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NOVEMBER 3, 1992

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U. S. Nuclear Regulatory Commission
Washington, DC 20555

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
UPDATE TO DATA POINT LIBRARY
(PR 900015-1)

At the request of John Thompson of the NRC, Virgil C. Summer Nuclear Station (VCSNS) is submitting an update to its Emergency Response Data System (ERDS) Data Point Library. Attached is a summary of the changes followed by the updated data sheets.

Should there be any questions regarding this information, please contact David Haile at (803) 345-4322.

Very truly yours,

AR Skolds for
John L. Skolds

DCH:smd
Attachment

c: O. W. Dixon
R. R. Mahan
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General Managers
NSRC
RTS (PR 900015-1)
File (811.10 & 811.02 - 50.064)

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NUCLEAR EXCELLENCE - A SUMMER TRADITION!

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Attachment to

Document Control Desk Letter PR 900015-1

Update To ERDS Data Point Library



Summary of ERDS Data Point Library Entry Changes

- 1) Page 5 - provided percent level indication for top of fuel,
- 2) Page 12, 13, and 14 - provided percent level indication for top of tube bundle,
- 3) Page 31 - provided percent level indication for top of heaters,
- 4) Page 36 - corrected "typo" in Plant Specific Point Description,
- 5) Page 37 - provided explanation of level to volume relationship concerning containment sumps,
- 6) Page 38 - updated sensor location information and unique system description,
- 7) Page 38A - added additional "EFF GAS RAD" point, and
- 8) Page 39 - changed point ID, Plant Specific Point Description, and Unique System Description.



DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : REAC VES LEV
POINT ID : U6027
PLANT SPEC POINT DESC.: RVLIS NARROW RANGE HEALTHY AVG
GENERIC/COND DESC. : REACTOR VESSEL WATER LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : 8
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 120.0
ZERO POINT REFERENCE : LWHEAD
REFERENCE POINT NOTES : INDICATION VALID WHEN NO RCPS RUNNING
PROC OR SENS : P
NUMBER OF SENSORS : 2
HOW PROCESSED : HEALTHY AVERAGE
SENSOR LOCATIONS : FUEL HANDLING BLDG AND DIESEL GEN BLDG
ALARM/TRIP SETPOINTS : N/A
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : LOW (LOSS OF POWER)
DP XMITTER TEMP. COMP.: Y
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

This point provides the healthy average of the reactor vessel level narrow range indication. Instrumentation is located in the instrument loop (top and bottom of vessel). If one of the inputs is invalid the other point is used. The point is marked invalid if both inputs are invalid. Compensation for density changes occurs in the RVLIS process instrumentation cabinet. The narrow range indicator provides valid information when all RCPs are deenergized. With all RCPs not running, the narrow range indication accurately reflects reactor vessel water level. With one or more RCPs running, the narrow range indication will show maximum level (due to the pressure drop across the core). The top of active fuel is represented by a level indication of 61% on this instrument.



DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : SG LEVEL 1/A
POINT ID : L0403A
PLANT SPEC POINT DESC.: STM GEN A WIDE RNG LEVEL-LT477
GENERIC/COND DESC. : STEAM GENERATOR 1 WATER LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : %
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 100.0
ZERO POINT REFERENCE : TUBSHT
REFERENCE POINT NOTES : 0-100% COVERS 554 INCHES OF LEVEL (COLD CAL)
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : OUTSIDE SHIELD WALL, INSIDE CONTAINMENT
ALARM/TRIP SET POINTS : NONE
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : HIGH
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

This is a wide range instrument that provides the level from the bottom of the steam generator (tube sheet) to the top of the steam generator (above the top of the moisture separator). The indication is in percent of S/G level. The top of the tube bundle is represented by a level indication of 57% on this instrument.

DATE : 07/23/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : SG LEVEL 2/B
POINT ID : L0423A
PLANT SPEC POINT DESC.: STM GEN B WIDE RNG LEVEL-LT487
GENERIC/COND DESC. : STEAM GENERATOR 2 WATER LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : %
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 100.0
ZERO POINT REFERENCE : TUBSHT
REFERENCE POINT NOTES : 0-100% COVERS 554 INCHES OF LEVEL (COLD CAL)
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : OUTSIDE SHIELD WALL, INSIDE CONTAINMENT
ALARM/TRIP SET POINTS : NONE
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : HIGH
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

This is a wide range instrument that provides the level from the bottom of the steam generator (tube sheet) to the top of the steam generator (above the top of the moisture separator). The indication is in percent of S/G level. The top of the tube bundle is represented by a level indication of 57% on this instrument.



DATE : 07/23/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : SG LEVEL 3/C
POINT ID : L0443A
PLANT SPEC POINT DESC.: STM GEN C WIDE RNG LEVEL-LT497
GENERIC/COND DESC. : STEAM GENERATOR 3 WATER LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : %
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 100.0
ZERO POINT REFERENCE : TUBSHT
REFERENCE POINT NOTES : 0-100% COVERS 554 INCHES OF LEVEL (COLD CAL)
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : OUTSIDE SHIELD WALL, INSIDE CONTAINMENT
ALARM/TRIP SET POINTS : NONE
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : HIGH
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

This is a wide range instrument that provides the level from the bottom of the steam generator (tube sheet) to the top of the steam generator (above the top of the moisture separator). The indication is in percent of S/G level. The top of the tube bundle is represented by a level indication of 57% on this instrument.

DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : PRZR LEVEL
POINT ID : U0483A
PLANT SPEC POINT DESC.: PRESSURIZER LEVEL 1/2/3 AVG
GENERIC/COND. DESC. : PRIMARY SYSTEM PRESSURIZER LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : %
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 100.0
ZERO POINT REFERENCE : LWHEAD
REFERENCE POINT NOTES : 100% LEVEL = 1400 CUBIC FEET
PROC OR SENS : P
NUMBER OF SENSORS : 3
HOW PROCESSED : STATISTICAL AVERAGE
SENSOR LOCATIONS : IN CONTAINMENT - OUTSIDE SHIELD WALL
ALARM/TRIP SET POINTS : HIGH ALARM = 92%
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : HIGH
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

Pressurizer liquid level indication, is based on the statistical average of three instruments/transmitters. The transmitters provide the signal for use in the Reactor Control, Protection, and Chemical and Volume control systems. Each transmitter provides an independent high water level signal that is used to actuate an alarm and upon two out of three alarms will cause a reactor trip. The top of the heaters is represented by a level indication of 18% on this instrument.



DATE : 07/23/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : LP SI FLOW
POINT ID : F0627A
PLANT SPEC POINT DESC. : RESIDUAL HEAT TRAIN B FLOW-FT605B
GENERIC/COND. DESC. : LOW PRESSURE SI FLOW TRAIN B
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : GPM
ENGR UNITS CONVERSION : SQUARE ROOT CONVERSION
MINIMUM INSTR. RANGE : 0.0
MAXIMUM INSTR. RANGE : 5000.0
ZERO POINT REFERENCE : N/A
REFERENCE POINT NOTES : N/A
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : THIRD FLOOR OF AUX. BLDG.
ALARM/TRIP SET POINTS : LOW ALARM = 2800 GPM, HIGH ALARM = 3500 GPM
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : LOW
DP XMITTER TEMP. COMP. : N
LEVEL REFERENCE LEG : N/A

UNIQUE SYSTEM DESCRIPTION

This point provides indication of the "B" Train RHR flow rate.



DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : CTMNT SMP WR
POINT ID : U6049
PLANT SPEC POINT DESC.: CONTAINMENT WR SUMP LEVEL
GENERIC/COND. DESC. : CONTAINMENT SUMP WR LEVEL
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : FEET
ENGR UNITS CONVERSION : LINEAR CONVERSION
MINIMUM INSTR. RANGE : 408.0
MAXIMUM INSTR. RANGE : 420.5
ZERO POINT REFERENCE : SEALEV
REFERENCE POINT NOTES : N/A
PROC OR SENS : P
NUMBER OF SENSORS : 2
HOW PROCESSED : HEALTHY AVERAGE
SENSOR LOCATIONS : CONTAINMENT BLDG. BOTTOM FLOOR
ALARM/TRIP SET POINTS : NONE
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : HIGH
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : WET

UNIQUE SYSTEM DESCRIPTION

Senses reactor containment level. This point consists of the healthy average of the two level indications of the combined reactor building spray and residual heat removal sumps. If either level input is invalid the other is used. If both inputs are invalid, this point is marked invalid. The sump level indication comes on scale at 408 feet and each sump contains approximately 1800 gallons of water. At the 412 foot elevation the sumps are full with each sump containing approximately 7360 gallons of water. The reactor building floor is at an elevation of 412 feet. A 6 inch high curb is present around each sump and therefore the floor of the reactor building must contain 6 inches of water before the sumps begin to fill. This means that any level indication above 412.5 feet, represents both sumps full and that flooding in the reactor building is occurring. The maximum flood level expected is 418.5 feet.



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DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : EFF GAS RAD
POINT ID : R1005
PLANT SPEC POINT DESC.: MPV MONITOR HIGH RANGE - RMA13
GENERIC/COND. DESC. : RADIOACTIVITY OF RELEASED GASES
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : MR/HR
ENGR UNITS CONVERSION : EXPONENTIAL CONVERSION
MINIMUM INSTR. RANGE : 0.1
MAXIMUM INSTR. RANGE : 10000000.0
ZERO POINT REFERENCE : N/A
REFERENCE POINT NOTES : N/A
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : AUX. BLDG. ROOF
ALARM/TRIP SET POINTS : HIGH ALARM = 5 MR/HR, HI WARNING = 3 MR/HR
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : LOW
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : N/A

UNIQUE SYSTEM DESCRIPTION

This point provides the indication of radioactivity release level from auxiliary building sources.

DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : EFF GAS RAD
POINT ID : R1020
PLANT SPEC POINT DESC.: CP VENT HIGH RANGE - RMA14
GENERIC/COND. DESC. : RADIOACTIVITY OF RELEASED GASES
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : MR/HR
ENGR UNITS CONVERSION : EXPONENTIAL CONVERSION
MINIMUM INSTR. RANGE : 0.1
MAXIMUM INSTR. RANGE : 10000000.0
ZERO POINT REFERENCE : N/A
REFERENCE POINT NOTES : N/A
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : AUX. BLDG. ROOF
ALARM/TRIP SET POINTS : HIGH ALARM = 5 MR/HR, HI WARNING = 3 MR/HR
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : LOW
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : N/A

UNIQUE SYSTEM DESCRIPTION

This point provides the indication of radioactivity release level from the reactor building.

DATE : 10/20/92
REACTOR UNIT : VS1
DATA FEEDER : N/A
NRC ERDS PARAMETER : EFF LIQ RAD
POINT ID : R1030
PLANT SPEC POINT DESC.: WASTE DISCHARGE MONITOR - RML9
GENERIC/COND. DESC. : RADIOACTIVITY OF RELEASED LIQUID
ANALOG/DIGITAL : A
ENGR UNITS/DIG STATES : CPM
ENGR UNITS CONVERSION : EXPONENTIAL CONVERSION
MINIMUM INSTR. RANGE : 10.0
MAXIMUM INSTR. RANGE : 1000000.0
ZERO POINT REFERENCE : N/A
REFERENCE POINT NOTES : N/A
PROC OR SENS : S
NUMBER OF SENSORS : 1
HOW PROCESSED : N/A
SENSOR LOCATIONS : AUX. BLDG.
ALARM/TRIP SET POINTS : VARIABLE (DEPENDENT ON ACTIVITY OF RELEASE)
NI DET. POWER CUT OFF : N/A
NI DET. POWER CUT ON : N/A
INSTR. FAILURE MODE : LOW
DP XMITTER TEMP. COMP.: N
LEVEL REFERENCE LEG : N/A

UNIQUE SYSTEM DESCRIPTION

This point provide indication of the liquid waste effluent radiation level. This is the last monitoring point in the liquid release path.