFF GAS RAD  
Point ID: 1-RM90-400  
Plant Spec Point Desc: Unit 1 Shield Bldg Release Rate  
Generic/Cond Desc: Release Rt of Radioactive Gases

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E-2 uCi/sec  
Maximum Instr Range: 10E10 uCi/sec  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sampled Totalized times flow rate  
Sensor Locations: Auxiliary Bldg  
Alarm/Trip Set Points: 31,000 uCi/sec

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOM or Loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Unit 1 shield Bldg Exhaust. To obtain true release rate, Unit 2 monitor must also be checked. Flow path for Unit 1 can be either the Unit 1 or the Unit 2 stack.

ERDS point number 39.      EFF GAS RAD      2-RM90-400      Release Rt. of Radioactive Gases

Date:                                    12/02/91  
Reactor Unit:                          SE1  
Data feeder:                            1  
NRC ERDS Parameter:                    EFF GAS RAD  
Point ID:                                2-RM90-400  
Plant Spec Point Desc:                  Unit 2 Shield Bldg Release Rate  
Generic/Cond Desc:                      Release Rt. of Radioactive Gases

Analog/Digital:                        A  
Engr Units/Dig States:                  uCi/sec  
Engr Units Conversion:                  N/A  
Minimum Instr Range:                    10E-2 uCi/sec  
Maximum Instr Range:                    10E10 uCi/sec  
Zero Point Reference:                    N/A  
Reference Point Notes:                   N/A

PROC or SENS:                           P  
Number of Sensors:                      3  
How Processed:                           Sampled Totalized times flow rate  
Sensor Locations:                        Auxiliary Bldg  
Alarm/Trip Set Points:                   31,000 uCi/sec

NID power cutoff level:                  N/A  
NID power cut-on level:                  N/A  
Instrument Failure Mode:                  Low on Loss of Power  
Temperature Compensation:                N  
Level Reference Leg:                      N/A

Unique System Desc:                      Unit 2 shield bldg exhaust. To obtain true release rate,  
Unit 1 monitor must also be checked. Flow path for Unit 1  
can be either the Unit 1 or the Unit 2 stack.

ERDS point number 40. EPF LIQ RAD 0-RE90-122 Radioactivity of Released Liquid

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: EPF LIQ RAD  
Point ID: 0-RE90-122  
Plant Spec Point Desc: WDS Liquid Effluent  
Generic/Cond Desc: Radioactivity of Released Liquid

Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Auxiliary Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Waste Disposal System Liquid Effluent  
This computer point is in counts per minute.

ERDS point number 41.      COND A/E RAD      UR1006      Cond Air Ejector Radioactivity

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: COND A/E RAD  
Point ID: UR1006  
Plant Spec Point Desc: Low Range COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc: Cond Air Ejector Radioactivity

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Cond Flow \* Dose  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full range. This point uses inputs from 1-FT2-256 and 1-RE90-119 to compute dose rates.

ERDS point number 42.

COND A/E RAD

UR1007

Cond Air Ejector Radioactivity

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: COND A/E RAD  
Point ID: UR1007  
Plant Spec Point Desc: Mid Rng COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc: Cond Air Ejector Radioactivity

Analog/Digital: A  
Engr Units/Dig States: uCi/ c  
Engr Units Conversion: N/A  
Minimum Instr Range: .17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: COND FLOW \* DOSE  
Sensor Locations: Turbine Bldg.  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full range. This point uses inputs from 1-FT2-256 & 1-RE90-99 to compute dose rates.

ERDS point number 43.      COND A/E RAD      UR1008      Cond Air Ejector Radioactivity

Date:                            12/02/91  
Reactor Unit:                    SE1  
Data feeder:                    1  
NRC ERDS Parameter:            COND A/E RAD  
Point ID:                        UR1008  
Plant Spec Point Desc:         High Rng COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc:             Cond Air Ejector Radioactivity

Analog/Digital:                A  
Engr Units/Dig States:         uCi/sec  
Engr Units Conversion:         N/A  
Minimum Instr Range:          -.17E+39  
Maximum Instr Range:          .17E+39  
Zero Point Reference:          N/A  
Reference Point Notes:         N/A

PROC or SENS:                  P  
Number of Sensors:              2  
How Processed:                  COND FLOW \* DOSE  
Sensor Locations:                Turbine Bldg  
Alarm/Trip Set Points:         Variable

NID power cutoff level:        N/A  
NID power cut-on level:        N/A  
Instrument Failure Mode:        Low on Loss of Power  
Temperature Compensation:      N  
Level Reference Leg:            N/A

Unique System Desc:            Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full  
range. This point uses inputs from 1-FT2-256 & 1-RE90-404B  
to compute dose rates.



ERDS point number 44. CNTMNT RAD UR6021 Containment Radiation Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CNTMNT RAD  
Point ID: UR6021  
Plant Spec Point Desc: UPPER CONTAINMENT RADIATION  
Generic/Cond Desc: Containment Radiation Level

Analog/Digital: A  
Engr Units/Dig States: R/hour  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 R/hour  
Maximum Instr Range: 10E8 R/hour  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Upper Containment  
Alarm/Trip Set Points: 100 R/hour

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Upper Containment High Range Area Monitors  
Inputs are 1-RE90-271 & 1-RE90-272.

ERDS point number 45.      CNTMNT RAD      UR6022      Lower Containment Radiation Lvl

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CNTMNT RAD  
Point ID: UR6022  
Plant Spec Point Desc: LOWER CONTAINMENT RADIATION  
Generic/Cond Desc: Lower Containment Radiation Lvl

Analog/Digital: A  
Engr Units/Dig States: R/hour  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 R/hour  
Maximum Instr Range: 10E8 R/hour  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Lower Containment  
Alarm/Trip Set Points: 100 R/hour

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Lower Containment High Range Area Monitor  
Inputs are 1-RE90-273 and 1-RE90-274.

ERDS point number 46.

MAIN SL 1/A

UR1001

Stm Gen 1 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 1/A  
Point ID: UR1001  
Plant Spec Point Desc: MN STEAM LINE 1 RAD LEV  
Generic/Cond Desc: Stm Gen 1 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5 * 10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc:

Main Steam Line #1 Radioactivity Monitor  
This value is calculated as the product of main steam line release rate, steam radioactivity, specific vol. of steam and a conversion constant. The PORV's for each steam generator are monitored. If a PORV is 'NOT CLOSED', this vlv is assumed to contribute 890000 lb/hr flow to atmosphere. There are 5 code safety valves for each S/G. The main steam line header pressure is monitored to determine condition of each valve. Each open valve contributes 890000 lb/hr to flow rate. (Rad Mon 1-RM-90-421)

ERDS point number 47.

MAIN SL 2/B

UR1002

Stm Gen 2 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 2/B  
Point ID: UR1002  
Plant Spec Point Desc: MN STEAM LINE 2 RAD LEV  
Generic/Cond Desc: Stm Gen 2 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCI/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points: 8.5\*10E-3

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #2 Radioactivity Monitor. This value is calculated as product of main steam line release rate, steam radioactivity, specific vol of steam, and a conversion constant. PORV's for each steam generator are monitored. If PORV is 'NOT CLOSED', valve is assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves for each S/G. Main steam line header pressure is monitored to determine condition of valves. Each open valve is assumed to contribute an additional 890000 lb/hr to flow rate. (rad Mon 1-RM-90-422)

ERDS point number 48.

MAIN SL 3/C

UR1003

Stm Gen 3 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SB1  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 3/C  
Point ID: UR1003  
Plant Spec Point Desc: MN STEAM LINE 3 RAD LEV  
Generic/Cond Desc: Stm Gen 3 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCI/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5 * 10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #3 Radioactivity Monitor. Value calculated as product of main steam line release rate, steam radioactivity, specific vol. of steam, and conversion constant. PORV's for each steam generator are monitored. If a PORV is 'NOT CLOSED', valve assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves exist for each S/G. The main steam line header pressure is monitored to determine condition of valves. Each open valve is assumed to contribute an additional 890000 lb/hr to the flow rate.  
Rad Mon 1-RM-90-423

ERDS point number 49.      MAIN SL 4/D      UR1004      Stm Gen 4 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 4/D  
Point ID: UR1004  
Plant Spec Point Desc: MN STEAM LINE 4 RAD LEV  
Generic/Cond Desc: Stm Gen 4 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points: 8.5 \* 10E-3

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #4 Radioactivity Monitor. Value calculated as product of main steam line release rate, steam radioactivity, specific vol. of steam, and conversion constant. PORV's for each steam generator are monitored. If a PORV 'NOT CLOSED', valve assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves exist for each S/G. Main steam line header pressure is monitored to determine condition of valves. Each open valve assumed to contribute an additional 890000 lb/hr to flow rate. Rad Mon 1-RM-90-424



ERDS point number 50. SG RAD 1A 1-RE90-120 Stm Gen Header Blowdown Rad Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feed: 1  
NRC ERDS Parameter: SG BD RAD 1A  
Point ID: 1-RE90-120  
Plant Spec Point Desc: Steam Generator Blowdown Liquid Monitor  
Generic/Cond Desc: Stm Gen Header Blowdown Rad Level

Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low in loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Steam Generator Blowdown Header Liquid Monitor.  
This is one of two monitors, one of which is valved out.  
The monitor is for the header and not individual loops.

ERDS point number 51. SG BD RAD 2B 1-RE90-121 Stm Gen Header Blowdown Rad Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: SG BD RAD 2B  
Point ID: 1-RE90-121  
Plant Spec Point Desc: Steam Generator Blowdown Liquid Monitor  
Generic/Cond Desc: Stm Gen Header Blowdown Rad Level

Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Steam Generator Blowdown Header Liquid Monitor  
This is one of two monitors, one of which is valved out.  
The monitor is for the header and not individual loops.

ERDS point number 52. CTMNT PRESS UP6000 Containment Pressure

Date: 12/02/94  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CTMNT PRESS  
Point ID: UP6000  
Plant Spec Point Desc: CNTMT PRESSURE AVERAGE  
Generic/Cond Desc: Containment Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: -1  
Maximum Instr Range: 15  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Avg  
Sensor Locations: Annulus  
Alarm/Trip Set Points: High - 2.81 PSIG High-High 12.0

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Containment Pressure. This is actually a differential between containment and the annulus. Average of 1-PDT-30-44 and -45.

ERDS point number 53.      CTMNT TEMP      UT1004      Containment Temperature

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: CTMNT TEMP  
Point ID: UT1004  
Plant Spec Point Desc: CONTAINMENT TEMP MAX DEV  
Generic/Cond Desc: Containment Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Maximum Value  
Sensor Locations: TE-212A, TE212B, TE212C & TE.12D  
Alarm/Trip Set Points: Low at 60 DEGF, High at 130 DEGF

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Fail Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Maximum Containment Air Temperature. The temperature element is inside the Polar Crane Wall at intake for lower compartment cooler. The value displayed is the maximum of 1-TE-30-212A, -212B, -212C, or -212D.

ERDS point number 54.      H2 CONC                  UY1005                  Containment H2 Concentration

Date:                                  12/02/91  
Reactor Unit:                        SE1  
Data feeder:                        1  
NRC ERDS Parameter:                H2 CONC  
Point ID:                            UY1005  
Plant Spec Point Desc:              H2 CONC AVG  
Generic/Cond Desc:                 Containment H2 Concentration

Analog/Digital:                    A  
Engr Units/Dig States:             %  
Engr Units Conversion:             N/A  
Minimum Instr Range:              0  
Maximum Instr Range:              10  
Zero Point Reference:              N/A  
Reference Point Notes:             N/A

PROC or SENS:                      P  
Number of Sensors:                 2  
How Processed:                      Avg  
Sensor Locations:                   Sample line from both uppr & lowr cntmnt  
Alarm/Trip Set Points:             High at 10 %

N.D power cutoff level:            N/A  
NID power cut-on level:            N/A  
Instrument Failure Mode:           Downscale on loss of power  
Temperature Compensation:        N  
Level Reference Leg:               N/A

Unique System Desc:                Samples H2 gas concentration in containment. Average of  
1-H2AN43 200 and 1-H2AN43-210.

ERDS point number 55.      BWST LEVEL      UL1000      Refueling Water Storage Tank Lev

Date: 05/20/92  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: BWST LEVEL  
Point ID: UL1000  
Plant Spec Point Desc: RWST LEVEL  
Generic/Cond Desc: Refueling Water Storage Tank Lev

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: 1% is 3500 Gals  
Minimum Instr Range: 0  
Maximum Instr Range: 100.0  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average, Redundant Sensor Algorithm  
Sensor Locations: RWST taps 25,000 Gals in tnk below Luttn  
Alarm/Trip Set Points: Low level 27.4%

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The RWST average level is calculated by a redundant sensor algorithm from the 2 RWST level transmitters. The RWST provides a source of borated water for the charging, safety injection and RHR pumps for safety injection mode of accident recovery. The low level setpoint is 27.4% of span which is 106 inches above the lower tap of the RWST. The low level causes transfer to containment sump recirculation mode of accident recovery. The RWST tank capacity is 379,000 Gals. There is one per unit. Average of 1-LT-63-50 and -51.



ERDS point number 56.

WIND SPEED

Wind Speed - Upper Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 91M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Upper Level  
  
Analog/Digital: A  
Engr Units/Dig States: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 91 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 57. WIND SPEED

Wind Speed - Intermediate Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 46M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Intermediate Level  
  
Analog/Digital: A  
Engr Units/Dig State: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 46 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 58.

WIND SPRED

Wind Speed - Lower Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 10M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Lower Level  
  
Analog/Digital: A  
Engr Units/Dig States: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 10 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 59.

WIND DIR

Wind Direction - Upper Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 91M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Upper Level  
  
Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 91 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 60.

WIND DIR

Wind Direction - Intermed. Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 46M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Intermed. Level  
  
Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 46 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc:

ERDS point number 61.

WIND DIR

Wind Direction - Lower Level

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 10M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Lower Level  
  
Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 10 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:



ERDS point number 62.      STAB CLASS      Air Stability Upper

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: STAB CLASS  
Point ID:  
Plant Spec Point Desc: Stability Class Upper  
Generic/Cond Desc: Air Stability Upper

Analog/Digital:  
Engr Units/Dig States: STABA  
Engr Units Conversion:  
Minimum Instr Range:  
Maximum Instr Range:  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed:  
Sensor Locations:  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc: Differential Temperature Upper-Lower (deg C)  
Difference      Stability Class      Point Value

>	<=		
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7

ERDS point number 63.

STAB CLASS

Air Stability

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: STAB CLASS  
Point ID:  
Plant Spec Point Desc: Stability Class Intermediate  
Generic/Cond Desc: Air Stability

Analog/Digital:  
Engr Units/Dig States: STABA  
Engr Units Conversion:  
Minimum Instr Range:  
Maximum Instr Range:  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed:  
Sensor Locations:  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc: Differential Temperature Upper-Intermediate (deg C)

>	<=	Stability Class	Point Value
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7

ERDS point number 64.

STAB CLASS

Air Stability

Date: 12/02/91  
Reactor Unit: SE1  
Data feeder: 1  
NRC ERDS Parameter: STAB CLASS  
Point ID:  
Plant Spec Point Desc: Stability Class Lower  
Generic/Cond Desc: Air Stability

Analog/Digital:  
Engr Units/Dig States: STABA  
Engr Units Conversion:  
Minimum Instr Range:  
Maximum Instr Range:  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed:  
Sensor Locations:  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc: Differential Temperature Intermediate-Lower (deg C)

>	<=	Stability Class	Point Value
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7

Updated Unit 2

SEQUOYAH UNIT 2 - ERDS DATA POINT LIBRARY

	SIMULATION	INDICATES REAL OR SIMULATED DATA
1.		
2.	NI POWER RNG UN2000	POWER RNG AVG
3.	NI INTER RNG UN1015	INTER RNG FLUX (LOG)
4.	NI SOURC RNG UN1014	Source Range Flux (Log)
5.	REAC VES LEV UL6000	RVLIS LOWER RANGE AVERAGE
6.	TEMP CORE EX UT1003	CORE EXIT TEMP MAX
7.	SUB MARGIN UT1005	MIN SUBCOOL
8.	SG LEVEL 1/A UL1001	SG 1 NR LEVEL AVG
9.	SG LEVEL 2/B UL1002	SG 2 NR LEVEL AVG
10.	SG LEVEL 3/C UL1003	SG 3 NR LEVEL AVG
11.	SG LEVEL 4/D UL1004	SG 4 NR LEVEL AVG
12.	SG PRESS 1/A UP1002	SG 1 MS PRESSURE AVG
13.	SG PRESS 2/B UP1003	SG 2 MS PRESSURE AVG
14.	SG PRESS 3/C UP1004	SG 3 MS PRESSURE AVG
15.	SG PRESS 4/D UP1005	SG 4 MS PRESSURE AVG
16.	MN FD FL 1/A UF1000	SG 1 FW FLOW AVG
17.	MN FD FL 2/B UF1001	SG 2 FW FLOW AVG
18.	MN FD FL 3/C UF1002	SG 3 FW FLOW AVG
19.	MN FD FL 4/D UF1003	SG 4 FW FLOW AVG
20.	AX FW FL 1/A 2-FM3-163B	STM GEN 1 AFW INLET FLOW
21.	AX FW FL 2/B 2-FM3-155B	STM GEN 2 AFW INLET FLOW
22.	AX FW FL 3/C 2-FM3-147B	STM GEN 3 AFW INLET FLOW
23.	AX FW FL 4/D 2-FM3-170B	STM GEN 4 AFW INLET FLOW
24.	HL TEMP 1/A 2-TM68-1B	LP 1 HL WID RNG TEMP
25.	HL TEMP 2/B 2-TM68-24B	LP 2 HL WID RNG TEMP
26.	HL TEMP 3/C 2-TM68-43B	LP 3 HL WID RNG TEMP
27.	HL TEMP 4/D 2-TM68-65B	LP 4 HL WID RNG TEMP
28.	CL TEMP 1/A 2-TE68-18	LP 1 CL WID RNG TEMP
29.	CL TEMP 2/B 2-TE68-41	LP 2 CL WID RNG TEMP
30.	CL TEMP 3/C 2-TE68-60	LP 3 CL WID RNG TEMP
31.	CL TEMP 4/D 2-TE68-83	LP 4 CL WID RNG TEMP
32.	RCS PRESSURE UP1000	RCS WIDE RNG PRESS AVG
33.	PRZR LEVEL UL1005	PRZR LEV AVG
34.	RCS CHG/MU UF1016	NET CHG FLO
35.	HP SI FLOW UF1010	SI FLOW TOTAL
36.	LP SI FLOW UF1011	RHR COLD LEG TOTAL FLOW
37.	CNTMT SMP WR UL1011	CNTMT SUMP LEV AVG
38.	EFF GAS RAD 1-RM90-400	Unit 1 Shield Bldg Release Rate
39.	EFF GAS RAD 2-RM90-400	Unit 2 Shield Bldg Release Rate
40.	EFF LIQ RAD 0-RE90-122	WDS Liquid Effluent
41.	COND A/E RAD UR1006	Low Range COND VAC PUMP AIR EXH RAD MON
42.	COND A/E RAD UR1007	Mid Rng COND VAC PUMP AIR EXH RAD MON
43.	COND A/E RAD UR1008	High Rng COND VAC PUMP AIR EXH RAD MON
44.	CNTMNT RAD UR6021	UPPER CONTAINMENT RADIATION
45.	CNTMNT RAD UR6022	LOWER CONTAINMENT RADIATION
46.	MAIN_SL 1/A UR1001	MN STEAM LINE 1 RAD LEV
47.	MAIN_SL 2/B UR1002	MN STEAM LINE 2 RAD LEV
48.	MAIN_SL 3/C UR1003	MN STEAM LINE 3 RAD LEV
49.	MAIN_SL 4/D UR1004	MN STEAM LINE 4 RAD LEV
50.	SG BD RAD 1A 2-RE90-120	Steam Generator Blowdown Liquid Monitor
51.	SG BD RAD 2B 2-RE90-121	Steam Generator Blowdown Liquid Monitor
52.	CTMNT PRESS UP6000	CNTMT PRESSURE AVERAGE
53.	CTMNT TEMP UT1004	CONTAINMENT TEMP MAX DEV
54.	H2 CONC UY1005	H2 CONC AVG
55.	BWST LEVEL UL1000	RWST LEVEL
56.	WIND SPEED	91M VECTOR WIND SPEED (15 MIN AVG)
57.	WIND SPEED	46M VECTOR WIND SPEED (15 MIN AVG)
58.	WIND SPEED	10M VECTOR WIND SPEED (15 MIN AVG)
59.	WIND DIR	91M VECTOR WIND DIR (15 MIN AVG)
60.	WIND DIR	46M VECTOR WIND DIR (15 MIN AVG)
61.	WIND DIR	10M VECTOR WIND DIR (15 MIN AVG)
62.	STAB CLASS	Stability Class Upper

63. STAB CLASS  
64. STAB CLASS

Stability Class Intermediate  
Stability Class Lower



ERDS point number 1.

SIMULATION

REAL/SIMULATED DATA

Date: 06/09/92

Reactor Unit: SE2

Data feeder: 1

NRC ERDS Parameter:

Point ID: SIMULATION

Plant Spec Point Desc: INDICATES REAL OR SIMULATED DATA

Generic/Cond Desc: REAL/SIMULATED DATA

Analog/Digital: D

Engr Units/Dig States: REAL/SIMUL

Engr Units Conversion: N/A

Minimum Instr Range: N/A

Maximum Instr Range: N/A

Zero Point Reference: N/A

Reference Point Notes: N/A

PROC or SENS: P

Number of Sensors: 0

How Processed: 0 IF REAL, 1 IF SIMULATED

Sensor Locations: N/A

Alarm/Trip Set Points: N/A

NID power cutoff level: N/A

NID power cut-on level: N/A

Instrument Failure Mode: N/A

Temperature Compensation: N

Level Reference Leg: N/A

Unique System Desc: THIS POINT IS USED TO INDICATE WHETHER THE DATA IS COMING FROM THE UNIT OR FROM THE SIMULATOR

ERDS point number 2. NI POWER RNG UN2000 Reactor Power

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: NI POWER RNG  
Point ID: UN2000  
Plant Spec Point Desc: POWER RNG AVG  
Generic/Cond Desc: Reactor Power

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: 0-10V = 0-120% Power (Linear)  
Minimum Instr Range: 0  
Maximum Instr Range: 120  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 8  
How Processed: AVG  
Sensor Locations: Upper & Lower excore detectors  
Alarm/Trip Set Points: Rod Stop=103% Overpwr Reactor Trip=109%

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (No forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: From TSC Upper & Lower detection inputs for  
2-NE92-41,42,43,44.

ERDS point number 3. NI INTER RNG UN1015 Reactor Power - Intermediate Rng

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: NI INTER RNG  
Point ID: UN1015  
Plant Spec Point Desc: INTER RNG FLUX (LOG)  
Generic/Cond Desc: Reactor Power - Intermediate Rng

Analog/Digital: A  
Engr Units/Dig States: LOGPC  
Engr Units Conversion: OUTPUT(V) = [LOG(%Power)]+8  
Minimum Instr Range: -8  
Maximum Instr Range: 2.301  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVG  
Sensor Locations: AZ 0 deg & 180 deg Excore  
Alarm/Trip Set Points: Rod Stop - 20% , Reactor Trip - 25% Pwr

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (no forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Avg of XI-92-5003(channel N35) and 5004 (channel N36)

ERDS point number 4. NI SOURC RNG UN1014 Reactor Power - Source Range

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: NI SOURC RNG  
Point ID: UN1014  
Plant Spec Point Desc: Source Range Flux (Log)  
Generic/Cond Desc: Reactor Power - Source Range

Analog/Digital: A  
Engr Units/Dig States: CPS  
Engr Units Conversion:  $OUTPUT(V) = [Log(CPS)] * 1.667$   
Minimum Instr Range: 10E0  
Maximum Instr Range: 10E6  
Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Avg.  
Sensor Locations: AZ 0 deg. & 180 deg. Excore  
Alarm/Trip Set Points: Reactor Trip - 10E5 CPS

NI power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Probable Downscale (No forcing function)  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Avg of XI-92-5001(channel N31) & 5002 (channel N32) Detectors  
(2 chambers/detector)

ERDS point number 5. REP. VES LEV UL6000 Reactor Vessel Water Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: REAC VES LEV  
Point ID: UL6000  
Plant Spec Point Desc: RVLIS LOWER RANGE AVERAGE  
Generic/Cond Desc: Reactor Vessel Water Level

Analog/Digital: A  
Engr Units/Dig Status: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 70  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote location in the Penetration Rooms  
Alarm/Trip Set Points: High at 50 % Low at 0%

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: This is the lower range portion of the Rx Vessel level indication. The lower range provides indication of the reactor vessel level from the bottom of the vessel to the hot leg during natural circulation conditions. Average of 2-LM-68-368E and -371E.



ERDS point number 6. TEMP CORE EX UT1003 Highest Core Exit Temperature

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: TEMP CORE EX  
Point ID: UT1003  
Plant Spec Point Desc: CORE EXIT TEMP MAX  
Generic/Cond Desc: Highest Core Exit Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: TYPE K TC Table  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 59  
How Processed: HIGHEST  
Sensor Locations: Throughout core  
Alarm/Trip Set Points: High at 700 DEGF Low at 0 DEGF

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Eliminates open TC's  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: INCORE Thermocouples processed through "Exosensor" system. The system is divisionalized into 2 divisions. Total of 60 elements with one TC inoperable. The numeric is the higher of 2-XM-94-103-69 and 2-XM-94-103-75.



ERDS point number 7. SUB MARGIN UT1005 Saturation Temp. - Highest CET

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SUB MARGIN  
Point ID: UT1005  
Plant Spec Point Desc: MIN SUBCOOL  
Generic/Cond Desc: Saturation Temp. - Highest CET

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: TYPE K TC Table  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 59  
How Processed: Highest  
Sensor Locations: Throughout Core  
Alarm/Trip Set Points: Low at 15 DEGF, High at 130 DEGF

LD power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Eliminates open TC's  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: INCORE Thermocouples processed through "Exosensor" System.  
The system is divisionalized into 2 divisions. Total of 60  
TC with one TC inoperable.

ERDS point number 8. SG LEVEL 1/A UL1001 Steam Generator 1 Water Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 1/A  
Point ID: UL1001  
Plant Spec Point Desc: SG 1 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 1 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #1 Water Level. Average of 1-LT-3-39 and -42

ERDS point number 9.

SG LEVEL 2/B

UL1002

Steam Generator 2 Water Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 2/B  
Point ID: UL1002  
Plant Spec Point Desc: SG 2 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 2 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #2 Water Level. Average of 2-LT-3-52 and -55

ERDS point number 10. SG LEVEL 3/C UL1003 Steam Generator 3 Water Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 3/C  
Point ID: UL1003  
Plant Spec Point Desc: SG 3 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 3 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote locat outside of Polar Crane Wall  
Alarm/Trip Set Points: Low at 25 % High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #3 Water Level. Average of 2-LT-3-94 and -97

ERDS point number 11.      SG LEVEL 4/D      UL1004      Steam Generator 4 Water Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG LEVEL 4/D  
Point ID: UL1004  
Plant Spec Point Desc: SG 4 NR LEVEL AVG  
Generic/Cond Desc: Steam Generator 4 Water Level

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote locat outside of Polar Cell Wall  
Alarm/Trip Set Points: Low at 65 %, High at 70 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator #4 Water Level. Average of 2-LT-3-107 and -110.



ERDS point number 12.

SG PRESS 1/A

UP1002

Steam Generator 1 Pressure

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 1/A  
Point ID: UP1002  
Plant Spec Point Desc: SG 1 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 1 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote Location in Penetration Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #1 Pressure. Average of 2-PT-1-2A and 2-PT-1-2B.



ERDS point number 13. SG PRESS 2/B UP1003 Steam Generator 2 Pressure

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 2/B  
Point ID: UP1003  
Plant Spec Point Desc: SG 2 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 2 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote location in East Valve Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #2 Pressure. Average of 2-PT-1-9A and 2-PT-1-9B.

ERDS point number 14. SG PRESS 3/C UP1004 Steam Generator 3 Pressure

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 3/C  
Point ID: UP1004  
Plant Spec Point Desc: SG 3 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 3 Pressure

Analog/Digital: A  
Engr Units/Dig States: 1-10  
Engr Units Conversion: 10  
Minimum Instr Range:  
Maximum Instr Range: 1-100  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote Location in East Valve Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #3 Pressure. Average of 2-PT-1-20A and 2-PT-1-20B.

ERDS point number 15.      SG PRESS 4/D      UP1005      Steam Generator 4 Pressure

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG PRESS 4/D  
Point ID: UP1005  
Plant Spec Point Desc: SG 4 MS PRESSURE AVG  
Generic/Cond Desc: Steam Generator 4 Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Remote location in Penetration Room  
Alarm/Trip Set Points: Low at 600 PSIG, High at 1200 PSIG

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: Steam Generator #4 Pressure. Average of 2-PT-1-27A and 2-PT-1-27B.

ERDS point number 16.

MN FD FL 1/A

UF1000

Stm Gen 1 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC EKDS Parameter: MN FD FL 1/A  
Point ID: UF1000  
Plant Spec Point Desc: SG 1 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 1 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 1, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 1 Main Feedwater Flow. Average of 2-FT-3-35A and 2-FT-3-35B.

ERDS point number 17.

MN FD FL 2/B

UF1001

Stm Gen 2 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 2/B  
Point IL: UF1001  
Plant Spec Point Desc: SG 2 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 2 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 2, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 2 Main Feedwater Flow. Average of 2-PT-3-48A and 2-PT-3-48B.

ERDS point number 18.

MN FD FL 3/C

UF1002

Stm Gen 3 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 3/C  
Point ID: UF1002  
Plant Spec Point Desc: SG 3 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 3 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of SENSORS: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 3, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 3 Main Feedwater Flow. Average of 2-FT-3-90A and 2-FT-3-90B.



ERDS point number 19.

MN FD FL 4/D

UF1003

Stm Gen 4 Main Feedwater Flow

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MN FD FL 4/D  
Point ID: UF1003  
Plant Spec Point Desc: SG 4 FW FLOW AVG  
Generic/Cond Desc: Stm Gen 4 Main Feedwater Flow

Analog/Digital: A  
Engr Units/Dig States: KBH  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 4500  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: AVERAGE  
Sensor Locations: Stm Gen FW Line 4, Aux. Bldg  
Alarm/Trip Set Points: High at 4500 KBH Low at 0 KBH

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: Y  
Level Reference Leg: WET

Unique System Desc: Steam Generator 4 Main Feedwater Flow. Average of  
2-FT-3-103A and 2-FT-3-103B.

ERDS point number 20. A. FW FL 1/A 2-FM3-163B Stm Gen 1 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 1/A  
Point ID: 2-FM3-163B  
Plant Spec Point Desc: STM GEN 1 APW INLET FLOW  
Generic/Cond Desc: Stm Gen 1 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Diy States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Down Stream of MDAFK, TDAFW tie to S/G1  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPS share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPS and turbine-driven AFWP, is 440 and 880 gpm, respectively.

ERDS point number 21.      AX FW FL 2/B      2-FM3-155B      Stm Gen 2 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 2/B  
Point ID: 2-FM3-155B  
Plant Spec Point Desc: STM GEN 2 AFW INLET FLOW  
Generic/Cond Desc: Stm Gen 2 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 2  
Alarm/Trip Set Points: No alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPS share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPS and turbine-driven AFWP. is 440 and 880 gpm, respectively.

ERDS point number 22. AX FW FL 3/C 2-FM3-147B Stm Gen 3 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 3/C  
Point ID: 2-FM3-147B  
Plant Spec Point Desc: STM GEN 3 APW INLET FLOW  
Generic/Cond Desc: Stm Gen 3 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 3  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPs share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPs and turbine-driven AFWP, is 440 and 880 gpm, respectively.

ERDS point number 23. AX FW FL 4/D 2-FM3-170B Stm Gen 4 Auxiliary FW Flow

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: AX FW FL 4/D  
Point ID: 2-FM3-170B  
Plant Spec Point Desc: STM GEN 4 AFW INLET FLOW  
Generic/Cond Desc: Stm Gen 4 Auxiliary FW Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: 1-5 VDC=0-440 GPM  
Minimum Instr Range: 0  
Maximum Instr Range: 440  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: Downstream of MDAFW, TDAFW tie to S/G 4  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: There are two electric and one turbine-driven AFWPS. Each electric pump feeds two SG's and the turbine-driven pump feeds all four SG's. The electric and turbine-driven AFWPs share the same piping to each SG. The flow element is located in the shared piping, maximum rated flow for MDAFWPs and Turbine-driven AFWP, is 440 and 880 gpm, respectively.

ERDS point number 24. HL TEMP 1/A 2-TM68-1B Stm Gen 1 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SK2  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 1/A  
Point ID: 2-TM68-1B  
Plant Spec Point Desc: LP 1 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 1 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On Loop 1 RCS hot leg piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temperature within required limits.



ERDS point number 25. HL TEMP 2/B 2-TM68-24B Stm Gen 2 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 2/B  
Point ID: 2-TM68-24B  
Plant Spec Point Desc: LP 2 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 2 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 2 RCS Hot Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temp. within required limits.

ERDS point number 26. HL TEMP 3/C 2-TM68-43B Stm Gen 3 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 3/C  
Point ID: 2-TM68-43B  
Plant Spec Point Desc: LP 3 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 3 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 3 RCS Hot Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temp. is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temperature indication is also used to control RCS pressure and temp. within required limits.

ERDS point number 27. HL TEMP 4/D 2-TM68-65B Stm Gen 4 Inlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: HL TEMP 4/D  
Point ID: 2-TM68-65B  
Plant Spec Point Desc: LP 4 HL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 4 Inlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 4 RCS Hot Leg Piping  
Alarm/Trip Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS hot leg temperature is used in event recovery to provide information for manual control of RCS temperature, control of the ECCS pumps and RCPs, and verifying natural circulation or increase blow down. The temp. indication is also used to control RCS pressure and temperature within required limits.

ERDS point number 28. CL TEMP 1/A 2-TE68-18 Stm Gen 1 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 1/A  
Point ID: 2-TE68-18  
Plant Spec Point Desc: LP 1 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 1 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

P.O.C or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 1 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS cold leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verifying natural circulation.

ERDS point number 29. CL TEMP 2/B 2-TE68-41 Stm Gen 2 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 2/B  
Point ID: 2-TE68-41  
Plant Spec Point Desc: LP 2 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 2 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 2 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS cold leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natural circulation.

ERDS point number 30. CL TEMP 3/C 2-TE68-60 Stm Gen 3 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 3/C  
Point ID: 2-TE68-60  
Plant Spec Point Desc: LP 3 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 3 Outlet Temperature

Analog/Digital: A  
Ingr Units/Dig States: DEGF  
Ingr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 3 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS Cold Leg Temperature is used in event recovery to maintain proper relationship between RCS pressure and temperature while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natural circulation.



ERDS point number 31. CL TEMP 4/D 2-TE68-83 Stm Gen 4 Outlet Temperature

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CL TEMP 4/D  
Point ID: 2-TE68-83  
Plant Spec Point Desc: LP 4 CL WID RNG TEMP  
Generic/Cond Desc: Stm Gen 4 Outlet Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: 1-5 VDC=0-700 DEGF  
Minimum Instr Range: 0  
Maximum Instr Range: 700  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: N/A  
Sensor Locations: On loop 4 RCS Cold Leg Piping  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: RCS Cold Leg temperature is used in event recovery to maintain proper relationship between RCS pressure and temp. while cooling down, and providing information to manually control RCS temperature by controlling AFW flow, steam generator pressure, and RHR. The temperature indication is also used in maintaining stable plant conditions and verify natua. circulation.

ERDS point number 32.

RCS PRESSURE

UP1000

Reactor Coolant System Pressure

Date: 05/21/92  
Reactor Unit: SEZ  
Data feeder: 1  
NRC ERDS Parameter: RCS PRESSURE  
Point ID: UP1000  
Plant Spec Point Desc: RCS WIDE RNG PRESS AVG  
Generic/Cond Desc: Reactor Coolant System Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: 1-5 VDC=0-3000 PSIG  
Minimum Instr Range: 0  
Maximum Instr Range: 3000  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 3  
How Processed: AVERAGE  
Sensor Locations: RCS Hot Legs 1,3,4  
Alarm/Trip Set Points: Low 1865 PSIG RxTrip, High 2390 PSIG RxTr

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc:

RCS pressure determined by this point is the average of 3 signals which measure wide range hot leg pressures. (2-PT-68-62, -66, and -58) RCS pressure indication is utilized by the operators to identify events for SI actuation and termination, starting and stopping RHR pumps, and controlling cooldown to prevent PTS. The alarm trip setpoints are actuated by pressurized pressure transmitters at the given setpoints.

ERDS point number 33.

PRZR LEVEL

UL1005

Primary System Pressurizer Level

Date: 05/21/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: PRZR LEVEL  
Point ID: UL1005  
Plant Spec Point Desc: PRZR LEV AVG  
Generic/Cond Desc: Primary System Pressurizer Level

Analog/Digital: A  
Engr Units/Dig States: V  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: N/A  
Reference Point Name: N/A

PROC or SENS: P  
Number of Sensors: 3  
How Processed: Average  
Sensor Locations: TAPS from Pressurizer  
Alarm/Trip Set Points: High at 92% Rx Trip

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: WET

Unique System Desc: The pressurizer level is an averaged signal from 3 level transmitters. (2-LT-68-320, -335, -339) Pressurized level indication is used for manual action throughout the emergency procedures such as: SI initiation and termination, isolation of letdown and charging, and identify a LOCA. The level is measured through use of sealed bellows on the reference leg.

ERDS point number 34.

RCS CHG/MU

UF1016

Primary System Charging / Makeup

Date: 05/21/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: RCS CHG/MU  
Point ID: UF1016  
Plant Spec Point Desc: NET CHG FLO  
Generic/Cond Desc: Primary System Charging / Makeup

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: N/A  
Minimum Instr Range: -200  
Maximum Instr Range: 176  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 6  
How Processed: Subtraction  
Sensor Locations: COP Pmp, RCP Seal/Leakoff, RCS Letdcwn  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Multiple due to number of sensors  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The net charging flow is calculated by subtracting RCP seal return, and CVCS letdown flow from the discharge flow of the charging pump. The design charging flow is between 55 and 100 GPM during normal operation.

ERDS point number 35.      HP SI FLOW      UF1010      High Pressure Safety Inj. Flow

Date: 05/21/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: HP SI FLOW  
Point ID: UF1010  
Plant Spec Point Desc: SI FLOW TOTAL  
Generic/Cond Desc: High Pressure Safety Inj. Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 1600  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sum  
Sensor Locations: Discharge of Safety Injection Pumps  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The total flow is measured by adding the discharge flow rates from two Safety Injection Pumps. The total accident flow rates for cold leg injection or recirculation and hot leg recirculation can be monitored by this point. Safety Injection Pumps on miniflow will not show flow since miniflow path is upstream of flow element. The design flow rate is 425 GPM @ 2500 ft of head for each SI Pump.  
(Sum of 2-PT-63-20 and -151)

ERDS point number 36.      LP SI FLOW      UF1011      Low Pressure Safety Inj. Flow

Date: 05/21/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: LP SI FLOW  
Point ID: UF1011  
Plant Spec Point Desc: RHR COLD LEG TOTAL FLOW  
Generic/Cond Desc: Low Pressure Safety Inj. Flow

Analog/Digital: A  
Engr Units/Dig States: GPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 11000  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Average  
Sensor Locations: RHR Cold Legs 2,3, and 1,4 Piping  
Alarm/Trip Set Points: None

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The RHR Cold Leg Flow Rate value is calculated by summing the average flow from cold legs 2 and 3 with the average flow from cold legs 1 and 4. The design flow rate for a RHR pump is 3000 GPM at 375 feet of head. Flow sensors include 2-FT-63-91A and -91B, 2-FT-63-92A and -92B.



ERDS point number 37.

CNTMT SMP WR

UL1011

Containment Sump Wide Rng Lvl

Date: 05/20/92  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CNTMT SMP WR  
Point ID: UL1011  
Plant Spec Point Desc: CNTMT SUMP LEV AVG  
Generic/Cond Desc: Containment Sump Wide Rng Lvl  
  
Analog/Digital: A  
Engr Units/Dig States: 1  
Engr Units Conversion: 11% = 2.4 inches of water  
Minimum Instr Range: 0  
Maximum Instr Range: 100  
Zero Point Reference: CNTFLR  
Reference Point Notes: The containment floor is elevation 680

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Average, Redundant Sensor Algorithm  
Sensor Locations: Containment Sump  
Alarm/Trip Set Points: 11% Containment Sump Swapover

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: The containment average sump level is calculated by a redundant sensor algorithm using four sump level transmitters. The containment sump level indicates loss of coolant in the containment and determines if sufficient volume of water for recirculation mode. The transfer from RWST to containment sump setpoint is 11%, which is approximately 2.5 feet above containment floor elevation. (averages 2-LT-63-176, -177, -178, and -179)

ERDS point number 38.      RFF GAS RAD      1-RM90-100      Release Rt of Radioactive Gases

Date: 12. 02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Paramster: RFF GAS RAD  
Point ID: 1-RM90-100  
Plant Spec Point Desc: Unit 1 Shield Bldg Release Rate  
Generic/Cond Desc: Release Rt of Radioactive Gases

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E-2 uCi/sec  
Maximum Instr Range: 10E+0 uCi/sec  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sampled Totalized times flow rate  
Sensor Locations: Auxiliary Bldg  
Alarm/Trip Set Points: 31,000 uCi/sec

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Unit 1 shield Bldg Exhaust. To obtain true release rate,  
Unit 2 monitor must also be checked. Flow path for Unit 1  
can be either the Unit 1 or the Unit 2 stack.

ERDS point number 39.      EFF GAS RAD      2-RM90-400      Release Rt. of Radioactive Gases

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: EFF GAS RAD  
Point ID: 2-RM90-400  
Plant Spec Point Desc: Unit 2 Shield Bldg Release Rate  
Generic/Cond Desc: Release Rt. of Radioactive Gases

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E-2 uCi/sec  
Maximum Instr Range: 10E10 uCi/sec  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 3  
Flow Processed: Sampled localized times flow rate  
Sensor Locations: Auxiliary Bldg  
Alarm/Trip Set Points: 31,000 uCi/sec

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Unit 2 shield bldg exhaust. To obtain true release rate, Unit 1 monitor must also be checked. Flow path for Unit 1 can be either the Unit 1 or the Unit 2 stack.

ERDS point number 40.      EFF LIQ RAD      0-RE90-122      Radioactivity of Released Liquid

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: EFF LIQ RAD  
Point ID: 0-RE90-122  
Plant Spec Point Desc: WDS Liquid Effluent  
Generic/Cond Desc: Radioactivity of Released Liquid

Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Auxiliary Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Waste Disposal System Liquid Effluent  
This computer point is in counts per minute.

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: COND A/E RAD  
Point ID: UR1006  
Plant Spec Point Desc: Low Range COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc: Cond Air Ejector Radioactivity

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Cond Flow \* Dose  
Sensor Location: Turbine Bldg  
Alarm/Trip Points: Variable

NID Power Control Level: N/A  
NID Level Control Level: N/A  
Insulation Trip Mode: Low on loss of power  
Temp. Control Function: N  
Level Control Function: N/A

Unique Point Desc: Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full range. This point uses inputs from 2-FT2-256 and 2-RE90-119 to compute dose rates.

ERDS point number 42.

COND A/E RAD

UR1007

Cond Air Ejector Radioactivity

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: COND A/E RAD  
Point ID: UR1007  
Plant Spec Point Desc: Mid Rng COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc: Cond Air Ejector Radioactivity

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: COND FLOW \* DOSE  
Sensor Locations: Turbine Bldg.  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full range. This point uses inputs from 2-FT2-256 & 2-RE90-99 to compute dose rates.



ERDS point number 43.      COND A/E RAD      UR1008      Cond Air Ejector Radioactivity

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: COND A/E RAD  
Point ID: UR1008  
Plant Spec Point Desc: High Rng COND VAC PUMP AIR EXH RAD MON  
Generic/Cond Desc: Cond Air Ejector Radioactivity

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: COND FLOW \* DOSE  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Condenser Air Ejector Noble Gas Monitor  
This is one of three computer points needed to cover full range. This point uses inputs from 2-FT2-256 & 2-RE90-404B to compute dose rates.

ERDS point number 44.

CNTMNT RAD

UR6021

Containment Radiation Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CNTMNT RAD  
Point ID: UR6021  
Plant Spec Point Desc: UPPER CONTAINMENT RADIATION  
Generic/Cond Desc: Containment Radiation Level

Analog/Digital: A  
Engr Units/Dig States: R/hour  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 R/hour  
Maximum Instr Range: 10E8 R/hour  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Upper Containment  
Alarm/Trip Set Points: 100 R/hour

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Upper Containment High Range Area Monitors  
Inputs are 2-RE90-271 & 2-RE90-272.

ERDS point number 45.

CNTMNT RAD

UR6022

Lower Containment Radiation Lvl

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CNTMNT RAD  
Point ID: UR6022  
Plant Spec Point Desc: LOWER CONTAINMENT RADIATION  
Generic/Cond Desc: Lower Containment Radiation Lvl

Analog/Digital: A  
Engr Units/Dig States: R/hour  
Engr Units Conversion: N/A  
Minimum Instr Range: 10R0 R/hour  
Maximum Instr Range: 1CE8 R/hour  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Average  
Sensor Locations: Lower Containment  
Alarm/Trip Set Points: 100 R/hour

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Lower Containment High Range Area Monitor  
Inputs are 2-RE90-273 and 2-RE90-274.

ERDS point number 46.

MAIN SL 1/A

UR1001

Stm Gen 1 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 1/A  
Point ID: UR1001  
Plant Spec Point Desc: MN STEAM LINE 1 RAD LEV  
Generic/Cond Desc: Stm Gen 1 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCi/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5 * 10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc:

Main Steam Line #1 Radioactivity Monitor  
This value is calculated as the product of main steam line release rate, steam radioactivity, specific vol. of steam, and a conversion constant. The PORV's for each steam generator are monitored. If a PORV is 'NOT CLOSED', this vlv is assumed to contribute 890000 lb/hr flow to atmosphere. There are 5 code safety valves for each S/G. The main steam line header pressure is monitored to determine condition of each valve. Each open valve contributes 890000 lb/hr to flow rate. (Rad Mon 2-RM-90-421)

ERDS point number 47.

MAIN SL 2/B

UR1002

Stm Gen 2 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 2/B  
Point ID: UR1002  
Plant Spec Point Desc: MN STEAM LINE 2 RAD LEV  
Generic/Cond Desc: Stm Gen 2 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCI/sec  
Engr Units Conversion: N/A  
Minimum Instr Range:  $-.17E+39$   
Maximum Instr Range:  $.17E+39$   
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5*10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on Loss of Power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #2 Radioactivity Monitor. This value is calculated as product of main steam line release rate, steam radioactivity, specific vol. of steam, and a conversion constant. PORV's for each steam generator are monitored. If PORV is 'NOT CLOSED', valve is assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves for each S/G. Main steam line header pressure is monitored to determine condition of valves. Each open valve is assumed to contribute an additional 890000 lb/hr to flow rate.  
(Rad Mon 2-RM-90-422)



ERDS point number 48.

MAIN SL 3/C

UR1003

Stm Gen 3 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 3/C  
Point ID: UR1003  
Plant Spec Point Desc: MN STEAM LINE 3 RAD LEV  
Generic/Cond Desc: Stm Gen 3 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCI/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: F  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5 * 10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #3 Radioactivity Monitor. Value calculated as product of main steam line release rate, steam radioactivity, specific vol. of steam, and conversion constant. PORV's for each steam generator are monitored. If a PORV is 'NOT CLOSED', valve assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves exist for each S/G. The main steam line header pressure is monitored to determine condition of valves. Each open valve is assumed to contribute an additional 890000 lb/hr to the flow rate.  
Rad Mon 2-RM-90-423



ERDS point number 49.

MAIN SL 4/D

UR1004

Stm Gen 4 Steam Line Rad Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: MAIN SL 4/D  
Point ID: UR1004  
Plant Spec Point Desc: MN STEAM LINE 4 RAD LEV  
Generic/Cond Desc: Stm Gen 4 Steam Line Rad Level

Analog/Digital: A  
Engr Units/Dig States: uCI/sec  
Engr Units Conversion: N/A  
Minimum Instr Range: -.17E+39  
Maximum Instr Range: .17E+39  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Sampled Totalized  
Sensor Locations: Main Steam Line prior to ATM reliefs  
Alarm/Trip Set Points:  $8.5 * 10E-3$

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Main Steam Line #4 Radioactivity Monitor. Value calculated as product of main steam line release rate, steam radioactivity, specific vol. of steam, and conversion constant. PORV's for each steam generator are monitored. If a PORV 'NOT CLOSED', valve assumed to contribute 890000 lb/hr flow to atmosphere. 5 code safety valves exist for each S/G Main steam line header pressure is monitored to determine condition of valves. Each open valve assumed to contribute an additional 890000 lb/hr to flow rate. Rad Mon 2-RM-90-424

ERDS point number 50. SG BD RAD 1A 2-RE90-120 Stm Gen Header Blowdown Rad Lev

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG BD RAD 1A  
Point ID: 2-RE90-120  
Plant Spec Point Desc: Steam Generator Blowdown Liquid Monitor  
Generic/Cond Desc: Stm Gen Header Blowdown Rad Lev

Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low in loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Steam Generator Blowdown Header Liquid Monitor.  
This is one of two monitors, one of which is valved out.  
The monitor is for the header and not individual loops.

ERDS point number 51. SG BD RAD 2B 2-RE90-121 Stm Gen Header Blowdown Rad Lev1

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: SG BD RAD 2B  
Point ID: 2-RE90-121  
Plant Spec Point Desc: Steam Generator Blowdown Liquid Monitor  
Generic/Cond Desc: Stm Gen Header Blowdown Rad Lev1  
Analog/Digital: A  
Engr Units/Dig States: CPM  
Engr Units Conversion: N/A  
Minimum Instr Range: 10E0 CPM  
Maximum Instr Range: 10E7 CPM  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
PROC or SENS: S  
Number of Sensors: 1  
How Processed: Sum  
Sensor Locations: Turbine Bldg  
Alarm/Trip Set Points: Variable  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Low on loss of power  
Temperature Compensation: N  
Level Reference Leq: N/A

Unique System Desc: Steam Generator Blowdown Header Liquid Monitor  
This is one of two monitors, one of which is valved out.  
The monitor is for the header and not individual loops.

ERDS point number 52.

CTMNT PRESS

UP6000

Containment Pressure

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CTMNT PRESS  
Point ID: UP6000  
Plant Spec Point Desc: CNMNT PRESSURE AVERAGE  
Generic/Cond Desc: Containment Pressure

Analog/Digital: A  
Engr Units/Dig States: PSIG  
Engr Units Conversion: N/A  
Minimum Instr Range: -1  
Maximum Instr Range: 15  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Avg  
Sensor Locations: Annulus  
Alarm/Trip Set Points: High - 2.81 PSIG High-High 12.0

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Out of Range  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Containment Pressure. This is actually a differential between containment and the annulus. Average of 2-PDT-30-44 and -45.

ERDS point number 53.      CTMNT TEMP      UT1004      Containment Temperature

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: CTMNT TEMP  
Point ID: UT1004  
Plant Spec Point Desc: CONTAINMENT TEMP MAX DEV  
Generic/Cond Desc: Containment Temperature

Analog/Digital: A  
Engr Units/Dig States: DEGF  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 200  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 4  
How Processed: Maximum Value  
Sensor Locations: TE-212A, TE212B, TE212C & TE212D  
Alarm/Trip Set Points: Low at 60 DEGF, High at 130 DEGF

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Fail Low  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Maximum Containment Air Temperature. The temperature element is inside the Polar Crane Wall at intake for lower compartment cooler. The value displayed is the maximum of 2-TE-30-212A, -212B, -212C, or -212D.

ERDS point number 54.      H2 CONC      UY1005      Containment H2 Concentration

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: H2 CONC  
Point ID: UY1005  
Plant Spec Point Desc: H2 CONC AVG  
Generic/Cond Desc: Containment H2 Concentration

Analog/Digital: A  
Engr Units/Dig States: %  
Engr Units Conversion: N/A  
Minimum Instr Range: 0  
Maximum Instr Range: 10  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed: Avg  
Sensor Locations: Sample line from both uppr & lowr cntmnt  
Alarm/Trip Set Points: High at 10 %

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: Downscale on loss of power  
Temperature Compensation: N  
Level Reference Leg: N/A

Unique System Desc: Samples H2 gas concentration in containment. Average of 2-H2AN43-200 and 2-H2AN43-210.



ERDS point number 55.      BWST LEVEL      UL1000      Refueling Water Storage Tank Lev

Date:                            05/20/92  
Reactor Unit:                    SE2  
Data feeder:                     1  
NRC ERDS Parameter:            BWST LEVEL  
Point ID:                        UL1000  
Plant Spec Point Desc:         RWST LEVEL  
Generic/Cond Desc:             Refueling Water Storage Tank Lev

Analog/Digital:                A  
Engr Units/Dig States:        %  
Engr Units Conversion:        1% is 3500 Gals  
Minimum Instr Range:         0  
Maximum Instr Range:         100.0  
Zero Point Reference:         N/A  
Reference Point Notes:        N/A

PROC or SENS:                 P  
Number of Sensors:             2  
How Processed:                Average, Redundant Sensor Algorithm  
Sensor Locations:             RWST taps 25,000 Gals in tnk below buttn  
Alarm/Trip Set Points:        Low level 27.4%

NID power cutoff level:        N/A  
NID power cut-on level:        N/A  
Instrument Failure Mode:       Low  
Temperature Compensation:     N  
Level Reference Leg:          N/A

Unique System Desc:            The RWST average level is calculated by a redundant sensor algorithm from the 2 RWST level transmitters. The RWST provides a source of borated water for the charging, safety injection and RHR pumps for safety injection mode of accident recovery. The low level setpoint is 27.4% of span which is 106 inches above the lower tap of the RWST. The low level causes transfer to containment sump recirculation mode of accident recovery. The RWST tank capacity is 379,000 Gals. There is one per unit. Average of 2-LT-63-50 and -51.

ERDS point number 56.

WIND SPEED

Wind Speed - Upper Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 91M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Upper Level  
  
Analog/Digital: A  
Engr Units/Dig States: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 91 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 57.

WIND SPEED

Wind Speed - Intermediate Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 46M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Intermediate Level  
  
Analog/Digital: A  
Engr Units/Dig States: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At 46 Meter Level of the Met Tower  
Alarm/Trip Set Points: No  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 58.

WIND SPEED

Wind Speed - Lower Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC FLD'S Parameter: WIND SPEED  
Point ID:  
Plant Spec Point Desc: 10M VECTOR WIND SPEED (15 MIN AVG)  
Generic/Cond Desc: Wind Speed - Lower Level

Analog/Digital: A  
Engr Units/Dig States: m/sec  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 44.6  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 10 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc:

ERDS point number 59.

WIND DIR

Wind Direction - Upper Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 91M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Upper Level  
  
Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 91 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:

ERDS point number 60.

WIND DIR

Wind Direction - Intermed. Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 46M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Intermed. Level  
  
Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A  
  
PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 46 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms  
  
NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A  
  
Unique System Desc:



ERDS point number 61.

WIND DIR

Wind Direction - Lower Level

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: WIND DIR  
Point ID:  
Plant Spec Point Desc: 10M VECTOR WIND DIR (15 MIN AVG)  
Generic/Cond Desc: Wind Direction - Lower Level

Analog/Digital: A  
Engr Units/Dig States: DEG  
Engr Units Conversion:  
Minimum Instr Range: 0  
Maximum Instr Range: 360  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: S  
Number of Sensors: 1  
How Processed:  
Sensor Locations: At the 10 Meter Level of the Met Tower  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc:

ERDS point number 62.

STAB CLASS

Air Stability Upper

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: STAB CLASS  
Point ID:  
Plant Spec Point Desc: Stability Class Upper  
Generic/Cond Desc: Air Stability Upper

Analog/Digital:  
Engr Units/Dig States: STABA  
Engr Units Conversion:  
Minimum Instr Range:  
Maximum Instr Range:  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed:  
Sensor Locations:  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc: Differential Temperature Upper-Lower (deg C)  
Difference Stability Class Point Value

>	<=		
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7

ERDS point number 63.

STAB CLASS

Air Stability

Date: 12/02/91  
 Reactor Unit: SE2  
 Data feeder: 1  
 NRC ERDS Parameter: STAB CLASS  
 Point ID:  
 Plant Spec Point Desc: Stability Class Intermediate  
 Generic/Cond Desc: Air Stability

Analog/Digital:  
 Engr Units/Dig States: STABA  
 Engr Units Conversion:  
 Minimum Instr Range:  
 Maximum Instr Range:  
 Zero Point Reference: N/A  
 Reference Point Notes: N/A

PROC or SENS: P  
 Number of Sensors: 2  
 How Processed:  
 Sensor Locations:  
 Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
 NID power cut-on level: N/A  
 Instrument Failure Mode: LOW  
 Temperature Compensation:  
 Level Reference Leg: N/A

Unique System Desc: Differential Temperature Upper-Intermediate (deg C)

>	<=	Stability Class	Point Value
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7

ERDS point number 64.

STAB CLASS

Air Stability

Date: 12/02/91  
Reactor Unit: SE2  
Data feeder: 1  
NRC ERDS Parameter: STAB CLASS  
Point ID:  
Plant Spec Point Desc: Stability Class Lower  
Generic/Cond Desc: Air Stability

Analog/Digital:  
Engr Units/Dig States: STABA  
Engr Units Conversion:  
Minimum Instr Range:  
Maximum Instr Range:  
Zero Point Reference: N/A  
Reference Point Notes: N/A

PROC or SENS: P  
Number of Sensors: 2  
How Processed:  
Sensor Locations:  
Alarm/Trip Set Points: No Alarms

NID power cutoff level: N/A  
NID power cut-on level: N/A  
Instrument Failure Mode: LOW  
Temperature Compensation:  
Level Reference Leg: N/A

Unique System Desc:

Differential Temperature Intermediate-Lower (deg C)

>	<=	Stability Class	Point Value
	-1.9	A	1
-1.9	-1.7	B	2
-1.7	-1.5	C	3
-1.5	-0.5	D	4
-0.5	1.5	E	5
1.5	4.0	F	6
4.0		G	7