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U.S. Nuclear Regulatory Commission
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PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
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Revision to Emergency Response Data System Data Point Library

Revisions to the Data Point Libraries for the implementation of the Emergency Response Data System at Prairie Island are attached. These revisions to the Prairie Island Emergency Response Data System Data Point Libraries clarify problem areas identified by the NRC Staff during their review of the original Data Point Libraries transmitted to the NRC by our letter dated October 28, 1991. The following changes were incorporated into the Prairie Island Emergency Response Data System Data Point Libraries by the attached revisions:

1. The following Data Point Library data points were clarified:

- Point ID 1U5011A - Reactor Vessel Level
- Point ID 1U5007A - Pressurizer Level
- Point ID 1U5153A - Containment Sump Narrow Range Level
- Point ID 1U5017A - Containment Sump Wide Range Level
- Point ID 1D5026A - Steam Generator Blowdown Radiation
- Point ID 1D5068A - Refueling Water Storage Tank Level
- Point ID 1D4109A - Wind Direction

2. The Data Point Library high and low range headings were corrected.

Please contact us if you have any questions with respect to the attached information.

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c: Regional Administrator - Region III, NRC
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Attachments: 1. Revision 1 to Prairie Island Unit 1 Emergency Response Data System Data Point Library

2. Revision 1 to Prairie Island Unit 2 Emergency Response Data System Data Point Library

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ATTACHMENT 1

REVISION 1 TO

PRAIRIE ISLAND UNIT 1

EMERGENCY RESPONSE DATA SYSTEM

DATA POINT LIBRARY

Heading definitions used in this report are:

PID = Point ID.
 EU = Engineering units.
 P/S = PROC or SENS. (Processed or sensor value)
 #SNSR = Number of sensors.
 Anlg/Dig = Analog or digital point type.
 Process = How processed.
 CV-AVG = Chauvenet Validated Average of.
 QV = Quality validation against constants.
 Location = Sensor location.
 HI RANGE = Instrument highest range.
 LO RANGE = Instrument lowest range.
 ZERO REF = Zero reference point.

Other notes:

The data fields NI power supply cut off and turn on levels are not provided because the power supplies are not cut off.

 Temperature compensation for DP transmitters is mentioned in the unique system description if applicable. Else the answer is no.

 Level reference leg only applies to SG LEVEL 1/A & 2/B.
 See unique system description for these two points.

 ERCS is the Emergency Response Computer System at the plant & is the feeder for all of the data used by ERDS.

***** ERDS DPL SUMMARY *****

| # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION | # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION | # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION |
|----|---------|---------------|------------------------------|----|----------|---------------|-----------------------------|----|---------|---------------|------------------------------|
| 1 | 1U5048A | NI POWER RNG | SAS avg pwr rng pwr level | 16 | 1U5049A | HL TEMP 1/A | SAS hot leg 1 Temperature | 31 | 1U5022A | CNTMNT RAD | SAS High CNTMT radiation |
| 2 | 1U5082A | NI INTER RNG | Avg intermed rng power level | 17 | 1U5051A | HL TEMP 2/B | SAS hot leg 2 Temperature | 32 | 1R0009A | RCS LTDN RAD | RC letdown line radiation |
| 3 | 1U5081A | NI SOURC RNG | Avg srce rng pwr level | 18 | 1U5053A | CL TEMP 1/A | SAS cold leg 1 Temperature | 33 | 1U5143A | MAIN SL 1/A | SAS main steamline A rad'n |
| 4 | 1U5011A | REAC VES LEV | SAS avg reactor vessel level | 19 | 1U5055A | CL TEMP 2/B | SAS cold leg 2 Temperature | 34 | 1U5144A | MAIN SL 2/B | SAS main steamline B rad'n |
| 5 | 1U5510A | TEMP CORE EX | SAS 1st hottest incore T/C | 20 | 1U5001A | RCS PRESSURE | SAS avg RCS pressure | 35 | 1U5026A | SG BD RAD | SAS stm gen blowdown rad'n |
| 6 | 1U5077A | SUB MARGIN | SAS RCS subcooling margin | 21 | 1U5007A | PRZR LEVEL | SAS avg PRZR H2O lvl (NR) | 36 | 1U5015A | CNTMNT PRESS | SAS avg containment press |
| 7 | 1U5152A | CORE FLOW | RC avg flow | 22 | 1F0128A | RCS CHG/MU | Charge pmp disch hdr flow | 37 | 1U5013A | CNTMNT TEMP | SAS avg containment temp |
| 8 | 1U5032A | SG LEVEL 1/A | SAS avg stm gen 1 H2O level | 23 | 1U5154A | HP SI FLOW | Total safety injection flow | 38 | 1U5021A | H2 CONC | SAS avg containment H2 conc |
| 9 | 1U5034A | SG LEVEL 2/B | SAS avg stm gen 2 H2O level | 24 | 1U0651A | LP SI FLOW | Total RHR flow | 39 | 1U5068A | BWST LEVEL | SAS avg RWST level |
| 10 | 1U5036A | SG PRESS 1/A | SAS avg stm gen 1 presure | 25 | 1U5153A | CTMNT SMP NR | Sump B avg level NR | 40 | 1U4105A | WIND SPEED | Met twr 10M avg wind spd A |
| 11 | 1U5038A | SG PRESS 2/B | SAS avg stm gen 2 presure | 26 | 1U5017A | CTMNT SMP WR | SAS avg contnment sump lvl | 41 | 1U4106A | WIND SPEED | Met twr 10M avg wind spd B |
| 12 | 1U5040A | MN FD FL 1/A | SAS avg stm gen1 feed flow | 26 | 1U5061AL | EFF GAS RAD | Shld bld gas efflnt low rng | 42 | 1Y4109A | WIND DIR | Met twr 10M wind dir A |
| 13 | 1U5042A | MN FD FL 2/B | SAS avg stm gen2 feed flow | 28 | 1U5062AH | EFF GAS RAD | Shld bld gas efflnt hi rng | 43 | 1Y4110A | WIND DIR | Met twr 10M wind dir B |
| 14 | 1U5044A | AX FD FL 1/A | SAS avg stm gen1 aux fd fl | 29 | 1R0021A | EFF LIQ RAD | Circ wtr disch rad mnt'r | 44 | 1U2907A | STAB CLASS | Met twr 50M avg delta temp A |
| 15 | 1U5045A | AX FD FL 2/B | SAS avg stm gen2 aux fd fl | 30 | 1U5024A | COND A/E RAD | SAS air ejector radiation | 45 | 1U2908A | STAB CLASS | Met twr 50M avg delta temp B |

| PiD | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo, Hi | | CONVERSION | Unique system description |
|----------|------------------------------|-------|----------|-----------|-----------|--------------|--|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | FAIL MODE | | DP TEMP COMP | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | | | | |
| 1U5048A | NI POWER RNG | X | Analog | 0.0 | N/A | N/A | This point reflects the CV-AVG of N41, N42, N43 & N44 power range reactor power level sensors. |
| ERCS #1 | SAS avg pwr rng pwr level | P | CV-AVG | 120.0 | N/A | N/A | |
| 07/02/91 | Avg power range pwr level | 4 | Excore | LOW | | N/A | |
| 1U5082A | NI INTER RNG | MCAMP | Analog | 1.0E-5 | N/A | N/A | This point reflects the CV-AVG of 35B & 36B neutron flux intermediate range level sensors. Note: MCAMP EU = micro-amps. |
| ERCS #1 | Avg intermed rng power level | P | CV-AVG | 1.0E03 | N/A | N/A | |
| 10/16/91 | Avg intermed range pwr level | 2 | Excore | LOW | | N/A | |
| 1U5081A | NI SOURC RNG | CPS | Analog | 0.1 | N/A | N/A | This point reflects the CV-AVG of 31E & 32F neutron flux source range level. The power supply does not shut off for these sensors. |
| ERCS #1 | Avg srce rng pwr | P | CV-AVG | 1.0E6 | N/A | N/A | |
| 10/16/91 | Avg source range pwr level | 2 | Excore | LOW | | N/A | |
| 1U5011A | REAC VES LEV | X | Analog | 0.0 | 0.0 | 4.4 Inch/X | This point reflects the CV-AVG of the reactor vessel level based on reactor coolant pump operation. If RCPs are off then wide range RVLIS sensors are used. Else, dynamic head RVLIS sensors are used. RVLIS is Westinghouse reactor vessel level indication system. Note: DP temp compensation is provided in the RVLIS computer which supplies this value to the ERCS computer. Note: Top of fuel = 56.7%. Bottom of fuel = 24%. |
| ERCS #1 | SAS avg reactor vessel level | P | CV-AVG | 120.0 | 120.0 | FROM RVLIS | |
| 07/02/91 | Avg reactor vessel level | 4 | Contrmnt | Failed | | | |
| 1U5510A | TEMP CORE EX | DegF | Analog | 32.0 | N/A | N/A | This point reflects the CV-AVG hottest reactor incore thermocouple. Note: T/C = thermocouple. |
| ERCS #1 | SAS 1st hottest incore T/C | P | CV-AVG | 2300.0 | N/A | N/A | |
| 07/02/91 | | 36 | Incore | Failed | | N/A | |
| 1U5077A | SUB MARGIN | DegF | Analog | -200.0 | N/A | N/A | This point reflects the result of a two term linear equation using RCS saturation temperature (Temp. saturated vapor as a function of pressure based on the 1967 ASME steam tables) and avg core exit temp (CV-AVG of the incore thermocouples). |
| ERCS #1 | SAS RCS subcooling margin | P | See note | 1000.0 | N/A | N/A | |
| 07/02/91 | RCS subcooling margin | 3 | | Failed | | N/A | |
| 1U5152A | CORE FLOW | X | Analog | 0.0 | N/A | N/A | This point reflects the CV-AVG of these 6 flow values: (A-RC 411, PID=F0400A), (A-RC 412, PID=F0401A), (A-RC 413, PID=F0402A), (B-RC 414, PID=F0420A), (B-RC 415, PID=F0421A), (B-RC 416, PID=F0422A) |
| ERCS #1 | RC avg flow | P | CV-AVG | 115.0 | N/A | N/A | |
| 07/17/91 | | 6 | | Failed | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|-------|----------|-----------|-----------|---------------|--|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL CODE | | DP TEMP COMP | |
| 1U5032A | SG LEVEL 1/A | % | Analog | 0.0 | 20.0 | 1%180gal @STP | *1=Sensor located 433" above the tube sheet. NR sensors cover a span of 144" |
| ERCS #1 | SAS avg stm gen 1 H2O level | P | CV-AVG | 100.0 | 67.0 | Note *2 | *2=Zero reference 23" above tube bundle, 420" = top of tube bundle. |
| 07/02/91 | Avg stm gen 1 H2O level | 3 | Note *1 | Failed | | Note *5 | *3=This point reflects CV-AVG of loop A stm gen level (NR461, NR462 & NR463) *4=level reference leg=yes, water filled with condenser pot. *5=DP temp compensation not used. |
| 1U5034A | SG LEVEL 2/B | % | Analog | 0.0 | 20.0 | 1%180gal @STP | *1=Sensor located 433" above the tube sheet. NR sensors cover a span of 144" |
| ERCS #1 | SAS avg stm gen 2 H2O lev | P | CV-AVG | 100.0 | 67.0 | Note *2 | *2=Zero reference 23" above tube bundle, 420" = top of tube bundle. |
| 07/05/91 | Avg stm gen 2 H2O level | 3 | Note *1 | Failed | | N/A | *3=This point reflects CV-AVG of loop B stm gen level (NR471, NR472 & NR473) *4=level reference leg=yes, water filled with condenser pot. |
| 1U5036A | SG PRESS 1/A | PSIG | Analog | 0.0 | 500.0 | | N/A CV-AVG of loop A stm gen pressure (468, 469, 482). |
| ERCS #1 | SAS avg stm gen 1 presure | P | CV-AVG | 1400.0 | 1075.0 | | N/A |
| 07/05/91 | Avg stm gen 1 pressure | 3 | | Failed | | | N/A |
| 1U5038A | SG PRESS 2/B | PSIG | Analog | 0.0 | 500.0 | | N/A CV-AVG of loop B stm gen pressure (478, 479, 483). |
| ERCS #1 | SAS avg stm gen 2 presure | P | CV-AVG | 1400.0 | 1075.0 | | N/A |
| 07/05/91 | Avg stm gen 2 pressure | 3 | | Failed | | | N/A |
| 1U5040A | MN FD FL 1/A | Lb/Hr | Analog | 0.0 | N/A | | N/A CV-AVG of loop A fw flow 466(xmtr) & 467(xmtr). |
| ERCS #1 | SAS avg stm gen1 feed flow | P | CV-AVG | 4470000 | N/A | | N/A *1=DP comp not used. |
| 07/05/91 | Avg steam gen 1 feed flow | 2 | | Failed | | Note *1 | |
| 1U5042A | MN FD FL 2/B | Lb/Hr | Analog | 0.0 | N/A | | N/A CV-AVG of loop B fw flow 476(xmtr) & 477(xmtr). |
| ERCS #1 | SAS avg stm gen2 feed flow | P | CV-AVG | 4470000 | N/A | | N/A *1=DP comp not used. |
| 07/05/91 | Avg stm gen 2 feed flow | 2 | | Failed | | | N/A |
| 1U5044A | AX FD FL 1/A | GPM | Analog | 0.0 | N/A | | N/A This point reflects the quality validation of AFW flow to A steam generator |
| ERCS #1 | SAS avg stm gen1 aux fd fl | P | QV | 200.0 | N/A | | N/A against the SAS constants of steam aux feed flow Lo EU & Hi EU. The |
| 07/05/91 | Stm gen 1 aux feed flow | 1 | | Failed | | | N/A constants are currently set at 0.0 and 200.0. *1=DP comp not used. |
| 1U5045A | AX FD FL 2/B | GPM | Analog | 0.0 | N/A | | N/A This point reflects the quality validation of AFW flow to B steam generator |
| ERCS #1 | SAS avg stm gen2 aux fd fl | P | QV | 200.0 | N/A | | N/A against the SAS constants of steam aux feed flow Lo EU & Hi EU. The |
| 07/05/91 | stm gen 2 aux feed flow | 1 | | Failed | | | N/A constants are currently set at 0.0 and 200.0. *1=DP comp not used. |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|----------------------------|-------|----------|-----------|-----------|---------------|---|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SHSR | LOCATION | FAIL MGDE | | DP TEMP COMP | |
| 1U5049A | HL TEMP 1/A | DegF | Analog | 50.0 | N/A | N/A | This point reflects the quality validation of A-RC hot leg temp 450A against the SAS constants of hot leg temp Lo EU and Hi EU. The constants are currently set at 50.0 and 700.0. |
| ERCS #1 | SAS hot leg 1 Temperature | P | QV | 700.0 | N/A | N/A | |
| 07/05/91 | Hot leg 1 temperature | 1 | | Failed | | N/A | |
| 1U5051A | HL TEMP 2/B | DegF | Analog | 50.0 | N/A | N/A | This point reflects the quality validation of B-RC hot leg temp 451A against the SAS constants of hot leg temp Lo EU and Hi EU. The constants are currently set at 50.0 and 700.0. |
| ERCS #1 | SAS hot leg 2 Temperature | P | QV | 700.0 | N/A | N/A | |
| 07/05/91 | Hot leg 2 temperature | 1 | | Failed | | N/A | |
| 1U5053A | CL TEMP 1/A | DegF | Analog | 50.0 | @FP 520 | N/A | This point reflects the quality validation of A-RC cold leg temp 450B against the SAS constants of cold leg temp Lo EU and Hi EU. The constants are currently set at 50.0 and 700.0. Note: Alarm setpoints are at full power. In other modes, setpoints are calculated based on system pressure. |
| ERCS #1 | SAS cold leg 1 Temperature | P | QV | 700.0 | @FP 555 | N/A | |
| 07/05/91 | Cold leg 1 temperature | 1 | | Failed | | N/A | |
| 1U5055A | CL TEMP 2/B | DegF | Analog | 50.0 | @FP 520 | N/A | This point reflects the quality validation of B-RC cold leg temp 451B against the SAS constants of cold leg temp Lo EU and Hi EU. The constants are currently set at 50.0 and 700.0. Note: Alarm setpoints are at full power. In other modes, setpoints are calculated based on system pressure. |
| ERCS #1 | SAS cold leg 2 Temperature | P | QV | 700.0 | @FP 555 | N/A | |
| 07/05/91 | Cold leg 2 temperature | 1 | | Failed | | N/A | |
| 1U5001A | RCS PRESSURE | PSIG | Analog | 0.0 | @FP 1900 | N/A | CV-AVG of the 4 narrow range pressure sensors. If the validated quality of the sensors is bad, then use CV-AVG of 2 wide range pressure sensors. Note: At other than full power mode, SAS calculates Hi and Lo alarm limits. |
| ERCS #1 | SAS avg RCS pressure | P | CV-AVG | 3000.0 | @FP 2385 | N/A | |
| 07/06/91 | Avg RCS pressure | 6 | | | | N/A | |
| 1U5007A | PRZR LEVEL | % | Analog | 0.0 | 14.8 | 64.6 Gal/% | This point represents the CV-AVG of PRZR 426, 427 & 428 level sensors. Note *1: DP comp not used. Note *1: Note: Zero % level is 18" above top of fuel. |
| ERCS #1 | SAS avg PRZR H2O lvl (NR) | P | CV-AVG | 100.0 | 90.0 | 527 Gal @zero | |
| 07/06/91 | Avg pressurizer H2O level | 3 | | Failed | | | |
| 1F0128A | RCS CHG/MJ | Gpm | Analog | 0.0 | N/A | N/A | Sensor located 20 feet above discharge pump. |
| ERCS #1 | Charge pmp disch hdr flow | S | | 100.0 | N/A | N/A | |
| 07/06/91 | | 1 | note | Low | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|--------|----------|-----------|-----------|--------------|---|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | FAIL MODE | | DP TEMP COMP | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | | | | |
| 1U5154A | HP SI FLOW | Gpm | Analog | 0.0 | NONE | N/A | Sum of PID->(1F0922A SI flow to cold legs) & (1F0923A SI flow to rx val) |
| ERCS #1 | Total safety injection flow | P | | 1500.0 | NONE | N/A | |
| 10/09/91 | | 2 | | | | N/A | |
| 1U0651A | LP SI FLOW | Gpm | Analog | -1.0 | 1250.0 | N/A | Sum of PID->(1F0626a RHR loop flow) & (1F0928A RHR flow to val) |
| ERCS #1 | Total RHR flow | P | | 9000.0 | 2500.0 | N/A | |
| 10/09/91 | | 2 | | | | N/A | |
| 1U5153A | CTMNT SMP NR (narrow rng) | % | Analog | 0.0 | N/A | 14.7 gal/% | Average of 2 values (sump B 725 PID=F0922A) & (sump B 726 PID=F0923A) NR (narrow range) levels. Sump area = 42 sq ft. Depth=47". Conversion = 14.7 gal / % up to 84%. Above 48% conversion = 1903 gal / %. |
| ERCS #1 | Sump B avg level NR | P | CV-AVG | 100.0 | N/A | zero | |
| 07/17/91 | | 2 | | Failed | | N/A | |
| 1U5017A | CTMNT SMP WR (wide range) | % | Analog | 0.0 | 0.0 | 4685 gal/% | This point reflects the CV-AVG of containment levels 727 WR & 728 WR. Range in ft = 0 to 11.5 (100%). Containment area = 5446 sq ft. Conversion factor is 40,741 gal/ft or 4685 gal/%. Accuracy is +/- 17.2% due to complexities. |
| ERCS #1 | SAS avg contnment sump lvl | P | CV-AVG | 120.0 | 0.5 | 0.0 Ft | |
| 07/06/91 | Avg containment sump level | 2 | | Failed | | N/A | |
| 1U5061AL | EFF GAS RAD | MCI/HR | Analog | 5.3E-3 | | N/A | This point is the shield bldg stack effluent radiation in milli-curries/hr xenon 133 equivalent. Computed using (1R0022A mr/hr * 5.26E-04) / 1F5429A. 1F5429A is stack flow rate in CFM. 1R0022A is low range rad monitor. |
| ERCS #1 | stack effl radn low rng | P | | 526 | | N/A | |
| 10/10/91 | | 2 | | | | N/A | |
| 1U5061AH | EFF GAS RAD | MCI/HR | Analog | 5.3E-5 | | N/A | This point is the shield bldg stack effluent radiation in milli-curries/hr xenon 133 equivalent. Computed using (1R0050A mr/hr * 52.674) / 1F5429A. 1F5429A is stack flow rate in CFM. 1R0050A is hi range rad monitor. |
| ERCS #1 | stack effl radn high rng | P | | 5260 | | N/A | |
| 10/10/91 | | 2 | | | | N/A | |
| 1R0021A | EFF L10 RAD | CPM | Analog | 10.0 | N/A | N/A | |
| ERCS #1 | Circ wtr disch r | S | | 1000000 | 1000.0 | N/A | |
| 10/10/91 | | 1 | | | | N/A | |
| 1U5024A | COND A/E RAD | CPM | Analog | 10.0 | 10.0 | N/A | This point reflects the quality validation of CDSR air ejector gas radioactivity against the SAS constants of air ejector radiation which are currently set at 10 and 1,000,000. |
| ERCS #1 | SAS air ejector radiation | P | QV | 1.0 E6 | 5000.0 | N/A | |
| 07/06/91 | Air ejector radiation | 1 | | Failed | | N/A | |
| 1U5022A | CNTMNT RAD | R/HR | Analog | 1.0 | 1.0 | N/A | This point reflects the CV-AVG of high range CNTMT area monitor or high range CNTMT area monitor A or high range CNTMT area monitor B. |
| ERCS #1 | SAS High CNTMT radiation | P | CV-AVG | 1.0 E08 | 2.0 E4 | N/A | |
| 07/06/91 | High Containment radiation | 2 | | Failed | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|-------|----------|-----------|-----------|--------------|---|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENFRIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | DP TEMP COMP | |
| 1R0009A | RCS LTDN RAD | MR/Hr | Analog | 0.1 | N/A | N/A | |
| ERCS #1 | RC letdown line radiation | S | | 10000.0 | 1000.0 | N/A | |
| 07/06/91 | | 1 | | Failed | | N/A | |
| 1U5143A | MAIN SL 1/A | MR/Hr | Analog | 1.0 | N/A | N/A | This point reflects the quality validation of A stm line rad level against |
| ERCS #1 | SAS main steamline A rad'n | P | RV | 1.0 E5 | N/A | N/A | the SAS constants of main steamline radiation Lo EU & Hi EU which are set at |
| 07/06/91 | Main steamline A radiation | 1 | | Failed | | N/A | 1 & 100000. |
| 1U5144A | MAIN SL 2/B | MR/Hr | Analog | 1.0 | N/A | N/A | This point reflects the quality validation of B stm line rad level against |
| ERCS #1 | SAS main steamline B rad'n | P | RV | 1.0 E5 | N/A | N/A | the SAS constants of main steamline radiation Lo EU & Hi EU which are set at |
| 07/06/91 | Main steamline B radiation | 1 | | Failed | | N/A | 1 & 100000. |
| 1U5026A | SG BD RAD | CPM | Analog | 10.0 | 10.0 | N/A | This point reflects the quality validation of steam gen blowdown radiation |
| ERCS #1 | SAS stm gen blowdown rad'n | P | RV | 1.0 E4 | 1.0 E4 | N/A | against the SAS constants of steam gen blowdown radiation Lo EU & Hi EU which |
| 07/06/91 | Stm gen blowdown radiation | 1 | | Failed | | N/A | are currently set at 10 & 1,000,000. Note: includes both SGs A and B. |
| 1U5015A | CNTMNT PRESS | PSIG | Analog | -5.0 | -5.0 | N/A | This point reflects the CV-AVG of containment pressure MR 717 & 718 sensors. |
| ERCS #1 | SAS avg containment press | P | CV-AVG | 200.0 | 4.0 | N/A | |
| 07/06/91 | Avg containment pressure | 2 | | Failed | | N/A | |
| 1U5013A | CNTMNT TEMP | DegF | Analog | 0.0 | N/A | N/A | *1-High alarm is 10 DegF greater than rolling 5 min avg of containment temp. |
| ERCS #1 | SAS avg containment temp | P | Mov AVG | 400.0 | note *1 | N/A | This point reflects the CV-AVG of containment air temp elevation 697 and 738 |
| 07/06/91 | Avg containment temp | 3 | | Failed | | N/A | and 755 sensors. |
| 1U5021A | H2 CONC (concentration) | % | Analog | 0.0 | N/A | N/A | This point reflects the CV-AVG of containment H2 concentration sensors 719 & |
| ERCS #1 | SAS avg containment H2 conc | P | CV-AVG | 10.0 | N/A | N/A | 721. |
| 07/06/91 | Avg containment H2 concntrn | 2 | | Failed | | N/A | |
| 1U5068A | BWST LEVEL | % | Analog | 0.0 | N/A | 2522 Gal/% | This point reflects the CV-AVG of RWST (refueling water storage tank) level |
| ERCS #1 | SAS avg RWST level | P | CV-AVG | 100.0 | N/A | 1898 Gal | sensors 920 and 921. |
| 07/06/91 | Avg RWST level | 2 | | Failed | | N/A | |
| 1U4105A | WIND SPEED | MPH | Analog | 0.0 | N/A | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #1 | Met twr 10M avg wind spd A | P | none | 100.0 | N/A | N/A | 15 minute moving average of 30sec readings. |
| 10/16/91 | | 1 | 10 meter | Failed | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | LO RANGE | Lo/Hi | | CONVERSION | Unique system description |
|----------|----------------------------|--------|------------|-----------|-----------|-----------|--------------|---|
| | | | | | ALRM/TRIP | SET-POINT | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | | | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | | DP TEMP COMP | |
| 1U4106A | WIND SPEED | MPH | Analog | 0.0 | N/A | | N/A | Sensor location = meteorological tower B 10 meter height. |
| ERCS #1 | Met twr 10M avg wind spd B | P | none | 100.0 | N/A | | N/A | 15 minute moving average of 30sec readings. |
| 10/16/91 | | 1 | 10 meter | Failed | | | N/A | |
| 1Y4109A | WIND DIR | Deg | Analog | 0.0 | N/A | | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #1 | Pri met twr 10M wind dir A | S | | 360.0 | N/A | | N/A | Instantaneous values updated in 30 sec intervals. |
| 07/09/91 | | 1 | 10 meter | Failed | | | N/A | Indication is in the from direction. |
| 1Y4110A | WIND DIR | Deg | Analog | 0.0 | N/A | | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #1 | Pri met twr 10M wind dir B | S | | 540.0 | N/A | | N/A | Instantaneous values updated in 30 sec intervals. |
| 07/09/91 | | 1 | 10 meter | Failed | | | N/A | Indication is in the from direction. |
| 1U2907A | STAB CLASS | DF/100 | Analog | -7.0 | N/A | | N/A | Sensor location = meteorological tower 10 & 60 meter height. |
| ERCS #1 | Met twr avg delta temp A | ° | Diff | 9.0 | N/A | | N/A | This value represents the difference in temperature in deg ² /100Ft. |
| 10/16/91 | | 2 | 10 & 60 M. | Failed | | | N/A | |
| 1U2908A | STAB CLASS | DF/100 | Analog | -9.0 | N/A | | N/A | Sensor location = meteorological tower 10 & 60 meter height. |
| ERCS #1 | Met twr avg delta temp B | P | Diff | 9.0 | N/A | | N/A | This value represents the difference in temperature in deg ² /100Ft. |
| 10/16/91 | | 2 | 10 & 60 M. | Failed | | | N/A | |

ATTACHMENT 2

REVISION 1 TO

PRAIRIE ISLAND UNIT 2

EMERGENCY RESPONSE DATA SYSTEM

DATA POINT LIBRARY

| Heading definitions used in this report are: | | Other notes: |
|--|---|--|
| PID | = Point ID. | The data fields NI power supply cut off and turn on levels are not provided because the power supplies are not cut off. |
| EU | = Engineering units. | |
| P/S | = PROC or SENS. (Processed or sensor value) | Temperature compensation for DP transmitters is mentioned in the unique system description if applicable. Else the answer is no. |
| #SNSR | = Number of sensors. | |
| Analog/Dig | = Analog or digital point type. | Level reference leg only applies to SG LEVEL 1/A & 2/B. See unique system description for these two points. |
| P | = How processed. | |
| | CV-AVG = Chauvenet Validated Average of. | ERCS is the Emergency Response Computer System at the plant & is the feeder for all of the data used by ERDS. |
| | QV = Quality validation against constants. | |
| Location | = Sensor location. | |
| HI RANGE | = Instrument highest range. | |
| LO RANGE | = Instrument lowest range. | |
| ZERO REF | = Zero reference point. | |

***** ERDS DPL SUMMARY *****

| # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION | # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION | # | PID | NRC PARAMETER | ERCS POINT DESCRIPTION |
|----|---------|---------------|------------------------------|----|---------|---------------|-----------------------------|----|---------|---------------|------------------------------|
| 1 | 2U5048A | NI POWER RNG | SAS avg pwr rng pwr level | 16 | 2U5049A | HL TEMP 1/A | SAS hot leg 1 Temperature | 31 | 2U5022A | CNTMNT RAD | SAS High CNTMT radiation |
| 2 | 2U5082A | NI INTER RNG | Avg intermed rng power level | 17 | 2U5051A | HL TEMP 2/B | SAS hot leg 2 Temperature | 32 | 2R0009A | RCS LTDN RAD | RC letdown line radiation |
| 3 | 2U5081A | NI SOURC RNG | Avg srce rng pwr level | 18 | 2U5053A | CL TEMP 1/A | SAS cold leg 1 Temperature | 33 | 2U5143A | MAIN SL 1/A | SAS main steamline A rad'n |
| 4 | 2U5011A | REAC VES LEV | SAS avg reactor vessel level | 19 | 2U5055A | CL TEMP 2/B | SAS cold leg 2 Temperature | 34 | 2U5144A | MAIN SL 2/B | SAS main steamline B rad'n |
| 5 | 2U5510A | TEMP CORE EX | SAS 1st hottest incore T/C | 20 | 2U5001A | RCS PRESSURE | SAS avg RCS pressure | 35 | 2U5026A | SG BD RAD | SAS stm gen blowdown rad'n |
| 6 | 2U5077A | SUB MARGIN | SAS RCS subcooling margin | 21 | 2U5007A | PRZR LEVEL | SAS avg PRZR H2O lvl (NR) | 36 | 2U5015A | CNTMNT PRESS | SAS avg containment press |
| 7 | 2U5152A | CORE FLOW | RC avg flow | 22 | 2F0128A | RCS CHG/MU | Charge pmp disch hdr flow | 37 | 2U5013A | CNTMNT TEMP | SAS avg containment temp |
| 8 | 2U5032A | SG LEVEL 1/A | SAS avg stm gen 1 H2O level | 23 | 2U5154A | HP SI FLOW | Total safety injection flow | 38 | 2U5021A | H2 CONC | SAS avg containment H2 conc |
| 9 | 2U5034A | SG LEVEL 2/B | SAS avg stm gen 2 H2O level | 24 | 2U0651A | LP SI FLOW | Total RHR flow | 39 | 2U5068A | RWST LEVEL | SAS avg RWST level |
| 10 | 2U5036A | SG PRESS 1/A | SAS avg stm gen 1 presure | 25 | 2U5153A | CTMNT SMP NR | Sump B avg level NR | 40 | 1U4105A | WIND SPEED | Met twr 10M avg wind spd A |
| 11 | 2U5038A | SG PRESS 2/B | SAS avg stm gen 2 presure | 26 | 2U5017A | CTMNT SMP WR | SAS avg contnment sump lvl | 41 | 1U4106A | WIND SPEED | Met twr 10M avg wind spd B |
| 12 | 2U5040A | MN FD FL 1/A | SAS avg stm gen1 feed flow | 26 | 2U5061A | EFF GAS RAD | Shld bld gas efflnt low rng | 42 | 1Y4109A | WIND DIR | Met twr 10M wind dir A |
| 13 | 2U5042A | MN FD FL 2/B | SAS avg stm gen2 feed flow | 28 | 2U5062A | EFF GAS RAD | Shld bld gas efflnt hi rng | 43 | 1Y4110A | WIND DIR | Met twr 10M wind dir B |
| 14 | 2U5044A | AX FD FL 1/A | SAS avg stm gen1 aux fd fl | 29 | 1R0021A | EFF LIQ RAD | Circ wtr disch rad mnt'r | 44 | 1U2907A | STAB CLASS | Met twr 50M avg delta temp A |
| 15 | 2U5045A | AX FD FL 2/B | SAS avg stm gen2 aux fd fl | 30 | 2U5024A | COND A/E RAD | SAS air ejector radiation | 45 | 1U2908A | STAB CLASS | Met twr 50M avg delta temp B |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | LO RANGE | Lo/Hi | | CONVERSION | Unique system description |
|----------|------------------------------|-------|----------|-----------|-----------|--------------|------------|---|
| | | | | | ALRM/TRIP | SET-POINT | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | | ZERO REI | | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | DP TEMP COMP | | |
| 2U5048A | NI POWER RNG | % | Analog | 0.0 | N/A | N/A | | This point reflects the CV-AVG of N41, N42, N43 & N44 power range reactor |
| ERCS #2 | SAS avg pwr rng pwr level | P | CV-AVG | 120.0 | N/A | N/A | | power level sensors. |
| 07/02/91 | Avg power range pwr level | 4 | Excore | LOW | | N/A | | |
| 2U5082A | NI INTER RNG | MCAMP | Analog | 1.0E-5 | N/A | N/A | | This point reflects the CV-AVG of 358 & 368 neutron flux intermediate range |
| ERCS #2 | Avg intermed rng power level | P | CV-AVG | 1.0E03 | N/A | N/A | | level sensors. |
| 10/16/91 | Avg intermed range pwr level | 2 | Excore | LOW | | N/A | | Note: MCAMP EU = micro-amps. |
| 2U5081A | NI SOURC RNG | CPS | Analog | 0.1 | N/A | N/A | | This point reflects the CV-AVG of 31E & 32F neutron flux source range level. |
| ERCS #2 | Avg srce rng pwr | P | CV-AVG | 1.0E06 | N/A | N/A | | The power supply does not shut off for these sensors. |
| 10/16/91 | Avg source range pwr level | 2 | Excore | LOW | | N/A | | |
| 2U5011A | REAC VES LEV | % | Analog | 0.0 | 0.0 | 4.4 inch/% | | This point reflects the CV-AVG of the reactor vessel level based on reactor |
| ERCS #2 | SAS avg reactor vessel level | P | CV-AVG | 120.0 | 120.0 | note | | coolant pump operation. If RCPs are off then wide range RVLIS sensors are |
| 07/02/91 | Avg reactor vessel level | 4 | Contnmt | Failed | | FROM RVLIS | | used. Else, dynamic head RVLIS sensors are used. RVLIS is Westinghouse |
| | | | | | | | | reactor vessel level indication system. |
| | | | | | | | | Note: DP temp compensation is provided in the RVLIS computer which supplies |
| | | | | | | | | this value to the ERCS computer. |
| | | | | | | | | Note: Top of fuel = 56.7%. Bottom of fuel = 24%. |
| 2U5510A | TEMP CORE EX | DegF | Analog | 32.0 | N/A | N/A | | This point reflects the CV-AVG hottest reactor incore thermocouple. |
| ERCS #2 | SAS 1st hottest incore T/C | P | CV-AVG | 2300.0 | N/A | N/A | | Note: T/C = thermocouple. |
| 07/02/91 | | 36 | Incore | Failed | | N/A | | |
| 2U5077A | SUB MARGIN | DegF | Analog | -200.0 | N/A | N/A | | This point reflects the result of a two term linear equation using RCS |
| ERCS #2 | SAS RCS subcooling margin | P | See note | 1000.0 | N/A | N/A | | saturation temperature (Temp. saturated vapor as a function of presure |
| 07/02/91 | RCS subcooling margin | 3 | | Failed | | N/A | | based on the 1967 ASME steam tables) and avg core exit temp (CV-AVG of the |
| | | | | | | | | incore thermocouples). |
| 2U5152A | CORE FLOW | % | Analog | 0.0 | N/A | N/A | | This point reflects the CV-AVG of these 6 flow values: |
| ERCS #2 | RC avg flow | P | CV-AVG | 115.0 | N/A | N/A | | (A-RC 411, PID=F0400A), (A-RC 412, PID=F0401A), (A-RC 413, PID=F0402A), |
| 07/17/91 | | 6 | | Failed | | N/A | | (B-RC 414, PID=F0420A), (B-RC 415, PID=F0421A), (B-RC 416, PID=F0422A) |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|-------|----------|-----------|-----------|---------------|--|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | FRCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | DP TEMP COMP | |
| 2U5032A | SG LEVEL 1/A | % | Analog | 0.0 | 20.0 | 1%180gal @STP | *1=Sensor located 433" above the tube sheet. NR sensors cover a span of 144" |
| ERCS #2 | SAS avg stm gen 1 H2O level | P | CV-AVG | 100.0 | 67.0 | Note #2 | *2=Zero reference 23" above tube bundle, 420" = top of tube bundle. |
| 07/02/91 | Avg stm gen 1 H2O level | 3 | Note #1 | Failed | | Note #5 | *3=This point reflects CV-AVG of loop A stm gen level (NR461, NR462 & NR463) *4=level reference leg=yes, water filled with condenser pot. *5=DP temp compensation not used. |
| 2U5034A | SG LEVEL 2/B | % | Analog | 0.0 | 20.0 | 1%180gal @STP | *1=Sensor located 433" above the tube sheet. NR sensors cover a span of 144" |
| ERCS #2 | SAS avg stm gen 2 H2O lev | P | CV-AVG | 100.0 | 67.0 | Note #2 | *2=Zero reference 23" above tube bundle, 420" = top of tube bundle. |
| 07/05/91 | Avg stm gen 2 H2O level | 3 | Note #1 | Failed | | N/A | *3=This point reflects CV-AVG of loop B stm gen level (NR471, NR472 & NR473) *4=level reference leg=yes, water filled with condenser pot. |
| 2U5036A | SG PRESS 1/A | PSIG | Analog | 0.0 | 500.0 | N/A | CV-AVG of loop A stm gen pressure (468, 469, 482). |
| ERCS #2 | SAS avg stm gen 1 presure | P | CV-AVG | 1400.0 | 1075.0 | N/A | |
| 07/05/91 | Avg stm gen 1 pressure | 3 | | Failed | | N/A | |
| 2U5038A | SG PRESS 2/B | PSIG | Analog | 0.0 | 500.0 | N/A | CV-AVG of loop B stm gen pressure (478, 479, 483). |
| ERCS #2 | SAS avg stm gen 2 presure | P | CV-AVG | 1400.0 | 1075.0 | N/A | |
| 07/05/91 | Avg stm gen 2 pressure | 3 | | Failed | | N/A | |
| 2U5040A | MN FD FL 1/A | Lb/Hr | Analog | 0.0 | N/A | N/A | CV-AVG of loop A fw flow 466(xmtr) & 467(xmtr). |
| ERCS #2 | SAS avg stm gen1 feed flow | P | CV-AVG | 4470000 | N/A | N/A | *1=DP comp not used. |
| 07/05/91 | Avg steam gen 1 feed flow | 2 | | Failed | | Note #1 | |
| 2U5042A | MN FD FL 2/B | Lb/Hr | Analog | 0.0 | N/A | N/A | CV-AVG of loop B fw flow 476(xmtr) & 477(xmtr). |
| ERCS #2 | SAS avg stm gen2 feed flow | P | CV-AVG | 4470000 | N/A | N/A | *1=DP comp not used. |
| 07/05/91 | Avg stm gen 2 feed flow | 2 | | Failed | | N/A | |
| 2U5044A | AX FD FL 1/A | GPM | Analog | 0.0 | N/A | N/A | This point reflects the quality validation of AFW flow to A steam generator |
| ERCS #2 | SAS avg stm gen1 aux fd fl | P | QV | 200.0 | N/A | N/A | against the SAS constants of steam aux feed flow lo EU & Hi EU. The |
| 07/05/91 | Stm gen 1 aux feed flow | 1 | | Failed | | N/A | constants are currently set at 0.0 and 200.0. *1=DP comp not used. |
| 2U5045A | AX FD FL 2/B | GPM | Analog | 0.0 | N/A | N/A | This point reflects the quality validation of AFW flow to B steam generator |
| ERCS #2 | SAS avg stm gen2 aux fd fl | P | QV | 200.0 | N/A | N/A | against the SAS constants of steam aux feed flow Lo EU & Hi EU. The |
| 07/05/91 | stm gen 2 aux feed flow | 1 | | Failed | | N/A | constants are currently set at 0.0 and 200.0. *1=DP comp not used. |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | LO RANGE | Lo/Hi | | CONVERSION | Unique system description |
|----------|----------------------------|-------|----------|-----------|-----------|--------------|--------------|---|
| | | | | | ALRM/TRIP | SET-POINT | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | | | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | | DP TEMP COMP | |
| 2U5049A | HL TEMP 1/A | DegF | Analog | 50.0 | N/A | | N/A | This point reflects the quality validation of A-RC hot leg temp 450A against |
| ERCS #2 | SAS hot leg 1 Temperature | P | QV | 700.0 | N/A | | N/A | the SAS constants of hot leg temp Lo EU and Hi EU. The constants are |
| 07/05/91 | Hot leg 1 temperature | 1 | | Failed | | | N/A | currently set at 50.0 and 700.0. |
| 2U5051A | HL TEMP 2/B | DegF | Analog | 50.0 | N/A | | N/A | This point reflects the quality validation of B-RC hot leg temp 451A against |
| ERCS #2 | SAS hot leg 2 Temperature | P | QV | 700.0 | N/A | | N/A | the SAS constants of hot leg temp Lo EU and Hi EU. The constants are |
| 07/05/91 | Hot leg 2 temperature | 1 | | Failed | | | N/A | currently set at 50.0 and 700.0. |
| 2U5053A | CL TEMP 1/A | DegF | Analog | 50.0 | @FP 520 | | N/A | This point reflects the quality validation of A-RC cold leg temp 450B against |
| ERCS #2 | SAS cold leg 1 Temperature | P | QV | 700.0 | @FP 555 | | N/A | the SAS constants of cold leg temp Lo EU and Hi EU. The constants are |
| 07/05/91 | Cold leg 1 temperature | 1 | | Failed | | | N/A | currently set at 50.0 and 700.0. Note: Alarm setpoints are at full power. In other modes, setpoints are calculated based on system pressure. |
| 2U5055A | CL TEMP 2/B | DegF | Analog | 50.0 | @FP 520 | | N/A | This point reflects the quality validation of B-RC cold leg temp 451B against |
| ERCS #2 | SAS cold leg 2 Temperature | P | QV | 700.0 | @FP 555 | | N/A | the SAS constants of cold leg temp Lo EU and Hi EU. The constants are |
| 07/05/91 | Cold leg 2 temperature | 1 | | Failed | | | N/A | currently set at 50.0 and 700.0. Note: Alarm setpoints are at full power. In other modes, setpoints are calculated based on system pressure. |
| 2U5001A | RCS PRESSURE | PSIG | Analog | 0.0 | @FP 1900 | | N/A | CV-AVG of the 4 narrow range pressure sensors. If the validated quality of |
| ERCS #2 | SAS avg RCS pressure | P | CV-AVG | 3000.0 | @FP 2385 | | N/A | the sensors is bad, then use CV-AVG of 2 wide range pressure sensors. |
| 07/06/91 | Avg RCS pressure | 6 | | | | | N/A | Note: At other than full power mode, SAS calculates Hi and Lo alarm limits. |
| 2U5007A | PRZR LEVEL | % | Analog | 0.0 | 14.8 | 64.6 gal/% | N/A | This point represents the CV-AVG of PRZR 426, 427 & 428 level sensors. |
| ERCS #2 | SAS avg PRZR H2O lvl (NR) | P | CV-AVG | 100.0 | 90.0 | 527 gal @zro | N/A | *1=0P comp not used. |
| 07/06/91 | Avg pressurizer H2O level | 3 | | Failed | | Note *1 | N/A | Note: Zero % level is 18'9" above top of fuel. |
| 2F0128A | RCS CHG/MU | Gpm | Analog | 0.0 | N/A | | N/A | Sensor located 20 feet above discharge pump. |
| ERCS #2 | Charge pmp disch hdr flow | S | | 100.0 | N/A | | N/A | |
| 07/06/91 | | 1 | note | Low | | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|--------|----------|-----------|-----------|--------------|---|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | DP TEMP COMP | |
| 2U5154A | HP SI FLOW | Gpm | Analog | 0.0 | NONE | N/A | Sum of PID->(2F0922A SI flow to cold legs) & (2F0923A SI flow to rx vsl) |
| ERCS #2 | Total safety injection flow | P | | 1500.0 | NONE | N/A | |
| 10/09/91 | | Z | | | | N/A | |
| 2U0651A | LP SI FLOW | Gpm | Analog | -1.0 | 1250.0 | N/A | Sum of PID->(2F0626a RHR loop flow) & (2F0928A RHR flow to vsl) |
| ERCS #2 | Total RHR flow | P | | 9000.0 | 2500.0 | N/A | |
| 10/09/91 | | Z | | | | N/A | |
| 2U5153A | CTMNT SMP NR (narrow rng) | % | Analog | 0.0 | N/A | 14.7 gal/% | Average of 2 values (sump B 725 PID=F0922A) & (sump B 726 PID=F0923A) NR |
| ERCS #2 | Sump B avg level NR | P | CV-AVG | 100.0 | N/A | Zero | (narrow range) levels. Sump area = 42 sq ft. Depth=47". Conversion = 14.7 |
| 07/17/91 | | Z | | Failed | | N/A | gal / % up to 84%. Above 84% conversion = 1903 gal / %. |
| 2U5017A | CTMNT SMP WR (wide range) | % | Analog | 0.0 | 0.0 | 4685 gal/% | This point reflects the CV-AVG of containment levels 727 WR & 728 WR. Range |
| ERCS #2 | SAS avg contrnment sump lvl | P | CV-AVG | 120.0 | 0.5 | 0.0 ft | in ft = 0 to 11.5 (100%). Containment area = 5446 sq ft. Conversion factor |
| 07/06/91 | Avg containment sump level | Z | | Failed | | N/A | is 40,741 gal/ft or 4685 gal/%. Accuracy is +/- 17.2% due to cal. activities. |
| 2U5061AL | EFF GAS RAD | MCI/HR | Analog | 5.3E-3 | | | N/A This point is the shield bldg stack effluent radiation in milli-curries/hr |
| ERCS #2 | stack eff. radn low rng | P | | 526 | | | N/A xenon 133 equivalent. Computed using (2R0022A m/hr * 5.26E-04) / 2F5429A. |
| 10/10/91 | | Z | | | | | N/A 2F5429A is stack flow rate in CFM. 2R0022A is low range rad monitor. |
| 2U5061AH | EFF GAS RAD | MCI/HR | Analog | 5.3E-5 | | | N/A This point is the shield bldg stack effluent radiation in milli-curries/hr |
| ERCS #2 | stack effl radn high rng | P | | 5260 | | | N/A xenon 133 equivalent. Computed using (2R0050A m/hr * 52.674) / 2F5429A. |
| 10/10/91 | | Z | | | | | N/A 2F5429A is stack flow rate in CFM. 2R0050A is hi range rad monitor. |
| 1R0021A | EFF LIQ RAD | CPM | Analog | 10.0 | N/A | | N/A |
| ERCS #2 | Circ wtr disch r | S | | 1000000 | 1000.0 | | N/A |
| 10/10/91 | | 1 | | | | | N/A |
| 2U5024A | COND A/E RAD | CPM | Analog | 10.0 | 10.0 | | N/A This point reflects the quality validation of CDSR air ejector gas |
| ERCS #2 | SAS air ejector radiation | P | QV | 1.0 E6 | 5000.0 | | N/A radioactivity against the SAS constants of air ejector radiation which are |
| 07/06/91 | Air ejector radiation | 1 | | Failed | | | N/A currently set at 10 and 1,000,000. |
| 2U5022A | CTMNT RAD | R/HR | Analog | 1.0 | 1.0 | | N/A This point reflects the CV-AVG of high range CNTMT area monitor or high range |
| ERCS #2 | SAS High CNTMT radiation | P | CV-AVG | 1.0 E08 | 2.0 E4 | | N/A CNTMT area monitor A or high range CNTMT area monitor B. |
| 07/06/91 | High Containment radiation | Z | | Failed | | | N/A |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | Lo/Hi | | CONVERSION | Unique system description |
|----------|-----------------------------|-------|----------|-----------|-----------|--------------|--|
| | | | | LO RANGE | ALRM/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSP | LOCATION | FAIL MODE | | DP TEMP COMP | |
| 2R0009A | RCS LTDN RAD | MR/Hr | Analog | 0.1 | N/A | N/A | |
| ERCS #2 | RC letdown line radiation | S | | 10000.0 | 1000.0 | N/A | |
| 07/06/91 | | 1 | | Failed | | N/A | |
| 2U5143A | MAIN SL 1/A | MR/Hr | Analog | 1.0 | N/A | N/A | This point reflects the quality validation of A stm line rad level against |
| ERCS #2 | SAS main steamline A rad'n | P | QV | 1.0 E5 | N/A | N/A | the SAS constants of main steamline radiation Lo EU & Hi EU which are set at |
| 07/06/91 | Main steamline A radiation | 1 | | Failed | | N/A | 1 & 100000. |
| 2U5144A | MAIN SL 2/B | MR/Hr | Analog | 1.0 | N/A | N/A | This point reflects the quality validation of B stm line rad level against |
| ERCS #2 | SAS main steamline B rad'n | P | QV | 1.0 E5 | N/A | N/A | the SAS constants of main steamline radiation Lo EU & Hi EU which are set at |
| 07/06/91 | Main steamline B radiation | 1 | | Failed | | N/A | 1 & 100000. |
| 2U5026A | SG BD RAD 1A | CPM | Analog | 10.0 | 10.0 | N/A | This point reflects the quality validation of A steam gen blowdown radiation |
| ERCS #2 | SAS stm gen blowdown rad'n | P | QV | 1.0 E6 | 1.0 E4 | N/A | against the SAS constr:its of steam gen blowdown radiation Lo EU & Hi EU which |
| 07/06/91 | Stm gen blowdown radiation | 1 | | Failed | | N/A | are currently set at 10 & 1,000,000. |
| 2U5015A | CNTMNT PRESS | PSIG | Analog | -5.0 | -5.0 | N/A | This point reflects the CV-AVG of containment pressure WR 717 & 718 sensors. |
| ERCS #2 | SAS avg containment press | P | CV-AVG | 200.0 | 4.0 | N/A | |
| 07/06/91 | Avg containment pressure | 2 | | Failed | | N/A | |
| 2U5013A | CNTMNT TEMP | DegF | Analog | 0.0 | N/A | N/A | *1-High alarm is 10 DegF greater than rolling 5 min avg of containment temp. |
| ERCS #2 | SAS avg containment temp | P | Mov AVG | 400.0 | note *1 | N/A | This point reflects the CV-AVG of containment air temp elevation 697 and 736 |
| 07/06/91 | Avg containment temp | 3 | | Failed | | N/A | and 755 sensors. |
| 2U5021A | H2 CONC (concentration) | % | Analog | 0.0 | N/A | N/A | This point reflects the CV-AVG of containment H2 concentration sensors 719 & |
| ERCS #2 | SAS avg containment H2 conc | P | CV-AVG | 10.0 | N/A | N/A | 721. |
| 07/06/91 | Avg containment H2 concntrn | 2 | | Failed | | N/A | |
| 2U5068A | BWST LEVEL | % | Analog | 0.0 | N/A | 2922 Gal/% | This point reflects the CV-AVG of RWST (refueling water storage tank) level |
| ERCS #2 | SAS avg RWST level | P | CV-AVG | 100.0 | N/A | 1898 Gal | sensors 920 and 921. |
| 07/06/91 | Avg RWST level | 2 | | Failed | | N/A | |
| 1U4105A | WIND SPEED | MPH | Analog | 0.0 | N/A | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #2 | Met twr 10M avg wind spd A | P | none | 100.0 | N/A | N/A | 15 minute moving average of 30sec readings. |
| 10/16/91 | | 1 | 10 meter | Failed | | N/A | |

| PID | NRC ERDS PARAMETER | EU | ANLG/DIG | LO RANGE | Lo/Hi | CONVERSION | Unique system description |
|----------|----------------------------|--------|------------|-----------|-----------|--------------|--|
| | | | | | ALRN/TRIP | | |
| FEEDER | ERCS POINT DESCRIPTION | P/S | PROCESS | HI RANGE | SET-POINT | ZERO REF | |
| DATE | GENERIC/COND DESCRIPTION | #SNSR | LOCATION | FAIL MODE | | DP TEMP COMP | |
| 1U4106A | WIND SPEED | MPH | Analog | 0.0 | N/A | N/A | Sensor location = meteorological tower B 10 meter height. |
| ERCS #2 | Met twr 10M avg wind spd B | P | none | 100.0 | N/A | N/A | 15 minute moving average of 30sec readings. |
| 10/16/91 | | 1 | 10 meter | Failed | | N/A | |
| 1Y4109A | WIND DIR | Deg | Analog | 0.0 | N/A | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #2 | Pri met twr 10M wind dir A | S | | 360.0 | N/A | N/A | Instantaneous values updated in 30 sec intervals. |
| 07/09/91 | | 1 | 10 meter | Failed | | N/A | Indication is in the from direction. |
| 1Y4110A | WIND DIR | Deg | Analog | 0.0 | N/A | N/A | Sensor location = meteorological tower A 10 meter height. |
| ERCS #2 | Pri met twr 10M wind dir B | S | | 540.0 | N/A | N/A | Instantaneous values updated in 30 sec intervals. |
| 07/09/91 | | 1 | 10 meter | Failed | | N/A | Indication is in the from direction. |
| 1U2907A | STAB CLASS | DF/100 | Analog | -9.0 | N/A | N/A | Sensor location = meteorological tower 10 & 60 meter height. |
| ERCS #2 | Met twr avg delta temp A | P | Diff | 9.0 | N/A | N/A | This value represents the difference in temperature in degF/100Ft. |
| 10/16/91 | | 2 | 10 & 60 M. | Failed | | N/A | |
| 1U2908A | STAB CLASS | DF/100 | Analog | -9.0 | N/A | N/A | Sensor location = meteorological tower 10 & 60 meter height. |
| ERCS #2 | Met twr avg delta temp B | P | Diff | 9.0 | N/A | N/A | This value represents the difference in temperature in degF/100Ft. |
| 10/16/91 | | 2 | 10 & 60 M. | Failed | | N/A | |