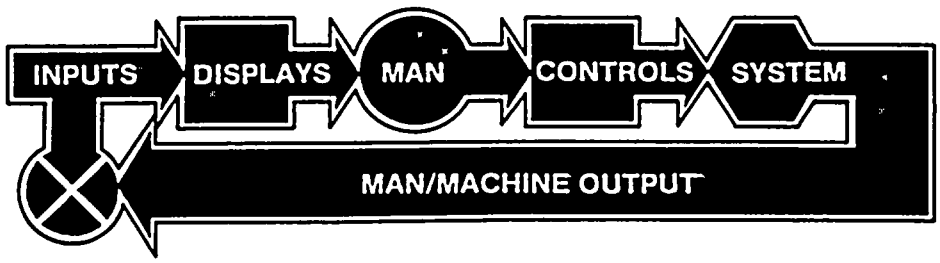
GA–C16398
SUPPLEMENT NO. 3

PALO VERDE NUCLEAR GENERATING STATION CONTROL ROOM HUMAN FACTORS STUDY

EXECUTIVE SUMMARY REPORT
SUPPLEMENT NO. 3



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SUMMARY

This report describes how CEN-152, Rev. 1, the Combustion Engineering generic emergency procedure guidelines, was used as the basis of developing the Palo Verde plant specific task analysis, how the control room information and control needs were identified, how these needs were compared with what was available in the control room and the observations discovered. This analysis indicated that the devices listed in Section 3.0 of this report have potential inadequacies associated with them. A review of these potential inadequacies will be made in September by a Results Review Committee and a Management Review Team. Results of these reviews will be reported by December 1, 1985.

1.0 INTRODUCTION

1.1. BACKGROUND

Torrey Pines Technology has performed a Detailed Control Room Design Review (DCRDR) of the Palo Verde Nuclear Generating Station. Results of this review were reported in the Executive Summary Report GA-C16398 with supplemental work presented in Supplements I & II to this report.

This third supplement to the Executive Summary Report reports the conclusion of the System Function and Task Analysis (SFTA) effort and control room inventory and concludes all work on the DCRDR. The SFTA consisted of four phases, a system function identification, a task identification analysis with verification of availability and suitability of devices in the control room and the validation of control room function. The system function review was reported as part of the system factors study reported in the original issue of the Executive Summary Report. The validation effort was presented in the first supplement to the report. This report will present the task identification analysis, the verification of availability and suitability of devices and control room inventory. In addition, to meet the requirements of NUREG 0737 Supplement 1, the adequacy of Reg. Guide 1.97 and SPDS devices were also reviewed.

1.2. PURPOSE

The purpose of this task analysis review was to identify the information and control "needs" during emergency operations. These "needs" were compared to the "haves", i.e. the actual devices or displays in the control room to assess their availability and suitability.

The basis of the analysis was CEN-152, Rev. 1, the Combustion Engineering (CE) reference plant Emergency Procedure Guidelines (EPGs). This document has been accepted by the NRC as providing the needed guidelines for the CE reference plant to handle all emergency events by assessing the plant symptoms and not the specific event.

2.0 METHODOLOGY

2.1. GENERAL

The function and task analysis was a structured review and analysis conducted according to the guidelines presented in NUREG-0700 and performed by qualified systems engineers from Torrey Pines Technology, Combustion Engineering, Bechtel Power Corp. and Arizona Public Service along with input from the operations department from the Palo Verde Nuclear Generating Station. The objective of this function and task analysis was to analyze the ability of the plant operating crew to use the control room man/machine interfaces to operate the plant safely under emergency conditions and to bring the plant to a safe shutdown condition following an emergency event using the CEN 152, Rev. 1, guidelines.

This objective was achieved by determining the availability and suitability of the devices in the control room to satisfy the information and control needs. The basis of this study was the CE developed EPGs. Since the CE EPGs only identify the basic parameters and control functions needed to satisfy the safety function and do not explicitly identify the information and control needs, additional plant specific analysis was required. This section will describe how the plant specific task analysis was performed and how all explicit and implicit operator steps were developed. In addition, the development of the required information and control needs will be described along with the comparison of these needs with the devices in the control room.

An additional objective of this study was to verify that all Reg. Guide 1.97 devices and safety parameter display system (SPDS) instrument transmitters are adequate to meet the information and control needs of the operator. This will also be discussed in this section.

2.2. DATA BASE

In order to assist in the collection, filing, comparing and sorting of the large amount of data generated for this analysis, several data bases were developed using a Data Base Management System (DBMS). This System is on a mini-computer and has the capacity of storing large numbers of multiple field records. It also has the capability for sorting up to 16 fields and for linking files (groups of records) from several data bases through a common field in each file.

The following data bases were set up for this analysis:

1) Task Analysis
2) Information and Control
3) Device Selection
4) Device Inventory
5) Indicator and Recorder Loop Accuracy
6) SPDS Instruments
7) Reg. Guide 1.97 Instruments

A description of these data bases along with examples are included in this report.

2.3. DISCUSSION

The following description shows the approach used in performing the function and task analysis. It indicates which activities were performed <u>independent</u> of the control room devices and those <u>using</u> the control room devices.

Section	Task	Relationship to Control Room Devices
2.3.1	Task Collection	Independent
2.3.2	Operator Step Data Collection	Independent
2.3.3	Information and Control Requirements	Independent
2.3.4	Devices Used In Operator Steps	Independent
2.3.5	Device Data Collection (Inventory)	Using
2.3.6	Verification of Availability and Suitability	Using

2.3.1. Task Collection

2.3.1.1. Generic Task Collection. Combustion Engineering Emergency Procedure Guidelines (EPGs) CEN-152, Rev. 1, was the basis of the data collection. For each Safety Function Group (SFG) (See Table 2-1) and Optimal Recovery Guideline (ORG) (See Table 2-2), operator tasks and subtasks were identified by systems engineers. To demonstrate the methodology applied, an example of safety function "Reactivity Control" success path "CVCS" is shown in Appendix A. The safety functions and optimal recovery guidelines along with their event success path were identified as shown in Tables 2-1 and 2-2. To keep track of the tasks within each SFG and ORG, task sequence numbers were assigned, e.g. the numbers under the task sequence number heading in Appendix A. This is one of the key fields that was used to link data bases together. The first, second and third numbers in this field identify CEN-152, Rev. 1 tasks. This information was collected independent of the control room and utilized only CEN-152, Rev. 1, and the success paths outlined in the EPGs. All of these data were entered into the data base. The gaps between the CEN-152, Rev. 1 task description (i.e., task sequence # 5 0 0 5, 5 0 0 10, etc.) are for the analysis that documented the plant specific explicit and implicit task and operator steps. This additional analysis will be described in the next section.

TABLE 2-1
SAFETY FUNCTION GROUPS (SFG)
FROM CEN-152 REV. 1

(1) Safety Function	Safety Function Description	(2) Event (Path)	Event Despcription
1	Reactivity Control	1	CEA Trip
		2	CVCS
		3	ECCS
		4	CEA Drive Down
2	Inventory Control	1	CVCS (Low Inventory)
		2	ECCS (Low Inventory)
		3	CVCS (High Inventory)
3	Pressure Control	1	Manual Control of PPC System (Low)
		2	CVCS (Low)
		3	ECCS (Los)
		4	Manual Control of PPC System (High)
		5	Forced Circ RCP & SG
		6	RCS Natural Circulation and SG (High)
		7	Not Applicable - No PORVs at Palo Verde
4	Heat Removal	1	SG Forced Circulation
		2	SG Natural Circulation
		3	SG and ECCS
		4	Not Applicable - No PORVs at Palo Verde
		5	Shutdown Cooling
5	Containment Isolation	1	Manual Containment Isolation

TABLE 2-1 (continued)

Safety Function [1]	Safety Function Description	Event (Path) [2]	Event Despcription
6	Containment Temp. & Press.	1	Not Applicable - No Fans at Palo Verde
		2	Containment Spray System
7	Containment Hydrogen Control	-	
8	Maintenance of Vital Auxilaries	-	

[1] Number listed in the first field of the data base task/step description, i.e., SF

[2] Number listed in the second field of the data base task/step description, i.e., Event (Path)

TABLE 2-2
OPTIMAL RECOVERY GUIDELINE (ORG)
FROM CEN-152, REV. 1

Safety Function		Event	
Number[1]	Description	Number[2]	Description
11	Reactor Trip	5	SPTAs
12	LOCA	10	Symptoms
13	Steam Generator Rupture	15	SFT Checks
14	Steam Line Break	20	Recovery Actions
15	Loss of Feedwater		
16	Loss of Forced Circulation		

[1] Number listed in the first field of the data base task/step description, i.e., SF

[2] Number listed in the second field of the data base task/step description, i.e., Event (Path)

2.3.1.2. Plant Specific Task Collection. Using the CEN-152, Rev. 1, task as the basis, systems engineers and a licensed Palo Verde plant operator collected the plant specific task data. Since CEN 152, Rev. 1, is based on a non-"System 80" Reference plant, the first phase was to compare the CEN-152, Rev. 1, data with the "System 80" design. The "System 80" design is for the CE plant that was used as the basis for Palo Verde. An example of this comparison can be seen in Appendix A. For the first CEN-152, Rev. 1, task (see Appendix A), there was no generic difference between the CEN-152 reference plant and the "System 80" plant. This is noted as "None" in the "Generic Difference" column and the CEN-152 Rev. 1, task is repeated in the "System 80" and "Plant Specific" columns. The tasks # 5 0 0 5, 5 0 0 10, etc. under "Plant Specific Task" are the operator plant specific steps needed to perform the plant specific tasks. This will be discussed in Section 2.3.2.

An example of one of the differences between CEN-152, Rev. 1 and "System 80" reference plant is in Step 10 0 0 0 where CEN-152, Rev. 1, describes pressurizer level values in inches whereas "System 80" describes them in percent. Another example is 15 0 0 0 where "System 80" has no boric acid tanks, but uses the refueling water tank instead. Note that for step 15 0 0 0, the difference is noted under "Specific Task Reference" and was found in the Technical Specification (T.S., paragraph 3.1.2.6.B.1 -12/84). Also note that all avenues for assuring that the Refueling Water Tank level was greater than the minimum usable were pursued (i.e., tasks 15 5 0 0, 15 10 5 0, 15 10 10 0 and 15 10 15 0). This is another example of how all explicit and implicit tasks were pursued.

2.3.2. Operator Step Data Collection

After collecting all of the explicit and implicit task data, operator steps were defined in order to perform the tasks. This collection was performed by systems engineeers with input from plant operators. These steps are identified in the data base and Appendix A by the fourth field in the Task Sequence Number (i.e. 5 10 5 5, 5 10 5 10 and 5 10 5 15). These steps include all possible implicit steps. These steps were identified independent

of any Palo Verde control room device. These steps were identified only by referring to the FSAR, plant system description, P&IDs and the Technical Specification. The references for these steps are defined in the data base under the column "Specific Task Reference". For Task # 15 10 5 5 the reference is 13-M-CHP-002-R14 (see Appendix A).

2.3.3. Information and Control Requirements

For each task, subtask, alternate task, alternate subtask and operator step identified in Section 2.3.2 the information or control requirement for the operator to perform the tasks or steps was developed and collected in a separate data base shown in Appendix B. As indicated earlier, this was performed independent of the control room devices. Note that in gathering of the data for the information or control requirement, the five questions listed in Figure 2-1 were resolved every time and the responses listed alongside of the parameter. This was done in order to provide a definitive statement as to the form of the information or control needed by the operator in the control room. This input allowed the human factors specialists and systems engineers to precisely determine if the devices available in the control room meet the a priori-developed requirements.

The information and control range and accuracy requirements were developed by input from CE and Bechtel engineers. An example of the information and control requirements are shown in Appendix B. The source of the information and control range accuracy requirement is listed under the column INFO/CONTROL REFERENCE where, for example, CE indicates the information was supplied by Combustion Engineering. If there is no reference, such as for the control requirements, the requirement is inferred from the task statement, i.e., close valve, etc. The control requirement is obviously an indication that the valve is closed.

FIGURE 2-1

OPERATOR STEP QUESTIONNAIRE

Information/Control Parameter	What is the description of the information or control parameter based on the task information?
Parameter E.U.	What is the value of the parameter (in engineering units) that is needed by the operator?
Post History Required: (POST HIST REQ)	Is post/historical information required?
Control Type:	What type of control function is required (Discrete, Continuous)?
Accuracy:	To what accuracy must the information be used?

Abbreviations used in the data collection:

N	-	No
Y	-	Yes
NA	-	Not Applicable
C	-	Continuous
D	-	Discrete
+/-	-	Plus or minus

2.3.4. Devices Used in Operator Steps

The next step in the function and task analysis was to select the devices to be used for the operator steps. This too was performed completely independent of the control room and independent of the information and control requirement. The systems engineers only reviewed the task data as shown by example in Appendix A and did not use the information and control requirements listed by example in Appendix B. This was done in order to provide as much independence as possible for this analysis. For each operator step, the engineers reviewed the P&IDs and determined all possible devices that the operators could use in performing the step. For example, in Appendix A, Task # 5 0 0 30 says to "MONITOR LOOP 1 T-HOT AND". In Appendix C, looking at Task # 5 0 0 30, an engineer reviewed the P&ID and selected eight possible devices, five temperature indicators and three temperature recorders that monitor loop 1 'T-HOT'. It is important to note that later, in the comparison of the "NEEDS" versus "HAVES" that all of these devices may not be appropriate to monitor this step. For example, if trending is required, five of the eight devices would not be adequate. However, the purpose of this study is to determine if a device is suitable to the operator. In this case, if trending is required, then three are available. If accuracy is required, the indicators are available. If both trending and accuracy are needed, then both are available.

The selection of devices produced for each SFG and ORG was encoded into a separate data base. An example of this is shown in Appendix C.

2.3.5. Device Data Collection (Inventory)

After all possible devices were selected per the description in Section 2.3.4 and encoded into the data base, a sort was made within the data base shown in Appendix C to establish an overall list of unique devices. This list was used to generate a worksheet that allowed for an inventory of all of these selected devices. This worksheet is shown in Figure 2-2. For these unique devices, the range, resolution or control position indication were recorded. Also, if the tag number and description

Fig. 2-2 : INVENTORY WORKSHEET

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
CONTROL BOARD INFORMATION

LOC	VER	INDICATOR TAG NUMBER	VER	I&C DESCRIPTION	VER	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.
B01		1-E-NAN-EI-S01		13.8 KV BUS 1-E-NAN-S01 VOLTMETER					
B01		1-E-NAN-EI-S01A		13.8 KV BUS 1-E-NAN-S01 SUPPLY VOLTMETER					
B01		1-E-NAN-EI-S02		13.8 KV BUS 1-E-NAN-S02 VOLTMETER					
B01		1-E-NAN-EI-S02A		13.8 KV BUS 1-E-NAN-S02 SUPPLY VOLTMETER					
B01		1-E-NAN-EI-S03		13.8 KV BUS 1-E-NAN-S03 VOLTMETER					
B01		1-E-NAN-EI-S04		13.8 KV BUS 1-E-NAN-S04 VOLTMETER					

were as shown on the drawings, a column "PHY VER" was marked "VERIFIED" that indeed all data regarding that device was verified in the field. (See Appendix D for an example.) All data obtained from the inventory were then entered into another data base (Appendix D) that listed all of the unique device characteristics.

In addition to the walkdown data, all non-class 1-E devices selected in Section 2.3.4 were checked to determine their electrical source. If the non 1-E device was on a vital bus, the column "AVAIL" had the words "VITAL" input. The purpose of this was that in the event only a non-class 1-E device was available to the operator in the control room to monitor a parameter, a determination of the availability of that device could be made by knowing whether or not its power source was from a vital bus. If the device was only on a non-vital bus, this would be reported as an observation.

In addition, the information shown in Appendix E was added to the device data base. Appendix E lists the loop accuracy of each indicator or recorder selected in Section 2.3.4. This accuracy is the RMS as calculated from accuracy data on the transmitter, converter and indicator. These data, in conjunction with the resolution of the indicator was used to determine if a device was suitable to provide the information to the operator within the accuracy specified.

2.3.6. Verification of Availability and Suitability

The objective of the verification of task performance capabilities was to verify that instruments and controls with characteristics identified in the function and task analysis are available and suitable to perform the emergency operation delineated in each step of the SFGs and ORGs from CEN-152, Rev. 1, in the Palo Verde control room.

2.3.6.1. Control Room Devices. The verification was performed by taking the information and control data from the data base as shown in Appendix B and comparing it with the devices in the control room (Appendix D). The link between the two data bases was the data base shown in Appendix C which

listed a series of tag numbers for each task sequence number. Thus, to verify the availability and suitablility of devices, a list of tag numbers was associated with each information and control requirement and then the characteristics of the device were compared to the requirement.

For example, from Appendix B, task sequence number 5 0 0 35 requires monitoring loop 1 cold temperatures. This temperature needs to be between 550 and 565 °F. The operator needs to know the trend of this temperature (i.e., increasing or decreasing) and must know the temperature to within +/- 5 °F. From Appendix C, the engineers selected 8 devices that monitor loop 1 cold temperature. These devices are:

RCA - TI - 112CA
RCB - TI - 112CB
RCC - TI - 112CC
RCD - TI - 112CD
RCN - TI - 111Y
RCA - TR - 112
RCA - TR - 122
RCN - TI - 115
RCB - TI - 125
RCN - TR - 115

Of these devices, trend recorders (See Appendix D, device RCA-TR-112) are available to indicate trend. In addition, for the indicators, the resolution is 2°F (See Appendix D, device RCC-TI-112CC) i.e., there are marks on the indicator every 2 °F. This implies that the operator can read to 1 °F, i.e. somewhere between the marks on the scale. From Appendix E, the loop accuracy is +/- 2 °F for a total accuracy of +/- 3 °F. This is within the required accuracy of +/- 5 °F. Thus, devices, RCC-TI-112CC and RCA-TR-112, are available in the control room and together are suitable for the accuracy and trending required.

2.3.6.2. Reg. Guide 1.97 and SPDS. In addition to the verification of availability and suitability of control room devices, the verification of suitability of Reg. Guide 1.97 instruments and SPDS parameters was also performed. Utilizing the same information and control requirements as shown in Appendix B, and the associated tag number from Appendix C, a verification of Reg. Guide 1.97 instrument characteristics and SPDS parameter description and instrument range was completed. The data used for this comparison are shown in Appendices F and G.

3.0 RESULTS

3.1. INVENTORY

The results of the inventory of control room devices is included as Appendix D to this report. Any apparant deviations from the drawings were noted and are included as Table 3-1. As can be seen from the listing, the deviations were minor but will be presented to the Results Review Committee for resolution.

The top line of the Observation indicates the tag description as noted in the drawings. The information within the parenthesis indicated what was read on the label in the control room.

3.2. AVAILABILITY AND SUITABILITY OF CONTROL ROOM DEVICES

3.2.1. Availability

Table 3-2 indicates the devices that were not available to the operators in the main control room but were available to them on a nearby panel. After the control and information needs were defined, these needs were compared to the control room inventory. These devices were not on the main control room inventory list but were located on a side panel (RIC) just outside the main control room horseshoe.

Table 3-3 lists two steps for which no devices were located in the control room inventory and not located anywhere in the plant. It uncertain if devices exist for the last two requirements.

Appendix H indicates the operator steps for which devices were found to be available for plant operation but were not located in or near the control room. These devices were only local to the valve or switch. It should be noted however, that even though these devices were not available to the operator in the control room, for these steps, none were primary steps (i.e. steps to perform CEN 152, Rev. 1 explicit tasks). Since the analysis

Table 3-1

Control Board Info & Walkdown Data Observations

Loc/ Unit	Control Bd. Ref.	CB Item	Tag No	I&C Description/ (Observations)
B01/ U2	J200-264-5	177	NAN-EI-S01A	13.8 KV BUS 1-E NAN-S01 SUPPLY VOLTMETER/ (CB LABEL OMITS "EI" IN TAG NO.)
B01/ U2	J200-263-6	55	PKA-II-M4105	STANDBY BATTERY CHARGER AC AMMETER/ (CB LABEL TAG NO. READS: PGA-II-M4105)
B01/ U2	J200-263-6	98	A-E-MAN-ZI-915	525 KV GEN BRKR 552-915 STATUS LITES/ (CB LABEL OMITS TAG NO.)
B01/ U2	J200-263-6	100	A-E-MAN-ZI-918	525 KV GEN BRKR 552-918 STATUS LITES/ (CB LABEL OMITS TAG NO.)
B02/ U2	J200-267-10	156	SHA-TR-5	L) REACTOR VESSEL HEAD/ R) PLENUM LVL (2-PEN)/ (NEITHER L) NOR R) SCALES SHOW EU'S. PER U#2 OPER ON DUTY: THE RVH VOL SHOULD BE READ ON THE LOWER HALF OF THE RECORDER PAPER. THE PAPER IS DIVIDED INTO TWO EQUAL 0-100% SCALES. THE PLENUM, IS TO BE READ ON THE 0-1400 FIXED INSTR SCALE AS CUBIC FT)
B02/ U2	J200-266-7	33	SIA-HS-673	CONTMN SUMP TO SAFETY INJ TRAIN A/ (CB LABEL READS: "CONTMN PUMP....")
B04/ U2	J200-274-8	126	RCN-TR-111X	L) T-HOT LOOP 1/ R) LOOP 2 TEMP (2PEN)/ (CB LABEL OMITS SCALE IDENTIFICATION)
B04/ U1	J200-274-8	152	RCN-ZI-100	T AVE LOOP 1/LOOP 2 SELECTED (STATUS LITES)/ (CB LABEL MISSING)
B04/ U2	J200-274-8	135	SEN-JI-14	CEA MOTION DEMAND/ (CB LABEL SHOULD READ FT INSTEAD OF DEG F)
B06-1/ U2	J200-281-10	157	SGN-ZI-1122	SG 2 ECONOM FW CNTR VLV POS INDIC/ (ON THE CB, THIS INSTR IS IDENTIFIED BY A TEMP LABEL AFFIXED DIRECTLY ABOVE SGN-FIK-1122, AND CONTAINING ONLY THE TAG NO.)
B06-1/ U2	J200-281-10	158	SGN-ZI-1123	SG 2 DWNCOMER FW CNTR VLV POS/ (CB LABEL MISSING)
B07-2/ U2	J200-285-11	81	SGA-HS-204	SG 1 HOT LEG BLOWDWN SAMPLE UPSTRM ISO VLV/ (AS OF 17 JULY 85, CB LABEL READ: "SG 1 COLD LEG..."; IT IS TPT'S UNDERSTANDING THAT THIS MISLABELING HAS BEEN RESOLVED; REF TELECON WITH JIM MORELAND @ 602-932-5300, X1267 ON 02AUG'85)
B07-2/ U2	J200-285-11	79	SGA-HS-211	SG 1 COLD LEG BLOWDWN SAMPLE UPSTRM ISO VLV/ (AS OF 17 JULY'85, CB LABEL READ: "SG 1 HOT LEG..."; SEE REMARKS FOR SGA-HS-204 ABOVE)

Table 3-1 (cont'd)

Control Board Info & Walkdown Data Observations

Loc/ Unit	Control Bd. Ref.	CB Item	Tag No.	I&C Description/ (Observations)
B07-2/ U2	J200-285-11	80	SGB-219	SG 1 HOT LEG BLOWDWN SAMPLE DWNSTRM ISO VLV/ (AS OF 17 JULY '85, CB LABEL READ "SG 1 COLD LEG ...", SEE REMARKS FOR SGA-HS-204 ON PG 1 THIS TABLE)
B07-2/ U2	J200-285-11	78	SGB-HS-228	SG 1 COLD LEG SAMPLE DWNSTRM ISO VLV/ (AS OF 17 JULY '85, CB LABEL READ "SG 1 HOT LEG ..."; SEE REMARKS FOR SGA-HS-204 ON PG 1 OF THIS TABLE)
B06-1/ U2	J200-281-3	90	AFA-SK-52A	TURB DRV AFW PUMP SPEED POT/ (NO EU'S SHOWN; CB LABEL MISSING)
RIC	NA	NA	SQA-RI-148	
			SQA-RI-150	
			SQA-RI-29	
			SQB-RI-01	
			SQB-RI-145	(NO DESCRIPTION SHOWN ON LABEL; ONLY TAG NO)
			SQB-RI-146	
			SQB-RI-149	
			SQB-RI-151	
			SQB-RI-30	

TABLE 3-2

DEVICES LOCATED NEAR THE CONTROL ROOM

Description	Location	Tag Number
STEAM GENERATOR BLOWDOWN DRMS MONITOR	RIC	SQN-RU-04/05
AUX BLDG VENT EXHAUST FILTER MONITOR	RIC	SQN-RU-08
AUX BLDG LOWER LEVEL VENT EXHAUST MONITOR	RIC	SQN-RU-09
AUX BLDG UPPER LEVEL VENT EXHAUST DRMS MONITOR	RIC	SQN-RU-10
MAIN STEAM LINE EFFLUENT A/B RAD PAMS MONITOR	RIC	SQN-RU-139A/B SQN-RU-140A/B
RADWASTE BLDG VENT EXHAUST FILTER INLET DRMS MONITOR	RIC	SQN-RU-14
CONDENSATE VACUUM PP/GLAND SEAL EXHAUST MONITOR (HI/LO)	RIC	SQN-RU-141 SQN-RU-142
PLANT VENT MONITOR LO/HI RANGE	RIC	SQN-RU-143 SQN-RU-144
WASTE GAS AREA COMBINED VENT EXHAUST MONITOR	RIC	SQN-RU-15
CONTAINMENT PENETRATION LEAKAGE PAMS MONITOR	RIC	SQN-RU-156
CONTAINMENT OPERATING LEVEL AREA RAD MONITOR	RIC	SQN-RU-16
INCORE INSTRUMENT AREA RAD MONITOR	RIC	SQN-RU-17
CONTROL ROOM AREA MONITOR	RIC	SQN-RU-18

TABLE 3-3

TASKS FOR WHICH DEVICES WERE NOT LOCATED IN THE PLANT

1) SHUTDOWN COOLING LOOP A HEAT-UP RATE

2) REACTOR COOLING SYSTEM COOLDOWN RATE

3) HIGH PRESSURE SAFETY INJECTION TOTAL FLOW

4) SPENT FUEL POOL LEVEL

involved all implicit tasks, every possible means of achieving a success path for the safe shutdown of the plant was pursued. Many of them were as remote as using a gravity feed for filling tanks.

These steps will be presented to the Results Review Committee for review to determine if some of these steps are critical enough to warrent devices to be located in the control room or if the likelyhood of using the implicit success path is so remote that inclusion of these devices in the control room will only tend to clutter the control room and thereby hinder the normal operation of the plant.

In most of these cases, these steps require manual valves and in fact, the task anlysis or FSAR indicates that these valves should be manual. For example, in SFG 1, Event 2, task sequence number 15 10 10 10 etc., this is the third possible method to recharge the refueling water tank and it is a gravity feed. All the valves are manual and require the operator to dispatch somebody to operate the valves.

3.2 Suitability

As described in Section 2.3.6.1, after the information and control requirements were established, a search of the control inventory was made to verify device suitability. The verification of suitability included the following four criteria as applicable:

1) Is there a device with adequate range?

2) Is there a device accurate to provide the required indication?

3) Is there a device to provide trend information?

4) Is there a device to provide adequate status information?

Worksheets for the analysis are included in Appendix I. A summery of the results is discussed below.

3.3.2.1. Adequate Range. Two devices, RCD-TI-112CD and SQA-RI-148 appear to have inadequate range. The information requirement will be reviewed during the Results Review Committee.

3.3.2.2. Accuracy. Twenty-one devices appear to have inadequate accuracy. Most of these are for amperage to monitor motor current. It does not appear that there should be as strict a requirement as presented by CE for monitoring the motor currents. Other devices were reading in lb/hr and ft whereas the information requirement was in gpm and %. All of these will be reviewed during the Results Review Committee.

3.3.2.3. Trending. There are apparently no trend recorders to monitor Containment Sump Level A&B. In additon trending for the steam generator volume containment tank is only available on the CRT.

3.3.2.4. Indication. All indicators were suitable except apparantly for charging pumps A,B,E where no status lights were located.

3.3 SUITABILITY OF REG. GUIDE 1.97 DEVICES

Listed below are the observations uncovered during the comparison of the Reg. Guide 1.97 devices with the information and control requirements.

RG-1) Spent fuel pool water level does not have any level instrumentation, only high/low level switch alarm in local panel. Task 1-2-15-20-00

RG-2) Radioactive gas holdup tank pressure does not have any control room indicators, only local panel indicators. This parameter is a Reg. Guide 1.97 requirement only and is not called out as a task in the function and task analysis.

RG-3) High level radioactive liquid tank level does not have control room indicators, only local panel indicators. This parameter is a Reg. Guide 1.97 requirement only and is not called out as a task in the function and task analysis.

RG-4) The commitment to the NRC on the Reg. Guide 1.97 requirement for measuring boron concentration is for a class 1-E device to monitor from 0 to 5000 ppm and for a non class 1-E device to monitor from 0 to 6000 ppm. Recorder CHN-AR-203 is a non class 1-E device with a range from 0 to 5000 ppm to satisfy one of the requirements. However, indicator CHN-AI-203, which has a range from 0 to 9999 ppm, satisfies the range portion, but it is a non class 1-E. device.

RG-5) Containment temperature recorder RMW-UJR-5 has a range of 0 to 200 ^{o}F. Task 6-2-10-15-0-0 requires a range from 70 to 300 ^{o}F. Therefore the only device in the control room to measure containment temperature is not adequate.

3.4 AVAILABILITY AND SUITABILITY OF SPDS TRANSMITTERS

Listed below are the observations uncovered during the comparison of the range and availability of SPDS device transmitters with the information and control requirements.

S-1) There is no spent fuel pool level input

S-2) There is no radioactive gas holdup tank pressure input.

S-3) There is no high level radioactive liquid tank level input.

S-4) Feedwater flow, SGN-FT-1112/1122/1113/1123 algorithem is computed in lbs per hour, should be in gal per min (0 to 1000).

APPENDIX A

PALO VERDE PLANT SPECIFIC TASK ANALYSIS AND OPERATOR STEPS

PALO VERDE NUC[illegible]ENERATING STATION
INFORMATION A[illegible]TROL REQUIREMENTS
OPERATOR AND[illegible]ERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	5 0 0 0	MAINTAIN RCS TEMPERATURE CONSTANT	NONE	MAINTAIN RCS TEMPERATURE CONSTANT	MAINTAIN RCS TEMPERATURE CONSTANT	CEN-152 R1
1	2	5 0 0 5				THROTTLE SBCS VALVE(S) AND/OR	13-M-SGP-001-R16
1	2	5 0 0 10				THROTTLE ATMOSPHERIC DUMP VALVE (ADV) SG-HV178 AND/OR	13-M-SGP-001-R16
1	2	5 0 0 15				THROTTLE ADV SG-HV184 AND/OR	13-M-SGP-001-R16
1	2	5 0 0 20				THROTTLE ADV SG-HV179 AND/OR	13-M-SGP-001-R16
1	2	5 0 0 25				THROTTLE ADV SG-HV185 AND	13-M-SGP-001-R16
1	2	5 0 0 30				MONITOR LOOP 1 T-HOT AND	13-M-RCP-001-R12
1	2	5 0 0 35				MONITOR LOOP 1 T-COLD AND	13-M-RCP-001-R12
1	2	5 0 0 40				MONITOR LOOP 2 T-HOT AND	13-M-RCP-001-R12
1	2	5 0 0 45				MONITOR LOOP 2 T-COLD	13-M-RCP-001-R12
1	2	10 0 0 0	MAINTAIN PRESSURIZER LEVEL BETWEEN [35"] AND [245"]	LEVEL VALUES AND INCHES VS. PERCENT	MAINTAIN PRESSURIZER LEVEL BETWEEN ( ) AND ( )	MAINTAIN PRESSURIZER LEVEL BETWEEN ( ) AND ( )	CEN-152 R1

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	10 5 0 0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0
1	2	15 0 0 0	VERIFY BORIC ACID TANK 2A LEVEL > MINIMUM USABLE LEVEL	NO BORIC ACID TANKS	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	T.S. 3.1.2.6.B.1-12/84
1	2	15 5 0 0	ALIGN CHARGING PUMPS 2A,2B,2C SUCTIONS TO	PUMP DESIGNATORS	ALIGN CHARGING PUMPS 1,2,3 SUCTIONS TO	ALIGN CHARGING PUMPS CHA-P01, CHB-P01 AND CHE-P01 SUCTIONS TO	13-M-CHP-002-R14
1	2	15 10 0 0	BORIC ACID TANK 2A	NO BORIC ACID TANKS	REFUELING WATER TANK	REFUELING WATER TANK	CESSAR 9.3.4.2.2-AMM 10, T.S. 3.1.2.6.B-12/84
1	2	15 10 5 0	USING GRAVITY FEED OR	NONE	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2A-12/84
1	2	15 10 5 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 5 10				OPEN VALVE CH-HV-536	13-M-CHP-002-R14
1	2	15 10 5 15				CLOSE VALVE CH-HV-501	13-M-CHP-002-R14
1	2	15 10 10 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	CEN-152 R1
1	2	15 10 10 5				VERIFY RWT LEVEL > RAS SETPOINT	T.S. 3.1.2.2.B-12/84
1	2	15 10 10 10				OPEN VALVE CH-V-327	13-M-CHP-002-R14

PALO VERDE NU[illegible] GENERATING STATION
INFORMATION [illegible]ONTROL REQUIREMENTS
OPERATOR A[illegible]TERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 10 10 15				OPEN VALVE CH-V-755 FOR CHA-P01	13-M-CHP-002-R14
1	2	15 10 10 20				CLOSE VALVE CH-V-316 FOR CHA-P01	13-M-CHP-002-R14
1	2	15 10 10 25				OPEN VALVE CH-V-756 FOR CHB-P01	13-M-CHP-002-R14
1	2	15 10 10 30				CLOSE VALVE CH-V-319 FOR CHB-P01	13-M-CHP-002-R14
1	2	15 10 10 35				OPEN VALVE CH-V-757 FOR CHE-P01	13-M-CHP-002-R14
1	2	15 10 10 40				CLOSE VALVE CH-V-322 FOR CHE-P01	13-M-CHP-002-R14
1	2	15 10 15 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2.C-12/84
1	2	15 10 15 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 15 10				OPEN VALVE CH-V-144	13-M-CHP-002-R14
1	2	15 10 15 15				OPEN VALVE CH-V-753	13-M-CHP-002-R14
1	2	15 10 15 20				OPEN VALVE CH-V-164	13-M-CHP-002-R14
1	2	15 10 15 25				OPEN VALVE CH-UV-514	13-M-CHP-002-R14
1	2	15 10 15 30				CLOSE VALVE CH-UV-501	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 10 20 0	USING BORIC ACID MAKEUP PUMPS OR	NONE	USING BORIC ACID MAKEUP PUMPS OR	USING BORIC ACID MAKEUP PUMPS OR	13-M-CHP-002-R14
1	2	15 10 20 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 20 10				SET FLOW CONTROLLER TO CH-FIC-210Y TO MAXIMUM	13-M-CHP-002-R14
1	2	15 10 20 15				PLACE MAKEUP MODE SELECTOR SWITCH TO 'BORATE'	13-E-CHB-059-R12
1	2	15 10 20 20				VERIFY ONE BAMP IS RUNNING OR	13-E-CHB-059-R12
1	2	15 10 20 25				VERIFY BAMP DISCHARGE PRESSURE OR	13-M-CHP-002-R13
1	2	15 10 20 30				VERIFY BAMP DISCHARGE FLOW	13-M-CHP-002-R13
1	2	15 10 20 35				VERIFY VALVE CH-UV-512 CLOSED	13-M-CHP-002-R14
1	2	15 10 20 40				VERIFY VALVE CH-UV-527 OPEN	13-M-CHP-002-R14
1	2	15 10 20 45				CLOSE VALVE CH-UV-501	13-M-CHP-002-R14
1	2	15 15 0 0	VERIFY BORIC ACID TANK 28 > MINIMUM USABLE LEVEL	NO BORIC ACID TANK	VERIFY SPENT FUEL POOL LEVEL	VERIFY SPENT FUEL POOL LEVEL	T.S. 3.1.2.6.A1-12/84

PALO VERDE NUCL[illegible]ENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 20 10 15				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 10 20				OPEN VALVE CH-V753	13-M-CHP-002-R14
1	2	15 20 10 25				OPEN VALVE CH-V164	13-M-CHP-002-R14
1	2	15 20 10 30				SET FLOW CONTROLLER CH-FIC-210X SETPOINT TO MINIMUM	13-M-CHP-002-R14
1	2	15 20 10 35				OPEN VALVE CH-UV514	13-M-CHP-002-R14
1	2	15 20 10 40				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
1	2	15 20 15 0	USING BORIC ACID MAKEUP PUMPS	NONE	USING BORIC ACID MAKEUP PUMPS	USING BORIC ACID MAKEUP PUMPS	13-M-CHP-002-R14
1	2	15 20 15 5				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 15 10				OPEN VALVE CH-V144	13-M-CHP-002-R14
1	2	15 20 15 15				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
1	2	15 20 15 20				SET FLOW CONTROLLER CH-FIC-210Y TO MAXIMUM	13-M-CHP-002-R14
1	2	15 20 15 25				PLACE MAKEUP MODE SELECTOR SWITCH TO 'BORATE'	13-E-CHB-059-R12
1	2	15 20 15 30				VERIFY ONE BAMP RUNNING OR	13-E-CHB-059-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 20 0 0	BORIC ACID TANK 2B	NO BORIC ACID TANKS	SPENT FUEL POOL	SPENT FUEL POOL	T.S. 3.1.2.6.A1-12/84
1	2	15 20 5 0	USING GRAVITY FEED OR	NONE	USING GRAVITY FEED OR	USING GRAVITY FEED OR	CEN-152 R1
1	2	15 20 5 5				ENSURE BAMPS WILL NOT START BY OPENING BOTH BAMP POWER SUPPLY BREAKERS NHM-M-1309 AND NHM-M-1020	13-E-CHB-041-R12
1	2	15 20 5 10				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
1	2	15 20 5 15				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 5 20				OPEN VALVE CH-V144	13-M-CHP-002-R14
1	2	15 20 5 25				SET FLOW CONTROLLER CH-FIC-210X SETPOINT TO MINIMUM	13-M-CHP-002-R14
1	2	15 20 5 30				OPEN VALVE CH-HV536	13-M-CHP-002-R14
1	2	15 20 5 35				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
1	2	15 20 10 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2.C-12/84
1	2	15 20 10 5				ENSURE BAMPS WILL NOT START BY PLACING MAKEUP MODE SELECTOR SWITCH TO 'MANUAL'	13-E-CHB-041-R12
1	2	15 20 10 10				CLOSE VALVE CH-HV532	13-M-CHP-002-R14

PALO VERDE NU[illegible] GENERATING STATION
INFORMATION [illegible]NTROL REQUIREMENTS
OPERATOR A[illegible]ETERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 20 15 35				VERIFY BAMP DISCHARGE PRESSURE OR	13-M-CHP-002-R14
1	2	15 20 15 40				VERIFY BAMP DISCHARGE FLOW	13-M-CHP-002-R14
1	2	15 20 15 45				VERIFY VALVE CH-UV512 CLOSED	13-M-CHP-002-R14
1	2	15 20 15 50				VERIFY VALVE CH-UV527 OPEN	13-M-CHP-002-R14
1	2	15 20 15 55				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
1	2	15 25 0 0	REFUELING WATER TANK	NA	SEE TASK 1 2 15 10 0 0	SEE TASK 1 2 15 10 0 0	NA
1	2	15 25 5 0	USING GRAVITY FEED OR	NA	SEE TASK 1 2 15 10 5 0	SEE TASK 1 2 15 10 5 0	NA
1	2	15 30 0 0	VERIFY SPENT FUEL POOL > MINIMUM USABLE LEVEL	NA	SEE TASK 1 2 15 15 0 0	SEE TASK 1 2 15 15 0 0	NA
1	2	15 35 0 0	SPENT FUEL POOL	NA	SEE TASK 1 2 15 20 0 0	SEE TASK 1 2 15 20 0 0	NA
1	2	15 35 5 0	USING GRAVITY FEED	NA	SEE TASK 1 2 15 20 5 0 THRU 1 2 15 20 10 40	SEE TASK 1 2 15 20 5 0 THRU 1 2 15 20 10 40	NA
1	2	20 0 0 0	ALIGN CHARGING PUMPS 2A,2B,2C DISCHARGE	PUMP DESIGNATORS	ALIGN CHARGING PUMPS 1,2,3 DISCHARGE	ALIGN CHARGING PUMPS CHA-P01,CHB-P01,CHE-P01 DISCHARGE	CEN-152 R1
1	2	20 5 0 0	USING NORMAL CHARGING HEADER OR	NONE	USING NORMAL CHARGING HEADER OR	USING NORMAL CHARGING HEADER OR	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	20 5 0 5				VERIFY VALVE CH-HV-524 OPEN	13-M-CHP-001-R13
1	2	20 5 0 10				VERIFY VALVE CH-HV-239 OPEN	13-M-CHP-001-R13
1	2	20 5 0 15				VERIFY VALVE CH-PDV-240 OPEN OR THROTTLING	13-M-CHP-001-R13
1	2	20 5 5 0	VERIFY REACTOR POWER < 10E[-X]% AND CONSTANT OR DECREASING OR	NONE	VERIFY REACTOR POWER < 10E[-X]% AND CONSTANT OR DECREASING OR	VERIFY REACTOR POWER < 10E[-X]% AND CONSTANT OR DECREASING OR	TBD
1	2	20 5 5 5	VERIFY BORON ADDITION RATE > 40 GPM AND	NONE	VERIFY BORON ADDITION RATE > 40 GPM AND	VERIFY BORON ADDITION RATE > 40 GPM AND	T.S. 3.1.1.1-12/84
1	2	20 5 5 10	VERIFY CORE POWER DECREASING	NONE	VERIFY CORE POWER DECREASING	VERIFY CORE POWER DECREASING	T.S. 3.1.1.1-12/84
1	2	20 10 0 0	USING HPSI HEADER A OR	NONE	USING HPSI HEADER A	USING HPSI HEADER A OR	13-M-CHP-002-R14
1	2	20 10 0 5				OPEN VALVE SI-UV617 AND/OR	13-M-SIP-002-R11
1	2	20 10 0 10				OPEN VALVE SI-UV627 AND/OR	13-M-SIP-002-R11
1	2	20 10 0 15				OPEN VALVE SI-UV637 AND/OR	13-M-SIP-002-R11
1	2	20 10 0 20				OPEN VALVE SI-UV647 AND/OR	13-M-SIP-002-R11

PALO VERDE NU[illegible] GENERATING STATION
INFORMATION [illegible]NTROL REQUIREMENTS
OPERATOR AN[illegible]TERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	20 10 0 25				OPEN VALVE SI-V508 AND	13-M-SIP-001-R13
1	2	20 10 0 30				OPEN VALVE CH-V-796 FOR CHA-P01	13-M-CHP-002-R14
1	2	20 10 0 35				CLOSE VALVE CH-V-339 FOR CHA-P01	13-M-CHP-002-R14
1	2	20 10 0 40				OPEN VALVE CH-V-797 FOR CHB-P01	13-M-CHP-002-R14
1	2	20 10 0 45				CLOSE VALVE CH-V-337 FOR CHB-P01	13-M-CHP-002-R14
1	2	20 10 0 50				OPEN VALVE CH-V-798 FOR CHE-P01	13-M-CHP-002-R14
1	2	20 10 0 55				CLOSE VALVE CH-V-335 FOR CHE-P01	13-M-CHP-002-R14
1	2	20 10 0 60				VERIFY AT LEAST ONE CHARGING PUMP RUNNING	13-E-CHB-024-R9 13-E-CHB-025-R12 13-E-CHB-026-R9
1	2	20 10 0 65				VERIFY CHARGING HEADER PRESSURE	13-M-CHP-001-R11
1	2	20 10 0 70				VERIFY CHARGING HEADER FLOW	13-M-CHP-001-R11
1	2	20 10 5 0	FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10	NONE	FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10	FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10	

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	20 15 0 0	USING HPSI HEADER B	NONE	USING HPSI HEADER B	USING HPSI HEADER B	
1	2	20 15 0 5				OPEN VALVE SI-UV616 AND/OR	13-M-SIP-002-R11
1	2	20 15 0 10				OPEN VALVE SI-UV626 AND/OR	13-M-SIP-002-R11
1	2	20 15 0 15				OPEN VALVE SI-UV636 AND/OR	13-M-SIP-002-R11
1	2	20 15 0 20				OPEN VALVE SI-UV646 AND	13-M-SIP-002-R11
1	2	20 15 0 25				VERIFY VALVE SI-HV699 OPEN AND	13-M-SIP-001-R13
1	2	20 15 0 30				OPEN VALVE SI-HV609 AND	13-M-SIP-001-R13
1	2	20 15 0 35				OPEN VALVE SI-V509 AND	13-M-SIP-001-R13
1	2	20 15 0 40				OPEN VALVE CH-V-796 FOR CHA-P01	13-M-CHP-002-R14
1	2	20 15 0 45				CLOSE VALVE CH-V-339 FOR CHA-P01	13-M-CHP-002-R14
1	2	20 15 0 50				OPEN VALVE CH-V-797 FOR CHB-P01	13-M-CHP-002-R14
1	2	20 15 0 55				CLOSE VALVE CH-V-337 FOR CHB-P01	13-M-CHP-002-R14

PALO VERDE NU[illegible] GENERATING STATION
INFORMATION [illegible]NTROL REQUIREMENTS
OPERATOR A[illegible]TERNATE TASK DATA
********** DATASHEET 1 **********

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	20 15 0 60				OPEN VALVE CH-V-798 FOR CHE-P01	13-M-CHP-002-R14
1	2	20 15 0 65				CLOSE VALVE CH-V-335 FOR CHE-P01	13-M-CHP-002-R14
1	2	20 15 0 70				VERIFY AT LEAST ONE CHARGING PUMP RUNNING	13-E-CHB-024-R9 13-E-CHB-025-R12 13-E-CHB-026-R9
1	2	20 15 0 75				VERIFY CHARGING HEADER PRESSURE	13-M-CHP-001-R11
1	2	20 15 0 80				VERIFY CHARGING HEADER FLOW	13-M-CHP-001-R11
1	2	20 15 5 0	FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10		FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10	FOR FINAL CRITERIA SEE TASKS 1-2-20-5-5-0 THRU 1-2-20-5-5-10	

APPENDIX B

PALO VERDE PLANT SPECIFIC INFORMATION AND CONTROL REQUIREMENTS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	5 0 0 0	TAVE	555-570 DEG-F	Y	NA	+/- 10	C:11-5-25-15-0-0
1	2	5 0 0 5	SBCS VALVE CONTROLLER	0-100%	N	C	+/- 10	C:3-5-25-5-10-5
1	2	5 0 0 10	ADV VALVE CONTROLLER	0-100%	N	C	+/- 10	C:3-5-35-25-5-5
1	2	5 0 0 15	ADV VALVE CONTROLLER	0-100%	N	C	+/- 10	C:3-5-35-25-5-5
1	2	5 0 0 20	ADV VALVE CONTROLLER	0-100%	N	C	+/- 10	C:3-5-35-25-5-5
1	2	5 0 0 25	ADV VALVE CONTROLLER	0-100%	N	C	+/- 10	C:3-5-35-25-5-5
1	2	5 0 0 30	LOOP 1 T-HOT TEMPERATURE	560-575 DEG-F	Y	NA	+/- 5	C:11-5-25-15-0-0 & 11-5-25-30-0-0
1	2	5 0 0 35	LOOP 1 T-COLD TEMPERATURE	550-565 DEG-F	Y	NA	+/- 5	C:11-5-25-15-0-0 & 11-5-25-30-0-0
1	2	5 0 0 40	LOOP 2 T-HOT TEMPERATURE	560-575 DEG-F	Y	NA	+/- 5	C:11-5-25-15-0-0 & 11-5-25-30-0-0
1	2	5 0 0 45	LOOP 2 T-COLD TEMPERATURE	550-565 DEG-F	Y	NA	+/- 5	C:11-5-25-15-0-0 & 11-5-25-30-0-0
1	2	10 0 0 0	PRESSURIZER LEVEL	10-70 %	Y	NA	+/- 5	CE
1	2	15 0 0 0	RWT LEVEL	7.4 %	N	NA	+/- 1	CE
1	2	15 5 0 0	NA					
1	2	15 10 0 0	NA					
1	2	15 10 5 0	NA					
1	2	15 10 5 5	VALVE STATUS	OPEN	N	NA		
1	2	15 10 5 10	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 5 15	VALVE SWITCH	CLOSE	NA	D		
1	2	15 10 10 0	NA					
1	2	15 10 10 5	RWT LEVEL	7.4 %	N	NA	+/- 2	C:3-3-50-6-0-0
1	2	15 10 10 10	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 10 15	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 10 20	VALVE SWITCH	CLOSE	NA	D		

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	15 10 10 25	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 10 30	VALVE SWITCH	CLOSE	NA	D		
1	2	15 10 10 35	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 10 40	VALVE SWITCH	CLOSE	NA	D		
1	2	15 10 15 0	NA					
1	2	15 10 15 5	VALVE STATUS	OPEN	N	NA		
1	2	15 10 15 10	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 15 15	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 15 20	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 15 25	VALVE SWITCH	OPEN	NA	D		
1	2	15 10 15 30	VALVE SWITCH	CLOSE	NA	D		
1	2	15 10 20 0	NA					
1	2	15 10 20 5	VALVE STATUS	OPEN	N	NA		
1	2	15 10 20 10	FLOW CONTROLLER	165 GPM	N	C	NA	CE
1	2	15 10 20 15	MAKEUP MODE SWITCH	BORATE	NA	D		
1	2	15 10 20 20	BAMP STATUS	ON	N	NA		
1	2	15 10 20 25	BAMP DISCHARGE PRESSURE	130 - 160 PSIG	N	NA	+/- 10	C:1-2-15-10-20-25
1	2	15 10 20 30	BAMP DISCHARGE FLOW	20 - 165 GPM	N	NA	+/- 10	C:1-2-15-10-20-30
1	2	15 10 20 35	VALVE STATUS	CLOSE	N	NA		
1	2	15 10 20 40	VALVE STATUS	OPEN	N	NA		
1	2	15 10 20 45	VALVE SWITCH	CLOSE	NA	D		
1	2	15 15 0 0	SPENT FUEL POOL LEVEL	135 FT 10 IN	N	NA	+/- 6 IN	CE
1	2	15 20 0 0	NA					
1	2	15 20 5 0	NA					
1	2	15 20 5 5	BAMP PS BREAKER SWITCHES	OPEN	NA	D		

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	15 20 5 10	VALVE SWITCH	CLOSE	NA	D		
1	2	15 20 5 15	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 5 20	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 5 25	FLOW CONTROLLER	20 GPM	N	C	NA	CE
1	2	15 20 5 30	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 5 35	VALVE SWITCH	CLOSE	NA	D		
1	2	15 20 10 0	NA					
1	2	15 20 10 5	BAMP MAKEUP SWITCH	MANUAL	NA	D		
1	2	15 20 10 10	VALVE SWITCH	CLOSE	NA	D		
1	2	15 20 10 15	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 10 20	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 10 25	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 10 30	FLOW CONTROLLER	20 GPM	N	C	NA	CE
1	2	15 20 10 35	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 10 40	VALVE SWITCH	CLOSE	NA	D		
1	2	15 20 15 0	NA					
1	2	15 20 15 5	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 15 10	VALVE SWITCH	OPEN	NA	D		
1	2	15 20 15 15	VALVE SWITCH	CLOSE	NA	D		
1	2	15 20 15 20	FLOW CONTROLLER	165 GPM	N	C	NA	CE
1	2	15 20 15 25	MAKEUP MODE SWITCH	BORATE	NA	D		
1	2	15 20 15 30	BAMP STATUS	ON	N	NA		
1	2	15 20 15 35	BAMP DISCHARGE PRESSURE	130-160 PSIG	N	NA	+/- 10	C:1-2-15-10-20-25
1	2	15 20 15 40	BAMP DISCHARGE FLOW	20 - 165 GPM	N	NA	+/- 10	C:1-2-15-10-20-30
1	2	15 20 15 45	VALVE STATUS	CLOSE	N	NA		

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	15 20 15 50	VALVE STATUS	OPEN	N	NA		
1	2	15 20 15 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 0 0 0	NA					
1	2	20 5 0 0	NA					
1	2	20 5 0 5	VALVE STATUS	OPEN	N	NA		
1	2	20 5 0 10	VALVE STATUS	OPEN	N	NA		
1	2	20 5 0 15	VALVE CONTROLLER	105 - 135 PSID	N	C	+/- 10	CE
1	2	20 5 5 0	REACTOR POWER STATUS	1.0E-1 %	Y	C	1/2 DECADE	CE
1	2	20 5 5 5	BORON ADDITION	>40 GPM	N	C	+/- 4	CE
1	2	20 5 5 10	CORE POWER STATUS	1.0E-1 %	N	C	1/2 DECADE	C:1-2-20-5-5-0
1	2	20 10 0 0	NA					
1	2	20 10 0 5	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 10	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 15	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 20	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 25	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 30	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 35	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 40	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 45	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 50	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 60	CHARGING PUMP STATUS	ON	N	NA		
1	2	20 10 0 65	CHARGING HEADER PRESSURE	300 - 2735 PSIG	N	NA	+/- 200	CE
1	2	20 10 0 70	CHARGING HEADER FLOW	10 - 132 GPM	N	NA	+/- 4	CE

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	20 15 0 0	NA					
1	2	20 15 0 5	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 10	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 15	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 20	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 25	VALVE STATUS	OPEN	N	NA		
1	2	20 15 0 30	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 35	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 40	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 45	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 50	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 60	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 65	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 70	CHARGING PUMP STATUS	ON	N	NA		
1	2	20 15 0 75	CHARGING HEADER PRESSURE	300 - 2735 PSIG	N	NA	+/- 200	CE
1	2	20 15 0 80	CHARGING HEADER FLOW	10 - 132 GPM	N	NA	+/- 4	CE

APPENDIX C

PALO VERDE PLANT SPECIFIC DEVICE SELECTION

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	5 0 0 0	RCA-TI-112CA
1	2	5 0 0 0	RCA-TI-112HA
1	2	5 0 0 0	RCA-TI-115
1	2	5 0 0 0	RCA-TR-112
1	2	5 0 0 0	RCA-TR-122
1	2	5 0 0 0	RCB-TI-112CB
1	2	5 0 0 0	RCB-TI-112HB
1	2	5 0 0 0	RCB-TI-125
1	2	5 0 0 0	RCC-TI-112CC
1	2	5 0 0 0	RCC-TI-112HC
1	2	5 0 0 0	RCD-TI-112CD
1	2	5 0 0 0	RCD-TI-112HD
1	2	5 0 0 0	RCN-TI-111X
1	2	5 0 0 0	RCN-TI-111Y
1	2	5 0 0 0	RCN-TR-111X
1	2	5 0 0 0	RCN-TR-115
1	2	5 0 0 5	SGN-HS-1001
1	2	5 0 0 5	SGN-HS-1002
1	2	5 0 0 5	SGN-HS-1003
1	2	5 0 0 5	SGN-HS-1004
1	2	5 0 0 5	SGN-HS-1005
1	2	5 0 0 5	SGN-HS-1006
1	2	5 0 0 5	SGN-HS-1007
1	2	5 0 0 5	SGN-HS-1008
1	2	5 0 0 5	SGN-PIC-1010

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER
********** DATASHEET 4 **********

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	5 0 0 5	SGN-PIK-1001
1	2	5 0 0 5	SGN-PIK-1002
1	2	5 0 0 5	SGN-PIK-1003
1	2	5 0 0 5	SGN-PIK-1004
1	2	5 0 0 5	SGN-PIK-1005
1	2	5 0 0 5	SGN-PIK-1006
1	2	5 0 0 5	SGN-PIK-1007
1	2	5 0 0 5	SGN-PIK-1008
1	2	5 0 0 10	RCA-TR-112
1	2	5 0 0 10	RCA-TR-122
1	2	5 0 0 10	SGB-HIC-178A
1	2	5 0 0 10	SGB-HS-178A
1	2	5 0 0 10	SGB-ZS-178
1	2	5 0 0 10	SGD-HS-178B
1	2	5 0 0 15	RCA-TR-112
1	2	5 0 0 15	RCA-TR-122
1	2	5 0 0 15	SGA-HIC-184A
1	2	5 0 0 15	SGA-HS-184A
1	2	5 0 0 15	SGA-ZS-184
1	2	5 0 0 15	SGC-HS-184B
1	2	5 0 0 20	RCA-TR-112
1	2	5 0 0 20	RCA-TR-122
1	2	5 0 0 20	SGA-HIC-179A
1	2	5 0 0 20	SGA-HS-179A
1	2	5 0 0 20	SGA-ZS-179

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	5 Ø Ø 2Ø	SGC-HS-179B
1	2	5 Ø Ø 25	RCA-TR-112
1	2	5 Ø Ø 25	RCA-TR-122
1	2	5 Ø Ø 25	SGB-HIC-185A
1	2	5 Ø Ø 25	SGB-HS-185A
1	2	5 Ø Ø 25	SGB-ZS-185
1	2	5 Ø Ø 25	SGD-HS-185B
1	2	5 Ø Ø 3Ø	RCA-TI-112HA
1	2	5 Ø Ø 3Ø	RCA-TR-112
1	2	5 Ø Ø 3Ø	RCA-TR-122
1	2	5 Ø Ø 3Ø	RCB-TI-112HB
1	2	5 Ø Ø 3Ø	RCC-TI-112HC
1	2	5 Ø Ø 3Ø	RCD-TI-112HD
1	2	5 Ø Ø 3Ø	RCN-TI-111X
1	2	5 Ø Ø 3Ø	RCN-TR-111X
1	2	5 Ø Ø 35	RCA-TI-112CA
1	2	5 Ø Ø 35	RCA-TI-115
1	2	5 Ø Ø 35	RCA-TR-112
1	2	5 Ø Ø 35	RCA-TR-122
1	2	5 Ø Ø 35	RCB-TI-112CB
1	2	5 Ø Ø 35	RCB-TI-125
1	2	5 Ø Ø 35	RCC-TI-112CC
1	2	5 Ø Ø 35	RCD-TI-112CD
1	2	5 Ø Ø 35	RCN-TI-111Y
1	2	5 Ø Ø 35	RCN-TR-115

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	5 0 0 40	RCA-TI-112HA
1	2	5 0 0 40	RCA-TR-112
1	2	5 0 0 40	RCA-TR-122
1	2	5 0 0 40	RCB-TI-112HB
1	2	5 0 0 40	RCC-TI-112HC
1	2	5 0 0 40	RCD-TI-112HD
1	2	5 0 0 40	RCN-TI-111X
1	2	5 0 0 40	RCN-TR-111X
1	2	5 0 0 45	RCA-TI-112CA
1	2	5 0 0 45	RCA-TI-115
1	2	5 0 0 45	RCA-TR-112
1	2	5 0 0 45	RCA-TR-122
1	2	5 0 0 45	RCB-TI-112CB
1	2	5 0 0 45	RCB-TI-125
1	2	5 0 0 45	RCC-TI-112CC
1	2	5 0 0 45	RCD-TI-112CD
1	2	5 0 0 45	RCN-TI-111Y
1	2	5 0 0 45	RCN-TR-115
1	2	10 0 0 0	RCA-LI-110X
1	2	10 0 0 0	RCA-LR-110X
1	2	10 0 0 0	RCB-LI-110Y
1	2	10 0 0 0	RCN-LI-103
1	2	10 0 0 0	RCN-LIC-110
1	2	10 0 0 0	RCN-LR-110
1	2	15 0 0 0	CHA-LI-203A

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	15 0 0 0	CHB-LI-201
1	2	15 0 0 0	CHB-LI-203B
1	2	15 0 0 0	CHC-LI-203C
1	2	15 0 0 0	CHD-LI-203D
1	2	15 0 0 0	CHN-LI-200
1	2	15 0 0 0	CTA-LR-35
1	2	15 10 5 5	CHN-HS-532
1	2	15 10 5 10	CHN-HS-536
1	2	15 10 5 15	CHN-HS-501
1	2	15 10 10 5	CHA-LI-203A
1	2	15 10 10 5	CHB-LI-201
1	2	15 10 10 5	CHB-LI-203B
1	2	15 10 10 5	CHC-LI-203C
1	2	15 10 10 5	CHD-LI-203D
1	2	15 10 10 5	CHN-LI-200
1	2	15 10 10 5	CTA-LR-35
1	2	15 10 10 10	O/C = CH-V327
1	2	15 10 10 15	O/C = CH-V755
1	2	15 10 10 20	O/C = CH-V316
1	2	15 10 10 25	O/C = CH-V756
1	2	15 10 10 30	O/C = CH-V319
1	2	15 10 10 35	O/C = CH-V757
1	2	15 10 10 40	O/C = CH-V322
1	2	15 10 15 5	CHN-HS-532
1	2	15 10 15 10	O/C = CH-V144

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER
********** DATASHEET 4 **********

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	15 10 15 15	O/C = CH-V753
1	2	15 10 15 20	O/C = CH-V164
1	2	15 10 15 25	CHN-HS-514
1	2	15 10 15 30	CHN-HS-501
1	2	15 10 20 5	CHN-HS-532
1	2	15 10 20 10	CHN-FIC-210Y
1	2	15 10 20 15	CHN-HS-210
1	2	15 10 20 20	CHN-HS-208
1	2	15 10 20 20	CHN-HS-207
1	2	15 10 20 25	CHN-PI-206
1	2	15 10 20 30	CHN-FQI-210Y
1	2	15 10 20 35	CHN-HS-512
1	2	15 10 20 40	CHN-HS-527
1	2	15 10 20 45	CHN-HS-501
1	2	15 15 0 0	O/C = LAHL
1	2	15 15 0 5	RCA-TI-112CA
1	2	15 15 0 5	RCA-TI-112HA
1	2	15 15 0 5	RCA-TI-115
1	2	15 15 0 5	RCA-TR-112
1	2	15 15 0 5	RCA-TR-122
1	2	15 15 0 5	RCB-TI-112CB
1	2	15 15 0 5	RCB-TI-112HB
1	2	15 15 0 5	RCB-TI-125
1	2	15 15 0 5	RCC-TI-112CC
1	2	15 15 0 5	RCC-TI-112HC

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	15 15 0 5	RCD-TI-112CD
1	2	15 15 0 5	RCD-TI-112HD
1	2	15 15 0 5	RCN-TI-111X
1	2	15 15 0 5	RCN-TI-111Y
1	2	15 15 0 5	RCN-TR-111X
1	2	15 15 0 5	RCN-TR-115
1	2	15 20 5 5	O/C = NHM-M-1309
1	2	15 20 5 5	O/C = NHN-M-1020
1	2	15 20 5 10	CHN-HS-532
1	2	15 20 5 15	O/C = PC-V215
1	2	15 20 5 20	O/C = CH-V144
1	2	15 20 5 25	CHN-FIC-210X
1	2	15 20 5 30	CHN-HS-536
1	2	15 20 5 35	CHN-HS-501
1	2	15 20 10 5	CHN-HS-210
1	2	15 20 10 10	CHN-HS-532
1	2	15 20 10 15	O/C = PC-V215
1	2	15 20 10 20	O/C = CH-V753
1	2	15 20 10 25	O/C = CH-V164
1	2	15 20 10 30	CHN-FIC-210X
1	2	15 20 10 35	CHN-HS-514
1	2	15 20 10 40	CHN-HS-501
1	2	15 20 15 5	O/C = PC-V215
1	2	15 20 15 10	O/C = CH-V144
1	2	15 20 15 15	CHN-HS-532

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER
********** DATASHEET 4 **********

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	15 20 15 20	CHN-FIC-210Y
1	2	15 20 15 25	CHN-HS-210
1	2	15 20 15 30	CHN-HS-206
1	2	15 20 15 30	CHN-HS-207
1	2	15 20 15 35	CHN-PI-206
1	2	15 20 15 40	CHN-FQI-210Y
1	2	15 20 15 45	CHN-HS-512
1	2	15 20 15 50	CHN-HS-527
1	2	15 20 15 55	CHN-HS-501
1	2	20 5 0 5	CHA-HS-524
1	2	20 5 0 10	CHN-HS-239
1	2	20 5 0 15	CHN-PDIC-240
1	2	20 5 5 0	SEA-JI-1A
1	2	20 5 5 0	SEA-JKI-1A
1	2	20 5 5 0	SEB-JI-1B
1	2	20 5 5 0	SEB-JKI-1B
1	2	20 5 5 0	SEC-JI-1C
1	2	20 5 5 0	SEC-JKI-1C
1	2	20 5 5 0	SED-JI-1D
1	2	20 5 5 0	SED-JKI-1D
1	2	20 5 5 0	SEN-JI-10
1	2	20 5 5 0	SEN-JR-10
1	2	20 5 5 0	SEN-JR-1A
1	2	20 5 5 0	SEN-JR-1B
1	2	20 5 5 5	CHB-FI-212

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	20 5 5 10	SEA-JI-1A
1	2	20 5 5 10	SEA-JKI-1A
1	2	20 5 5 10	SEB-JI-1B
1	2	20 5 5 10	SEB-JKI-1B
1	2	20 5 5 10	SEC-JI-1C
1	2	20 5 5 10	SEC-JKI-1C
1	2	20 5 5 10	SED-JI-1D
1	2	20 5 5 10	SED-JKI-1D
1	2	20 5 5 10	SEN-JI-10
1	2	20 5 5 10	SEN-JR-10
1	2	20 5 5 10	SEN-JR-1A
1	2	20 5 5 10	SEN-JR-1B
1	2	20 10 0 5	SIA-HS-617
1	2	20 10 0 5	SIA-ZI-617
1	2	20 10 0 10	SIA-HS-627
1	2	20 10 0 10	SIA-ZI-627
1	2	20 10 0 15	SIA-HS-637
1	2	20 10 0 15	SIA-ZI-637
1	2	20 10 0 20	SIA-HS-647
1	2	20 10 0 20	SIA-ZI-647
1	2	20 10 0 30	O/C = CH-V796
1	2	20 10 0 35	O/C = CH-V339
1	2	20 10 0 40	O/C = CH-V797
1	2	20 10 0 45	O/C = CH-V337
1	2	20 10 0 50	O/C = CH-V798

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER
********** DATASHEET 4 **********

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	20 10 0 55	O/C = CH-V335
1	2	20 10 0 60	CHA-HS-216
1	2	20 10 0 60	CHA-HS-218A
1	2	20 10 0 60	CHB-HS-217
1	2	20 10 0 60	CHB-HS-218
1	2	20 10 0 60	CHN-HS-4
1	2	20 10 0 65	CHA-PI-212
1	2	20 10 0 70	CHB-FI-212
1	2	20 15 0 5	SIB-HS-616
1	2	20 15 0 5	SIB-ZI-616
1	2	20 15 0 10	SIB-HS-626
1	2	20 15 0 10	SIB-ZI-626
1	2	20 15 0 15	SIB-HS-636
1	2	20 15 0 15	SIB-ZI-636
1	2	20 15 0 20	SIB-HS-646
1	2	20 15 0 20	SIB-ZI-646
1	2	20 15 0 25	SIB-HS-699
1	2	20 15 0 30	SIB-HS-609
1	2	20 15 0 30	SIB-ZI-609
1	2	20 15 0 35	O/C = SI-V509
1	2	20 15 0 40	O/C = CH-V796
1	2	20 15 0 45	O/C = CH-V339
1	2	20 15 0 50	O/C = CH-V797
1	2	20 15 0 55	O/C = CH-V337
1	2	20 15 0 60	O/C = CH-V798

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INDICATOR TAG NUMBER
1	2	20 15 0 65	O/C = CH-V335
1	2	20 15 0 70	CHA-HS-216
1	2	20 15 0 70	CHA-HS-218A
1	2	20 15 0 70	CHB-HS-217
1	2	20 15 0 70	CHB-HS-218
1	2	20 15 0 70	CHN-HS-4
1	2	20 15 0 75	CHA-PI-212
1	2	20 15 0 80	CHB-FI-212

APPENDIX D

PALO VERDE PLANT SPECIFIC
INVENTORY OF CONTROL ROOM DEVICES

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
BØ1	1-E-NAN-EI-SØ1		13.8 KV BUS 1-E-NAN-SØ1 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ1A		13.8 KV BUS 1-E-NAN-SØ1 SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	DISCREP.	2
BØ1	1-E-NAN-EI-SØ2		13.8 KV BUS 1-E-NAN-SØ2 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ2A		13.8 KV BUS 1-E-NAN-SØ2 SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ3		13.8 KV BUS 1-E-NAN-SØ3 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ4		13.8 KV BUS 1-E-NAN-SØ4 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ5		13.8 KV BUS 1-E-NAN-SØ5 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ5B		13.8 KV BUS 1-E-NAN-SØ5 NORMAL SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ5D		13.8 KV BUS 1-E-NAN-SØ5 STANDBY SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ6		13.8 KV UNIT 1 BUS 1-E-NAN-SØ6 VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ6F		13.8 KV BUS 1-E-NAN-SØ6 STANDBY SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-EI-SØ6H		13.8 KV BUS 1-E-NAN-SØ6 NORMAL SUPPLY VOLTMETER	Ø-18 K VOLTS	1.Ø	NA	VERIFIED	2
BØ1	1-E-NAN-HS-SØ5A		13.8 KV BUS 1-E-NAN-SØ3 SUPPLY BREAKER (SØ3/SØ5 CROSS TIE)	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-NAN-HS-SØ6K		13.8 KV BUS 1-E-NAN-SØ4 SUPPLY BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-NAN-SS-SØ5A		13.8 KV BUS 1-E-NAN-SØ3 SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF - ON	VERIFIED	2

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
CONTROL BOARD INFORMATION AND WALKDOWN DATA
SORTED BY INDICATOR TAG NUMBER
********** DATASHEET 5 **********

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
BØ1	1-E-NAN-SS-SØ6K		13.8 KV BUS 1-E-NAN-SØ4 SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF - ON	VERIFIED	2
BØ1	1-E-NBN-EI-SØ1		4.16 KV BUS 1-E-NBN-SØ1 VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-NBN-EI-SØ1A		4.16 KV BUS 1-E-NBN-SØ1 SUPPLY VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBA-EI-SØ3		4.16 KV BUS 1-E-PBA-SØ3 VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBA-EI-SØ3K		4.16 KV BUS 1-E-PBA-SØ3 STANDBY SUPPLY VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBA-EI-SØ3L		4.16 KV BUS 1-E-PBA-SØ3 NORMAL SUPPLY VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBA-HS-SØ3K		4.16 KV BUS 1-E-PBA-SØ3 STANDBY SUPPLY BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PBA-HS-SØ3L		4.16 KV BUS 1-E-PBA-SØ3 NORMAL SUPPLY BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PBA-SS-SØ3K		4.16 KV BUS 1-E-PBA-SØ3 STANDBY SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF-ON; KEY REQ	VERIFIED	2
BØ1	1-E-PBA-SS-SØ3L		4.16 KV BUS 1-E-PBA-SØ3 NORMAL SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF-ON; KEY REQ	VERIFIED	2
BØ1	1-E-PBB-EI-SØ4		4.16 KV BUS 1-E-PBB-SØ4 VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBB-EI-SØ4K		4.16 KV BUS 1-E-PBB-SØ4 NORMAL SUPPLY VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBB-EI-SØ4L		4.16 KV BUS 1-E-PBB-SØ4 STANDBY SUPPLY VOLTMETER	Ø-5 K VOLTS	Ø.25	NA	VERIFIED	2
BØ1	1-E-PBB-HS-SØ4K		4.16 KV BUS 1-E-PBB-SØ4 NORMAL SUPPLY BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PBB-HS-SØ4L		4.16 KV BUS 1-E-PBB-SØ4 STANDBY SUPPLY BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B01	1-E-PBB-SS-S04K		4.16 KV BUS 1-E-PBB-S04 NORMAL SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF-ON; KEY REQ	VERIFIED	2
B01	1-E-PBB-SS-S04L		4.16 KV BUS 1-E-PBB-S04 STANDBY SUPPLY BREAKER SYNCHRONIZE	NA	NA	OFF-ON; KEY REQ	VERIFIED	2
B01	1-E-PEA-HS-S03B		DIESEL GENERATOR A 4.16 KV BREAKER	NA	NA	G: TRIP; R: CLOSE	VERIFIED	3
B01	1-E-PEA-SS-S03B		DIESEL GENERATOR A SYNCHRONIZE	NA	NA	OFF-ON	VERIFIED	3
B01	1-E-PEB-HS-S04B		DIESEL GENERATOR B 4.16 KV BREAKER	NA	NA	G: TRIP; R: CLOSE	VERIFIED	3
B01	1-E-PEB-SS-S04B		DIESEL GENERATOR B SYNCHRONIZE	NA	NA	OFF-ON	VERIFIED	3
B01	1-E-PGA-EI-L31		480 V LOAD CENTER 1-E-PGA-L31 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PGA-EI-L33		480 V LOAD CENTER 1-E-PGA-L33 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PGA-EI-L35		480 V LOAD CENTER 1-E-PGA-L35 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PGB-EI-L32		480 V LOAD CENTER 1-E-PGB-L32 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PGB-EI-L34		480 V LOAD CENTER 1-E-PGB-L34 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PGB-EI-L36		480 V LOAD CENTER 1-E-PGB-L36 VOLTMETER	0-600 VOLTS	20.0	NA	VERIFIED	2
B01	1-E-PKA-EI-M41		125 V DC BUS A VOLTMETER	0-150 DC VOLTS	2.0	NA	VERIFIED	2
B01	1-E-PKA-EI-M4104		BATTERY CHARGER A VOLTMETER	0-150 DC VOLTS	2.0	NA	VERIFIED	2
B01	1-E-PKA-EI-M4105		STANDBY BATTERY CHARGER AC VOLTMETER	0-150 DC VOLTS	2.0	NA	VERIFIED	2
B01	1-E-PKA-HS-M4102		125 V DC BATTERY A BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
BØ1	1-E-PKA-II-M4102		125 V DC BATTERY A AMMETER	1500-Ø-1500 DC AMPS	50.Ø	NA	VERIFIED	2
BØ1	1-E-PKA-II-M4104		BATTERY CHARGER A AMMETER	Ø-500 DC AMPS	10.Ø	NA	VERIFIED	2
BØ1	1-E-PKA-II-M4105		STANDBY BATTERY CHARGER AC AMMETER	Ø-500 DC AMPS	10.Ø	NA	DISCREP.	2
BØ1	1-E-PKB-EI-M42		125 V DC BUS B VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKB-EI-M4204		BATTERY CHARGER B VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKB-EI-M4205		STANDBY BATTERY CHARGER BD VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKB-HS-M4202		125 V DC BATTERY B BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PKB-II-M4202		125 V DC BATTERY B AMMETER	1500-Ø-1500 DC AMPS	50.Ø	NA	VERIFIED	2
BØ1	1-E-PKB-II-M4204		BATTERY CHARGER B AMMETER	Ø-500 DC AMPS	10.Ø	NA	VERIFIED	2
BØ1	1-E-PKC-EI-M43		125 V DC BUS C VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKC-EI-M4304		BATTERY CHARGER C VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKC-HS-M4302		125 V DC BATTERY C BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PKC-II-M4302		125 V DC BATTERY C AMMETER	1500-Ø-1500 DC AMPS	50.Ø	NA	VERIFIED	2
BØ1	1-E-PKC-II-M4304		BATTERY CHARGER C AMMETER	Ø-400 DC AMPS	10.Ø	NA	VERIFIED	2
BØ1	1-E-PKD-EI-M44		125 V DC BUS D VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKD-EI-M4404		BATTERY CHARGER D VOLTMETER	Ø-150 DC VOLTS	2.Ø	NA	VERIFIED	2
BØ1	1-E-PKD-HS-M4402		125 V DC BATTERY D BREAKER	NA	NA	G: TRIP-R: CLOSE	VERIFIED	2
BØ1	1-E-PKD-II-M4402		125 V DC BATTERY D AMMETER	1500-Ø-1500 DC AMPS	50.Ø	NA	VERIFIED	2

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B01	1-E-PKD-II-M4404		BATTERY CHARGER D AMMETER	0-400 DC AMPS	10.0	NA	VERIFIED	2
B01	1-J-DGA-HS-1		DIESEL GENERATOR A (G01) START/STOP	NA	NA	G: STOP-R: START - W: OV RIDE	VERIFIED	2
B01	A-E-MAN-ZI-915		525 KV GEN BREAKER 552-915 STATUS	NA	NA	G-R LITES	DISCREP.	2
B01	A-E-MAN-ZI-918		525 KV GEN BREAKER 552-918 STATUS	NA	NA	G-R LITES	DISCREP.	2
B06-1	AFA-FI-40A		AFW TO SG1/2 FLOW INDIC (DUAL)	L)=G=SG 1: 0-2000 GPM; R)=R=SG 2: 0-2000 GPM	20.0; 20.0	NA	VERIFIED	1
B06-1	AFA-HS-11		NON-SAFETY MTR DRV AFW PUMP CNTR SW	0-200 AMPS	10.0	STOP-START & G - OV RIDE.- R LITES	VERIFIED	1
B06-1	AFA-HS-32A		TURB DRV AFW TO SG1 UPSTREAM VLV	0-100% OPEN	5.0	G:JOG CL - R: JOG OP - W: OV RIDE	VERIFIED	1
B06-1	AFA-HS-37A		TURB DRV AFW TO SG2 DOWNSTREAM VLV	NA	NA	G: CL-R: OP - W: OV RIDE AND AFAS OV RIDE HS-37C LITE	VERIFIED	2,1
B06-1	AFA-HS-54A		TURBINE DRV AFW PUMP MANUAL TRIP	NA	NA	PUSH-RELEASE	VERIFIED	2
B06-1	AFA-PI-18A		TURB DRV AFW PUMP DISCH PRESS INDIC	0-2000 PSIG	20.0	NA	VERIFIED	1
B06-1	AFA-SI-52A		TURB DRV AFW PUMP SPEED	0-6000 RPM	100.0	NA	VERIFIED	3
B06-1	AFA-SK-52A		TURB DRV AFW PUMP SPEED POT	0-99.9	0.1	NA	DISCREP	3
B06-1	AFA-ZI-32A		TURB DRV AFW TO SG1 UPSTREAM VLV POS IND	0-100%	5.0	NA	VERIFIED	2
B06-1	AFB-FI-41A		AFW TO SG1/2 FLOW INDIC (DUAL)	L)=G=SG 1: 0-2000 GPM; R)=R=SG 2: 0-2000 GPM	20.0; 20.0	NA	VERIFIED	1
B06-1	AFB-HS-10		MTR DRV AFW PUMP CNTR SW	0-200 AMPS	10.0	STOP-START & G - OV RIDE - R LITES	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B06-1	AFB-HS-30A		MOTOR DRV AFW SG1 UPSTREAM VLV	NA	NA	G: JOG CL-R: JOG OP - W: OV RIDE AND AFAS OV RIDE HS-30C LITE/PB SW	VERIFIED	2
B06-1	AFB-HS-31A		MOTOR DRV AFW TO SG2 UPSTREAM VLV	NA	NA	G: JOG CL-R: JOG OP - W: OV RIDE AND AFAS OV RIDE HS-31C LITE/PB SW	VERIFIED	2
B06-1	AFB-HS-34A		MOTOR DRV AFW TO SG1 DOWNSTREAM VLV	NA	NA	G: JOG CL-R: JOG OP - W: OV RIDE AND AFAS OV RIDE HS-34C LITE/PB SW	VERIFIED	2
B06-1	AFB-HS-34C		MOTOR DRV AFW TO SG1 DOWNSTREAM VLV OVERRIDE PB SW	NA	NA	PSH-REL; AFAS OV RIDE (BK LITED)	VERIFIED	2
B06-1	AFB-HS-35A		MOTOR DRV AFW TO SG2 DOWNSTREAM VLV	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE	VERIFIED	1
B06-1	AFB-PI-17A		MTR DRV AFW PUMP DISCH PRESS INDIC	0-2000 PSIG	20.0	NA	VERIFIED	1
B06-1	AFB-ZI-30A		MOTOR DRV AFW TO SG1 UPSTREAM VLV POSITION	0-100%	5.0	NA	VERIFIED	2
B06-1	AFB-ZI-31A		MOTOR DRV AFW TO SG2 UPSTREAM VLV POSITION	0-100%	5.0	NA	VERIFIED	2
B06-1	AFC-HS-33A		TURB DRV AFW TO SG2 UPSTREAM VLV	0-100% OPEN	5.0	G: JOG CL - R: JOG OP - W: OV RIDE	VERIFIED	1
B06-1	AFC-HS-36A		TURB DRV AFW TO SG1 DWNSTRM VLV	NA	NA	G: CL-R: OP-W: OV RIDE	VERIFIED	1,2
B06-1	AFC-HS-36C		TURB DRV AFW TO SG1 DOWNSTREAM VLV OVERRIDE PB SW	NA	NA	AFAS OV RIDE (BK LITED)	VERIFIED	2
B06-1	AFC-ZI-33A		TURB DRV AFW TO SG2 UPSTREAM VLV POS IND	0-100%	5.0	NA	VERIFIED	2
B05	CDN-FI-39		CONDENSATE PUMP DISCHARGE HEADER FLOW	0-25 M LBS/HR	0.5	NA	VERIFIED	G

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B05	CDN-HS-11	VITAL	CONDENSATE PP A CNTR SW	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1
B05	CDN-HS-12	VITAL	CONDENSATE PP B CNTR SW	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1
B05	CDN-HS-13	VITAL	CONDENSATE PP C CNTR SW	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1
B07-1	CDN-PI-47	VITAL	COND A SHELL PRESS INDIC	0-30 INCH HG AB	0.5	NA	VERIFIED	1
B07-1	CDN-PI-48	VITAL	COND B SHELL PRESS INDIC	0-30 INCH HG AB	0.5	G: CL - R: OP	VERIFIED	1
B07-1	CDN-PI-49	VITAL	COND C SHELL PRESS INDIC	0-30 INCH HG AB	0.5	G: CL - R: OP	VERIFIED	1
B06-1	CDN-PR-47		COND A/B PRESS (VAC) RECDR (2-PEN)	L)=G=COND A: 0-6 INCH HG AB; R)=R=COND B: 0-6 INCH HG AB	0.1; 0.1	NA	VERIFIED	1
B06-1	CDN-PR-49		COND C PRESS (VAC) RECDR (1-PEN)	0-6 INCH HG AB	0.1	NA	VERIFIED	1
B03	CHA-HS-205		REGEN HX TO AUX SPRAY VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES	VERIFIED	1
B03	CHA-HS-216		CHARG PP 1 CNTR SW/POS INDIC	NA	NA	PULL-TO-LOCK; STOP-START & G-R LITES	VERIFIED	1
B03	CHA-HS-218A		CHARG PP3 (TR A) CNTR SW POS INDIC	NA	NA	PULL-TO-LOCK; STOP-START & G-R LITES	VERIFIED	1
B03	CHA-HS-506		RCP CONTROLLED BLEED-OFF HDR TO VCT ISO VLV	NA	NA	W: OV RIDE - R - G: CLOSE - R: OPEN	VERIFIED	2
B03	CHA-HS-516		LETDOWN TO REGEN HX ISOL VALVE SW	NA	NA	G: CL-R:OP - R: BLANK - W: OV RIDE	VERIFIED	1
B03	CHA-HS-524		CHARGING PUMPS TO REGEN HX VLV POS INDIC/SW	NA	NA	G: CL - R: OP - R: BLANK - G: BLANK	VERIFIED	1
B02	CHA-HS-531		RWT TO TR A SI VLV POS INDIC/SW	NA	NA	CL-NORM-OP; G-R LITES; KEY REQ	VERIFIED	1
B03	CHA-HS-560		REACTOR DRAIN TANK OUTLET ISO VLV	NA	NA	R: OP - W: OV RIDE - R - G: CL	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B03	CHA-HS-580		MAKEUP SUPPLY HDR TO RDT ISO VLV	NA	NA	W: OV RIDE - R - G: CL - R: OP	VERIFIED	2
B07-2	CHA-HS-715		PASS RETURN TO REACTOR DRAIN TANK	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02	CHA-LI-203A		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1
B03	CHA-PI-212		CHARGING PUMPS TO REGEN HX PRESS INDIC	0-3.0 K PSIG	0.05	NA	VERIFIED	1
B03	CHB-FI-212		CHARGING PUMPS TO REGEN HX FLOW INDIC	0-150 GPM	2.0	NA	VERIFIED	1
B03	CHB-HS-203		REGEN HX TO AUX SPRAY VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B03	CHB-HS-217		CHARG PP 2 CNTR SW/POS INDIC	NA	NA	PULL-TO-LOCK; STOP-START & G-R LITES	VERIFIED	1
B03	CHB-HS-218		CHARG PP 3 (TR B) CNTR/POS INDIC SW	NA	NA	PULL-TO-LOCK; STOP-START & G-R LITES	VERIFIED	1
B03	CHB-HS-505		RCP CONTROLLED BLEED-OFF HDR TO VCT ISO VLV CNTR SW	NA	NA	W: OV RIDE - R - G: CLOSE - R: OPEN	VERIFIED	2
B03	CHB-HS-515		LETDOWN TO REGEN HX ISOL VALVE SW	NA	NA	R: BLANK - G: CL - R: OP - W: OV RIDE	VERIFIED	1
B03	CHB-HS-523		REGEN HX OUTLET TO LETDOWN HX	NA	NA	R-G:CL-R:OP-W:OVRIDE	VERIFIED	2
B02	CHB-HS-530		RWT TO TR B SI POS INDIC/SW	NA	NA	CL-NORM-OP; G-R LITES; KEY REQ	VERIFIED	1
B03	CHB-HS-561		REACTOR DRAIN TANK OUTLET ISO VLV	NA	NA	R: OP - W: OV RIDE - R - G: CL	VERIFIED	2
B07-2	CHB-HS-924		PASS LETDWN LINE SAMPLE ISO VALVE	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B03	CHB-LI-201		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1
B02	CHB-LI-203B		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	CHC-LI-203C		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1
B02	CHD-LI-203D		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1
B03	CHN-AI-203		BORONOMETER (DIGITAL)	0-9999 PPM	1	HI RANGE - LO RANGE - W: INDIC LITES	VERIFIED	2
B03	CHN-AR-203		BORONOMETER	L): 0-5 K PPM; R): 0-1250 PPM	0.1; 20.0	L)=G; R)=R	VERIFIED	2
B03	CHN-FI-202	VITAL	LETDOWN FLOW INDIC	0-200 GPM	2.0	NA	VERIFIED	1
B03	CHN-FIC-204		LETDOWN RAD MON OUTLET FLOW	0-10 GPM; 0-100% OUTPUT	0.1; 5.0	AUTO/MAN PUSH BUTTONS; MODE SELECT LEVER; S.P. THUMB WHEEL; BLACK S.P. CURSOR; R: FLOW INDIC	VERIFIED	2
B03	CHN-FIC-210X	VITAL	REACTOR MU WTR PMPS TO VCT FLOW INDIC/CNTR	0-200 GPM/0-100 % OUTPUT	2.0/5.0	AUTO/MAN PSH BUTTON; MAN CNTR LEVER; SP THUMB WHEEL	VERIFIED	1
B03	CHN-FIC-210Y	VITAL	BAMP'S TO VCT FLOW INDIC/CNTR	0-200 GPM/0-100% OUTPUT	2.0/5.0	AUTO/MAN PSH BUTTON; MAN CNTR LEVER; SP THUMB WHEEL	VERIFIED	1
B03	CHN-FIC-241		SEAL INJECTION FLOW TO RCP 1A	0-15 GPM; 0-100% OUTPUT	0.2; 5.0	AUTO/MAN PUSH BUTTONS; MODE SELECT LEVER; S.P. THUMB WHEEL; BLACK S.P. CURSOR; R: FLOW INDIC	VERIFIED	2
B03	CHN-FIC-242		SEAL INJECTION FLOW TO RCP 1B	0-15 GPM; 0-100% OUTPUT	0.2; 5.0	AUTO/MAN PUSHBUTTONS; MODE SELECT LEVER; S.P. THUMB WHEEL; BLACK S.P. CURSOR; R: FLOW INDIC	VERIFIED	2
B03	CHN-FIC-243		SEAL INJECTION FLOW TO RCP 2A	0-15 GPM; 0-100% OUTPUT	0.2; 5.0	AUTO/MAN PUSHBUTTONS; MODE SELECT LEVER; S.P. THUMB WHEEL; BLACK S.P. CURSOR; R: FLOW INDIC	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B03	CHN-FIC-244		SEAL INJECTION FLOW TO RCP 2B	0-15 GPM; 0-100% OUTPUT	0.2; 5.0	AUTO/MAN PUSHBUTTONS; MODE SELECT LEVER; S.P. THUMB WHEEL; BLACK S.P. CURSOR; R: FLOW INDIC	VERIFIED	2
B03	CHN-FQI-210Y		TOTALIZED BAM WTR FLOW (DIGITAL INDIC)	0-999999 GAL	1.0	CLEAR BUTTON	VERIFIED	1
B03	CHN-FQIS-210Y		BAM TOTALIZED FLOW CNTR (DIGITAL)	0-999999 GAL	1.0	6 SET PSH BUTTON & CLEAR BUTTON	VERIFIED	1
B03	CHN-HS-110-1		LETDWN CNTR VLVS SELECTOR SW	NA	NA	CH 110P - BOTH - CH 110Q & G-R LITES FOR EACH	VERIFIED	1
B03	CHN-HS-201		LETDOWN BACK PRESS VALVES SELECTOR SW	NA	NA	CH 201P - BOTH - CH 201Q & G-R LITES FOR EACH	VERIFIED	1
B03	CHN-HS-206		BAMP P02B CNTR SW	NA	NA	R: BLANK - G: STOP - R: START - BLUE: BLANK	VERIFIED	1
B03	CHN-HS-207		BAMP P02A CNTR SW	NA	NA	R: BLANK - G: STOP - R: START - BLU: BLANK	VERIFIED	1
B03	CHN-HS-210		MAKEUP MODE SELECTOR SWITCH	NA	NA	DILUTE - AUTO - MAN - BORATE	VERIFIED	1
B03	CHN-HS-239		REGEN HX TO CHARGING LINE VLV POS INDIC/SW (UP STRM OF PDV-240)	NA	NA	G: BLANK - R: BLANK - G: CL - R: OP	VERIFIED	1
B03	CHN-HS-240		REGEN HX TO CHARGING LINE PRESS REG VLV POS INDIC/SW	NA	NA	G: CL - R: OP MODE - G: BLANK - R: BLANK	VERIFIED	1
B03	CHN-HS-4		CHARG PP MODE SELECTOR SW	NA	NA	PUMPS CH 2.3.1 - PUMPS CH1.2.3 - PUMPS CH 3.1.2	VERIFIED	1
B03	CHN-HS-501		VCT OUTLET VLV POS INDIC/SW	NA	NA	G: BLANK - R: BLANK - G: CL - R: OP	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B03	CHN-HS-512		MAKEUP INLET TO VCT CNTR VLV POS IND/SW	NA	NA	R/G: CL - G/R: AUTO - R/BLU: OP	VERIFIED	1
B03	CHN-HS-514		BA MAKEUP TO CHARGING PUMPS VLV POS INDIC/SW	NA	NA	R: BLANK - G: CL - R: OP - G: BLANK	VERIFIED	1
B03	CHN-HS-527		VCT BYPASS VLV POS IND/SW	NA	NA	R: BLANK - G: CL - R: AUTO OP - BLU: BLANK	VERIFIED	1
B03	CHN-HS-532		RWT TO BAMP'S SUCTION VLV POS INDIC/SW	NA	NA	R: BLANK - G: CL - R: OP - G: BLANK	VERIFIED	1
B03	CHN-HS-536		RWT GRAVITY FEED TO CHARGING PUMPS SUCT VLV POS INDIC/SW	NA	NA	R: BLANK - G: BLANK - G: CL - R: OP	VERIFIED	1
B03	CHN-LI-200		RWT LEVEL INDIC	0-100%	1.0	NA	VERIFIED	1
B03	CHN-LI-210		REACTOR MAKEUP WTR TANK LEVEL INDIC	1.5 - 41.5 FT	0.5	NA	VERIFIED	1
B03	CHN-LI-226	VITAL	VOL CONT TANK LEVEL	0-100%	1.0	NA	VERIFIED	1
B03	CHN-LI-268		REACTOR DRAIN TANK LVL	0-100%	1.0	NA	VERIFIED	2
B03	CHN-PDIC-240	VITAL	REGEN HX TO CHARGING LINE DIFF PRESS INDIC/CNTR	0-200 PSID (BOTH SCALES)	2.0	AUTO/MAN PSH BUT; MAN CNTR LEVER; SP THUMB WHEEL	VERIFIED	1
B03	CHN-PI-206		BAMP'S P02A/2B DISCH PRESS INDIC	G=LH=PPA: 0-200 PSIG R=RH=PPB: 0-200 PSIG	2.0; 2.0	NA	VERIFIED	1
B03	CHN-PI-208		REACTOR MU WTR DISCH PRESS (DUAL)	L)=G:0-200 PSIG R)=R:0-200 PSIG	2.0; 2.0	L)=PPA; R)=PPB	VERIFIED	2
B03	CHN-PI-220		LETDWN PRESS	0-200 PSIG	2.0	NA	VERIFIED	2
B03	CHN-PI-268		REACTOR DRAIN TANK PRESS	0-150 PSIG	2.0	NA	VERIFIED	2
B03	CHN-PIC-201	VITAL	LETDOWN TO BACK PRESS VALVES PRESS	0-600 PSIG	10.0	AUTO/MAN PSH BUT; MAN CNTR LEVER; SP THUMB WHEEL	VERIFIED	1
B03	CHN-TI-268	VITAL	REACTOR DRAIN TANK TEMP	0-750 DEG-F	10.0	NA	VERIFIED	1

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B03	CHN-TIC-231		RCP SEAL INJECTION SUPPLY TEMP CNTR	50-200 DEG-F; 0-100% OUTPUT	2.0; 5.0	AUTO/MAN PB; A/M SELECT LEVER; SP THUMB WHEEL	VERIFIED	2
B07-1	CPA-HS-2		CNTMN REFUEL PURGE MODE UPSTRM ISO	NA	NA	CL-OP; G - W: CPIAS OV RIDE - R LITES; CIAS OV RIDE LITE; KEY REQ	VERIFIED	2
B07-1	CPA-HS-4		CNTMN ACCESS PURGE MODE UPSTRM ISO	NA	NA	G: CL - R: OP - W: (CPIAS - OV RIDE - CIAS)	VERIFIED	2
B07-1	CPB-HS-3		CNTMN REFUEL PURGE MODE DWNSTRM ISO	NA	NA	CL-OP; G - W: CPIAS OV RIDE - R LITES; CIAS OV RIDE LITE; KEY REQ	VERIFIED	2
B07-1	CPB-HS-5		CNTMN ACCESS PURGE MODE DWNSTRM ISO	NA	NA	G: CL - R: OP - W: (CPIAS - OV RIDE - CIAS)	VERIFIED	2
B08-1	CTA-LI-35A		CONDENSATE STOR TK LEVEL INDIC	3-50 FT	1.0	MARK Q 23	VERIFIED	1
B02	CTA-LR-35		CST AND RWT LVL RECDR	(G=RWT): 0-100% (R=CST): 3-50 FT	1.0; 0.5	NA; NA	VERIFIED	1
B08-1	CTB-LI-38A		CONDENSATE STOR TK LEVEL INDIC	3-50 FT	1.0	MARK Q 23	VERIFIED	1
B02-2	ECA-HS-1A		ESSENT CHILLER/CHLD WTR PUMP A	0-75 AMPS	2.5	STOP-START & G - W: OV RIDE - R LITES	VERIFIED	2
B02-2	ECB-HS-2A		ESSENT CHILLER/CHD WTR PUMP B	0-75 AMPS	2.5	STOP-START & G - W: OV RIDE - R LITES	VERIFIED	2
B02-2	ECN-PDI-10		ESSENT CHILLED WATER HEADER B DP	0-150 PSID	1.0	NA	VERIFIED	2
B02-2	ECN-PDI-9		ESSENT CHILLED WATER HEADER A DP	0-150 PSID	1.0	NA	VERIFIED	2
B02-2	ECN-TI-11		ESSENT CHILLED WATER A SUPPLY OUTLET TEMP	0-150 DEG-F	2.0	NA	VERIFIED	2
B02-2	ECN-TI-12		ESSENT CHILLED WATER B SUPPLY OUTLET TEMP	0-150 DEG-F	2.0	NA	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02-2	ESA-UA-2A		SAFETY EQUIP TRAIN A SYS STATUS (ANNUNCIATOR WINDOW BOX)	NA	NA	23 DISPLAYS	VERIFIED	2
B02-2	ESB-UA-2B		SAFETY EQUIP TRAIN B SYS STATUS (ANNUNCIATOR WINDOW BOX)	NA	NA	23 DISPLAYS	VERIFIED	2
B02-2	EWA-HS-1		ESSENT COOLING WATER PUMP A	0-150 AMPS	5.0	STOP-START & G - W: OV RIDE - R LITES	VERIFIED	2
B02-2	EWB-HS-2		ESSENT COOLING WATER PUMP B	0-150 AMPS	5.0	STOP - START & G - W: OV RIDE - R LITES	VERIFIED	2
B02-2	EWN-FI-13		ESSENT COOLING WATER A SUPPLY FLOW (PUMP A DISCH FLOW)	0-20 K GPM	0.2	NA	VERIFIED	2
B02-2	EWN-FI-14		ESSENT COOLING WATER B SUPPLY FLOW (PUMP B DISCH FLOW)	0-20 K GPM	0.2	NA	VERIFIED	2
B02-2	EWN-TI-51		ESSENT COOLING WATER A SUPPLY AND FROM S/D HX TEMP (DUAL)	L): 0-200 DEG-F; R): 0-200 DEG-F	2.0; 2.0	L)=G=WTR A SUP; R)=R=HX	VERIFIED	2
B02-2	EWN-TI-52		ESSENT CLG WATER B SUPPLY AND FROM S/D HX TEMP (DUAL)	L): 0-200 DEG-F; R): 0-200 DEG-F	2.0; 2.0	L)=G=WTR B SUP; R)=R=HX	VERIFIED	2
B06-1	FWN-HS-101		HP FW HEATER TRAIN A OUTLET	NA	NA	G: JOG CL - R: JOG OP	VERIFIED	2
B06-1	FWN-HS-102		HP FW HEATER TRAIN B OUTLET	NA	NA	G: JOG CL - R: JOG OP	VERIFIED	2
B06-1	FWN-HS-103	VITAL	HP FW HTRS A/B BYPASS VLV CNTR SW	NA	NA	G: JOG CL - R: JOG OP	VERIFIED	1
B06-1	FWN-HS-31	VITAL	FW PP A DISCH VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP	VERIFIED	1
B06-1	FWN-HS-32		FW PP B DISCH VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP	VERIFIED	1
B06-1	FWN-HS-73		HP FW HEATER TRAIN A INLET	NA	NA	G: CL - R: OP	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B06-1	FWN-HS-74		HP FW HEATER TRAIN B INLET	NA	NA	G: CL-R: OP	VERIFIED	2
B06-1	FWN-PI-121		HP FW HTR OUTLET HDR PRESS	0-2000 PSIG	20.0	NA	VERIFIED	3
B06	FWN-PI-27		MAIN FW PUMP A DISCHARGE PRESSURE	0-2000 PSIG	20.0	NA	VERIFIED	2
B06	FWN-PI-28		MAIN FW PUMP B DISCHARGE PRESSURE	0-2000 PSIG	20.0	NA	VERIFIED	2
B06-1	FWN-ZI-101		HP FW HEATER TRAIN A OUTLET POS INDIC	(0-20) AND (20-100)%	NONE AND 4.0	NA	VERIFIED	2
B06-1	FWN-ZI-102		HP FW HEATER TRAIN B OUTLET VLV POS INDIC.	(0-20) AND (20-100)%	NONE AND 4.0	NA	VERIFIED	2
B06-1	FWN-ZI-103		HP FW HTRS A/B BYPASS VLV POS INDIC	0-100% (OPEN)	5.0	NA	VERIFIED	1
B07-1	GAA-HS-1		N2 TO SI TKS ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	GAA-HS-2		N2 TO CNTMN LOW PRESS HDR ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	GRA-HS-1		WASTE GAS HDR INSIDE CNTMN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	GRB-HS-2		WASTE GAS HDR OUTSIDE CNTMN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	HCA-HS-45		TO RAD MON OUTSIDE CNTM ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	HCA-HS-46		FROM RAD MON OUTSIDE CNTM ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B05	HCA-HS-74		CONTAINMENT PRESSURE SENSOR ISOLATION	NA	NA	CL-LOCKED OP; G-R LITES; KEY REQ	VERIFIED	2
B05	HCA-PI-351A		CNTMN PRESS INDIC	-4 TO +20 PSIG	0.5	MARKS @ -0.5, 2.5, 3.0, 8.0	VERIFIED	1
B05	HCA-PI-352A		CNTMN PRESS INDIC	-4 TO +85 PSIG	1.0	NA	VERIFIED	1
B02	HCA-PI-353A		CNTMN PRESS INDIC	-5 TO +180 PSIG	2.0	NA	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	HCA-PR-353A		CNTMN PRESS RECORDER (WR)	-5 TO +180 PSIG	2.0	NA	VERIFIED	1
B07-1	HCB-HS-44		TO RAD MON INSIDE CNTM ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	HCB-HS-47		FROM RAD MON INSIDE CNTM ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B05	HCB-HS-75		CONTAINMENT PRESSURE SENSOR ISOLATION	NA	NA	CL-LOCKED OP; G-R LITES; KEY REQ	VERIFIED	2
B05	HCB-PI-351B		CNTMN PRESS INDIC	-4 TO +20 PSIG	0.5	MARKS G - 0.5, 2.5, 3.0, 8.0	VERIFIED	1
B05	HCB-PI-352B		CNTMN PRESS INDIC	-4 TO +85 PSIG	1.0	NA	VERIFIED	1
B02	HCB-PI-353B		CNTMN PRESS INDIC	-5 TO +180 PSIG	2.0	NA	VERIFIED	1
B05	HCC-HS-76		CONTAINMENT PRESSURE SENSOR ISOLATION	NA	NA	CL-LOCKED OP; G-R LITES; KEY REQ	VERIFIED	2
B05	HCC-PI-351C		CNTMN PRESS INDIC	-4 TO +20 PSIG	0.5	MARKS G - 0.5, 2.5, 3.0, 8.0	VERIFIED	1
B05	HCC-PI-352C		CNTMN PRESS INDIC	-4 TO +85 PSIG	1.0	NA	VERIFIED	1
B05	HCD-HS-77		CONTAINMENT PRESSURE SENSOR ISOLATION	NA	NA	CL-LOCKED OP; G-R LITES; KEY REQ	VERIFIED	2
B05	HCD-PI-351D		CNTMN PRESS INDIC	-4 TO +20 PSIG	0.5	MARKS G - 0.5, 2.5, 3.0, 8.0	VERIFIED	1
B05	HCD-PI-352D		CNTMN PRESS INDIC	-4 TO +85	1.0	NA	VERIFIED	1
B07-1	HCN-TI-27		CNTMT NORM ACU A-B/C-D DISCH TEMP (DUAL)	L): 0-150 DEG-F; R): 0-150 DEG-R	2.0; 2.0	L)=G=(A-B); R)=R=(C-D)	VERIFIED	2
B07-1	HCN-TI-71		REACTOR CAVITY AREA TEMP (DUAL)	0-150 DEG-F	2.0	L)=REAC CAVITY TI 71A; R)=REAC CAVITY TI 71B	VERIFIED	G
B02-2	HPA-AI-9		CONTMT H2 CONCENTRATION ANALYZER A	0-10%	0.1	NA	VERIFIED	2
B02-2	HPA-HS-1		CNTMN H2 CNTR SYS A SUPPLY ISO VLV	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B07-2	HPA-HS-23		PASS H2 MONITOR SAMPLE RETURN ISO VALVE	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-2	HPA-HS-24		PASS H2 MONITOR SAMPLE ISO VALVE	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPA-HS-3		CNTMN H2 CNTR TO RECOMBINER A ISO	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPA-HS-5		CNTMN H2 CNTR RETURN FROM RECOMBINER A ISO	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPA-HS-7		CNTMT H2 CONTROL ANALYZER A ISOL	NA	NA	ALZR OUTLET: (G: CL - R: OP); ALZR INLET: (G: CL - R: OP)	VERIFIED	2
B02-2	HPA-UIC-9		CONTMT H2 ANALYZER CONTROL A	NA	NA	R LITES: SYS ON, SMPL, ZERO, SPAN; AMBR LITE: H1,H2,COMM ALRM; VLV SW: HPA-HS-9A(OFF-ST BY-ANAL); HS-9C(FCN SELECT); HS-9B(PB FOR REMOTE CNTR SELECT)	VERIFIED	2
B02	HPA-UR-9		CONTMT LVL & HYDROGEN ANALY A (DUAL) (WIDE RANGE)	L): 6-150 INCH; R): 0-10%	2.0; 0.1	L)=G=CNTMN LVL, LT-706; R)=R=H2 ANAL A, AIT-9	VERIFIED	2
B02-2	HPB-AI-10		CONTMT H2 CONCENTRATION ANALYZER B	0-10%	0.1	NA	VERIFIED	2
B02-2	HPB-HS-2		CNTMN H2 CNTR SYS B SUPPLY ISO	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPB-HS-4		CNTMN H2 CNTR TO RECOMBINER B ISO	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPB-HS-6		CONTMT H2 CONTROL RETURN FROM RECOMBINER B ISOL	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02-2	HPB-HS-8		CONTMT H2 CONTROL ANALYZER B ISOL	NA	NA	ALZR OUTLET: (G: CL - R: OP); ALZR INLET: (G: CL - R: OP)	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02-2	HPB-UIC-10		CONTMT H2 ANALYZER CONTROL B	NA	NA	R LITES: SYS ON, SMPL, ZERO, SPAN; AMBR LITE: H1,H2,COMM ALRM; VLV SW: HPA-HS-10A(OFF-ST BY-ANAL); HS-10C(FCN SELECT); HS-10B(PB FOR REMOTE CNTR SELECT)	VERIFIED	2
B07-1	IAA-HS-2		INSTR AIR OUTSIDE CNTMN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B06-2	MAN-EI-1R		VOLTS-RUN	L): 0-30 VAC; R): 30-150 VAC	10.0; 2.0	NA	VERIFIED	G
B06-2	MAN-EI-G01		GEN VOLTS	L): 0-5; R): 5-30 (BOTH SCALES: KVAC)	5; 1.0	NA	VERIFIED	G
B06-2	MAN-HS-915(552,915)		525 KV GENERATOR BREAKER 915(552,915)	NA	NA	R: CL - G: OP	VERIFIED	2
B06-2	MAN-HS-918(552,918)		GEN BRKR 918(552,918)	NA	NA	G: TRIP-R: CLOSE	VERIFIED	G
B06-2	MAN-II-G01A		GEN AMPS	0-45 K AMPS (AC)	1.0	NA	VERIFIED	G
B06-2	MAN-II-G01B		GEN AMPS	0-45 K AMPS (AC)	1.0	NA	VERIFIED	G
B06-2	MAN-II-G01C		GEN AMPS	0-45 K AMPS (AC)	1.0	NA	VERIFIED	G
B06-2	MAN-SI-1R		FREQ-RUN	55-65 HERTZ	0.2	NA	VERIFIED	G
B06-2	MAN-SS-915(552,915)		525 KV GEN BRKR SYNCHRONIZING SW	NA	NA	AUTO/OFF/COMP-MOD	VERIFIED	G
B06-2	MTN-A-01		ELECTRO/HYD CONTROL SYS PANEL (TURB TRIP)	NA	NA	PSH-REL	VERIFIED	G
B06-2	MTN-A-02		ELECTRO/HYD CONTROL TEST MOD (TURB CNTR/STP/INTERMED VLV STATUS)	0-100 % (TYP OF 20)	5.0	4 MN STP;4 CNTR;12 COMB INTERMED VLVS	VERIFIED	G
B01	NAN-HS-S03B		13.8 KV BUS S03-S01 TIE BRKR	NA	NA	G: TRIP-R: CLOSE	VERIFIED	G

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
CONTROL BOARD INFORMATION AND WALKDOWN DATA
SORTED BY INDICATOR TAG NUMBER
********** DATASHEET 5 **********

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B01	NAN-HS-S04B		13.8 KV BUS S04-S02 TIE BRKR	NA	NA	G: TRIP-R: CLOSE	VERIFIED	G
B07-1	NCA-HS-402		NCW CNTMN DWNSTRM RETURN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	NCB-HS-401		NCW CNTMN UPSTRM SUP ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	NCB-HS-403		NCW CNTMN UPSTRM RETURN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B04	NCN-FI-474		RCP 1B COOLER OUTLET FLOW	0-600 GPM	10.0	NA	VERIFIED	2
B04	NCN-FI-475		RCP 1A COOLER OUTLET FLOW	0-600 GPM	10.0	NA	VERIFIED	2
B04	NCN-FI-476		RCP 2B COOLER OUTLET FLOW	0-600 GPM	10.0	NA	VERIFIED	2
B04	NCN-FI-477		RCP 2A COOLER OUTLET FLOW	0-600 GPM	10.0	NA	VERIFIED	2
B04	NCN-TI-470		NCW FROM RCP 1B TEMP	0-150 DEG-F	2.0	NA	VERIFIED	G
B04	NCN-TI-471		NCW FROM RCP 1A TEMP	0-150 DEG-F	2.0	NA	VERIFIED	G
B04	NCN-TI-472		NCW FROM RCP 2B TEMP	0-150 DEG-F	2.0	NA	VERIFIED	G
B04	NCN-TI-473		NCW FROM RCP 2A TEMP	0-150 DEG-F	2.0	NA	VERIFIED	G
B01	NGN-HS-L03B2		480V LOAD CENTER 1-E-NGN-L03 MAIN BREAKER	NGN-EI-L03: 0-600 VOLTS	20.0	G: TRIP-R: CLOSE	VERIFIED	2
B01	NGN-HS-L10B2		480V LOAD CENTER 1-E-NGN-L10 MAIN BREAKER	NGN-EI-L10: 0-600 VOLTS	20.0	G: TRIP-R: CLOSE	VERIFIED	2
B04	RCA-HS-100-4		PZR BACKUP HTR BANKS B01,B09,A14 BKR CNTR SW	0-300 AMPS	10.0	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCA-HS-101		REACTOR VESSEL HEAD VENT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B04	RCA-HS-103		PRESSURIZER VENT	NA	NA	CL-NORM-OP AND G-R LITES; KEY REQ	VERIFIED	2
B04	RCA-HS-106		RC SYS VENT TO CONTMT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B04	RCA-LI-110X		PZR LVL CNTR SYS - LVL INDIC	0-100%	1.0	LMT MARKS @ 26/56	VERIFIED	1
B02	RCA-LR-110X		PZR LEVEL RECDR	0-100%	1.0	NA	VERIFIED	1
B05	RCA-PDI-115A		STEAM GENERATOR 1/2 DP (DUAL)	L): 0-70 PSID; R): 0-70 PSID	1.0; 1.0	L)=G=SG-1; R)=R=SG-2; MARKER @ 11.0 PSID	VERIFIED	2
B05	RCA-PI-101A		PZR PRESS INDIC (NR)	1500-2500 PSIA	10.0	MARKS @ 1860/2460	VERIFIED	1
B05	RCA-PI-102A		PZR PRESS/VAR S/P (DUAL) INDIC	L) PZR PRESS: 0-3.0 K PSIA; R) PZR VAR SP PPS: 0-3.0 K PSIA	0.05; 0.05	NA	VERIFIED	1
B02	RCA-PI-103		PZR PRESS INDIC	0-750 PSIA	10.0	NA	VERIFIED	1
B05	RCA-PI-199A		PZR OVER PRESS TRIP TO SPDS INDIC	1500-2500 PSIA	20.0	MARKS @ 1860/2360	VERIFIED	1
B02	RCA-PR-102A		PZR/RCS 2 PEN PRESS RECDR	L) RCS: 0-4 K PSIG R) PZR: 0-3 K PSIA	0.05; 0.05	NA; NA	VERIFIED	1
B05	RCA-TI-112CA		RCS TEMP INDIC (COLD LEG FROM RCP'S 1A/2A)	L)=G=LEG 1A: 465-615 DEG-F; R)=R=LEG 2A: 465-615 DEG-F	2.0; 2.0	MARKS @ 552/608	VERIFIED	1
B05	RCA-TI-112HA		RCS TEMP INDIC (HOT LEG TO SG'S 1 AND 2)	L)=G=SG 1: 375-675 DEG-F; R)=R=SG 2: 375-675 DEG-F	5.0; 5.0	NA	VERIFIED	1
B04	RCA-TI-115		T-COLD RC LOOP 1B(WR) TEMP INDIC	0-600 DEG-F	10.0	LMT MARKS @ 465/575	VERIFIED	1
B02	RCA-TR-112		HOT/COLD LEG TEMP LOOP 1/1A (DUAL) RECDR	L) LOOP 1:50-750 DEG-F R) LOOP 1A: 50-750 DEG-F	10.0; 10.0	NA; NA	VERIFIED	1
B02	RCA-TR-122		HOT/COLD LEG TEMP LOOP 2/2A (DUAL) RECDR	L) LOOP 2: 50-750 DEG-F R) LOOP 2A: 50-750 DEG-F	10.0; 10.0	NA; NA	VERIFIED	1
B04	RCB-HS-100-5		PZR BACKUP HTR BANKS B18,B10,A05 BKR CNTR SW	0-300 AMPS	10.0	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCB-HS-102		REACTOR VESSEL HEAD VENT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B04	RCB-HS-105		RC SYS VENT TO RDT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B04	RCB-HS-108		PRESSURIZER VENT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B04	RCB-HS-109		PRESSURIZER VENT THROTTLE VALVE	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B04	RCB-LI-110Y		PZR LVL CNTR SYS - LVL INDIC	0-100%	1.0	LMT MARKS @ 28/56	VERIFIED	1
B05	RCB-PDI-115B		STEAM GENERATOR 1/2 DP (DUAL)	L): 0-70 PSID; R): 0-70 PSID	1.0; 1.0	L)=G=SG 1; R)=R=SG 2; MARKER @ 11.0 PSID	VERIFIED	2
B05	RCB-PI-101B		PZR PRESS INDIC (NR)	1500-2500 PSIA	10.0	MARKS @ 1880/2460	VERIFIED	1
B05	RCB-PI-102B		PZR PRESS/VAR S/P INDIC	L) PZR PRESS: 0-3.0 K PSIA; R) PZR VAR SP PPS: 0-3.0 K PSIA	0.05; 0.05	NA	VERIFIED	1
B02	RCB-PI-104		PZR PRESS INDIC	0-750 PSIA	10.0	NA	VERIFIED	1
B05	RCB-PI-199B		PZR OVER PRESS TRIP TO SPDS INDIC	1500-2500 PSIA	20.0	MARKS @ 1880/2360	VERIFIED	1
B05	RCB-TI-112CB		RCS TEMP INDIC (COLD LEG FROM RCP'S) 1B/2B	L)=G=LEG 1B: 485-615 DEG-F; R)=R=LEG 2B: 485-615 DEG-F	2.0; 2.0	MARKS @ 552/608	VERIFIED	1
B05	RCB-TI-112HB		RCS TEMP INDIC (HOT LEG TO SG'S 1 AND 2)	L)=G=SG 1: 375-675 DEG-F; R)=R=SG 2: 375-675 DEG-F	5.0; 5.0	NA	VERIFIED	1
B04	RCB-TI-125		T-COLD RC LOOP 2A(WR) TEMP INDIC	0-600 DEG-F	10.0	LMT MARKS @ 485/550	VERIFIED	1
B05	RCC-PDI-115C		STEAM GENERATOR 1/2 DP (DUAL)	L): 0-70 PSID; R): 0-70 PSID	1.0; 1.0	L)=G=SG 1; R)=R=SG 2; MARKER @ 11.0 PSID	VERIFIED	2
B05	RCC-PI-101C		PZR PRESS INDIC (NR)	1500-2500 PSIA	10.0	MARKS @ 1880/2460	VERIFIED	1
B05	RCC-PI-102C		PZR PRESS/VAR S/P (DUAL) INDIC	L)=PZR PRESS: 0-3.0 K PSIA; R)=PZR VAR SP PPS: 0-3.0 K PSIA	0.05; 0.05	NA	VERIFIED	1

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B02	RCC-PI-105		PZR PRESS INDIC	0-750 PSIA	10.0	NA	VERIFIED	1
B05	RCC-PI-199C		PZR OVER PRESS TRIP TO SPDS INDIC	1500-2500 PSIA	20.0	MARKS @ 1860/2360	VERIFIED	1
B05	RCC-TI-112CC		RCS TEMP INDIC (COLD LEG FROM RCP'S 1A/2A)	L)=G=LEG 1A: 465-615 DEG-F; R)=R=LEG 2A: 465-615 DEG-F	2.0; 2.0	MARKS @ 552/608	VERIFIED	1
B05	RCC-TI-112HC		RCS TEMP INDIC (HOT LEG TO SG'S 1 AND 2)	L)=G=SG 1: 375-675 DEG-F; R)=R=SG 2: 375-675 DEG-F	5.0; 5.0	NA	VERIFIED	1
B05	RCD-PDI-115D		STEAM GENERATOR 1/2 DP (DUAL)	L): 0-70 PSID; R): 0-70 PSID	1.0; 1.0	L)=G=SG-1; R)=R=SG-2; MARKER @ 11.0 PSID	VERIFIED	2
B05	RCD-PI-101D		PZR PRESS INDIC (NR)	1500-2500 PSIA	10.0	MARKS @ 1860/2460	VERIFIED	1
B05	RCD-PI-102D		PZR PRESS/VAR S/P (DUAL) INDIC	L)=PZR PRESS: 0-3.0 K PSIA; R)=PZR VAR SP PPS: 0-3.0 K PSIA	0.05; 0.05	NA	VERIFIED	1
B02	RCD-PI-106		PZR PRESS INDIC	0-750 PSIA	10.0	NA	VERIFIED	1
B05	RCD-PI-199D		PZR OVER PRESS TRIP TO SPDS INDIC	1500-2500 PSIA	20.0	MARKS @ 1860/2360	VERIFIED	1
B05	RCD-TI-112CD		RCS TEMP INDIC (COLD LEG FROM RCP'S 1B/2B)	L)=G=LEG 1B: 465-615 DEG-F; R)=R=LEG 2B: 465-615 DEG-F	2.0; 2.0	MARKS @ 552/608	VERIFIED	1
B05	RCD-TI-112HD		RCS TEMP INDIC (HOT LEG TO SG'S 1 AND 2)	L)=G=SG 1: 375-675 DEG-F; R)=R=SG 2: 375-675 DEG-F	5.0; 5.0	NA	VERIFIED	1
B03	RCN-FI-156		RCP 1A SEAL BLEEDOFF FLOW	0-16 GPM	0.2	NA	VERIFIED	2
B03	RCN-FI-166		RCP 1B SEAL BLEEDOFF FLOW	0-16 GPM	0.2	NA	VERIFIED	2
B03	RCN-FI-176		RCP 2A SEAL BLEEDOFF FLOW	0-16 GPM	0.2	NA	VERIFIED	2
B03	RCN-FI-186		RCO 2B SEAL BLEEDOFF FLOW	0-16 GPM	0.2	NA	VERIFIED	2
B04	RCN-HS-1	VITAL	REACTOR COOLANT PUMP 1A	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1

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B04	RCN-HS-10		RCP 1A OIL LIFT PUMP P02A	NA	NA	G: STOP-R: AUTO-START	VERIFIED	G
B04	RCN-HS-100	VITAL	PZR PRESS CNTR SYS CHAN X/Y SELECTOR SW	NA	NA	CH X - CH Y	VERIFIED	1
B04	RCN-HS-100-1	VITAL	PZR PROP HTR BANKS B02, B08, B14 BKR CNTR SW	NA	NA	OFF-ON & G-R LITES	VERIFIED	1
B04	RCN-HS-100-10	VITAL	PZR PRESS CNTR SYS SW (OPENS/CLOSES SPRAY VLVS, RC-PV100E AND/OR RC-PV100F)	NA	NA	RC100E - BOTH - RC100F & G-R LITES FOR EACH VLV	VERIFIED	1
B04	RCN-HS-100-2	VITAL	PZR PROP HTR BANKS B05,B11,B17 BKR CNTR SW	NA	NA	OFF-ON & G-R LITES	VERIFIED	1
B04	RCN-HS-100-3	VITAL	HEATER CONTROL SELECTOR LEVEL TRIP CHANNEL X/Y	NA	NA	CH X - BOTH - CH Y	VERIFIED	1
B04	RCN-HS-100-6	VITAL	PZR BACKUP HTR BANKS B03,A09,A15,B07,B13,A01 BKR CNTR SW	NA	NA	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCN-HS-100-7	VITAL	PZR BACKUP HTR BANKS B04,A11,A16,A02,A07,A13 BKR CNTR SW	NA	NA	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCN-HS-100-8	VITAL	PZR BACKUP HTR BANKS B06,B12,B16,A18,A04,A08 BKR CNTR SW	NA	NA	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCN-HS-100-9	VITAL	PZR BACKUP HTR BANKS B15,A03,A10,A17,A06,A12 BKR CNTR SW	NA	NA	PULL-TO-LOCK; OFF-ON & G - OV RIDE - R - SP OV RIDE LITES	VERIFIED	1
B04	RCN-HS-110	VITAL	PZR LEVEL CNTR SELECTOR CHAN X/Y SW	NA	NA	CH X - CH Y	VERIFIED	1
B04	RCN-HS-2		REACTOR COOLANT PUMP 1B	0-600 AMPS	20.0	STOP - START & G-R LITES	VERIFIED	1
B04	RCN-HS-20		RCP 1B OIL LIFT PUMP P02B	NA	NA	G: STOP-R: AUTO-START	VERIFIED	G
B04	RCN-HS-3		REACTOR COOLANT PUMP 2A	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1

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B04	RCN-HS-30		RCP 2A OIL LIFT PUMP P02C	NA	NA	G: STOP-R: AUTO-START	VERIFIED	G
B04	RCN-HS-4		REACTOR COOLANT PUMP 2B	0-600 AMPS	20.0	STOP-START & G-R LITES	VERIFIED	1
B04	RCN-HS-40		RCP 2B OIL LIFT PUMP P02D	NA	NA	G: STOP-R: AUTO-START	VERIFIED	G
B04	RCN-HS-403		REACTOR VSL HEAD SEAL DRAIN TO RDT	NA	NA	G: CL - R: OP	VERIFIED	2
B03	RCN-LI-103	VITAL	PZR LEVEL INDIC (WR)	0-100%	1.0	LIMIT MARKERS @ 26/56	VERIFIED	1
B04	RCN-LIC-110		PZR LVL CNTR SYS - LVL INDIC/CNTR	0-100%; 0-100% OUTPUT	1.0; 5.0	AUTO/MAN PSH BUT; SP THUMB WHEEL; MAN CNTR LEVER; LOC-REMOTE SELECT SW	VERIFIED	1
B04	RCN-LR-110		PZR LEVEL RECDR (2 PEN)	G=PZR LVL: 0-100% R=LEVEL SP: 0-100%	1.0; 1.0	NA	VERIFIED	1
B04	RCN-PDI-110		RCP 1A/1B PRESS DIFF (DUAL)	G=LH=PP1A: 0-150 PSIG; R=RH=PP1B: 0-150 PSIG	2.0; 2.0	NA	VERIFIED	1
B04	RCN-PDI-111		RCP 1A/1B PRESS DIFF (DUAL)	G=LH=PP1A: 0-150 PSIG; R=RH=PP1B: 0-150 PSIG	2.0; 2.0	NA	VERIFIED	1
B04	RCN-PDI-120		RCP 2A/2B PRESS DIFF (DUAL)	G=LH=PP2A: 0-150 PSIG; R=RH=PP2B: 0-150 PSIG	2.0; 2.0	NA	VERIFIED	1
B04	RCN-PDI-121		RCP 2A/2B PRESS DIFF (DUAL)	G=LH=PP2A: 0-150 PSIG; R=RH=PP2B: 0-150 PSIG	2.0; 2.0	NA	VERIFIED	1
B03	RCN-PI-103-1	VITAL	PZR PRESS INDIC (RESTRIC RNG)	0-750 PSIA	10.0	NA	VERIFIED	1
B04	RCN-PIC-100	VITAL	PZR PRESS CNTR SYS INDIC/CNTR	1500-2500 PSIA	10.0	AUTO/MAN PSH BUT; MAN CNTR LEVER; SP THUMB WHEEL	VERIFIED	1
B04	RCN-PIK-100	VITAL	PZR PRESS CNTR SYS INDIC/CNTR	0-100%	1.0	SP THUMB WHEEL; AUTO/MAN SELECT SW	VERIFIED	1

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B04	RCN-PR-100		PZR PRESS RECDR; L)PT-100X; R)PT-100Y	BOTH L) & R) SCALES: 1500-2500 PSIA	10.0	LMT MARKS @ 860 & 2380; L)=G & R)=R	VERIFIED	1
B04	RCN-TI-101		L) PRESSURIZER/ R) SURGE LINE TEMP (DUAL)	L)50-700 DEG-F; R)50-700 DEG-F	10.0; 10.0	L)=G=TE-101; R)=R=TE-105	VERIFIED	2
B04	RCN-TI-103		PRESSURIZER SPRAY FROM COLD LEGS 1A/1B (DUAL)	L)=1A=G:50-700 DEG-F; R)=1B=R:50-700 DEG-F	10.0; 10.0	L)=G=1A; R)=R=1B	VERIFIED	2
B04	RCN-TI-106		PRZR RELIEF TEMP FROM L) RC 203/ R) RC 202 (DUAL)	L)=TE-106: 0-300 DEG-F, R)=TE-109: 0-300 DEG-F	5.0, 5.0	NA	VERIFIED	2
B04	RCN-TI-107		PRZR RELIEF TEMP FROM L) RC 200/ R) RC 201 (DUAL)	L)=TE-107: 0-300 DEG-F, R)=TE-108: 0-300 DEG-F	5.0, 5.0	NA	VERIFIED	2
B04	RCN-TI-111X	VITAL	T-HOT RC LOOP 1/LOOP 2 (DUAL) TEMP INDIC	L)=G=LOOP 1: 500-650 DEG-F; R)=R=LOOP 2: 500-650 DEG-F	2.0;2.0	NA	VERIFIED	1
B04	RCN-TI-111Y	VITAL	T-COLD RC LOOP 1B/LOOP 2A (DUAL) TEMP INDIC	L)=G=LOOP 1B: 500-650 DEG-F; R)=R=LOOP 2A: 500-650 DEG-F	2.0; 2.0	NA	VERIFIED	1
B04	RCN-TR-100		T AVG, T REF (2-PEN) RECDR	L=G=T REF: 500-650 DEG-F; R)=R=T AVG: 500-650 DEG-F	2.0; 2.0	NA	VERIFIED	1
B04	RCN-TR-111X		T-HOT RC LOOP 1/LOOP 2 TEMP RECDR (2 PEN)	PER OPERATOR: L)=LOOP 1 & R)=LOOP 2; BOTH SCALES: 500-650 DEG-F	2.0	NA	DISCREP.	1
B04	RCN-TR-115		T-COLD RC LOOP 1B/LOOP 2A (2 PEN WR RECDR)	L)=G=LOOP 1B: 0-600 DEG-F; R)=R=LOOP 2A: 0-600 DEG-F	10.0; 10.0	NA	VERIFIED	1
B04	RCN-ZI-100		TAVE LOOP1/LOOP2 SELECTED (STATUS LITES)	NA	NA	LOOP 1-R-SELECTED; LOOP 2-R-SELECTED; LOOP 1 OFF-NOT SELECTED; LOOP 2 OFF-NOT SELECTED	DISCREP	G
B07-1	RDA-HS-23		CNTMN SUMPS INSIDE ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2

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B07-1	RDB-HS-24		CNTMN SUMPS OUTSIDE ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-2	RDB-HS-407		PASS CNTMN RW SUMPS OUTLET ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	RDN-LI-10		REACTOR CAVITY SUMP LEVEL	0-55 INCH	1.0	NA	VERIFIED	2
B07-1	RDN-LI-410		CONTMT EAST/WEST SUMP LEVEL (DUAL)	L): 0-75 INCH; R): 0-75 INCH	1.0; 1.0	L)=G=EAST; R)=R=WEST	VERIFIED	2
B04	RJN-UI-4A		VIDEO CRT	NA	NA	PWR PB SW; PWR DEGAUSS PB SW; KEY LOCK	VERIFIED	2
B04	RJN-UI-4B		ALARM CRT	NA	NA	PWR PB SW; PWR DEGAUSS PB SW; KEY LOCK	VERIFIED	2
B02	RKA-UA-2C		CHANNEL A 1E ANNUN	NA	NA	4 WIND BX: SIT 1A-1B PRESS LO; SI PP RM LEVELS HI	VERIFIED	3
B04	RKA-UA-4D		CHANNEL A 1-E ANNUNCIATOR	NA	NA	RCP'S 1A,2A,1B,2B LO NCW FLOW; PWR/FAIL LITE	VERIFIED	2
B02	RKB-UA-2D		CHANNEL B 1E ANNUN	NA	NA	4 WIND BX: SIT 2A-2B PRESS LO; SI PP RM LEVELS HI	VERIFIED	3
B04	RKB-UA-4E		CHANNEL B 1-E ANNUNCIATOR	NA	NA	RCP'S 1A,2A,1B,2B LO NCW FLOW; PWR/FAIL LITE	VERIFIED	2
B04	RKN-UA-4A		ANNUNCIATOR WINDOW BOX	NA	NA	A1-A14 TOP ROW; B1-B14 BOTTOM ROW	VERIFIED	2
B04	RKN-UA-4B		TURBINE TRIP 1ST OUT ANNUNCIATOR	NA	NA	4 ROWS: (A1-A5) THRU (D1-D5)	VERIFIED	2
B04	RKN-UA-4C		REACTOR TRIP 1ST OUT ANNUNCIATOR	NA	NA	4 ROWS; (A1-A5) THRU (D1-D5)	VERIFIED	2
B05	RKN-UA-5A		ANNUNCIATOR WINDOW BOX	NA	NA	(A-D)X(1-16) WINDOWS AVAIL	VERIFIED	3

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B05	RKN-UA-5B		ANNUNCIATOR WINDOW BOX	NA	NA	(A-D)X(1-16) WINDOWS AVAIL	VERIFIED	3
B05	RKN-UA-5C		ANNUNCIATOR WINDOW BOX	NA	NA	(A-D)X(1-16) WINDOWS AVAIL	VERIFIED	3
B07-2	RKN-UA-7C		ANNUN WINDOW BOX (WINDOW 7A)	NA	NA	WINDOW 7A=SG BLDWN SYS TRBL	VERIFIED	3
B07-2	RMN-UJR-5		CONTAINMENT HUMIDITY AND TEMP	0-100	0.5	MULTI PT RECDR	VERIFIED	2,3
B05	SAA-HS-1		SIAS ACTUATION SW	NA	NA	SIAS INITIATION	VERIFIED	1
B05	SAA-HS-13		CSAS ACTUATION	NA	NA	CSAS INITIATE	VERIFIED	2
B05	SAA-HS-17		AFAS-1 ACTUATION	NA	NA	AFAS-1 INITIATE	VERIFIED	2
B05	SAA-HS-21		AFAS-2 ACTUATION	NA	NA	AFAS-2 INITIATE	VERIFIED	2
B05	SAA-HS-43		RAS ACTUATION	NA	NA	RAS INITIATE	VERIFIED	2
B05	SAA-HS-5		CIAS ACTUATION	NA	NA	CIAS INITIATE	VERIFIED	2
B05	SAA-HS-9A		MSIS ACTUATION	NA	NA	MSIS INITIATION	VERIFIED	2
B05	SAB-HS-10A		MSIS ACTUATION	NA	NA	MSIS INITIATE	VERIFIED	G
B05	SAB-HS-14		CSAS ACTUATION	NA	NA	CSAS INITIATE	VERIFIED	2
B05	SAB-HS-18		AFAS-1 ACTUATION	NA	NA	AFAS-1 INITIATE	VERIFIED	2
B05	SAB-HS-2		SIAS ACTUATION SW	NA	NA	SIAS INITIATION	VERIFIED	1
B05	SAB-HS-22		AFAS-2 ACTUATION	NA	NA	AFAS-2 INITIATE	VERIFIED	2
B05	SAB-HS-44		RAS ACTUATION	NA	NA	RAS INITIATE	VERIFIED	2
B05	SAB-HS-6		CIAS ACTUATION	NA	NA	CIAS INITIATE	VERIFIED	2
B05	SAC-HS-11A		MSIS ACTUATION	NA	NA	MSIS INITIATE	VERIFIED	G
B05	SAC-HS-15		CSAS ACTUATION	NA	NA	CSAS INITIATE	VERIFIED	2
B05	SAC-HS-19		AFAS-1 ACTUATION	NA	NA	AFAS-1 INITIATE	VERIFIED	2
B05	SAC-HS-23		AFAS-2 ACTUATION	NA	NA	AFAS-2 INITIATE	VERIFIED	2

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B05	SAC-HS-3		SIAS ACTUATION SW	NA	NA	SIAS INITIATION	VERIFIED	1
B05	SAC-HS-45		RAS ACTUATION	NA	NA	RAS INITIATE	VERIFIED	2
B05	SAC-HS-7		CIAS ACTUATION	NA	NA	CIAS INITIATE	VERIFIED	2
B05	SAD-HS-12A		MSIS ACTUATION	NA	NA	MSIS INITIATE	VERIFIED	G
B05	SAD-HS-16		CSAS ACTUATION	NA	NA	CSAS INITIATE	VERIFIED	2
B05	SAD-HS-20		AFAS-1 ACTUATION	NA	NA	AFAS-1 INITIATE	VERIFIED	2
B05	SAD-HS-24		AFAS-2 ACTUATION	NA	NA	AFAS-2 INITIATE	VERIFIED	2
B05	SAD-HS-4		SIAS ACTUATION SW	NA	NA	SIAS INITIATION	VERIFIED	1
B05	SAD-HS-48		RAS ACTUATION	NA	NA	RAS INITIATE	VERIFIED	2
B05	SAD-HS-8		CIAS ACTUATION	NA	NA	CIAS INITIATE	VERIFIED	2
B05	SBA-HS-1		MANUAL REACTOR TRIP PUSH BUTTON SW	NA	NA	PUSH/RELEASE	VERIFIED	1
B05	SBB-HS-2		MANUAL REACTOR TRIP PUSH BUTTON SW	NA	NA	PSH/REL	VERIFIED	1
B05	SBC-HS-3		MANUAL REACTOR TRIP PUSH BUTTON SW	NA	NA	PSH/REL	VERIFIED	1
B05	SBD-HS-4		MANUAL REACTOR TRIP PUSH BUTTON SW	NA	NA	PSH/REL	VERIFIED	1
B07-2	SCN-HS-1		SG1 BLOWDOWN TO FLASH TK/COND SELECT SW	NA	NA	BLOW TK-OFF-COND & 3 PAIRS G-R LITES FOR VLVS HV-1A,HV-1B,HV-1C	VERIFIED	3
B07-2	SCN-HS-18		SG1 BLOWDOWN RATE SELECT SW	NA	NA	NORM-ABNORM-HI RATE & 3 PAIRS G-R LITES FOR VLVS HV-18A,HV-18B,HV-18C	VERIFIED	3
B07-2	SCN-HS-19		SG2 BLOWDOWN RATE SELECT SW	NA	NA	NORM-ABNORM-HI RATE & 3 PAIRS G-R LITES FOR VLVS HV-19A,19B,19C	VERIFIED	3

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B07-2	SCN-HS-2		SG2 BLOWDOWN TO FLASH TK/COND SELECT SW	NA	NA	BLOW TK-OFF-COND & 3 PAIRS G-R LITES FOR VLVS HV-2A,HV-2B,HV-2C	VERIFIED	3
B07-2	SCN-UR-21		BLOWDOWN FLASH TK PRESS/DISCH FLOW (2-PEN)	L): 0-50 K LBS/HR; R): 0-300 PSIG	1.0; 5.0	NA	VERIFIED	3
B05	SEA-JI-1A		LOG PWR INDIC	2.E-8 TO 200%	LOG SCALE	ONLY THE 5 IS SHOWN IN EACH DECADE	VERIFIED	1
B04	SEA-JKI-1A		RATE OF CHANGE INDIC	-1 TO 0 TO +7 DPM	0.1	NA	VERIFIED	1
B05	SEB-JI-1B		LOG PWR INDIC	2.E-8 TO 200%	LOG SCALE	ONLY THE 5 IS SHOWN IN EACH DECADE	VERIFIED	1
B04	SEB-JKI-1B		RATE OF CHANGE INDIC	-1 TO 0 TO +7 DPM	0.1	NA	VERIFIED	1
B05	SEC-JI-1C		LOG PWR INDIC	2.E-8 TO 200%	LOG SCALE	ONLY THE 5 IS SHOWN IN EACH DECADE	VERIFIED	1
B04	SEC-JKI-1C		RATE OF CHANGE INDIC	-1 TO 0 TO +7 DPM	0.1	NA	VERIFIED	1
B05	SED-JI-1D		LOG PWR INDIC	2.0E-8 TO 200%	LOG SCALE	ONLY THE 5 IS SHOWN IN EACH DECADE	VERIFIED	1
B04	SED-JKI-1D		RATE OF CHANGE INDIC	-1 TO 0 TO +7 DPM	0.1	NA	VERIFIED	1
B04	SEN-JI-10	VITAL	REACTOR PWR LEVEL INDIC	0-125%	2.0	NA	VERIFIED	1,2
B04	SEN-JI-14		CEA MOTION DEMAND	-10 TO 0 TO +10 DEG-F	2.0	NA	DISCREP.	2
B04	SEN-JI-5		NEUTRON FLUX LEVEL STARTUP CHANNELS (DUAL)	L): 1 - 1.0 E +5 CPS; R): 1 - 1.0 E +5 CPS	LOG SCALE: 2-9	L)=G=CH 1; R)=R=CH 2	VERIFIED	2
B04	SEN-JI-7		NEUTRON FLUX LEVEL CONTROL CHANNELS (DUAL)	L): 0-125%; R): 0-125%	2.0; 2.0	L)=G=CH 1; R)=R=CH 2; MARKER @ 110%	VERIFIED	2
B04	SEN-JR-1A		LOG PWR 2 PEN RECORDER	L)=G=CH A: 2.0E-8 TO 200%;R)=R=CH B: 2.0E-8 TO 200%	LOG SCALE	ONLY THE 5 IS IDENTIFIED ON EACH LOG SCALE	VERIFIED	1
B04	SEN-JR-1B		LOG PWR 2 PEN RECORDER	L)=G=CH C: 2.E-8 TO 200%; R)=R=CH D: 2.E-8 TO 200%	LOG SCALES	ONLY THE 5 IS SHOWN IN EACH DECADE	VERIFIED	1

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B04	SEN-JR-5		NEUTRON FLUX LEVEL STARTUP (2 PEN)	L): 0-125 %; R): 1.0E+0 TO 1.0E+5 CPS	2.0; 1 DECADE	L)=CONTROL/SU CHANNEL 1; R)=CONTROL/SU CHANNEL 2	VERIFIED	G
B04	SFN-JI-16		SELECTED CEA GROUP POSITION (DIGITAL)	4 INTEGER CAPABILITY	1	NA	VERIFIED	2
B04	SFN-JI-17		SELECTED CEA POSITION	4 INTEGER CAPABILTIY	1	NA	VERIFIED	2
B04	SFN-UIC-3		REACTOR PWR CUTBACK CNTR PANEL	NA	NA	24 SUBGRP SEL LITES; EVT SEL PB: LRG LD REJ, LOFWP; TURB RNBK; MOD SEL PB: ENTR/DISP M SGRP SEL, A/M SEL, LMP TST, TST SEL, AUTO OUT-SERV; DROP SUBGRP PSH BUT	VERIFIED	1
B04	SFN-UIC-6		CEDM CNTR PANEL MODULE	NA	NA	SUBGRP 2-13:84 LITE;LAMP TST SW;CWP/B SW & LITE; GRP SEL SW:A,B,1-8,P;PS GRP SEL SW:P1,P2,P;MOD SEL SW:STBY,MAN IND/GRP/SEQ,AUTO SEQ;MOD SEL LITES;INDIV CEA SEL:(TENS/U);JOY STK SW:WITHDRAW/INSERT	VERIFIED	1
B04	SFN-ZI-1		CORE MIMIC DISPLAY CRT	NA	NA	NA	VERIFIED	1
B04	SFN-ZI-2		SECONDARY ROD POS CRT	NA	NA	SELECT TOGGLE SW: CEA 1/CEAC 2	VERIFIED	1
B06-1	SGA-HIC-179A		SG2 LINE2 ATMOS DUMP VLV POS INDIC/CNTR	0-100%	1.0	BLK: SP/THUMB WHEEL; G: INDIC	VERIFIED	1
B06-1	SGA-HIC-184A		SG1 LINE1 ATMOS DUMP VLV POS INDIC/CNTR	0-100%	1.0	BLK: SP/THUMB WHEEL; G: INDIC	VERIFIED	1
B06-2	SGA-HS-1133		STM TRAP SGN-M23, ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1

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B06-2	SGA-HS-1134		STM TRAP SGN-M24 ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGA-HS-134A		SG1 STM SUP TO AFW PP TURB LINE VLV CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE LITES	VERIFIED	1
B06-1	SGA-HS-138A		SG2 STM SUP TO AFW PP TURB LINE VLV CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE LITES	VERIFIED	1
B06-1	SGA-HS-169A		SG1 MSIV BYPASS LINE ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE & G-R LITES	VERIFIED	1
B06-1	SGA-HS-170A		SG1 LINE 1 MSIV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE & G-R LITES	VERIFIED	1
B07-2	SGA-HS-170C		SG1 LINE 1 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-171A		SG2 LINE 1 MSIV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE & G-R LITES	VERIFIED	1
B07-2	SGA-HS-171C		SG2 LINE 1 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-172		SG1 DWNCOMER FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGA-HS-174A		SG1 ECONO FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE & G-R LITES	VERIFIED	1
B07-2	SGA-HS-174B		SG1 ECONO FW UPSTRM ISO EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-174C		SG1 ECONO FW ISO VLV (FAST CLOSE CH A) PB SW	NA	NA	PSH/REL	VERIFIED	1
B06-1	SGA-HS-175		SG2 DWNCOMER FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGA-HS-177A		SG2 ECONO FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-177B		SG2 ECONO FW UPSTRM ISO EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-177C		SG2 ECONO FW ISO VLV (FAST CLOSE CH A) PB CNTR SW	NA	NA	PSH/REL	VERIFIED	1

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B06-1	SGA-HS-179A		SG2 LINE2 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B06-1	SGA-HS-180A		SG1 LINE 2 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-180C		SG1 LINE 2 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-181A		SG2 LINE 2 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-181C		SG2 LINE 2 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGA-HS-183A		SG2 MSIV BYPASS LINE ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGA-HS-184A		SG1 LINE1 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B07-2	SGA-HS-204		SG1 HOT LEG BLOWDOWN SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G:CL - R: OP - W: OV RIDE	DISCREP	1
B07-2	SGA-HS-211		SG1 COLD LEG BLOWDOWN SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	DISCREP	1
B07-2	SGA-HS-220		SG1 DWNCOMER BLOWDWN SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-223		SG2 COLD LEG BLOWDOWN SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-225		SG2 HOT LEG BLOWDOWN SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-227		SG2 DWNCOMER BLOWDWN SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW.	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1

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B06-1	SGA-HS-250		SG2 LINE 1/2 MSIV FAST CLOSE CH A PB SW	NA	NA	PSH/REL	VERIFIED	1
B06-1	SGA-HS-251		SG1 LINE 1/2 MSIV FAST CLOSE CH A PB SW	NA	NA	PSH/REL	VERIFIED	1
B07-2	SGA-HS-500P		SG1 COMMON BLOWDWN UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGA-HS-500S		SG2 COMMON BLOWDWN DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B05	SGA-LI-1113A		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARKS @ 26/44	VERIFIED	1
B06-1	SGA-LI-1113A2		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	NA	VERIFIED	1
B05	SGA-LI-1114A		SG1/2 LEVEL INDIC (DUAL)	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARK @ 91	VERIFIED	1
B02	SGA-LR-1113A		SG1/SG2 LEVEL RECORDER	L)=SG-1: 0-100%; R)=SG-2: 0-100%	1.0; 1.0	NA	VERIFIED	1
B05	SGA-PI-1013A		L) SG1 PRESS/ R) VAR SP (DUAL)	L)=G: 0-1524 PSIA; R)=R: 0-1524 PSIA	20.0; 20.0	NA	VERIFIED	2
B05	SGA-PI-1023A		L) SG2 PRESS/ R) VAR SP (DUAL)	L)=G: 0-1524 PSIA; R)=R: 0-1524 PSIA	20.0; 20.0	NA	VERIFIED	2
B02	SGA-PR-1013A		STEAM GENERATOR 1/2 PRESSURE (2 PEN)	L): 0-1524 PSIA; R): 0-1524 PSIA	20.0; 20.0	MARKER @ 920 PSIA; L)=G-SG 1, PT-1013; R)=R=SG 2, PT-1023	VERIFIED	2
B06-1	SGA-ZS-134A		VLV SGA-UV-134A OPEN/CLOSED LIGHTS	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGA-ZS-138A		VLV SGA-UV-138A OPEN/CLOSED LIGHTS	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGA-ZS-179		VLV HV-179 OPEN/CLOSE LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGA-ZS-184		VLV HV-184 OPEN/CLOSE LITES	NA	NA	G-R LITES	VERIFIED	1

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B06-1	SGB-HIC-178A		SG1 LINE2 ATMOS DUMP VLV POS INDIC/CNTR	0-100% (BOTH SCALES)	1.0	BLK: SP & G: INDIC; SP THUMB WHEEL	VERIFIED	1
B06-1	SGB-HIC-185A		SG2 LINE1 ATMOS DUMP VLV POS INDIC/CNTR	0-100% (BOTH SCALES)	1.0	BLK: SP & G: INDIC; SP THUMB WHEEL	VERIFIED	1
B06-2	SGB-HS-1135		STM TRAP SGN-M01,M02, ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-2	SGB-HS-1136		STM TRAP SGN-M03,M04 ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGB-HS-130		SG1 DWNCOMER FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGB-HS-132A		SG1 ECON FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-132B		SG1 ECONO FW DWNSTRM ISO EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGB-HS-132C		SG1 ECONO FW ISO VLV (FAST CLOSE CH B) PB CNTR SW	NA	NA	PSH-REL	VERIFIED	1
B06-1	SGB-HS-135		SG2 DWNCOMER FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGB-HS-137A		SG2 ECONO FW ISO VLV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-137B		SG2 ECONO FW DWNSTRM ISO EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGB-HS-137C		SG2 ECONO FW ISO VLV (FAST CLOSE CH B) PB CNTR SW	NA	NA	PSH/REL	VERIFIED	1
B06-1	SGB-HS-169B		SG1 MSIV BYPASS LINE ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGB-HS-170B		SG1 LINE 1 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-170D		SG1 LINE 1 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1

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B06-1	SGB-HS-171B		SG2 LINE 1 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-171D		SG2 LINE 1 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGB-HS-178A		SG1 LINE2 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B06-1	SGB-HS-180B		SG1 LINE 2 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-180D		SG1 LINE 2 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGB-HS-181B		SG2 LINE 2 MSIV POS INDIC/CNTR SW	NA	NA	G: SLOW CL - R: SLOW OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-181D		SG2 LINE 2 MSIV EXER/TEST SW	NA	NA	EXER - ACC CH TEST	VERIFIED	1
B06-1	SGB-HS-183B		SG2 MSIV BYPASS LINE ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE & G-R LITES	VERIFIED	1
B06-1	SGB-HS-185A		SG2 LINE1 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B06-1	SGB-HS-200		CHEM INJ TO SG1 DWNCOMER FW LINE VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B06-1	SGB-HS-201		CHEM INJ TO SG2 DWNCOMER FW LINE VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-219		SG1 HOT LEG BLOWDWN SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	DISCREP	1
B07-2	SGB-HS-221		SG1 DWNCOMER BLOWDWN SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-222		SG2 COLD LEG BLOWDWN SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1

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B07-2	SGB-HS-224		SG2 HOT LEG BLOWDWN SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-226		SG2 DWNCOMER SAMPLE UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-228		SG1 COLD LEG SAMPLE DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	DISCREP	1
B06-1	SGB-HS-252		SG2 LINE 1/2 MSIV FAST CLOSE CH B SW	NA	NA	PSH/REL	VERIFIED	1
B06-1	SGB-HS-253		SG1 LINE 1/2 MSIV FAST CLOSE CH B SW	NA	NA	PSH/REL	VERIFIED	1
B07-2	SGB-HS-500Q		SG1 COMMON BLOWDWN DWNSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B07-2	SGB-HS-500R		SG2 COMMON BLOWDWN UPSTRM ISO VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	1
B05	SGB-LI-1113B		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARKS @ 26/44	VERIFIED	1
B06-1	SGB-LI-1113B2		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	NA	VERIFIED	1
B05	SGB-LI-1114B		SG1/2 LEVEL INDIC (DUAL)	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARK @ 91	VERIFIED	1
B05	SGB-PI-1013B		L) SG1 PRESS/ R) VAR SP (DUAL)	L)=G: 0-1524 PSIA; R)=R: 0-1524 PSIA	20.0; 20.0	NA	VERIFIED	2
B05	SGB-PI-1023B		L) STEAM GEN 2 PRESSURE/ R) VAR SETPOINT (DUAL)	L)=G: 0-1524 PSIA; R)=R: 0-1524 PSIA	20.0; 20.0	NA	VERIFIED	3
B06-1	SGB-ZS-169		VLV UV-169 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGB-ZS-178		VLV HV-178 OPEN/CLOSE LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGB-ZS-183		VLV UV-183 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1

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B06-1	SGB-ZS-185		VLV HV-185 OPEN/CLOSE LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGC-HS-179B		SG2 LINE2 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B06-1	SGC-HS-184B		SG1 LINE1 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B05	SGC-LI-1113C		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARKS @ 26/44	VERIFIED	1
B05	SGC-LI-1114C		SG1/2 LEVEL INDIC (DUAL)	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARK @ 91	VERIFIED	1
B05	SGC-PI-1013C		L) STEAM GEN 1 PRESSURE/ R) VAR SETPOINT (DUAL)	L): 0-1524 PSIA; R): 0-1524 PSIA	20.0; 20.0	L)=G=PT-1013C; R)=R	VERIFIED	2
B05	SGC-PI-1023C		L) STEAM GEN 2 PRESSURE/ R) VAR SETPOINT (DUAL)	L): 0-1524 PSIA; R): 0-1524 PSIA	20.0; 20.0	L)=G=PT-1023C; R)=R	VERIFIED	2
B06-1	SGD-HS-178B		SG1 LINE2 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B06-1	SGD-HS-185B		SG2 LINE1 ATMOS DUMP ISO VLV SW	NA	NA	(G: CL - R: OP PERM) FOR PILOT VLVS & G-R LITES FOR VLV	VERIFIED	1
B05	SGD-LI-1113D		SG1/2 LEVEL (WR) (DUAL) INDIC	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARKS @ 26/44	VERIFIED	1
B05	SGD-LI-1114D		SG1/2 LEVEL INDIC (DUAL)	L)=G=SG 1: 0-100%; R)=R=SG 2: 0-100%	1.0; 1.0	MARK @ 91	VERIFIED	1
B05	SGD-PI-1013D		L) STEAM GEN 1 PRESSURE/ R) VAR SETPOINT (DUAL)	L): 0-1524 PSIA; R): 0-1524 PSIA	20.0; 20.0	L)=G=PT-1013D; R)=R	VERIFIED	2
B05	SGD-PI-1023D		L) STEAM GEN 2 PRESSURE/ R) VAR SETPOINT (DUAL)	L): 0-1524 PSIA; R): 0-1524 PSIA	20.0; 20.0	L)=G=PT-1023D; R)=R	VERIFIED	2
B06-1	SGN-FIC-1107	VITAL	FW PP TURB A SPEED S/P INDIC/CNTR	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	AUTO/MAN PB'S; MAN CNTR LEVER; THUMB WHEEL	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B06-1	SGN-FIC-1108	VITAL	FW PP TURB B SPEED S/P INDIC/CNTR	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	AUTO/MAN PB'S; MAN CNTR LEVER; THUMB WHEEL	VERIFIED	1
B06-1	SGN-FIC-1111	VITAL	SG1 FW MSTR CNTR FLOW INDIC/CNTR	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	AUTO/MAN PB'S; MAN CNTR LEVER; THUMB WHEEL	VERIFIED	1
B06-1	SGN-FIC-1121	VITAL	SG2 FW MSTR CNTR FLOW INDIC/CNTR	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	AUTO/MAN PB'S; MAN CNTR LEVER; THUMB WHEEL	VERIFIED	1
B06-1	SGN-FIK-1112		SG1 ECONOMIZER FW VLV CONTROL	L)=G= 0-100%, R)=BLK=SP= 0-100%	1.0, 1.0	A/M SELECT LVR & SP THUMB WHEEL	VERIFIED	2
B06-1	SGN-FIK-1113		SG1 DWNCOMER FEEDWATER CONTROL (DUAL)	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G; R)=BLACK=SP; A/M SELECT LEVER; SP THUMB WHEEL	VERIFIED	2
B06-1	SGN-FIK-1122		SG2 ECONOMIZER FW CONT	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	SP THUMB WHEEL AUTO/MAN SELECT LEVER	VERIFIED	1
B06-1	SGN-FIK-1123		SG2 DWNCOMER FW CONT	L)=G: 0-100% OUTPUT; R)=BLK=0-100% SP	5.0; 5.0	SP THUMB WHEEL AUTO/MAN SELECT LEVER	VERIFIED	1
B06-1	SGN-FR-1112		SG1 TOTAL FW/MN STM FLOW (2 PEN) RECDR	L)=G=FW: 0-10 X 1.E+7 LB/HR; R)=R=MN STM: 0-10 X 1.E+7 LB/HR	0.1; 0.1	NA	VERIFIED	1
B06-1	SGN-FR-1113		SG1 DWNCOMER FW FLOW RECDR	0-1.5 X 1.E+6 LB/HR	0.02	NA	VERIFIED	1
B06-1	SGN-FR-1122		SG2 TOTAL FW/MN STM FLOW RECORDER (2-PEN)	L)=G=FW: 0-10 X 1.E+7 LB/HR; R)=R=MN STM: 0-10 X 1.E+7 LB/HR	0.1; 0.1	NA	VERIFIED	1
B06-1	SGN-FR-1123		SG2 DWNCOMER FW FLOW RECDR	0-1.5 X 1.E+6 LB/HR	0.02	NA	VERIFIED	1
B04	SGN-HIC-1010		AUTOMOTION INHIBIT (AMI) SETPOINT	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G; R)=BLACK=SP; SP THUMB WHEEL	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B06-1	SGN-HS-1001		STM BYPASS CV1 PERMISSIVE POS INDIC SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1002		STM BYPASS CV2 PERMISSIVE POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1003		STM BYPASS CV3 PERMISSIVE POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1004		STM BYPASS CV4 PERMISSIVE POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1005	VITAL	STM BYPASS CV5 PERMISSIVE POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1006	VITAL	STM BYPASS CV6 PERMISSIVE POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1007	VITAL	STM BYPASS CV7 PERMISSIVE TO ATMOS POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1008	VITAL	STM BYPASS CV8 PERMISSIVE TO ATMOS POS INDIC/SW	NA	NA	W: OFF - ORANGE: AUTO - W: MAN - ORANGE: QIK OP & G-R LITES	VERIFIED	1
B06-1	SGN-HS-1010	VITAL	STM BYPASS CNTR EMERG OFF/RESET SW	NA	NA	G: EMERG - W: RESET	VERIFIED	1
B06-1	SGN-HS-1142		SG1 FW ISOL BLOCK VALVE	NA	NA	G: CL-R: OP	VERIFIED	2
B06-1	SGN-HS-1143		SG1 FW ISOL BYPASS VALVE	NA	NA	G: JOG CL - R: JOG OP	VERIFIED	2

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B06-1	SGN-HS-1144		SG2 FW ISOL BLOCK VALVE	NA	NA	G: CL - R: OP	VERIFIED	2
B06-1	SGN-HS-1145		SG2 FW ISOL BYPASS VALVE	NA	NA	G: JOG CL-R: JOG OP	VERIFIED	2
B07-2	SGN-HS-41		SG1 COLD LEG BLOWDWN STOP VLV POS INDIC/CNTR SW	NA	NA	G: CL - R: OP	VERIFIED	1,2
B07-2	SGN-HS-42		SG2 HOT LEG BLOWDOWN ISO VALVE	NA	NA	G: CL - R: OP	VERIFIED	1,2
B07-2	SGN-HS-43		SG1 HOT BLOWDOWN ISO VALVE	NA	NA	G: CL - R: OP	VERIFIED	1,2
B07-2	SGN-HS-44		SG2 COLD LEG BLOWDOWN ISO VALVE	NA	NA	G: CL - R: OP	VERIFIED	1,2
B06-1	SGN-LR-1111		SG1 LEVEL RECORDER (2 PEN)	L)=G=LT 1111: 0-100%; R)=R=LT 1112: 0-100%	1.0; 1.0	NA	VERIFIED	1
B06-1	SGN-LR-1121		SG2 LEVEL RECORDER (2 PEN)	L)=G=LT 1121: 0-100%; R)=R=LT 1122: 0-100%	1.0; 1.0	NA	VERIFIED	1
B06-1	SGN-PIC-1010	VITAL	SB MASTER PRESS INDIC/CONTROLLER	R: 0-100% OUTPUT SCALE; BLK: 900-1300 PSIA SP SCALE	5.0; 5.0	LOCAL/REMOTE SELECTOR; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1001	VITAL	SB CV1 PRESS INDIC/CNTR	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1002	VITAL	SB CV2 PRESS INDIC/CNTR	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1003	VITAL	SB CV3 PRESS INDIC/CNTR	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G; R)=BLACK=SP; A/M SELECT LEVER; SP THUMB WHEEL	VERIFIED	1,2
B06-1	SGN-PIK-1004	VITAL	SB CV4 PRESS INDIC/CNTR	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1005	VITAL	SB CV5 PRESS INDIC/CNTR	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1

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B06-1	SGN-PIK-1006	VITAL	SB CV6 PRESS INDIC/CNTR	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1007	VITAL	SB CV7 PRESS INDIC/CNTR (TO ATMOS)	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-PIK-1008	VITAL	SB CV8 PRESS INDIC/CNTR (TO ATMOS)	G: 0-100% OUTPUT SCALE; BLK: 0-100% SP SCALE	1.0; 1.0	MAN/AUTO SELECT LEVER; SP THUMB WHEEL	VERIFIED	1
B06-1	SGN-TR-7		FEEDWATER LINES TO L) SG1/ R) SG2 TEMP (2-PEN)	L): 0-600 DEG-F; R): 0-600 DEG-F	10.0; 10.0	L)=G=SG 1; R)=R=SG 2	VERIFIED	2,1
B06-1	SGN-ZI-1010		SBCS AUTO PERMISSIVE LITE	NA	NA	W: ON-OFF LITE	VERIFIED	1
B06-1	SGN-ZI-1112		SG1 ECON FW CONTL VLV POSITION	0-100%	5.0	NA	VERIFIED	1
B06-1	SGN-ZI-1113		SG1 DOWNCOMER FW CONTL VLV POSITION	0-100%	5.0	NA	VERIFIED	1
B06-1	SGN-ZI-1122		SG2 ECONOM FW CNTR VLV POS INDIC	0-100%	5.0	NA	DISCREP.	2
B06-1	SGN-ZI-1123		SG2 DWNCOMER FW CONTROL VLV POSITION	0-100%	5.0	NA	DISCREP.	1
B06-1	SGN-ZI-1143		SG1 FW ISO BYPASS VLV POS INDIC	0-100%	5.0	NA	VERIFIED	2
B06-1	SGN-ZI-1145		SG2 FW ISO BYPASS VLV POS INDIC	0-100%	5.0	NA	VERIFIED	2
B06-1	SGN-ZS-1001		VLV PV-1001 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1002		VLV PV-1002 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1003		VLV PV-1003 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1004		VLV PV-1004 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1

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B06-1	SGN-ZS-1005		VLV PV-1005 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1006		VLV PV-1006 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1007		VLV PV-1007 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B06-1	SGN-ZS-1008		VLV PV-1008 OP/CL INDIC LITES	NA	NA	G-R LITES	VERIFIED	1
B02	SHA-TR-3		SUBCOOLED MARGIN MONITOR (TEMP SAT MARGIN - RCS)	+200 DEG-F SUBCOOL-0--200 DEG-F SUPR HT	5.0	NA	VERIFIED	1
B02	SHA-TR-4		CORE EXIT TEMP RECDR	G: 200-0 DEG-F SUBCOOL, 0-800 DEG-F SUPR HT. R: 0.2 TO 2.3 K DEG-F	10.0; 0.05	G: (TEMP SAT MARGIN - CET); R: CORE EXIT TEMP (CET)	VERIFIED	1
B02	SHA-TR-5		L) REACTOR VESSEL HEAD/ R)PLENUM LVL (2 PEN)	L)=G=RVH=0-1400:R)=R =PL=0-1400	20.0; 20.0	PER OP: RVH VOL READ ON LOWER HALF PAPER, TWO 0-100% SCALES; PL IS READ ON FIXED SCALE, 0-1400 CUBIC FT	DISCREP.	2
B02	SIA-FI-306		LPSI-S/D CLG A HDR FLOW INDIC	0-10 K GPM	0.1	NA	VERIFIED	1
B02	SIA-FI-308		SPRAY CHEM ADDITION FLOW TO TRAIN A CONTMT SPRAY	0-1 GPM	0.01	NA	VERIFIED	2
B02	SIA-FI-331		HPSI LINES TO RC LOOPS 1A/1B FLOW (DUAL) INDIC	0-750 GPM (BOTH SCALES)	10.0	NA	VERIFIED	1
B02	SIA-FI-331-1		HPSI LINES TO RC LOOPS 1A/1B FLOW (DUAL) INDIC	0-750 GPM (BOTH SCALES)	10.0	NA	VERIFIED	1
B02	SIA-FI-338		CS PP A DISCH FLOW INDIC	0-5000 GPM	100	NA	VERIFIED	1
B02	SIA-FI-390		HOT LEG INJECTION A FLOW	0-750 GPM	10.0	NA	VERIFIED	2
B02	SIA-HS-1		HPSI PP A CNTR SW	0-200 AMPS	10.0	STOP-START & G-OV RIDE-R LITES	VERIFIED	1

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B02	SIA-HS-3		LPSI PP A CNTR SW	0-150 AC AMPS	10.0	STOP-START & G-SIAS OV RIDE-R-RAS OV RIDE LITES	VERIFIED	1
B02	SIA-HS-306		LPSI S/D CLG HX A BYPASS VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-5		CS PP A CNTR SW	0-150 AMPS	5.0	STOP-START & G-OV RIDE-R LITES	VERIFIED	1
B02	SIA-HS-60		SPRAY CHEM ADDITION PUMP A	NA	NA	G: STOP-R: START - W: OV RIDE & LEVEL TRIP OV RIDE LITE	VERIFIED	2
B02	SIA-HS-603		SPRAY CHEM ADDITION TO CONTMT SPRAY PUMP A SUCT	NA	NA	CL-NORM-OP & G - W: OV RIDE-R LITES; LEVEL TRIP OV RIDE LITE; KEY REQ	VERIFIED	2
B02	SIA-HS-604		HPSI A LONG TERM LOOP RECIRC VLV CNTR SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-605A		SIT 2A VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIA-HS-606A		SIT 2B VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIA-HS-607A		SIT 1A VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIA-HS-608A		SIT 1B VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIA-HS-617		HPSI HDR A TO RC LOOP 2A VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-627		HPSI HDR A TO RC LOOP 2B VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-634		SIT 1A OUTLET TO LOOP 1A	NA	NA	JOG CL-NORM-JOG OP; 2 SETS OF LITES DUE TO TWN PWR SUPPLY: G - W: OV RIDE-R; KEY REQ; PWR SUP BRKR STATUS G-R LITES	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIA-HS-635		LPSI A DISCH TO RC LOOP 1A VLV CNTR SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-637		HPSI HDR A TO RC LOOP 1A VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-644		SIT 1B OUTLET TO LOOP 1B	NA	NA	JOG CL-NORM-JOG OP; 2 SETS OF LITES DUE TO TWN PWR SUPPLY: G - W: OV RIDE-R; KEY REQ; PWR SUP BRKR STATUS G-R LITES	VERIFIED	2
B02	SIA-HS-645		LPSI A DISCH TO RC LOOP 1B VLV CNTR SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-647		HPSI HDR A TO RC LOOP 1B VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIA-HS-651		RC LOOP 1 TO S/D CLG - LPSI PUMP A SUCTION	Ø-100%	5.Ø	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	2
B02	SIA-HS-655		RC LOOP 1 TO S/D CLG - LPSI PUMP A SUCTION	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	2
B02	SIA-HS-657		S/D CLG HX A OUTLET TO RC LOOPS 1A/1B VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-66Ø		TRAIN A PUMPS COMBINED RECIRC TO RWT	NA	NA	CL-NORM-OP & G-OV RIDE-R LITES	VERIFIED	1
B02	SIA-HS-664		CONTMT SPRAY PUMP A RECIRC	NA	NA	CL-NORM-OP & G-OV RIDE-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-666		HPSI PUMP A RECIRC	NA	NA	CL-NORM-OP & G-OV RIDE - LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-669		LPSI PUMP A RECIRC	NA	NA	CL-NORM-OP & G-OV RIDE-R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIA-HS-672		CS A DISCH TO SPRAY HDR	NA	NA	JOG CL-NORM-JOG OP&G-W:OV RIDE-R LITES; KEY REQ	VERIFIED	2
B02	SIA-HS-673		CONTMT SUMP TO SAFETY INJ TRAIN A	NA	NA	CL-NORM-OP & G-OV RIDE-R LITES; KEY REQ	DISCREP.	1
B02	SIA-HS-674		CONTMT SUMP TO SAFETY INJ TRAIN A	NA	NA	CL-NORM-OP & G-OV RIDE-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-678		CNTMN SPRAY TO S/D HX A VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-681		SPRAY CHEM ADDITION PUMP A DISCH VLV	NA	NA	CL-NORM-OP & G - W: OV RIDE - R LITES; LVL TRIP OV RIDE LITE; KEY REQ	VERIFIED	2
B02	SIA-HS-682		MISC DRAIN HDR TO RDT	NA	NA	G: CL-R: OP-W: OV RIDE	VERIFIED	2
B02	SIA-HS-683		LPSI PP A SUCTION FROM RWT VLV POS INDIC SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-684		CNTMN SPRAY TO S/D HX A VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-685		LPSI-CONTMT SPRAY TO S/D HX A CROSS CONNECT	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	2
B02	SIA-HS-686		S/D CLG HX A OUTLET TO RC LOOPS 1A/1B VLV POS INDIC/SW	NA	NA	CL-NORM-OP AND G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-687		S/D CLG HX A OUT CROSS CONNECT WITH CS HDR VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIA-HS-688		CONTMT SPRAY - S/D CLG HX A BYPASS	NA	NA	CL-NORM-OP AND G-R LITES; KEY REQ	VERIFIED	2
B02	SIA-HS-691		S/D COOLING LOOP A WARM-UP BYPASS	NA	NA	JOG CL-NORM-JOG OP AND G-R LITES; KEY REQ	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIA-HS-698		HPSI PP A DISCH VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	2
B07-2	SIA-HS-708		RECIRC SUMP A PASS ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02	SIA-LI-331		SIT 1A AND SIT 1B LEVEL (DUAL) (WIDE RANGE)	L): 0-100%; R): 0-100%	0.1; 0.1	L)=G=1A; R)=R=1B	VERIFIED	2
B02	SIA-LI-349		SPRAY CHEM STORAGE TANK LEVEL	0-100%	1.0	MARKER @ 90%	VERIFIED	2
B02	SIA-LI-706		CONTMT LEVEL	10-150 INCH	2.0	NA	VERIFIED	1
B02	SIA-TI-303X		SHUTDOWN COOLING HX A OUTLET TEMP	40-400 DEG-F	5.0	NA	VERIFIED	2
B02	SIA-TR-351		L) LPSI PUMP A DISCH TEMP TO S/D HX AND TO R) RC LOOPS (2 PEN)	L): 40-400 DEG-F; R): 40-400 DEG-F	5.0; 5.0	L)=G=TT-351X; R)=R=TT-351Y	VERIFIED	2
B02	SIA-ZI-306		LPSI S/D CLG HX A BYPASS VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-604		HPSI A LONG TERM LOOP RECIRC VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-617		HPSI HDR A TO RC LOOP 2A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-627		HPSI HDR A TO RC LOOP 2B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-635		LPSI A DISCH TO RC LOOP 1A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-637		HPSI HDR A TO RC LOOP 1A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-645		LPSI A DISCH TO RC LOOP 1B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-647		HPSI HDR A TO RC LOOP 1B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIA-ZI-657		S/D CLG HX A OUTLET TO RC LOOPS 1A/1B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIA-ZI-672		CS A DISCH TO SPRAY HDR VLV POS INDIC	0-100%	5.0	NA	VERIFIED	2
B02	SIA-ZI-678		CNTMN SPRAY TO S/D HX A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-FI-307		LPSI S/D CLG B HDR FLOW INDIC	0-10 K GPM	0.1	NA	VERIFIED	1
B02	SIB-FI-309		SPRAY CHEM ADDITION FLOW TO TRAIN B CONTMT SPRAY	0-1 GPM	0.01	NA	VERIFIED	2
B02	SIB-FI-311		HPSI LINES TO RC LOOPS 2A/2B FLOW (DUAL) INDIC	0-750 GPM (BOTH SCALES)	10.0	NA	VERIFIED	1
B02	SIB-FI-311-1		HPSI LINES TO RC LOOPS 2A/2B FLOW (DUAL) INDIC	0-750 GPM (BOTH SCALES)	10.0	NA	VERIFIED	1
B02	SIB-FI-348		CS PP B DISCH FLOW INDIC	0-5000 GPM	100.0	NA	VERIFIED	1
B02	SIB-FI-391		HOT LEG INJECT B FLOW	0-750 GPM	10.0	NA	VERIFIED	2,G
B02	SIB-HS-2		HPSI PP B CNTR SW	0-200 AMPS	10.0	STOP-START & G-OV RIDE-R LITES	VERIFIED	1
B02	SIB-HS-307		LPSI S/D CLG HX B BYPASS VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-322		HOT LEG INJECTION A CHECK VLV LEAKOFF	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-332		HOT LEG INJECTION B CHECK VLV LEAKOFF	NA	NA	G: CL-R: OP-W: OV RIDE	VERIFIED	2
B02	SIB-HS-4		LPSI PP B CNTR SW	0-150 AC AMPS	10.0	STOP-START & G-SIAS OV RIDE-R-RAS OV RIDE LITES	VERIFIED	1
B02	SIB-HS-6		CS PP B CNTR SW	0-150 AMPS	5.0	STOP-START & G: OV RIDE-R: LITES	VERIFIED	1
B02	SIB-HS-602		SPRAY CHEM ADDITION TO CONTMT SPRAY PUMP B SUCT	NA	NA	CL-NORM-OP AND G - W: OV RIDE - R LITES; LEVEL TRIP OV RIDE LITE; KEY REQ	VERIFIED	2
B02	SIB-HS-609		HPSI B LONG TERM LOOP RECIRC VLV CNTR SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIB-HS-61		SPRAY CHEM ADDITION PUMP B	NA	NA	G: STOP-R: START - W: OV RIDE AND LEVEL TRIP OV RIDE LITE	VERIFIED	2
B02	SIB-HS-611		SIT 2A FILL & DRAIN VLV	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-613A		SIT 2A VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIB-HS-614		SIT 2A OUTLET TO LOOP 2A	NA	NA	JOG CL-NORM-JOG OP; 2 SETS OF LITES DUE TO TWN PWR SUPPLY: G - W: OV RIDE - R; KEY REQ; PWR SUP BRKR STATUS G-R LITES	VERIFIED	2
B02	SIB-HS-615		LPSI B DISCH TO RC LOOP 2A VLV CNTR SW	NA	NA	G: JOG CL-R: JOG OP-W: OV RIDE LITES	VERIFIED	1
B02	SIB-HS-616		HPSI HDR B TO RC LOOP 2A VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE	VERIFIED	1
B02	SIB-HS-618		LOOP 2A SAFETY INJ LINE CHECK VLV LEAKOFF	NA	NA	G: CL-R: OP-W: OV RIDE LITES	VERIFIED	1
B02	SIB-HS-621		SIT 2B FILL & DRAIN VLV	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-623A		SIT 2B VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIB-HS-624		SIT 2B OUTLET TO LOOP 2B	NA	NA	JOG CL-NORM-JOG OP; 2 SETS OF LITES DUE TO TWN PWR SUPPLY: G - W: OV RIDE - R; KEY REQ; PWR SUP BRKR STATUS G-R LITES	VERIFIED	2
B02	SIB-HS-625		LPSI B DISCH TO RC LOOP 2B VLV CNTR SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIB-HS-626		HPSI HDR B TO RC LOOP 2B VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIB-HS-628		LOOP 2B SAFETY INJ CHECK VLV LEAKOFF	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-631		SIT 1A FILL & DRAIN VLV	NA	NA	G: CL-R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-633A		SIT 1A VENT VLV	NA	NA	G: CL-R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIB-HS-636		HPSI HDR B TO RC LOOP 1A VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIB-HS-638		LOOP 1A SAFETY INJ CHECK VLV LEAKOFF	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-641		SIT 1B FILL & DRAIN VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-643A		SIT 1B VENT VLV	NA	NA	G: CL - R: OP - BLUE: PWR ON	VERIFIED	2
B02	SIB-HS-646		HPSI HDR B TO RC LOOP 1B VLV SW	NA	NA	G: JOG CL - R: JOG OP - W: OV RIDE LITES	VERIFIED	1
B02	SIB-HS-648		LOOP 1B SAFETY INJ CHECK VLV LEAKOFF	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B02	SIB-HS-652		RC LOOP 2 TO S/D CLG-LPSI PUMP B SUCTION	Ø-100%	5.Ø	CL-NORM-OP; G-R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-656		RC LOOP 2 TO S/D CLG-LPSI PUMP B SUCTION	NA	NA	CL-NORM-OP; G-R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-658		S/D CLG HX B OUT TO RC LOOPS 2A/2B VLV CNTR SW	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES	VERIFIED	1
B02	SIB-HS-659		TRAIN B PUMPS COMBINED RECIRC TO RWT	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES	VERIFIED	1
B02	SIB-HS-665		CONTMT SPRAY PUMP B RECIRC	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-667		HPSI PUMP B RECIRC	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIB-HS-668		LPSI PUMP B RECIRC	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-671		CS B DISCH TO SPRAY HDR	NA	NA	JOG CL-NORM-JOG OP & G-W: OV RIDE - R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-675		CONTMT SUMP TO SAFETY INJ TRAIN B	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-676		CONTMT SUMP TO SAFETY INJ TRAIN B	NA	NA	CL-NORM-OP & G - OV RIDE - R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-679		CNTMT SPRAY TO S/D HX B VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-680		SPRAY CHEM ADDITION PUMP B DISCH VLV	NA	NA	CL-NORM-OP AND G - W: OV RIDE-R LITES; LVL TRIP OV RIDE LITE; KEY REQ	VERIFIED	2
B02	SIB-HS-689		CNTMT SPRAY TO S/D HX B VLV POS INDIC/SW	NA	NA	CL-NORM-OP; G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-690		S/D COOLING LOOP B WARM-UP BYPASS	NA	NA	JOG CL-NORM-JOG OP AND G-R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-692		LPSI PP B SUCTION FROM RWT VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-693		CONTMT SPRAY-S/D CLG HX B BYPASS	NA	NA	CL-NORM-OP AND G-R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-694		LPSI-CONTMT SPRAY TO S/D HX B CROSS CONNECT	NA	NA	CL-NORM-OP AND G-R LITES; KEY REQ	VERIFIED	2
B02	SIB-HS-695		S/D CLG HX B OUT CROSS CONN WITH CS HDR VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-HS-696		S/D CLG HX B OUT TO RC LOOPS 2A/2B VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIB-HS-699		HPSI PP B DISCH VLV POS INDIC/SW	NA	NA	CL-NORM-OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIB-LI-311		L) SIT 2A AND R) SIT 2B LEVEL (DUAL) (WIDE RANGE)	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G=LT-311; R)=R=LT-321	VERIFIED	2
B02	SIB-LI-348		SPRAY CHEM STORAGE TANK LEVEL	0-100%	1.0	MARKER @ 90%	VERIFIED	2
B02	SIB-LI-707		CONTMT LEVEL	10-150 INCH	2.0	NA	VERIFIED	1
B02	SIB-TI-303Y		SHUTDOWN COOLING HX B OUTLET TEMP	40-400 DEG-F	5.0	NA	VERIFIED	2
B02	SIB-TR-352		L) LPSI PUMP B DISCH TEMP TO S/D HX AND TO R) RC LOOPS (2 PEN)	L): 40-400 DEG-F; R): 40-400 DEG-F	5.0; 5.0	L)=G=TT-352X; R)=R=TT-352Y	VERIFIED	2
B02	SIB-ZI-307		LPSI S/D CLG HX B BYPASS VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-609		HPSI B LONG TERM LOOP RECIRC VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-615		LPSI B DISCH TO RC LOOP 2A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-616		HPSI HDR B TO RC LOOP 2A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-625		LPSI B DISCH TO RC LOOP 2B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-626		HPSI HDR B TO RC LOOP 2B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-636		HPSI HDR B TO RC LOOP 1A VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-646		HPSI HDR B TO RC LOOP 1B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-658		S/D CLG HX B OUT TO RC LOOPS 2A/2B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIB-ZI-671		CS B DISCH TO SPRAY HEADER VLV POS INDIC	0-100 %	5.0	NA	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIB-ZI-679		CNTMT SPRAY TO S/D HX B VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIC-HS-321		HPSI A LONG TERM LOOP RECIRC VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SIC-HS-653		RC LOOP 1 TO S/D CLG-LPSI PUMP A SUCTION	0-100%	5.0	JOG CL-NORM-JOG OP AND G-BKR POS OUT - BKR POS IN-R LITES; KEY REQ	VERIFIED	2
B02	SIC-ZI-321		HPSI A LONG TERM LOOP RECIRC VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SID-HS-331		HPSI B LONG TERM LOOP RECIRC VLV CNTR SW	NA	NA	JOG CL-NORM-JOG OP & G-R LITES; KEY REQ	VERIFIED	1
B02	SID-HS-654		RC LOOP 2 TO S/D CLG-LPSI PUMP B SUCTION	0-100%	5.0	JOG CL-NORM-JOG OP AND G-BKR POS OUT - BKR POS IN-R LITES; KEY REQ	VERIFIED	2
B02	SID-ZI-331		HPSI B LONG TERM LOOP RECIRC VLV POS INDIC	0-100%	5.0	NA	VERIFIED	1
B02	SIN-HS-661		COMBINED SIT AND MISC DRAIN HEADER TO RDT	NA	NA	G: CL-R: OP	VERIFIED	2
B02	SIN-LI-312		L) SIT 2A AND R) SIT 2B LEVEL (DUAL) (NARROW RANGE)	L) 0-100%; R) 0-100%	1.0; 1.0	L)=G; R)=R; MARKERS @ 28/72%	VERIFIED	2
B02	SIN-LI-313		L) SIT 2A AND R) SIT 2B LEVEL (DUAL) (NARROW RANGE)	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G=LT-313; R)=R=LT-323; MARKERS @ 28/72	VERIFIED	2
B02	SIN-LI-332		L) SIT 1A AND R) SIT 1B LEVEL (DUAL) (NARROW RANGE)	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G=LT-332; R)=R=LT-342; MARKERS @ 28/72	VERIFIED	2
B02	SIN-LI-333		SIT 1A AND SIT 1B LEVEL (DUAL) (NARROW RANGE)	L): 0-100%; R): 0-100%	1.0; 1.0	L)=G=1A; R)=R=1B; MARKERS @ 28/72%	VERIFIED	2
B02	SIN-PI-303X	VITAL	CS PP A DISCH HDR PRESS INDIC (S/D CLG MODE ONLY)	0-750 PSIG	10.0	NA	VERIFIED	1
B02	SIN-PI-303Y	VITAL	CS PP B DISCH HDR PRESS INDIC (S/D CLG MODE ONLY)	0-750 PSIG	10.0	NA	VERIFIED	1

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02	SIN-PI-306	VITAL	LPSI PP A DISCH HDR PRESS INDIC	0-750 PSIG	10.0	NA	VERIFIED	1
B02	SIN-PI-307	VITAL	LPSI PP B DISCH HDR PRESS INDIC	0-750 PSIG	10.0	NA	VERIFIED	1
B02	SIN-PI-308	VITAL	HPSI PP A DISCH HDR PRESS INDIC	0-3 K PSIG	0.05	NA	VERIFIED	1
B02	SIN-PI-309	VITAL	HPSI PP B DISCH HDR PRESS INDIC	0-2500 PSIG	50.0	NA	VERIFIED	1
B02	SIN-PI-390		HOT LEG INJECTION A CHECK VLV LEAK PRESS	0-2500 PSIG	50.0	NA	VERIFIED	2
B02	SIN-PI-391		HOT LEG INJECTION B CHECK VLV LEAK PRESS	0-2500 PSIG	50.0	NA	VERIFIED	2
B02-2	SPA-HS-1		ESSENT SPRAY POND PUMP A	0-100 AMPS	5.0	STOP-START AND G-W: OV RIDE-R LITES	VERIFIED	2
B02-2	SPB-HS-2		ESSENT SPRAY POND PUMP B	0-100 AMPS	5.0	STOP-START AND G-W: OV RIDE-R LITES	VERIFIED	2
B02-2	SPN-FI-5		L) ESSENT SPRAY POND A SUPPLY AND R) RETURN FLOW (DUAL)	L): 0-20 K GPM; R): 0-20 K GPM	0.2; 0.2	L)=G=FIT-5; R)=R=FIT-7	VERIFIED	2
B02-2	SPN-FI-6		L) ESSENT SPRAY POND B SUPPLY AND R) RETURN FLOW (DUAL)	L)= 0-20 K GPM; R: 0-20 K GPM	0.2; 0.2	L)=G=FIT-6; R)=R=FIT-8	VERIFIED	2
B02-2	SPN-LI-27		ESSENT SPRAY POND A LEVEL	0-20 FT	0.2	MARKER @ 12 FT	VERIFIED	2
B02-2	SPN-LI-28		ESSENT SPRAY POND B LEVEL	0-20 FT	0.2	MARKER @ 12 FT	VERIFIED	2
B02-2	SPN-PI-3		ESSENT SPRAY POND PUMP A DISCH PRESS	0-100 PSIG	1.0	NA	VERIFIED	2
B02-2	SPN-PI-4		ESSENT SPRAY POND PUMP B DISCH PRESS	0-100 PSIG	1.0	NA	VERIFIED	2
B02-2	SPN-TI-37		ESSENT SPRAY POND A FROM ECW HX A TEMP	0-150 DEG-F	2.0	NA	VERIFIED	2
B02-2	SPN-TI-38		ESSENT SPRAY POND B FROM ECW HX B TEMP	0-150 DEG-F	2.0	NA	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B02-2	SPN-TI-39		ESSENT SPRAY POND A TEMP (DUAL)	L): 0-180 DEG-F; R): 0-180 DEG-F	2.0; 2.0	L)=G=TIT-39; R)=R=(TT-213)=PUMP DISCH; MARKER @ 105 DEG-F	VERIFIED	2
B02-2	SPN-TI-40		ESSENT SPRAY POND B TEMP (DUAL)	L): 0-180 DEG-F; R): 0-180 DEG-F	2.0; 2.0	L)=G=TIT-40; R)=R=(TT-214)=PUMP DISCH; MARKER @ 105 DEG-F	VERIFIED	2
RIC	SQA-RI-148		IN CONTAINMENT AREA RAD SRMS/PAMS MON (CH A)	1.00E+00 TO 1.00E+07 R/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIGITAL DIS	DISCREP	2
RIC	SQA-RI-150		PRIMARY COOLANT SRMS/PAMS MONITOR (CH A)	1.00E+00 TO 1.00E+07 R/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIGITAL DIS	DISCREP	2
RIC	SQA-RI-29		CONTROL ROOM VENT INTAKE SRMS MON A	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(FAIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS,VAL,N2,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIG DISP	DISCREP	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQB-RI-01		CNTMN BLDG ATMOS SRMS RAD MON, CB-B;4 CHAN: 1) PARTIC 2) GAS 3) I-131 4) DEW PT	1)1.00E-09 TO 1.00E-04, 2)1.00E-08 TO 1.00E-01, 3)1.00E-09 TO 1.00E-04, ALL UCI/CC DIG; 4)0.00E+00 TO 2.00E+02 DEG-F DIG	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	DISCREP	2
RIC	SQB-RI-145		"B" FUEL BLDG VENT EXC SRMS/PAMS MON-LOW RANGE	1.00E-08 TO 5.00E+00 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RAT E/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	DISCREP	2
RIC	SQB-RI-146		"B" FUEL BLDG VENT EXH SRMS/PAMS MON-HIGH RANGE	3.00E-02 TO 8.00E+04 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RAT E/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	DISCREP	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQB-RI-149		IN CNTMN AREA RAD SRMS/PAMS MONITOR (CH B)	1.00E+00 TO 1.00E+07 R/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PARAMTR DIG DISP	DISCREP	2
RIC	SQB-RI-151		PRIMARY COOLANT SRMS/PAMS MONITOR (CH B)	1.00E+00 TO 1.00E+07 R/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PARAMTR DIG DISP	DISCREP	2
RIC	SQB-RI-30		"B" CONTROL ROOM VENT INTAKE SRMS MON	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(FAIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIG DISP	DISCREP	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-04		STEAM GENERATOR BLOWDOWN DRMS MONITOR	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-05		STEAM GENERATOR BLOWDOWN DRMS MONITOR	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-08		AUX BLDG VENT EXH FILTER INLET MON (DRMS) DUAL CHAN: 1) BETA 2) I-131	1) 5.00E-11 TO 5.00E-06 UCI/CC, 2) 1.00E-11 TO 1.00E-06 UCI/CC (BOTH DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-09		AUX BLDG LOWER LEVEL VENT EXH DRMS MON	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-10		AUX BLDG UPPER LEVEL VENT EXH DRMS MON	1.00E-06 TO 1.00E-01 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-139A		MN STM LINE EFFLUENT A RAD PAMS MON	1.00E+00 TO 1.00E+07 MR/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RAT E/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2
RIC	SQN-RU-139B		MN STM LINE EFFLUENT B RAD PAMS MON	1.00E+00 TO 1.00E+07 MR/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RAT E/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-14		RADWASTE BLDG VENT EXH FILTER INLET DRMS MON	5.00E-11 TO 5.00E-06 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(FAIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS,VAL,N2,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-140A		MN STM LINE EFFLUENT A RAD PAMS MON	1.00E+00 TO 1.00E+07 MR/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS:DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT,FCN/CHAN/PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-140B		MN STM LINE EFFLUENT B RAD PAMS MON	1.00E+00 TO 1.00E+07 MR/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS:DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT,FCN/CHAN/PARAMTR DIG DISP	O/C	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-141		COND VAC PP/GLAND SEAL EXHAUST LO RNGE GAS RAD MON (PAMS/DRMS)	1.00E-06 TO 5.00E+00 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITECK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2
RIC	SQN-RU-142		COND VAC PUMP/GLAND SEAL EXH HI RANGE RAD MON (PAMS/DRMS)	1.00E-06 TO 5.00E+00 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITECK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2
RIC	SQN-RU-143		PLANT VENT MON LOW RANGE (PAMS/DRMS): 1) PARTIC 2) I-131 3) GAS (LOW)	1) 1.00E-09 TO 1.00E-04 UCI/CC (DIG), 2) 1.00E-09 TO 1.00E-04 UCI/CC (DIG), 3) 1.00E-06 TO 5.00E+00 UCI/CC (DIG)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITECK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP,ENA,FTN,EXP,TST,STP,CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-144		PLANT VENT MON HIGH RANGE (PAMS/DRMS): 1) PARTIC 2) I-131 3) GAS (HI)	1.00E-09 TO 1.00E-04 UCI/CC (DIG), 2) 1.00E-09 TO 1.00E-04 UCI/CC (DIG), 3) 5.00E-02 TO 1.00E+05 UCI/CC (DIG)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2
RIC	SQN-RU-15		WASTE GAS AREA COMBINED VENT EXH MON (DRMS)	1.00E-08 TO 1.00E+00 UCI/CC (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(FAIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,STP,CHS,ENT;FCN/CHAN/PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-156		CNTMN PEN LKGE PAMS MON (E PIPE PEN RM 088 FT;EL PEN RMS: W-88 FT; E-100 FT)	1.00E-01 TO 1.00E+04 R/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S: (HI/ACK,ALRT/ACK,RATE/ACK,TST/LITE CK,PWR COMM,PROC FCN,ALRM DISABLE,EQUIP FAIL);KEY BD FCNS: DSP,SET,ACS,PRG,PMP, ENA,FTN,EXP,TST,STP, CHS,ENT,FCN/CHAN/PAR AMTR DIG DISP	O/C	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
RIC	SQN-RU-16		CONTAINMENT OPERATING LEVEL AREA RAD MON (DRMS)	1.00E-01 TO 1.00E+04 MREM/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-17		INCORE INSTRUMENT AREA RAD MON (DRMS)	1.00E-01 TO 1.00E+04 MREM/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
RIC	SQN-RU-18		CONTROL ROOM AREA MON (DRMS)	1.00E-01 TO 1.00E+04 MREM/HR (DIGITAL)	LOG .01;EXP 1.0	LOC/RMOTE SW;INDIC LITES/PB'S:(ALRM ACK,FLASH RESET,LAMP RESET,TEST);LITES:(F AIL,HI,HI HI,RATE TRP,LO FLOW,HI FLOW);KEY BD FCNS:DSP,SET,N1,ACS, VAL,N2,FTN,EXP,TST,S TP,CHS,ENT;FCN/CHAN/ PARAMTR DIG DISP	O/C	2
B07-1	SSA-HS-203A		HOT LEG SAMPLE CNTMN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	SSA-HS-204A		PZR SURGE LINE SAMPLE CNTMN ISOL	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	SSA-HS-205A		PZR STM/SPACE SAMPLE CNTMN ISO VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	SSB-HS-200A		HOT LEG SAMPLE CNTMN ISOL VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2

LOC	INDICATOR TAG NUMBER	AVAIL	I&C DESCRIPTION	RANGE/EU	RESOLUTION	CONTROL POS IND	PHY. VER.	WLKDWN NO.
B07-1	SSB-HS-201A		PRESR SURGE LINE SAMPLE CNTMN ISOL	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	SSB-HS-202A		PRESR STM SPACE SAMPLE CNTMN ISOL VLV	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	WCA-HS-62		CHILLED WTR RETRN HDR OUTSIDE CNTMN ISO	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	WCB-HS-61		CHILLED WTR RETRN HDR INSIDE CNTMN ISO	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2
B07-1	WCB-HS-63		CHILLED WTR SUPPLY HDR OUTSIDE CNTMN ISO	NA	NA	G: CL - R: OP - W: OV RIDE	VERIFIED	2

APPENDIX E

PALO VERDE PLANT SPECIFIC
ACCURACY CALCULATIONS OF INDICATORS AND RECORDERS
FROM THE CONTROL ROOM INVENTORY

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
AFA-FI-40A	12 GPM
AFA-ZI-32A	2% (2)
AFB-FI-41A	12 GPM
AFB-PI-17A	12 PSIG
AFB-PI-18A	12 PSIG
AFB-ZI-30A	2% (2)
AFB-ZI-31A	2% (2)
AFC-ZI-33A	2% (2)
CDN-FI-39	0.14 M-LB/HR
CDN-PI-47	0.2 IN HGA
CDN-PI-48	0.2 IN HGA
CDN-PI-49	0.2 IN HGA
CHA-LI-203A	3 %
CHA-PI-212	18 PSIG
CHB-FI-212	1 GPM
CHB-LI-201	1 %
CHB-LI-203B	3 %
CHC-LI-203C	3 %
CHD-LI-203D	3 %
CHN-AI-203	29 PPM
CHN-AR-203	32 PPM
CHN-FI-202	1 GPM
CHN-FIC-204	0.1 GPM
CHN-FIC-210X	3 GPM
CHN-FIC-210Y	4 GPM

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
CHN-FIC-241	Ø.2 GPM
CHN-FIC-242	Ø.2 GPM
CHN-FIC-243	Ø.2 GPM
CHN-FIC-244	Ø.2 GPM
CHN-LI-200	Ø.6%
CHN-LI-210	Ø.2 FT
CHN-LI-226	1 %
CHN-LI-268	1 %
CHN-PDIC-240	2 PSID
CHN-PI-206	1 PSIG
CHN-PI-208	1 %
CHN-PI-220	1 %
CHN-PI-268	1 PSIG
CHN-PIC-201	7 PSIG
CHN-TI-268	5 DEG-F
CHN-TIC-231	2 DEG-F
CTA-LI-35A	Ø.3 FT
CTB-LI-36A	Ø.3 FT
ECN-PDI-10	Ø.3 PSID
ECN-PDI-9	Ø.3 PSID
ECN-TI-11	1 DEG-F
ECN-TI-12	1 DEG-F
EWN-FI-13	117 GPM
EWN-FI-14	117 GPM
EWN-TI-51	2 DEG-F

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
EWN-TI-52	2 DEG-F
FWN-PI-27	12 PSIG
FWN-PI-28	12 PSIG
FWN-ZI-101	3% (2)
FWN-ZI-102	3% (2)
FWN-ZI-103	3% (2)
HCA-PI-351A	1 PSIG
HCA-PI-352A	3 PSIG
HCA-PI-353A	1 PSIG
HCA-PR-353A	1 PSIG
HCB-PI-351B	1 PSIG
HCB-PI-352B	3 PSIG
HCB-PI-353B	1 PSIG
HCC-PI-351C	1 PSIG
HCC-PI-352C	3 PSIG
HCD-PI-351D	1 PSIG
HCD-PI-352D	3 PSIG
HCN-TI-27	1 DEG-F
HPA-AI-9	0.1 %
HPA-UR-9	0.5 IN H20/0.1 %
HPB-AI-10	0.1 %
NCN-FI-474	4 GPM
NCN-FI-475	4 GPM
NCN-FI-476	4 GPM
NCN-FI-477	4 GPM

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
NCN-TI-470	1 DEG-F
NCN-TI-471	1 DEG-F
NCN-TI-472	1 DEG-F
NCN-TI-473	1 DEG-F
RCA-LI-110X	0.4 %
RCA-LR-110X	1%
RCA-PDI-115A	0.3 PSID
RCA-PI-101A	7 PSIA
RCA-PI-102A	20 PSIA
RCA-PI-103	4 PSIA
RCA-PI-199A	12 PSIA
RCA-PR-102A	17 PSIG/13 PSIG
RCA-TI-112CB	2 DEG-F
RCA-TI-112HA	2 DEG-F
RCA-TI-115	4 DEG-F
RCA-TR-112	4 DEG-F
RCA-TR-112C1	4 DEG-F
RCA-TR-112H1	4 DEG-F
RCA-TR-122	4 DEG-F
RCB-LI-110Y	1 %
RCB-PDI-115B	0.3 PSID
RCB-PI-101B	7 PSIA
RCB-PI-102B	20 PSIA
RCB-PI-104	5 PSIA
RCB-PI-199B	12 PSIA

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
RCB-TI-112CA	2 DEG-F
RCB-TI-112HB	2 DEG-F
RCB-TI-125	4 DEG-F
RCC-PDI-115C	0.3 PSID
RCC-PI-101C	7 PSIA
RCC-PI-102C	20 PSIA
RCC-PI-105	5 PSIA
RCC-PI-199C	12 PSIA
RCC-TI-112CC	2 DEG-F
RCC-TI-112HC	2 DEG-F
RCD-PDI-115D	0.3 PSID
RCD-PI-101D	7 PSIA
RCD-PI-102D	20 PSIA
RCD-PI-106	5 PSIA
RCD-PI-199D	12 PSIA
RCD-TI-112CD	2 DEG-F
RCD-TI-112HD	2 DEG-F
RCN-FI-156	0.1 GPM
RCN-FI-166	0.1 GPM
RCN-FI-176	0.1 GPM
RCN-FI-186	0.1 GPM
RCN-LI-103	1 %
RCN-LIC-110	1%
RCN-LR-110	0.2%
RCN-PDI-110	1 PSID

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
RCN-PDI-111	1 PSID
RCN-PDI-120	1 PSID
RCN-PDI-121	1 PSID
RCN-PI-103-1	44 PSIA
RCN-PIC-100	7 PSIA
RCN-PIK-100	1%
RCN-PR-100	7 PSIA
RCN-TI-101	4 DEG-F
RCN-TI-103	4 DEG-G
RCN-TI-106	2 DEG-F
RCN-TI-107	2 DEG-F
RCN-TI-111X	1 DEG-F
RCN-TI-111Y	1 DEG-F
RCN-TR-100	1 DEG-F
RCN-TR-111X	1 DEG-F
RCN-TR-115	3 DEG-F
RDN-LI-10	0.5 IN
RDN-LI-410	1 IN
RMN-UJR-5	5 DEG-F/0.2% RH (2)
SEA-JI-1A	1/2 DECADE (2)
SEA-JKI-1A	1 DPM (2)
SEB-JI-1B	1/2 DECADE (2)
SEB-JKI-1B	1 DPM (2)
SEC-JI-1C	1/2 DECADE (2)
SEC-JKI-1C	1 DPM (2)

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SED-JI-1D	1/2 DECADE (2)
SED-JKI-1D	1 DPM (2)
SEN-JI-10	19% (3)
SEN-JI-14	0.2 FT (3)
SEN-JI-5	2.5 CPS (3)
SEN-JI-7	19% (3)
SEN-JR-1A	30% (3)
SEN-JR-1B	30% (3)
SGA-LI-1113A	1 %
SGA-LI-1113A-2	1 %
SGA-LI-1114A	1%
SGA-LR-1113A	0.4%
SGA-PI-1013A	9 PSIA
SGA-PI-1023A	9 PSIA
SGA-PR-1013A	7 PSIA
SGB-HIC 185A	1%
SGB-HIC-178A	1%
SGB-LI-1113B	1%
SGB-LI-1113B-2	1 %
SGB-LI-1114B	1%
SGB-PI-1013B	9 PSIA
SGB-PI-1023B	9 PSIA
SGC-LI-1113C	1 %
SGC-LI-1114C	1%
SGC-PI-1013C	9 PSIA

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SGC-PI-1023C	9 PSIA
SGD-LI-1113D	1 %
SGD-LI-1114D	1%
SGD-PI-1013D	9 PSIA
SGD-PI-1023D	9 PSIA
SGN-FIC-1107	1% (3)
SGN-FIC-1108	1% (3)
SGN-FIC-1111	2% (3)
SGN-FIC-1121	2% (3)
SGN-FIK-1112	1% (3)
SGN-FIK-1113	1 % (3)
SGN-FIK-1122	1% (3)
SGN-FIK-1123	1% (3)
SGN-FR-1112	0.05 M LB/HR (3)
SGN-FR-1113	0.008 M LB/HR (3)
SGN-FR-1122	0.05 M LB/HR (3)
SGN-FR-1123	0.008 M LB/HR (3)
SGN-HIC-1010	1%
SGN-LR-1111	0.2% (3)
SGN-LR-1121	0.3%
SGN-PIC-1010	1%
SGN-PIK-1001	1%
SGN-PIK-1002	1%
SGN-PIK-1003	1%
SGN-PIK-1004	1%

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SGN-PIK-1005	1%
SGN-PIK-1006	1%
SGN-PIK-1007	1%
SGN-PIK-1008	1%
SGN-TR-7	3 DEG-F
SGN-ZI-1112	2% (2)
SGN-ZI-1113	2% (2)
SGN-ZI-1122	2%
SGN-ZI-1123	2% (2)
SHA-TR-3	2 DEG-F (3)
SHA-TR-4	3 DEG-F/11 DEG-F (3)
SHA-TR-5	0.5 % (3)
SIA-FI-306	59 GPM
SIA-FI-308	0.006 GPM
SIA-FI-331	4 GPM
SIA-FI-331-1	1888 LB/HR
SIA-FI-338	30 GPM
SIA-FI-390	4 GPM
SIA-FI-391	4 GPM
SIA-LI-331	1%
SIA-LI-333	1%
SIA-LI-349	1%
SIA-LI-706	2 IN H2O
SIA-TI-303X	3 DEG-F
SIA-TR-351	2 DEG-F

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SIA-ZI-306	3% (2)
SIA-ZI-604	3% (2)
SIA-ZI-617	3% (2)
SIA-ZI-627	3% (2)
SIA-ZI-635	3% (2)
SIA-ZI-637	3% (2)
SIA-ZI-645	3% (2)
SIA-ZI-647	3% (2)
SIA-ZI-657	3% (2)
SIA-ZI-672	3% (2)
SIA-ZI-678	3% (2)
SIB-FI-307	59 GPM
SIB-FI-311	4 GPM
SIB-FI-311-1	4 GPM
SIB-FI-348	30 GPM
SIB-LI-311	1%
SIB-LI-348	1%
SIB-LI-707	2 IN H2O
SIB-TI-303Y	3 DEG-F
SIB-TR-352	2 DEG-F
SIB-ZI-307	3% (2)
SIB-ZI-609	3% (2)
SIB-ZI-615	3% (2)
SIB-ZI-616	3% (2)
SIB-ZI-625	3% (2)

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SIB-ZI-626	3% (2)
SIB-ZI-636	3% (2)
SIB-ZI-646	3% (2)
SIB-ZI-658	3% (2)
SIB-ZI-671	3% (3)
SIB-ZI-679	3% (3)
SIC-ZI-321	3% (3)
SIC-ZI-331	3% (3)
SIN-LI-312	1%
SIN-LI-313	1%
SIN-LI-332	1%
SIN-PI-303X	5 PSIG
SIN-PI-303Y	5 PSIG
SIN-PI-306	5 PSIG
SIN-PI-307	5 PSIG
SIN-PI-308	5 PSIG
SIN-PI-309	15 PSIG
SIN-PI-390	12 PSIG
SIN-PI-391	12 PSIG
SPN-FI-6	114 GPM
SPN-LI-27	0.1 FT
SPN-LI-28	0.1 FT
SPN-PI-3	1 PSIG
SPN-PI-4	1 PSIG
SPN-TI-37	1 DEG-F

INDICATOR TAG NUMBER	LOOP ACCURACY (+/-)
SPN-TI-38	1 DEG-F
SPN-TI-39	2 DEG-F
SPN-TI-40	2 DEG-F
SQA-RI-148	2.0E6
SQA-RI-150	20 000 MR/HR
SQB-RI-1	2.5E4
SQB-RI-149	2.0E6
SQB-RI-151	20 000 MR/HR
SQN-RU-139	2.0E6
SQN-RU-140	2.0E6
SQN-RU-141	2.5E4
SQN-RU-142	1.8E6
SQN-RU-16	2.0E4
SQN-RU-17	2.5E4
SQN-RU-4	2.5E4
SQN-RU-5	2.5E4

APPENDIX F

PALO VERDE PLANT SPECIFIC
SUMMARY OF REG. GUIDE 1.97 INSTRUMENTS

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
AFA-FI-40A	AFW FLOW 0-110% DES FLOW	0 to 110%
AFB-FI-41A	AFW FLOW 0-110% DES FLOW	0 to 110%
CHA-HS-506	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-HS-516	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-HS-524	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-HS-560	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-HS-580	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-HS-715	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHA-LI-203A	RWT LEVEL TOP-TO-BOTTOM	0 to 33 FT
CHB-FI-212	MAKEUP FLOW-IN (CHARGING) 0-110% DES	0 to 110% DES
CHB-HS-505	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHB-HS-523	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHB-HS-561	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHB-HS-924	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CHB-LI-201	RWT LEVEL TOP-TO-BOTTOM	TOP TO BOTTOM (0 to 52 FT)
CHB-LI-203B	RWT LEVEL TOP-TO-BOTTOM	0 to 33 FT
CHC-LI-203C	RWT LEVEL TOP-TO-BOTTOM	0 to 33 FT
CHD-LI-203D	RWT LEVEL TOP-TO-BOTTOM	0 to 33 FT
CHN-AI-203	BORON CONCENTRATION: 0-6000 PPM	0 to 6000 PPM
CHN-AR-203	BORON CONCENTRATION: 0-6000 PPM	0 to 6000 PPM
CHN-FI-202	LETDOWN FLOW-OUT 0 - 110% DES	0 to 110% DES
CHN-FIC-210Y	BORIC ACID CHARGING FLOW 0 TO 110% DES	0 to 113%
CHN-LI-200	RWT LEVEL TOP-TO-BOTTOM	0 to 33 FT
CHN-LI-226	VCT LEVEL; TOP-TO-BOTTOM	0 to 100%
CHN-LI-268	REACTOR DRAIN TANK LEVEL TOP-TO-BOTTOM	0 to 100%

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
CHN-PI-268	REACTOR DRAIN TANK PRESS Ø TO DES PRESS	Ø to 15Ø PSIG
CHN-TI-268	REACTOR DRAIN TANK TEMP 5Ø TO 75Ø DEG-F	Ø to 75Ø DEG-F
CPA-HS-2	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CPA-HS-4	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CPB-HS-3	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CPB-HS-5	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
CTA-LI-35A	COND STORAGE TANK LEVEL	Ø to 1ØØ%
CTA-LR-35	CST/RWT LEVEL TOP-TO-BOTTOM	Ø to 1ØØ% / 3 to 5Ø FT
CTB-LI-36A	COND STORAGE TANK LEVEL	Ø to 1ØØ%
EWN-FI-13	CCW FLOW TO ESF SYS Ø-11Ø% DES	Ø to 2ØK GPM
EWN-FI-14	CCW FLOW TO ESF SYS Ø-11Ø% DES	Ø to 2ØK GPM
EWN-TI-51	CCW TO ESF SYS 32-2ØØ DEG-F	Ø to 2ØØ DEG-F
EWN-TI-52	CCW TO ESF SYS 32-2ØØ DEG-F	Ø to 2ØØ DEG-F
GAA-HS-1	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
GAA-HS-2	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
GRA-HS-1	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
GRB-HS-2	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
GRN-PI-23	R/A GAS HU TANK PRESS Ø-15Ø% DES PRESS	Ø to 4ØØ PSIG
GRN-PI-24	R/A GAS HU TANK PRESS Ø-15Ø% DES PRESS	Ø to 4ØØ PSIG
GRN-PI-25	R/A GAS HU TANK PRESS Ø-15Ø% DES PRESS	Ø to 4ØØ PSIG
HAA-HS-112	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HAA-HS-114	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HAB-HS-113	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HAB-HS-115	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HCA-HS-45	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
HCA-HS-46	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HCA-HS-74	CONTAINMENT PRESSURE SENSOR ISOLATION	OPEN- CLOSE STATUS
HCA-PI-351A	CONTAINMENT PRESS	-4 to 20 PSIG
HCA-PI-352A	CONTAINMENT PRESS	-4 to 20 PSIG
HCA-PI-353A	CONTAINMENT PRESS	-5 to 180 PSIG
HCB-HS-44	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HCB-HS-47	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HCB-HS-75	CONTAINMENT PRESSURE SENSOR ISOLATION	OPEN-CLOSED STATUS
HCB-PI-351B	CONTAINMENT PRESS	-4 to 20 PSIG
HCB-PI-352B	CONTAINMENT PRESS	-4 to 85 PSIG
HCB-PI-353B	CONTAINMENT PRESS	-5 to 180 PSIG
HCC-HS-76	CONTAINMENT PRESSURE SENSOR ISOLATION	OPEN-CLOSED STATUS
HCC-PI-351C	CONTAINMENT PRESS	-4 to 20 PSIG
HCC-PI-352C	CONTAINMENT PRESS	-4 to 85 PSIG
HCD-HS-77	CONTAINMENT PRESSURE SENSOR ISOLATION	OPEN-CLOSED STATUS
HCD-PI-351D	CONTAINMENT PRESS	-4 to 20 PSIG
HCD-PI-352D	CONTAINMENT PRESS	-4 to 85 PSIG
HCN-TI-71	CNTMN ATMOS TEMP 40-400 DEG-F	40 to 400 DEG-F
HFA-HS-26	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFA-HS-27	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFA-HS-64/62	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFB-HS-25	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFB-HS-28	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFB-HS-63	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HFB-HS-65	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
HJA-HS-36	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HJA-HS-37	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HJA-HS-7	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HJB-HS-34	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HJB-HS-35	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HJB-HS-8	EMERG VENT DAMPER POS OP/CL	OPEN-CLOSED STATUS
HPA-AI-9	CNTMT H2 ANALYZER Ø to 10%	Ø to 10% H2 CONCENTRATION
HPA-HS-1	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HPA-HS-23	CNTMN ISO VLV POS CLOSED/NOT COLSED	OPEN-CLOSED
HPA-HS-3	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HPA-HS-5	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HPA-UR-9	CNTMT H2 ANALYZER Ø to 10%	Ø to 10% H2 CONCENTRATION
HPB-AI-10	CNTMT H2 ANALYZER Ø to 10%	Ø to 10% H2 CONCENTRATION
HPB-HS-2	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HPB-HS-4	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
HPB-HS-6	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
IAA-HS-2	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
LRN-LI-4	HI LVL R/A LIQUID TANK LVL TOP-TO-BOTTOM	Ø to 100%
LRN-LI-5	HI LVL R/A LIQUID TANK LVL TOP-TO-BOTTOM	Ø to 100%
LRN-LI-6	HI LVL R/A LIQUID TANK LVL TOP-TO-BOTTOM	Ø to 100%
NCA-HS-402	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
NCB-HS-401	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
NCB-HS-403	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
RCA-HS-100-4	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCA-LI-110X	PZR LEVEL TOP TO BOTTOM	Ø to 100%

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
RCA-PR-102A	RCS PRESS 0 to 4000 PSIG	0 to 4000 PSIG
RCA-TI-112CA	RCS COLD LEG WTR TEMP 50 to 750 DEG-F	50 to 750 DEG-F
RCA-TI-112HA	RCS HOT LEG WTR TEMP 50 to 750 DEG-F	50 to 750 DEG-F
RCA-TR-112	HOT/COLD LEG TEMP LOOP 1/1A 50-750 DEG-F	50-750 DEG-F
RCA-TR-122	HOT/COLD LEG TEMP LOOP 2/2A 50-750 DEG-F	50-750 DEG-F
RCB-HS-100-5	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCB-LI-110Y	PZR LEVEL TOP TO BOTTOM	0 to 100%
RCB-TI-112CB	RCS COLD LEG WTR TEMP 50 to 750 DEG-F	50 to 750 DEG-F
RCB-TI-112HB	RCS HOT LEG WTR TEMP 50 to 750 DEG-F	50 to 750 DEG-F
RCN-HS-1	RCP STATOR MOTOR CURRENT	0 to 600 AMPS
RCN-HS-100-1	PZR HEATER PROP BKR CONTROL	ON-OFF
RCN-HS-100-2	PZR HEATER PROP BKR CONTROL	ON-OFF
RCN-HS-100-6	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCN-HS-100-7	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCN-HS-100-8	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCN-HS-100-9	PZR HEATER BACKUP BKR CONTROL	ON-OFF
RCN-HS-2	RCP STATOR MOTOR CURRENT	0 to 600 AMPS
RCN-HS-3	RCP STATOR MOTOR CURRENT	0 to 600 AMPS
RCN-HS-4	RCP STATOR MOTOR CURRENT	0 to 600 AMPS
RCN-TI-106	PRIMARY SYS SRV'S POS CLOSED/NOT CLOSED	CLOSED-OPEN
RCN-TI-107	PRIMARY SYS SRV'S POS CLOSED/NOT CLOSED	CLOSED-OPEN
RCN-ZI-726	PRIMARY SYS SRV'S POS CLOSED/NOT CLOSED	CLOSED-OPEN
RDA-HS-23	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
RDB-HS-24	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
RDB-HS-407	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
RDN-LI-10	CNTMT SUMP WATER LEVEL; NARROW RANGE(SUMP)	0 to 6 FT
RDN-LI-410	CNTMT SUMP WATER LEVEL; WIDE RANGE(BOTTOM OF CNTMT TO 600,000 GAL, LVL. EQUIV.)	.5 to 12.5 FT
RMN-UJR-5	CNTMN ATMOS TEMP 40-400 DEG-F	40 to 400 DEG-F
SEN-JR-1A	NEUTRON FLUX 1.E-6% TO 100% F.P.	2.E-8 to 200%
SEN-JR-1B	NEUTRON FLUX 1.E-6% TO 100% F.P.	2.E-8 to 200%
SFN-JI-17	CONTROL ROD POS; FULL IN - NOT FULL IN	0 to 100%
SFN-ZI-1	CONTROL ROD POS; FULL IN - NOT FULL IN	0 to 100%
SFN-ZI-2	CONTROL ROD POS; FULL IN - NOT FULL IN	0 to 100%
SGA-LI-1113A	SG 1/2 LEVEL (WR)	0 to 100%
SGA-LI-1114A	SG 1/2 LEVEL	0 to 100%
SGA-PI-1013A	SG 1 PRESS	0 to 1524 PSIA
SGA-PI-1023A	SG 2 PRESS	0 to 1524 PSIA
SGA-PI-1023B	SG 2 PRESS	0 to 1524 PSIA
SGB-HS-200	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SGB-HS-201	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SGB-LI-1113B	SG 1/2 LEVEL (WR)	0 to 100%
SGB-LI-1114B	SG 1/2 LEVEL	0 to 100%
SGB-PI-1013B	SG 1 PRESS	0 to 1524 PSIA
SGN-FR-1112	MFW FLOW 0-110% DES FLOW	0 to 110%
SGN-FR-1122	MFW FLOW 0-110% DES FLOW	0 to 110%
SGN-ZI-708	SAFETY-RELIEF VALVE POS CLOSED/NOT CLOSED	0 to 100%
SGN-ZI-709	SAFETY-RELIEF VALVE POS CLOSED/NOT CLOSED	0 to 100%

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
SGN-ZI-714	SAFETY-RELIEF VALVE POS CLOSED/NOT CLOSED	0 to 100%
SGN-ZI-715	SAFETY-RELIEF VALVE POS CLOSED/NOT CLOSED	0 to 100%
SHA-TR-3	DEGREES OF SUBCOOLING 200 DEG-F to 35 DEG-F SUPERHT	700 to -2100 DEG-F
SHA-TR-4	CORE EXIT TEMP QUAD 4 200 to 2300 DEG-F	32 to 2300 DEG-F
SHA-TR-4	CORE EXIT TEMP QUAD 1 200 to 2300 DEG-F	32 to 2300 DEG-F
SHA-TR-4	CORE EXIT TEMP QUAD 2 200 to 2300 DEG-F	32 to 2300 DEG-F
SHA-TR-4	CORE EXIT TEMP QUAD 3 200 to 2300 DEG-F	32 to 2300 DEG-F
SHA-TR-5	COOLANT LEVEL IN REACTOR; BOTTOM OF CORE TO TOP OF VESSEL	0 to 100%
SIA-FI-306	FLOW IN LPSI SYS 0 - 110%	0 to 110%
SIA-FI-331	FLOW IN HPSI SYS 0 - 110%	0 to 110%
SIA-FI-338	CNTMN SPRAY FLOW 0-110% DES FLOW	0 to 5000 GPM
SIA-FI-341	FLOW IN HPSI SYS 0 - 110%	0 to 110%
SIA-HS-634	SI TANK ISOL VLV POS OPEN/CLOSED	0 to 100%
SIA-HS-644	SI TANK ISOL VLV POS OPEN/CLOSED	0 to 100%
SIA-HS-708	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SIA-LI-331	SI TANK (ACCUM) LEVEL	0 to 100%
SIA-PI-331	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIA-PI-333	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIA-TI-303X	RHR HTX OUTLET TEMP 32 - 350 DEG-F	40 to 400 DEG-F
SIB-FI-307	FLOW IN LPSI SYS 0 - 110%	0 to 110%
SIB-FI-311	FLOW IN HPSI SYS 0 - 110%	0 to 110%
SIB-FI-321	FLOW IN HPSI SYS 0 - 110%	0 to 110%
SIB-FI-348	CNTMN SPRAY FLOW 0-110% DES FLOW	0 to 5000 GPM

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
SIB-HS-614	SI TANK ISOL VLV POS OPEN/CLOSED	0 to 100%
SIB-HS-624	SI TANK ISOL VLV POS OPEN/CLOSED	0 to 100%
SIB-LI-311	SI TANK (ACCUM) LEVEL	0 to 100%
SIB-PI-311	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIB-PI-313	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIB-TI-303Y	RHR HTX OUTLET TEMP 32 - 350 DEG-F	40 to 350 DEG-F
SIN-LI-312	SI TANK (ACCUM) LEVEL	0 to 100%
SIN-LI-313	SI TANK (ACCUM) LEVEL	0 to 100%
SIN-LI-332	SI TANK (ACCUM) LEVEL	0 to 100%
SIN-LI-333	SI TANK (ACCUM) LEVEL	0 to 100%
SIN-PI-312	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIN-PI-332	SI TANK PRESS 0 - 750 PSIG	15 to 765 PSIA
SIN-TI-712	CNTMN SUMP WATER TEMP 50-250 DEG-F	50 to 250 DEG-F
SIN-TI-713	CNTMN SUMP WATER TEMP 50-250 DEG-F	50 to 250 DEG-F
SQA-RI-148	IN CONTAINMENT AREA 10E0 TO 10E+7 R/HR	10E0 TO 10E+7 R/HR
SQA-RI-150	PRIMARY COOLANT MONITOR 1/2 TO 100 X TECH SPEC LIMIT	10E0 TO 10E+5 R/HR
SQB-RI-145	FUEL BLDG VENT EXHAUST 10E-6 TO 10E-2 UCI/CC	10E-6 TO 10E-1 UCI/CC
SQB-RI-146	FUEL BLDG VENT EXHAUST 10E-6 TO 10E-2 UCI/CC	10E-2 TO 10E+5 UCI/CC
SQB-RI-149	IN CONTAINMENT AREA 10E0 TO 10E+7 R/HR	10E0 TO 10E+7 R/HR
SQB-RI-151	PRIMARY COOLANT MONITOR 1/2 TO 100 X TECH SPEC LIMIT	10E0 TO 10E+5 R/HR
SQN-RE-152A	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-152B	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-152C	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
SQN-RE-153A	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-153B	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-153C	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-154A	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-154B	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-154C	PERSONNEL IARM 1E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-155A	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-155B	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-155C	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-156A	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-156B	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-156C	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-157A	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-157B	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-157C	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-158A	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-158B	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-158C	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RE-158D	PENETRATION IARM 10E-1 TO 10E+4 R/HR	10E-1 TO 10E+4 R/HR
SQN-RU-139	MAIN STEAM LINE EFFLUENT 10E-1 TO 10E+4 R/HR	10E-3 TO 10E+4 R/HR
SQN-RU-140	MAIN STEAM LINE EFFLUENT 10E-1 TO 10E+4 R/HR	10E-3 TO 10E+4 R/HR
SQN-RU-141	CONDENSER VAC PUMP/GLAND SEAL EXHAUST 10E-6 TO 10E-2 UCI/CC	10E-6 TO 10E-1 UCI/CC
SQN-RU-142	CONDENSER VAC PUMP/GLAND SEAL EXHAUST 10E-8 TO 10E-2 UCI/CC	10E-2 TO 10E+5 UCI/CC

TAG NUMBER	REGULATORY GUIDE 1.97 NAME AND RANGE	REGULATORY GUIDE 1.97 PVNGS INSTRUMENT RANGE/E.U.s
SQN-RU-143	PLANT VENT MONITOR 10E-6 TO 10E-2 UCI/CC	10E-6 TO 3 UCI/CC
SQN-RU-144	PLANT VENT MONITOR 10E-6 TO 10E-2 UCI/CC	10E-2 TO 10E+5 UCI/CC
SSA-HS-203	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SSA-HS-204A	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SSA-HS-205A	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SSB-HS-200	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SSB-HS-201A	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
SSB-HS-202A	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
WCA-HS-62	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
WCB-HS-61	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED
WCB-HS-63	CNTMN ISO VLV POS CLOSED/NOT CLOSED	OPEN-CLOSED

APPENDIX G

PALO VERDE PLANT SPECIFIC
SUMMARY OF SPDS INSTRUMENT TRANSMITTERS

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
AFA-FI-40A	AFW FLOW TO SG1 CHA	AFA-FT-40A	Ø to 2000 GPM
AFA-FI-40A	AFW FLOW TO SG2 CHA	AFA-FT-40B	Ø to 2000 GPM
AFB-FI-40B	AFW FLOW TO SG2 CHB	AFB-FT-41B	Ø to 2000 GPM
AFB-FI-40B	AFW FLOW TO SG1 CHB	AFB-FT-41A	Ø to 2000 GPM
CHA-HS-516	LD TO REGEN HX CNTM ISOL	CHA-UV-516	GREEN-CLOSED RED-NOT CLOSED
CHA-HS-524	CHARGING PMP TO REGEN HX	CHA-HV-524	GREEN-CLOSED RED-NOT CLOSED
CHA-HS-560	REACTOR DRAIN TK OUTLT ISO CHA	CHA-UV-560	GREEN-CLOSED RED-NOT CLOSED
CHA-HS-580	MAKE UP TO REACTOR TRAIN TK	CHA-UV-580	GREEN-CLOSED RED-NOT CLOSED
CHA-HS-715	RDT LN PASS ISO VLV	CHA-UV-715	GREEN-CLOSED RED-NOT CLOSED
CHB-HS-255	SEAL INJECTION ISOL	CHB-HV-255	GREEN-CLOSED RED-NOT CLOSED
CHB-HS-523	REGEN HX TO LD HX ISOL	CHB-UV-523	GREEN-CLOSED RED-NOT CLOSED
CHB-HS-561	REACTOR DRAIN TK OUTLET ISOL CHB	CHB-UV-561	GREEN-CLOSED RED-NOT CLOSED
CHB-HS-924	LD LN PASS ISO VLV POS	CHB-UV-924	GREEN-CLOSED RED-NOT CLOSED
CPA-HS-2	CTMT PRG RFL MODE IV	CPA-UV-2B	GREEN-CLOSED RED-NOT CLOSED
CPA-HS-2	CTMT PRG RFL MODE IV	CPA-UV-2A	GREEN-CLOSED RED-NOT CLOSED
CPA-HS-4	CTMT PRG PWR ACCESS MODE IV	CPA-UV-4B	GREEN-CLOSED RED-NOT CLOSED
CPA-HS-4	CTMT PRG PWR ACCESS MODE IV	CPA-UV-4A	GREEN-CLOSED RED-NOT CLOSED
CPB-HS-3	CTMT PRG RFL MODE IV	CPB-UV-3B	GREEN-CLOSED RED-NOT CLOSED
CPB-HS-3	CTMT PRG RFL MODE ISOL VLV	CPB-UV-3A	GREEN-CLOSED RED-NOT CLOSED
CPB-HS-5	CTMT PRG PWR ACCESS MODE IV	CPG-UV-5A	GREEN-CLOSED RED-NOT CLOSED
CPB-HS-5	CTMT PRG PWR ACCESS MODE IV	CPB-UV-5B	GREEN-CLOSED RED-NOT CLOSED
ESA-UA-2E	ISOL VLV STATUS TRA	ESA-C01	NORMAL ACUAT
ESB-UA-2F	ISOL VLV STATUS TRB	ESB-C02	NORMAL ACUAT
GAA-HS-1	N2 TO SI TKS ISOL VLV	GAA-UV-1	GREEN-CLOSED RED-NOT CLOSED
GAA-HS-2	N2 TO SG AND RDT ISO VLV	GAA-UV-2	GREEN-CLOSED RED-NOT CLOSED
GRA-HS-1	RDT/GAS HDR INT CTNMT IS	GRA-UV-1	GREEN-CLOSED RED-NOT CLOSED

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
GRB-HS-2	GAS SURGE HDR EXT CTMT ISOL	GRB-UV-2	GREEN-CLOSED RED-NOT CLOSED
HCA-HS-45	CTMT ATMOS RAD MON IV	HCA-UV-45	GREEN-CLOSED RED-NOT CLOSED
HCA-HS-46	CTMT ATMOS RAD MON IV	HCA-UV-46	GREEN-CLOSED RED-NOT CLOSED
HCA-PI-352A	CNTMT PRESS CHA	HCA-PT-352A	-4 to 85 PSIG
HCB-HS-44	CTMT ATMOS RAD MON IV	HCB-UV-44	GREEN-CLOSED RED-NOT CLOSED
HCB-HS-47	CTMT ATMOS RAD MON IV	HCB-UV-47	GREEN-CLOSED RED-NOT CLOSED
HCB-PI-352B	CNTMT PRESS CHB	HCB-PT-352B	-4 to 85 PSIG
HPA-AI-9	CNTMT H2 CONCEN CHA	HPA-AI-9	Ø to 10%
HPA-HS-1	H2 CONT TRA UPSTM SUP IS	HPA-UV-1	GREEN-CLOSED RED-NOT CLOSED
HPA-HS-23	H2 CONT TRA RETURN VLV	HPA-UV-23	GREEN-CLOSED RED-NOT CLOSED
HPA-HS-3	H2 CONT TRA DWNSTM SUP IS	HPA-UV-3	GREEN-CLOSED RED-NOT CLOSED
HPA-HS-5	H2 CONT TRA RETURN ISOL	HPA-UV-5	GREEN-CLOSED RED-NOT CLOSED
HPB-AI-10	CNTMT H2 CONCEN CHB	HPA-AIT-9	Ø to 10%
HPB-HS-2	H2 CONT TRB UPSTM SUP IS	HPB-UV-2	GREEN-CLOSED RED-NOT CLOSED
HPB-HS-4	H2 CONT TRB DWNSTM SUP IS	HPB-UV-4	GREEN-CLOSED RED-NOT CLOSED
HPB-HS-6	H2 CONT TRB RETURN ISOL	HPB-UV-6	GREEN-CLOSED RED-NOT CLOSED
RCA-LI-110X	PZR LEVEL NR CHA	RCA-LT-110X	Ø to 100%
RCA-PI-102A	RCS PRESS CHA	RCA-PT-102A	Ø to 3000 PSIA
RCA-PI-103	PZR PRESS CHA	RCA-PT-103	100 to 750 PSIA
RCA-TI-112CA	RC COLD LEG TO SG1 TEMP	RCA-TT-0112C1	50 to 750 DEG-F
RCA-TI-112CA	RC COLD LEG TO SG2 TEMP	RCA-TT-0122C2	50 to 750 DEG-F
RCA-TI-112HA	RC HOT LEG TO SG2 TEMP	RCA-TT-0122H2	50 to 750 DEG-F
RCA-TI-112HA	RC HOT LEG TO SG1 TEMP	RCA-TI-0112H1	50 to 750 DEG-F
RCA-TI-112HB	RC HOT LEG TO SG2 TEMP	RCB-TT-0122H2	50 to 750 DEG-F
RCA-TI-112HB	RC HOT LEG TO SG1 TEMP	RCB-TT-0112H1	50 to 750 DEG-F
RCB-LI-110Y	PZR LEVEL CHB	RCB-LT-110Y	Ø to 100%

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
RCB-PI-102B	RCS PRESS CHB	RCB-PT-102B	0 to 3000 PSIA
RCB-PI-104	PZR PRESS CHB	RCB-PT-104	100 to 750 PSIA
RCB-TI-112CB	RC COLD LEG TO SG1 TEMP	RCB-TT-0112C1	50 to 750 DEG-F
RCB-TI-112CB	RC COLD LEG TO SG2 TEMP	RCA-TT-0122C2	50 to 750 DEG-F
RCN-LI-103	PZR LEVEL WR	RCN-LT-103	0 to 100%
RDA-HS-23	INT CONT ISOL VLV FR RW SUMP	RDA-UV-23	GREEN-CLOSED RED-NOT CLOSED
RDB-HS-24	EXT CONT ISOL VLV FR RW SUMP	RDB-UV-24	GREEN-CLOSED RED-NOT CLOSED
RDB-HS-407	CTMT RW SUMP PASS IV POS	RDB-UV-407	GREEN-CLOSED RED-NOT CLOSED
RMN-UR-5	CNTMT TEMP EAST WALL SG1	HCN TE 42B1	40 to 400 DEG-F
RMN-UR-5	CNTMT TEMP NORTH EAST WALL	HCN TE 42C1	40 to 400 DEG-F
RMN-UR-5	CNTMT TEMP WEST WALL SG1	HCN TE 42A1	40 to 400 DEG-F
RMN-UR-5	CNTMT TEMP SOUTH EAST WALL	HCN TE 42D1	40 to 400 DEG-F
SAA-HS-1	SIAS TRAIN A	SAA-C01	CLOSE-OPEN
SAA-HS-1	SIAS TRAIN A	SAA-C01	CLOSE-RED OPEN-GREEN
SAA-HS-13	CSAS TRAIN A	SAA-C02A	ACT N-ACT
SAA-HS-5	CIAS TRAIN A	SAA-C01	CLOSE-OPEN
SAA-HS-5	CIAS TRAIN A	SAA-C01	CLOSE-RED OPEN-GREEN
SAB-HS-14	CSAS TRAIN B	SAB-C02A	ACT N-ACT
SAB-HS-2	SIAS TRAIN B	SAB-C01	CLOSE-RED OPEN-GREEN
SAB-HS-2	SIAS TRAIN B	SAB-C01	CLOSE-OPEN
SAB-HS-6	CIAS TRAIN B	SAB-C01	CLOSE-OPEN
SAB-HS-6	CIAS TRAIN B	SAB-C01	CLOSE-RED OPEN-GREEN
SBA-HS-1	REACTOR TRIP	UV RX	TRIP - GREEN N-TRIP - RED
SBB-HS-2	REACTOR TRIP	UV RX	TRIP - GREEN N-TRUP - RED
SBC-HS-3	REACTOR TRIP	UV RX	TRIP - GREEN N-TRIP - RED
SBD-HS-4	REACTOR TRIP	UV RX	TRIP - GREEN N-TRIP - RED

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SEA-J1A	EX-CORE LOG POWER		2.0E-8 TO 200%
SEA-JR-1A	LINEAR/CALIB LINEAR POWER A	SEA-JR-0001A	2.0E-8 TO 200%
SEB-J1B	EX-CORE LOG POWER		2.0E-8 TO 200%
SEB-JR-1B	LINEAR/CALIB LINEAR POWER B	SEB-JR-0001B	2.0E-8 TO 200%
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0060B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0034B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0052B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0074B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0026B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0013B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0042B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0071B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0064B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0003B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0087B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0032B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0018B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0054B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0079B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0010B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0029B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0017B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0001B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0019B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0083B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0016B	0 to 48 V

INDICATOR TAG NUMBER		SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0037B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0028B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0057B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0036B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0043B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0027B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0015B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0089B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0081B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0075B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0026B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0072B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0040B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0088B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0022B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0080B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0033B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0061B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0053B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0005B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0030B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0051B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0024B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0067B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0070B	Ø to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0056B	Ø to 48 V

INDICATOR TAG NUMBER		SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0041B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0012B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0076B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0039B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0068B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0063B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0085B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0032B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0078B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0082B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0047B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0014B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0050B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0002B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0048B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0021B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0059B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0035B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0055B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0065B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFD-ZT-0023B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0062B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0020B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0011B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0008B	0 to 48 V
SFN-ZI-1	SFN-ZI-2	CEA POSITION	SFC-ZT-0073B	0 to 48 V

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0045B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0038B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0066B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0069B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0086B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0077B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0058B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0031B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0007B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFD-ZT-0046B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0009B	0 to 48 V
SFN-ZI-1 SFN-ZI-2	CEA POSITION	SFC-ZT-0084B	0 to 48 V
SGA-LI-1113A	SG1 WIDE RANE LEVEL CHA	SGA-LI-1113A	0 to 100%
SGA-LI-1114A	SG1 NARROW RANGE LEVEL CHA	SGA-LT-1114A	0 to 100%
SGA-LI-1123A	SG2 WIDE RANGE LEVEL CHA	SGA-LT-1123A	0 to 100%
SGA-LI-1124A	SG2 NARROW RANGE LEVEL CHA	SGA-LT-1124A	0 to 100%
SGB-LI-1113B	SG1 WIDE RANGE LEVEL CHB	SGB-LT-1113B	0 to 100%
SGB-LI-1114B	SG1 NARROW RANGE LEVEL CHB	SGB-LT-1114B	0 to 100%
SGB-LI-1123B	SG2 WIDE RANGE LEVEL CHB	SGB-LT-1123B	0 to 100%
SGB-LI-1124B	SG2 NARROW RANGE LEVEL CHB	SGB-LT-1124B	0 to 100%
SGN-FI-1011	SG1 LINE 1 STEAM FLOW	SGN-FT-1011	0 TO 5.0E+6 LB/HR
SGN-FI-1012	SG1 LINE 2 STEAM FLOW	SGN-FT-1012	0 TO 5.0E+6 LB/HR
SGN-FI-1021	SG2 LINE 1 STEAM FLOW	SGN-FT-1021	0 TO 5.0E+6 LB/HR
SGN-FI-1022	SG2 LINE 2 STEAM FLOW	SGN-FT-1022	0 TO 5.0E+6 LB/HR
SGN-FI-1112	SG1 TOTAL FW FLOW	SGN-FT-1112	0 TO 1.0E+7 LB/HR
SGN-FI-1122	SG2 TOTAL FW FLOW	SGN-FT-1122	0 TO 1.0E+7 LB/HR

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SHA-UI-001	CET HIGHEST TEMP QUAD 4 CHA	QSPDS	32 to 2300 DEG-F
SHA-UI-001	RCS SATURATION MARGIN TEMP CHA	QSPDS	-718 to 645 DEG-F
SHA-UI-001	RCA PRESS CHA	RCA-PT-190A	0 to 4000 PSIA
SHA-UI-001	RX VESSEL HEAD LEVEL CHA	QSPDS	0 to 100%
SHA-UI-001	CET HIGHEST TEMP QUAD 3 CHA	QSPDS	32 to 2300 DEG-F
SHA-UI-001	RX VESSEL PLENUM LEVEL CHA	QSPDS	0 to 100%
SHA-UI-001	CET HIGHEST TEMP QUAD 1 CHA	QSPDS	32 to 2300 DEG-F
SHA-UI-001	CET HIGHEST TEMP QUAD 2 CHA	QSPDS	32 to 2300 DEG-F
SHB-UI-002	RX VESSEL HEAD LEVEL CHB	QSPDS	0 to 100%
SHB-UI-002	CET HIGHEST TEMP QUAD 2 CHB	QSPDS	32 to 2300 DEG-F
SHB-UI-002	RCS PRESS CHB	RCB-PT-190B	0 to 4000 PSIA
SHB-UI-002	CET HIGHEST TEMP QUAD 3 CHB	QSPDS	32 to 2300 DEG-F
SHB-UI-002	CET HIGHEST TEMP QUAD 4 CHB	QSPDS	32 to 2300 DEG-F
SHB-UI-002	RX VESSEL PLENUM LEVEL CHB	QSPDS	0 to 100%
SHB-UI-002	RCS SATURATION MARGIN TEMP CWB	QSPDS	-718 to 645 DEG-F
SHB-UI-002	CET HIGHEST TEMP QUAD 1 CHB	QSPDS	32 to 2300 DEG-F
SIA-FI-306	LPSI A HDR DISCH FLOW	SIA-FT-0306	0 to 4000 GPM
SIA-FI-331	HPSI FLOW TO RC - 1A	SIA-FT-0331	0 to 750 GPM
SIA-FI-338	CONT SPRAY PPA DISCH	SIA-FT-338	0 to 5000 GPM
SIA-FI-341	HPSI FLOW TO RC - 1B	SIA-FT-0341	0 to 750 GPM
SIA-LI-706	CNTMT SUMP LEVEL CHA	SIA-LT-706	6 to 150 INCH
SIB-FI-307	LPSI B HDR DISCH FLOW	SIB-FT-0307	0 to 4000 GPM
SIB-FI-311	HPSI FLOW TO RC - 2A	SIB-FT-0311	0 to 750 GPM
SIB-FI-321	HPSI FLOW TO RC - 2B	SIB-FT-0321	0 to 750 GPM
SIB-FI-348	CONT SPRAY PPB DISCH	SIB-FT-348	0 TO 5000 GPM
SIB-LI-707	CNTMT SUMP LEVEL CHB	SIB-LT-707	6 to 150 INCH

INDICATOR TAG NUMBER	SPDS PARAMETER DESCRIPTION	SENSOR TAG NUMBER	RANGE (E.U.s)
SIG-FI-348	CONT SPRAY PPB DISCH	SIB-FT-348	Ø to 5000 GPM
SQ-RI-Ø2	ESSEN COOLING WTR TRN A RAD MON	SQN-RU-Ø2	1.ØE-6 TO 1.Ø E-1 UCI/CC
SQ-RI-Ø3	ESSEN COOLING WTR TRN B RAD MON	SQN-RU-Ø3	1.ØE-6 TO 1.ØE-1 UCI/CC
SQB-RI-145	FUEL BLDG VENT EXH LO RNGE GAS RAD MON	SQB-RU-145	1.ØE-6 TO 3.Ø UCI/CC
SQB-RI-146	FUEL BLDG VENT EXH HI RNGE GAS RAD MON	SQB-RU-146	1.ØE-2 TO 1.ØE+5 UCI/CC
SQN-RI-Ø4	SC SG1 BLDWN RAD MON	SQN-RU-Ø4	1.ØE-6 TO 1.ØE-1 UCI/CC
SQN-RI-Ø5	SC SG2 BLDWN RAD MON	SQN-RU-Ø5	1.Ø E-6 TO 1.ØE-1 UCI/CC
SQN-RI-141	COND VAC PP/GLAND SEAL LO RNGE GAS RAD MON	SQN-RU-141	1.ØE-6 TO 3.Ø UCI/CC
SQN-RI-142	COND VAC PP/GLAND SEAL HI RNGE GAS RAD MON	SQN-RU-142	1.ØE-2 TO 1.ØE+5 UCI/CC
SQN-RI-143	PLT VENT STACK LO RNGE GAS RAD MON	SQN-RU-143	1.ØE-6 TO 3.Ø UCI/CC
SQN-RI-144	PLT VENT STACK HI RNGE GAS RAD MON	SQN-RU-144	1.ØE-2 TO 1.ØE+5 UCI/CC
WCB-HS-61	NORM CHW RET CTMT IV CHB	WCB-UV-61	GREEN-CLOSED RED-NOT CLOSED
WCB-HS-62	MOEM CHW RET CTMT IV CHA	WCA-UV-62	GREEN-CLOSED RED-NOT CLOSED
WCB-HS-63	MORM CHW SUP CTMT IV CHB	WCB-UV-63	GREEN-CLOSED RED-NOT CLOSED

APPENDIX H

COLLECTION OF OPERATOR STEPS FOR WHICH DEVICES WERE NOT AVAILABLE TO THE OPERATOR IN THE CONTROL ROOM

Appendix H lists the operator steps for which no devices were located in or near the control room. Devices to perform the steps were generally local controls.

The format of the data presented is:

- The first page shows the three steps from SFG 1 and Event 1 for which no devices were located in the control room.
- The following pages are copies from the complete listing of all the operator steps for SFG 1 and Event 1.
- The steps affected are highlighted by a vertical bar alongside the step number.
- The presentation of data is repeated for each separate SFG and ORG and Event.

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
1	1	10 10 0 0	1	O/C
1	1	10 20 0 5	1	O/C
1	1	10 20 0 10	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CEA TRIP

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	1	10 5 0 0	PUSH RPS MANUAL TRIP BUTTONS OR	NONE	PUSH RPS MANUAL TRIP BUTTONS OR	PUSH RPS TRIP BUTTONS FOR BREAKERS SBA-C03, SBB-C03, SBC-C03, SBD-C03 SIMULTANEOUSLY OR	13-E-SBB-001-R6 13-E-SBB-002-R5
1	1	10 10 0 0	OPEN ALL CEA TRIP BREAKERS OR	NONE	OPEN ALL CEA TRIP BREAKERS OR	OPEN REACTOR TRIP BREAKERS SBA-C03, SBB-C03, SBC-C03, SBD-C03 OR	13-E-SBB-001-R6 13-E-SBB-002-R5
1	1	10 15 0 0	DEENERGIZE ALL CONTROL ROD DRIVE MOTOR GENERATORS OR	NONE	DEENERGIZE ALL CONTROL ROD DRIVE MOTOR GENERATORS OR	DEENERGIZE ALL CONTROL ROD DRIVE MOTOR GENERATORS OR	13-E-NGA-003-R7 13-E-NGA-010-R8
1	1	10 15 0 5			DEENERGIZE CEDM MG BY OPENING BREAKER	DEENERGIZE CEDM MG SFN-C02A BY OPENING BREAKER NGN-L03B2	13-E-NGA-003-R7
1	1	10 15 0 10			DEENERGIZE CEDM MG BY OPENING BREAKER	DEENERGIZE CEDM MG SFN-C02B BY OPENING BREAKER NGN-L10B2	13-E-NGA-010-R8
1	1	10 20 0 0	[OTHER PLANT SPECIFIC METHODS]	ADDITIONAL METHOD	DEENERGIZE CEDM MOTOR GENERATORS BY OPENING POWER SUPPLY BREAKERS	DEENERGIZE CEDM MOTOR GENERATORS BY OPENING POWER SUPPLY BREAKERS	13-E-NGA-003-R7 13-E-NGA-010-R8
1	1	10 20 0 5			DEENERGIZE CEDM MG BY OPENING BREAKER	DEENERGIZE CEDM MG SFN-C02A BY OPENING BREAKER NGN-L03C4	13-E-NGA-003-R7
1	1	10 20 0 10			DEENERGIZE CEDM MG BY OPENING BREAKER	DEENERGIZE CEDM MG SFN-C02A BY OPENING BREAKER NGN-L10C4	13-E-NGA-010-R8
1	1	15 0 0 0	VERIFY NO MORE THAN ONE CEA BOTTOM LIGHT NOT LIT AND	NONE	VERIFY NO MORE THAN ONE CEA BOTTOM LIGHT NOT LIT AND	VERIFY NO MORE THAN ONE CEA BOTTOM LIGHT NOT LIT AND	CEN-152 R1

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
1	2	15 10 10 10	1	O/C = CH-V327
1	2	15 10 10 15	1	O/C = CH-V755
1	2	15 10 10 20	1	O/C = CH-V316
1	2	15 10 10 25	1	O/C = CH-V756
1	2	15 10 10 30	1	O/C = CH-V319
1	2	15 10 10 35	1	O/C = CH-V757
1	2	15 10 10 40	1	O/C = CH-V322
1	2	15 10 15 10	1	O/C = CH-V144
1	2	15 10 15 15	1	O/C = CH-V753
1	2	15 10 15 20	1	O/C = CH-V164
1	2	15 15 0 0	1	O/C = LAHL
1	2	15 20 5 5	1	O/C = NHM-M-1309
1	2	15 20 5 5	2	O/C = NHN-M-1020
1	2	15 20 5 15	1	O/C = PC-V215
1	2	15 20 5 20	1	O/C = CH-V144
1	2	15 20 10 15	1	O/C = PC-V215
1	2	15 20 10 20	1	O/C = CH-V753
1	2	15 20 10 25	1	O/C = CH-V164
1	2	15 20 15 5	1	O/C = PC-V215
1	2	15 20 15 10	1	O/C = CH-V144
1	2	20 10 0 30	1	O/C = CH-V796
1	2	20 10 0 35	1	O/C = CH-V339
1	2	20 10 0 40	1	O/C = CH-V797
1	2	20 10 0 45	1	O/C = CH-V337
1	2	20 10 0 50	1	O/C = CH-V798

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
1	2	20 10 0 55	1	O/C = CH-V335
1	2	20 15 0 35	1	O/C = SI-V509
1	2	20 15 0 40	1	O/C = CH-V796
1	2	20 15 0 45	1	O/C = CH-V339
1	2	20 15 0 50	1	O/C = CH-V797
1	2	20 15 0 55	1	O/C = CH-V337
1	2	20 15 0 60	1	O/C = CH-V798
1	2	20 15 0 65	1	O/C = CH-V335

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	10 5 0 0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0	SEE TASKS 2-1-5-0-0-0 THRU 2-1-40-0-0-0
1	2	15 0 0 0	VERIFY BORIC ACID TANK 2A LEVEL > MINIMUM USABLE LEVEL	NO BORIC ACID TANKS	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	T.S. 3.1.2.6.B.1-12/84
1	2	15 5 0 0	ALIGN CHARGING PUMPS 2A,2B,2C SUCTIONS TO	PUMP DESIGNATORS	ALIGN CHARGING PUMPS 1,2,3 SUCTIONS TO	ALIGN CHARGING PUMPS CHA-P01, CHB-P01 AND CHE-P01 SUCTIONS TO	13-M-CHP-002-R14
1	2	15 10 0 0	BORIC ACID TANK 2A	NO BORIC ACID TANKS	REFUELING WATER TANK	REFUELING WATER TANK	CESSAR 9.3.4.2.2-AMM 10, T.S. 3.1.2.6.B-12/84
1	2	15 10 5 0	USING GRAVITY FEED OR	NONE	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2A-12/84
1	2	15 10 5 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 5 10				OPEN VALVE CH-HV-536	13-M-CHP-002-R14
1	2	15 10 5 15				CLOSE VALVE CH-HV-501	13-M-CHP-002-R14
1	2	15 10 10 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	CEN-152 R1
1	2	15 10 10 5				VERIFY RWT LEVEL > RAS SETPOINT	T.S. 3.1.2.2.B-12/84
1	2	15 10 10 10				OPEN VALVE CH-V-327	13-M-CHP-002-R14
1	2	15 10 10 15				OPEN VALVE CH-V-755 FOR CHA-P01	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 10 10 20				CLOSE VALVE CH-V-316 FOR CHA-P01	13-M-CHP-002-R14
1	2	15 10 10 25				OPEN VALVE CH-V-756 FOR CHB-P01	13-M-CHP-002-R14
1	2	15 10 10 30				CLOSE VALVE CH-V-319 FOR CHB-P01	13-M-CHP-002-R14
1	2	15 10 10 35				OPEN VALVE CH-V-757 FOR CHE-P01	13-M-CHP-002-R14
1	2	15 10 10 40				CLOSE VALVE CH-V-322 FOR CHE-P01	13-M-CHP-002-R14
1	2	15 10 15 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2.C-12/84
1	2	15 10 15 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 15 10				OPEN VALVE CH-V-144	13-M-CHP-002-R14
1	2	15 10 15 15				OPEN VALVE CH-V-753	13-M-CHP-002-R14
1	2	15 10 15 20				OPEN VALVE CH-V-164	13-M-CHP-002-R14
1	2	15 10 15 25				OPEN VALVE CH-UV-514	13-M-CHP-002-R14
1	2	15 10 15 30				CLOSE VALVE CH-UV-501	13-M-CHP-002-R14
1	2	15 10 20 0	USING BORIC ACID MAKEUP PUMPS OR	NONE	USING BORIC ACID MAKEUP PUMPS OR	USING BORIC ACID MAKEUP PUMPS OR	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANDIDATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 10 20 5				VERIFY VALVE CH-HV-532 OPEN	13-M-CHP-002-R14
1	2	15 10 20 10				SET FLOW CONTROLLER TO CH-FIC-210Y TO MAXIMUM	13-M-CHP-002-R14
1	2	15 10 20 15				PLACE MAKEUP MODE SELECTOR SWITCH TO 'BORATE'	13-E-CHB-059-R12
1	2	15 10 20 20				VERIFY ONE BAMP IS RUNNING OR	13-E-CHB-059-R12
1	2	15 10 20 25				VERIFY BAMP DISCHARGE PRESSURE OR	13-M-CHP-002-R13
1	2	15 10 20 30				VERIFY BAMP DISCHARGE FLOW	13-M-CHP-002-R13
1	2	15 10 20 35				VERIFY VALVE CH-UV-512 CLOSED	13-M-CHP-002-R14
1	2	15 10 20 40				VERIFY VALVE CH-UV-527 OPEN	13-M-CHP-002-R14
1	2	15 10 20 45				CLOSE VALVE CH-UV-501	13-M-CHP-002-R14
1	2	15 15 0 0	VERIFY BORIC ACID TANK 2B > MINIMUM USABLE LEVEL	NO BORIC ACID TANK	VERIFY SPENT FUEL POOL LEVEL	VERIFY SPENT FUEL POOL LEVEL	T.S. 3.1.2.6.A1-12/84
1	2	15 20 0 0	BORIC ACID TANK 2B	NO BORIC ACID TANKS	SPENT FUEL POOL	SPENT FUEL POOL	T.S. 3.1.2.6.A1-12/84
1	2	15 20 5 0	USING GRAVITY FEED OR	NONE	USING GRAVITY FEED OR	USING GRAVITY FEED OR	CEN-152 R1

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 20 5 5				ENSURE BAMPS WILL NOT START BY OPENING BOTH BAMP POWER SUPPLY BREAKERS NHM-M-1309 AND NHM-M-1020	13-E-CHB-041-R12
1	2	15 20 5 10				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
1	2	15 20 5 15				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 5 20				OPEN VALVE CH-V144	13-M-CHP-002-R14
1	2	15 20 5 25				SET FLOW CONTROLLER CH-FIC-210X SETPOINT TO MINIMUM	13-M-CHP-002-R14
1	2	15 20 5 30				OPEN VALVE CH-HV536	13-M-CHP-002-R14
1	2	15 20 5 35				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
1	2	15 20 10 0	NONE	ALTERNATE FLOW PATH	USING GRAVITY FEED OR	USING GRAVITY FEED OR	T.S. 3.1.2.2.C-12/84
1	2	15 20 10 5				ENSURE BAMPS WILL NOT START BY PLACING MAKEUP MODE SELECTOR SWITCH TO 'MANUAL'	13-E-CHB-041-R12
1	2	15 20 10 10				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
1	2	15 20 10 15				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 10 20				OPEN VALVE CH-V753	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : REACTIVITY CONTROL

EVENT : CVCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
1	2	15 20 10 25				OPEN VALVE CH-V164	13-M-CHP-002-R14
1	2	15 20 10 30				SET FLOW CONTROLLER CH-FIC-210X SETPOINT TO MINIMUM	13-M-CHP-002-R14
1	2	15 20 10 35				OPEN VALVE CH-UV514	13-M-CHP-002-R14
1	2	15 20 10 40				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
1	2	15 20 15 0	USING BORIC ACID MAKEUP PUMPS	NONE	USING BORIC ACID MAKEUP PUMPS	USING BORIC ACID MAKEUP PUMPS	13-M-CHP-002-R14
1	2	15 20 15 5				OPEN VALVE PC-V215	13-M-CHP-002-R14
1	2	15 20 15 10				OPEN VALVE CH-V144	13-M-CHP-002-R14
1	2	15 20 15 15				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
1	2	15 20 15 20				SET FLOW CONTROLLER CH-FIC-210Y TO MAXIMUM	13-M-CHP-002-R14
1	2	15 20 15 25				PLACE MAKEUP MODE SELECTOR SWITCH TO 'BORATE'	13-E-CHB-059-R12
1	2	15 20 15 30				VERIFY ONE BAMP RUNNING OR	13-E-CHB-059-R12
1	2	15 20 15 35				VERIFY BAMP DISCHARGE PRESSURE OR	13-M-CHP-002-R14
1	2	15 20 15 40				VERIFY BAMP DISCHARGE FLOW	13-M-CHP-002-R14

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	15 20 15 50	VALVE STATUS	OPEN	N	NA		
1	2	15 20 15 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 0 0 0	NA					
1	2	20 5 0 0	NA					
1	2	20 5 0 5	VALVE STATUS	OPEN	N	NA		
1	2	20 5 0 10	VALVE STATUS	OPEN	N	NA		
1	2	20 5 0 15	VALVE CONTROLLER	105 - 135 PSID	N	C	+/- 10	CE
1	2	20 5 5 0	REACTOR POWER STATUS	1.0E-1 %	Y	C	1/2 DECADE	CE
1	2	20 5 5 5	BORON ADDITION	>40 GPM	N	C	+/- 4	CE
1	2	20 5 5 10	CORE POWER STATUS	1.0E-1 %	N	C	1/2 DECADE	C:1-2-20-5-5-0
1	2	20 10 0 0	NA					
1	2	20 10 0 5	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 10	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 15	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 20	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 25	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 30	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 35	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 40	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 45	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 50	VALVE SWITCH	OPEN	NA	D		
1	2	20 10 0 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 10 0 60	CHARGING PUMP STATUS	ON	N	NA		
1	2	20 10 0 65	CHARGING HEADER PRESSURE	300 - 2735 PSIG	N	NA	+/- 200	CE
	2	20 10 0 70	CHARGING HEADER FLOW	10 - 132 GPM	N	NA	+/- 4	CE

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	INFORMATION/CONTROL PARAMETER	PARAMETER E.U.	POST HIST REQ.	CONTROL TYPE	ACCURACY	INFO/CONTROL REFERENCE
1	2	20 15 0 0	NA					
1	2	20 15 0 5	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 10	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 15	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 20	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 25	VALVE STATUS	OPEN	N	NA		
1	2	20 15 0 30	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 35	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 40	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 45	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 50	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 55	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 60	VALVE SWITCH	OPEN	NA	D		
1	2	20 15 0 65	VALVE SWITCH	CLOSE	NA	D		
1	2	20 15 0 70	CHARGING PUMP STATUS	ON	N	NA		
1	2	20 15 0 75	CHARGING HEADER PRESSURE	300 - 2735 PSIG	N	NA	+/- 200	CE
1	2	20 15 0 80	CHARGING HEADER FLOW	10 - 132 GPM	N	NA	+/- 4	CE

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
2	3	5 10 30 5	1	O/C = CH-V341
2	3	5 10 30 10	1	O/C = CH-V342
2	3	5 10 30 15	1	O/C = CH-V343
2	3	5 10 30 20	1	O/C = CH-V340
2	3	5 10 35 5	1	O/C = CH-V343
2	3	5 10 35 10	1	O/C = CH-V340
2	3	5 10 35 15	1	O/C = CH-V341
2	3	5 10 35 20	1	O/C = CH-V342

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : INVENTORY CONTROL

EVENT : CVCS (HIGH INVENTORY)

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
2	3	5 10 30 0	NONE	ALTERNATE METHOD OF OPERATING LETDOWN CONTROL VALVES	MANUALLY ALIGN LETDOWN CONTROL VALVE CH-LV110P AND/OR	MANUALLY ALIGN LETDOWN CONTROL VALVE CH-LV110P AND/OR	13-M-CHP-001-R11
2	3	5 10 30 5			VERIFY VALVE CH-V341 OPEN AND	VERIFY VALVE CH-V341 OPEN AND	13-M-CHP-001-R11
2	3	5 10 30 10			VERIFY VALVE CH-V342 OPEN AND	VERIFY VALVE CH-V342 OPEN AND	13-M-CHP-001-R11
2	3	5 10 30 15			IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V343 CLOSED AND	IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V343 CLOSED AND	13-M-CHP-001-R11
2	3	5 10 30 20			IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V340 CLOSED	IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V340 CLOSED	13-M-CHP-001-R11
2	3	5 10 30 25			MANUALLY OPEN VALVE CH-LV110P TO OBTAIN MAXIMUM LETDOWN FLOW	MANUALLY OPEN VALVE CH-LV110P TO OBTAIN MAXIMUM LETDOWN FLOW	13-M-CHP-001-R11
2	3	5 10 35 0	NONE	ALTERNATE METHOD OF OPERATING LETDOWN CONTROL VALVES	MANUALLY ALIGN LETDOWN CONTROL VALVE CH-LV110Q AND/OR	MANUALLY ALIGN LETDOWN CONTROL VALVE CH-LV110Q AND/OR	13-M-CHP-001-R11
2	3	5 10 35 5				VERIFY VALVE CH-V343 OPEN AND	13-M-CHP-001-R11
2	3	5 10 35 10				VERIFY VALVE CH-V340 OPEN AND	13-M-CHP-001-R11

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : INVENTORY CONTROL

EVENT : CVCS (HIGH INVENTORY)

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
2	3	5 10 35 15				IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V341 CLOSED AND	13-M-CHP-001-R11
2	3	5 10 35 20				IF ONLY ONE LETDOWN CONTROL VALVE REQUIRED VERIFY VALVE CH-V342 CLOSED	13-M-CHP-001-R11
2	3	5 10 35 25				MANUALLY OPEN VALVE CH-LV110Q TO OBTAIN MAXIMUM LETDOWN FLOW	13-M-CHP-001-R11
2	3	5 15 0 0	MONITOR RCS FOR VOIDING AND/OR	NONE	MONITOR RCS FOR VOIDING AND/OR	MONITOR RCS FOR VOIDING AND/OR	CEN-152-R1
2	3	5 15 0 5	SEE TASKS 2-1-25-5-0-0 THRU 2-1-25-15-45-0	SEE TASKS 2-1-25-5-0-0 THRU 2-1-25-15-45-0	SEE TASKS 2-1-25-5-0-0 THRU 2-1-25-15-45-0	SEE TASKS 2-1-25-5-0-0 THRU 2-1-25-15-45-0	SEE TASKS 2-1-25-5-0-0 THRU 2-1-25-15-45-0
2	3	5 20 0 0	INITIATE VOID ELIMINATION AS FOLLOWS	NONE	INITIATE VOID ELIMINATION AS FOLLOWS	INITIATE VOID ELIMINATION AS FOLLOWS	CEN-152-R1
2	3	5 20 0 5	SEE TASKS 2-1-30-5-0-0 THRU 2-1-30-40-10-115	SEE TASKS 2-1-30-5-0-0 THRU 2-1-30-40-10-115	SEE TASKS 2-1-30-5-0-0 THRU 2-1-30-40-10-115	SEE TASKS 2-1-30-5-0-0 THRU 2-1-30-40-10-115	SEE TASKS 2-1-30-5-0-0 THRU 2-1-30-40-10-115
2	3	5 25 0 0	VERIFY PRESSURIZER LEVEL BETWEEN [35"] AND [245"]	PRESSURIZER LEVEL VALUES (INCHES VS. PERCENT)	VERIFY PRESSURIZER LEVEL BETWEEN [ ] AND [ ]	VERIFY PRESSURIZER LEVEL BETWEEN [ ] AND [ ]	CEN-152-R1 AND TBD
2	3	5 30 0 0	VERIFY RCS SUBCOOLED GREATER THAN [20] DEG-F (BY CET'S)	SUBCOOLING VALUE, CET'S	VERIFY RCS SUBCOOLED GREATER THAN [ ] DEG-F	VERIFY RCS SUBCOOLED GREATER THAN [ ] DEG-F	CEN-152 R1 AND CE LETTER V-CE-30849

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
3	2	20 10 20 10	1	O/C
3	2	20 10 20 15	1	O/C
3	2	20 10 20 20	1	O/C
3	2	20 10 20 25	1	O/C
3	2	20 10 20 30	1	O/C
3	2	20 10 20 35	1	O/C
3	2	20 10 20 40	1	O/C
3	2	20 10 25 15	1	O/C
3	2	20 10 25 20	1	O/C
3	2	20 10 25 25	1	O/C
3	2	20 10 40 20	1	O/C
3	2	20 10 40 25	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : CVCS (LOW)

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	2	20 10 20 10				OPEN VALVE CH-V327	13-M-CHP-002-R14
3	2	20 10 20 15				OPEN VALVE CH-V755 FOR CHA-P01	13-M-CHP-002-R14
3	2	20 10 20 20				CLOSE VALVE CH-V316 FOR CHA-P01	13-M-CHP-002-R14
3	2	20 10 20 25				OPEN VALVE CH-V756 FOR CHB-P01	13-M-CHP-002-R14
3	2	20 10 20 30				CLOSE VALVE CH-V319 FOR CHB-P01	13-M-CHP-002-R14
3	2	20 10 20 35				OPEN VALVE CH-V757 FOR CHE-P01	13-M-CHP-002-R14
3	2	20 10 20 40				CLOSE VALVE CH-V322 FOR CHE-P01	13-M-CHP-002-R14
3	2	20 10 25 0	BORIC ACID TANK 2B USING BORIC ACID MAKEUP PUMPS OR	NO BORIC ACID TANKS(ALTERNATE METHOD)	REFUELING WATER TANK USING GRAVITY FEED OR	REFUELING WATER TANK USING GRAVITY FEED OR	CEN-152 R1
3	2	20 10 25 5	VERIFY BAT 2B LEVEL > MINIMUM USABLE LEVEL	NO BAT'S	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	VERIFY RWT LEVEL > MINIMUM USABLE LEVEL	CEN-152 R1
3	2	20 10 25 10				VERIFY VALVE CH-HV532 OPEN	13-M-CHP-002-R14
3	2	20 10 25 15				OPEN VALVE CH-V144	13-M-CHP-002-R14
3	2	20 10 25 20				OPEN VALVE CH-V753	13-M-CHP-002-R14

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : CVCS (LOW)

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	2	20 10 25 25				OPEN VALVE CH-V164	13-M-CHP-002-R14
3	2	20 10 25 30				OPEN VALVE CH-UV514	13-M-CHP-002-R14
3	2	20 10 25 35				CLOSE VALVE CH-UV501	13-M-CHP-002-R14
3	2	20 10 30 0	REFUELING WATER TANK USING GRAVITY FEED OR	NONE	SEE TASKS 3-2-20-10-10-0 THRU 3-2-20-10-10-20 AND 3-2-30-10-20-0 THRU 3-2-20-10-25-40	SEE TASKS 3-2-20-10-10-0 THRU 3-2-20-10-10-20 AND 3-2-30-10-20-0 THRU 3-2-20-10-25-40	
3	2	20 10 40 0	SPENT FUEL POOL USING GRAVITY FEED	NONE	SPENT FUEL POOL USING GRAVITY FEED	SPENT FUEL POOL USING GRAVITY FEED	CEN-152 R1
3	2	20 10 40 5	VERIFY SPENT FUEL POOL LEVEL > MINIMUM USABLE LEVEL	NONE	VERIFY SPENT FUEL POOL LEVEL > MINIMUM USABLE LEVEL	VERIFY SPENT FUEL POOL LEVEL > MINIMUM USABLE LEVEL	CEN-152 R1
3	2	20 10 40 10				ENSURE BAMPS WILL NOT START BY PLACING MAKEUP MODE SELECTOR SWITCH TO 'MANUAL'	13-E-CHB-059-R12
3	2	20 10 40 15				CLOSE VALVE CH-HV532	13-M-CHP-002-R14
3	2	20 10 40 20				OPEN VALVE PC-V215	13-M-CHP-002-R14
3	2	20 10 40 25				OPEN VALVE CH-V144	13-M-CHP-002-R14
3	2	20 10 40 30				OPEN VALVE CH-HV536	13-M-CHP-002-R14
3	2	20 10 40 35				CLOSE VALVE CH-UV501	13-M-CHP-002-R14

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
3	5	10 0 5 10	1	O/C = CH-V340
3	5	10 0 5 15	1	O/C = CH-V343
3	5	10 0 5 20	1	O/C = CH-V341
3	5	10 0 5 25	1	O/C = CH-V342
3	5	50 20 0 20	1	O/C
3	5	50 20 0 25	1	O/C
3	5	60 10 5 5	1	O/C = AF-V058
3	5	60 10 5 20	1	O/C = AF-V006
3	5	60 10 10 5	1	O/C = AF-V028
3	5	60 10 10 20	1	O/C = AF-V021

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : FORCED CIRC RCP & SG

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	5	3 0 0 0	VERIFY PRESSURIZER PRESSURE >[2350] PSIA AND	PRESSURIZER PRESSURE VALUE	VERIFY PRESSURIZER PRESSURE >[ ] PSIA AND	VERIFY PRESSURIZER PRESSURE >[ ] PSIA AND	CEN-152 R1 AND TBD
3	5	5 0 0 0	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-3-0-0-0 AND 1-3-3-0-0-0 REACTIVITY CONTROL USING CVCS AND ECCS)	NONE	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-3-0-0-0 AND 1-3-3-0-0-0 REACTIVITY CONTROL USING CVCS AND ECCS)	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-3-0-0-0 AND 1-3-3-0-0-0 REACTIVITY CONTROL USING CVCS AND ECCS)	CEN-152 R1
3	5	10 0 0 0	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	NONE	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	CEN-152 R1
3	5	10 0 5 0	CONTROL LETDOWN FLOW AND	NONE	CONTROL LETDOWN FLOW AND	CONTROL LETDOWN FLOW AND	CEN-152 R1
3	5	10 0 5 5				THROTTLE LETDOWN CONTROL VALVE CH-LV110P OR	13-M-CHP-001-R11
3	5	10 0 5 10				OPEN VALVE V340 AND	13-M-CHP-001-R11
3	5	10 0 5 15				OPEN VALVE V343 AND	13-M-CHP-001-R11
3	5	10 0 5 20				CLOSE VALVE V341 AND	13-M-CHP-001-R11
3	5	10 0 5 25				CLOSE VALVE V342 AND	13-M-CHP-001-R11
3	5	10 0 5 30				THROTTLE LETDOWN CONTROL VALVE CH-LV110Q	13-M-CHP-001-R11

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : FORCED CIRC RCP & SG

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	5	10 0 10 0	CONTROL CHARGING FLOW AND	NONE	CONTROL CHARGING FLOW AND	CONTROL CHARGING FLOW AND	CEN-152 R1
3	5	10 0 10 5	SEE TASKS 2-3-5-10-10-0 THRU 2-3-5-10-15-15	SEE TASKS 2-3-5-10-10-0 THRU 2-3-5-10-15-15	SEE TASKS 2-3-5-10-10-0 THRU 2-3-5-10-15-15	SEE TASKS 2-3-5-10-10-0 THRU 2-3-5-10-15-15	SEE TASKS 2-3-5-10-10-0 THRU 2-3-5-10-15-15
3	5	10 0 15 0	VERIFY PRESSURIZER LEVEL DECREASING AND	NONE	VERIFY PRESSURIZER LEVEL DECREASING AND	VERIFY PRESSURIZER LEVEL DECREASING AND	CEN-152 R1
3	5	10 0 20 0	VERIFY PRESSURIZER PRESSURE DECREASING	NONE	VERIFY PRESSURIZER PRESSURE DECREASING	VERIFY PRESSURIZER PRESSURE DECREASING	CEN-152 R1
3	5	10 0 20 5	SEE TASKS 2-3-5-10-5-0 THRU 2-3-5-10-5-25 AND	SEE TASKS 2-3-5-10-5-0 THRU 2-3-5-10-5-25 AND	SEE TASKS 2-3-5-10-5-0 THRU 2-3-5-10-5-25 AND	SEE TASKS 2-3-5-10-5-0 THRU 2-3-5-10-5-25 AND	SEE TASKS 2-3-5-10-5-0 THRU 2-3-5-10-5-25 AND
3	5	10 0 20 10	SEE TASKS 2-3-5-10-20-0 THRU 2-3-5-10-20-10	SEE TASKS 2-3-5-10-20-0 THRU 2-3-5-10-20-10	SEE TASKS 2-3-5-10-20-0 THRU 2-3-5-10-20-10	SEE TASKS 2-3-5-10-20-0 THRU 2-3-5-10-20-10	SEE TASKS 2-3-5-10-20-0 THRU 2-3-5-10-20-10
3	5	10 5 0 0	MAINTAIN PRESSURIZER LEVEL BETWEEN [35"] AND [245"]	PRESSURIZER LEVEL VALUES AND INCHES VS PERCENT	MAINTAIN PRESSURIZER LEVEL BETWEEN [ ] AND [ ]	MAINTAIN PRESSURIZER LEVEL BETWEEN [ ] AND [ ]	CEN-152 R1 AND TBD
3	5	15 0 0 0	VERIFY RCS PRESSURE > SATURATION PRESSURE OR	NONE	VERIFY RCS PRESSURE > SATURATION PRESSURE OR	VERIFY RCS PRESSURE > SATURATION PRESSURE OR	CEN-152 R1
3	5	20 0 0 0	VERIFY RCS TEMPERATURE < SATURATION TEMPERATURE	NONE	VERIFY RCS TEMPERATURE < SATURATION TEMPERATURE	VERIFY RCS TEMPERATURE < SATURATION TEMPERATURE	CEN-152 R1
3	5	25 0 0 0	IF RCP OPERATION IS TERMINATED	NONE	IF RCP OPERATION IS TERMINATED	IF RCP OPERATION IS TERMINATED	CEN-152 R1
3	5	25 0 0 5				VERIFY RCP-1A STOPPED	13-E-RCB-001-R9

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : FORCED CIRC RCP & SG

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	5	50 20 0 20				OPEN MFP FWN-P01A BYPASS VALVE FW-V008 AND/OR	13-M-FWP-001-R13
3	5	50 20 0 25				OPEN MFP FWN-P01B BYPASS VALVE FW-V013	13-M-FWP-001-R13
3	5	50 20 0 30				OPEN HIGH PRESSURE FEEDWATER HEATERS BYPASS VALVE FW-HV103	13-M-FWP-001-R13
3	5	50 20 0 35				CONTROL FEED FLOW TO SG1 TO ACHIEVE AND MAINTAIN HOT ZERO POWER LEVEL BAND AND/OR	13-M-SGP-002-R12
3	5	50 20 0 40				CONTROL FEED FLOW TO SG2 TO ACHIEVE AND MAINTAIN HOT ZERO POWRE LEVEL BAND	13-M-SGP-002-R12
3	5	50 20 0 45				MONITOR FEED FLOW TO SG1	13-M-SGP-002-R12
3	5	50 20 0 50				MONITOR SG1 LEVEL	13-M-SGP-002-R12
3	5	50 20 0 55				MONITOR FEED FLOW TO SG2	13-M-SGP-002-R12
3	5	50 20 0 60				MONITOR SG2 LEVEL	13-M-SGP-002-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : PRESSURE CONTROL

EVENT : FORCED CIRC RCP & SG

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	5	55 0 0 0	IF ALL FEEDWATER (MAIN AND AUX) IS LOST AND NO PRESSURIZER SPRAY AVAILABLE, SEE PRESSURE CONTROL USING PORV'S	NO PORV'S	NA	NA	CEN-152 R1 AND 13-M-RCP-001-R12
3	5	60 0 0 0	IF AUX FEEDWATER IS BEING USED	NONE	IF AUX FEEDWATER IS BEING USED	IF AUX FEEDWATER IS BEING USED	CEN-152 R1
3	5	60 5 0 0	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	NONE	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	CEN-152 R1
3	5	60 5 0 5				MONITOR CONDENSATE STORAGE TANK(CST) LEVEL	13-M-CTP-001-R11
3	5	60 5 0 10				MONITOR REACTOR MAKEUP WATER TANK(RMWT) LEVEL	13-M-CHP-003-R13
3	5	60 10 0 0				IF CST LEVEL INADEQUATE TO SUPPORT AUX FEED PUMP OPERATION	TBD
3	5	60 10 5 0				TRANSFER AUX FEED PUMP AFA-P01 SUCTION FROM CST TO RMWT AND/OR	13-M-AFP-001-R19 13-M-CHP-003-R13
3	5	60 10 5 5				SLOWLY OPEN VALVE AF-V058	13-M-CHP-003-R13
3	5	60 10 5 10				MONITOR AFA-P01 DISCHARGE PRESSURE	13-M-CHP-003-R13
3	5	60 10 5 15				MONITOR AFA-P01 FLOW	13-M-CHP-003-R13

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION A[illegible]TROL REQUIREMENTS
OPERATOR AN[illegible]NATE TASK DATA

SAFE[illegible]CTION : PRESSURE CONTROL

EVENT : FORCED CIRC RCP & SG

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	5	60 10 5 20				SLOWLY CLOSE VALVE AF-V006	13-M-CHP-003-R133
3	5	60 10 10 0				TRANSFER AUX FEED PUMP AFB-P01 SUCTION FROM CST TO RMWT	13-M-AFP-001-R19 13-M-CHP-003-R13
3	5	60 10 10 5				SLOWLY OPEN VALVE AF-V028	13-M-CHP-003-R13
3	5	60 10 10 10				MONITOR AFB-P01 DISCHARGE PRESSURE	13-M-CHP-003-R13
3	5	60 10 10 15				MONITOR AFB-P01 FLOW	13-M-CHP-003-R13
3	5	60 10 10 20				SLOWLY CLOSE VALVE AF-V021	13-M-CHP-003-R13
3	5	65 0 0 0	VERIFY RCS PRESSURE <[2340] PSIA AND CONSTANT OR DECREASING AND	PRESSURE VALUE	VERIFY RCS PRESSURE <[ ] PSIA AND CONSTANT OR DECREASING AND	VERIFY RCS PRESSURE <[ ] PSIA AND CONSTANT OR DECREASING AND	CEN-152 R1 AND TBD
3	5	70 0 0 0	VERIFY RCS PRESSURE IS WITHIN THE LIMIT OF (FIG 10-10) SIS FLOW VS RCS PRESSURE	FIGURE 10-10	VERIFY RCS PRESSURE IS WITHIN THE LIMIT OF 'SIS FLOW VS RCS PRESSURE'	VERIFY RCS PRESSURE IS WITHIN THE LIMIT OF 'SIS FLOW VS RCS PRESSURE' (T.S. FIG 3.4-2)	CEN-152 R1 AND T.S. 3.4.8.1

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
3	6	10 0 5 10	1	O/C = V340
3	6	10 0 5 15	1	O/C = V343
3	6	10 0 5 20	1	O/C = V341
3	6	10 0 5 25	1	O/C = V342

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION A[illegible]TROL REQUIREMENTS
OPERATOR AN[illegible]RNATE TASK DATA

SAFE[illegible]CTION : PRESSURE CONTROL

EVENT : RCS NATURAL CIRCULATION AND SG (High)

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
3	6	3 0 0 0	VERIFY PRESSURIZER PRESSURE > [2350] PSIA AND		VERIFY PRESSURIZER PRESSURE > [2350] PSIA AND	VERIFY PRESSURIZER PRESSURE > [2350] PSIA AND	CEN-152 R1
3	6	5 0 0 0	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-5-0-0-0 AND 1-3-5-0-0-0 FOR REACTIVITY CONTROL USING CVCS AND ECCS)	NONE	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-5-0-0-0 AND 1-3-5-0-0-0 FOR REACTIVITY CONTROL USING CVCS AND ECCS)	BORATE AS NECESSARY TO MAINTAIN SHUTDOWN MARGIN (SEE TASKS 1-2-5-0-0-0 AND 1-3-5-0-0-0 FOR REACTIVITY CONTROL USING CVCS AND ECCS)	CEN-152 R1
3	6	10 0 0 0	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	NONE	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	CONTROL RCS INVENTORY TO ALLOW PRESSURIZER LEVEL TO DROP WHILE COOLING DOWN IN ORDER TO EFFECT DEPRESSURIZATION	CEN-152 R1
3	6	10 0 5 0	CONTROL LETDOWN FLOW AND	NONE	CONTROL LETDOWN FLOW AND	CONTROL LETDOWN FLOW AND	CEN-152 R1
3	6	10 0 5 5				THROTTLE LETDOWN CONTROL VALVE CH-LV110P OR	13-M-CHP-001-R11
3	6	10 0 5 10				OPEN VALVE V340 AND	13-M-CHP-001-R11
3	6	10 0 5 15				OPEN VALVE V343 AND	13-M-CHP-001-R11
3	6	10 0 5 20				CLOSE VALVE V341 AND	13-M-CHP-001-R11
3	6	10 0 5 25				CLOSE VALVE V342 AND	13-M-CHP-001-R11
3	6	10 0 5 30				THROTTLE LETDOWN CONTROL VALVE CH-LV110Q	13-M-CHP-001-R11

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
4	1	50 20 0 20	1	O/C
4	1	50 20 0 25	1	O/C
4	1	60 10 5 5	1	O/C = AF-V058
4	1	60 10 5 20	1	O/C = AF-V006
4	1	60 10 10 5	1	O/C = AF-V028
4	1	60 10 10 20	1	O/C = AF-V021

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SG FORCED CIRCULATION

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	1	50 20 0 5				VERIFY RUNNING/START CONDENSATE PUMP CDN-P01A AND/OR	13-M-CDP-002-R14
4	1	50 20 0 10				VERIFY RUNNING/START CONDENSATE PUMP CDN-P01B AND/OR	13-M-CDP-002-R14
4	1	50 20 0 15				VERIFY RUNNING/START CONDENSATE PUMP CDN-P01C AND/OR	13-M-CDP-002-R14
4	1	50 20 0 20				OPEN MFP FWN-P01A BYPASS VALVE FW-V008 AND/OR	13-M-FWP-001-R13
4	1	50 20 0 25				OPEN MFP FWN-P01B BYPASS VALVE FW-V013	13-M-FWP-001-R13
4	1	50 20 0 30				OPEN HIGH PRESSURE FEEDWATER HEATERS BYPASS VALVE FW-HV103	13-M-FWP-001-R13
4	1	50 20 0 35				CONTROL FEED FLOW TO SG1 TO ACHIEVE AND MAINTAIN HOT ZERO POWER LEVEL BAND AND/OR	13-M-SGP-002-R12
4	1	50 20 0 40				CONTROL FEED FLOW TO SG2 TO ACHIEVE AND MAINTAIN HOT ZERO POWER LEVEL BAND	13-M-SGP-002-R12
4	1	50 20 0 45				MONITOR FEED FLOW TO SG 1	13-M-SGP-002-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SG FORCED CIRCULATION

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	1	60 10 5 5				SLOWLY OPEN VALVE AF-V058	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 5 10				MONITOR AFA-P01 DISCHARGE PRESSURE	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 5 15				MONITOR AFA-P01 FLOW	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 5 20				SLOWLY CLOSE VALVE AF-V006	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 10 0				TRANSFER AUX FEED PUMP AFB-P01 SUCTION FROM CST TO RMWT	13-M AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 10 5				SLOWLY OPEN VALVE AF-V028	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 10 10				MONITOR AFB-P01 DISCHARGE PRESSURE	13-M AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 10 15				MONITOR AFB-P01 FLOW	13-M-AFP-001-R19 13-M-CHP-003-R13
4	1	60 10 10 20				SLOWLY CLOSE VALVE AF-V021	13-M AFP-001-R19 13-M-CHP-003-R13
4	1	65 0 0 0	VERIFY RCS PRESSURE < [2340} PSIA AND CONSTANT OR DECREASING AND	PRESSURE VALUE	VERIFY RCS PRESSURE < [ ] PSIA AND CONSTANT OR	VERIFY RCS PRESSURE < [ ] PSIA AND CONSTANT OR DECREASING AND	CEN-152 R1 TBD
4	1	70 0 0 0	VERIFY RCS SUBCOOLING BETWEEN [20] AND [200] DEG-F (BY CET'S) AND	SUBCOOLING VALUES (CET'S)	VERIFY RCS SUBCOOLING BETWEEN [ ] AND [ ] DEG-F AND	VERIFY RCS SUBCOOLING BETWEEN [ ] AND [ ] DEG-F AND	CEN-152 R1 AND TBD

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
4	3	40 10 5 5	1	O/C
4	3	40 10 5 20	1	O/C
4	3	40 10 10 5	1	O/C
4	3	40 10 10 20	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SG AND ECCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	3	35 10 25 5	SEE TASKS 4-1-50-10-25-5 THRU 4-1-50-10-25-40	SEE TASKS 4-1-50-10-25-5 THRU 4-1-50-10-25-40	SEE TASKS 4-1-50-10-25-5 THRU 4-1-50-10-25-10	SEE TASKS 4-1-50-10-25-5 THRU 4-1-50-10-25-10	SEE TASKS 4-1-50-10-25-5-THRU 4-1-50-10-25-10
4	3	40 0 0 0	IF AUX FEEDWATER IS BEING USED	NONE	IF AUX FEEDWATER IS BEING USED	IF AUX FEEDWATER IS BEING USED	CEN-152 R1
4	3	40 5 0 0	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	NONE	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	ENSURE AN ADEQUATE SUPPLY OF CONDENSATE AND	CEN-152 R1
4	3	40 5 0 5				MONITOR CONDENSATE STORAGE TANK (CST) LEVEL	13-M-CTP-001-R11
4	3	40 5 0 10				MONITOR REACTOR MAKEUP WATER TANK (RMWT) LEVEL	13-M-CHP-003-R13
4	3	40 10 0 0				IF CONDENSATE STORAGE TANK LEVEL INADEQUATE TO SUPPORT AUXILIARY FEED PUMP OPERATION	TBD
4	3	40 10 5 0				TRANSFER AUX FEED PUMP AFA-P01 SUCTION FROM CST TO RMWT AND/OR	13-M-AFP-001-R19 13-M-CHP-003-R13
4	3	40 10 5 5				SLOWLY OPEN VALVE AF-V058	13-M-CHP-003-R13
4	3	40 10 5 10				MONITOR AFA-P01 DISCHARGE PRESSURE	13-M-CHP-003-R13
4	3	40 10 5 15				MONITOR AFA-P01 FLOW	13-M-CHP-003-R13

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANCILLARY TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SG AND ECCS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	3	40 10 5 20				SLOWLY CLOSE VALVE AF-V006	13-M-CHP-003-R13
4	3	40 10 10 0				TRANSFER AUX FEED PUMP AFB-P01 SUCTION FROM CST TO RMWT	13-M-AFP-001-R19 13-M-CHP-003-R13
4	3	40 10 10 5				SLOWLY OPEN VALVE AF-V028	13-M-CHP-003-R13
4	3	40 10 10 10				MONITOR AFB-P01 DISCHARGE PRESSURE	13-M-CHP-003-R13
4	3	40 10 10 15				MONITOR AFB-P01 FLOW	13-M-CHP-003-R13
4	3	40 10 10 20				SLOWLY CLOSE VALVE AF-V021	13-M-CHP-003-R13
4	3	45 0 0 0	VERIFY ALL RCP'S ARE TRIPPED AND	NONE	VERIFY ALL RCP'S ARE TRIPPED AND	VERIFY ALL RCP'S ARE TRIPPED AND	CEN-152 R1
4	3	45 0 0 5				VERIFY RCP 1A TRIPPED AND	13-M-RCP-001-R12
4	3	45 0 0 10				VERIFY RCP 1B TRIPPED AND	13-M-RCP-001-R12
4	3	45 0 0 15				VERIFY RCP 2A TRIPPED AND	13-M-RCP-001-R12
4	3	45 0 0 20				VERIFY RCP 2B TRIPPED	13-M-RCP-001-R12
4	3	50 0 0 0	VERIFY RCS INVENTORY IS BEING CONTROLLED	NONE	VERIFY RCS INVENTORY IS BEING CONTROLLED	VERIFY RCS INVENTORY IS BEING CONTROLLED	CEN-152 R1

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
4	5	35 5 10 10	1	O/C
4	5	35 5 10 35	1	O/C
4	5	35 10 10 10	1	O/C
4	5	35 10 10 35	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SHUTDOWN COOLING

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	5	35 5 5 25				VERIFY EXPECTED AMPS AND	13-M-SPP-001-R10
4	5	35 5 5 30				VERIFY EXPECTED SUPPLY TEMPERATURE AND	13-M-SPP-001-R10
4	5	35 5 5 35				VERIFY EXPECTED RETURN TEMPERATURE	13-M-SPP-001-R10
4	5	35 5 10 0	NONE	ADDITIONAL STEP TO SUPPORT SHUTDOWN COOLING INITIATION	VERIFY TRAIN 'A' ESSENTIAL COOLING WATER SYSTEM AVAILABLE AND	VERIFY TRAIN 'A' ESSENTIAL COOLING WATER SYSTEM AVAILABLE AND	13-M-EWP-001-R11
4	5	35 5 10 5				VERIFY ESSENTIAL COOLING WATER PUMP EWA-P01 RUNNING AND	13-M-EWP-001-R11
4	5	35 5 10 10				VERIFY EXPECTED DISCHARGE PRESSURE AND	13-M-EWP-001-R11
4	5	35 5 10 15				VERIFY EXPECTED FLOW AND	13-M-EWP-001-R11
4	5	35 5 10 20				VERIFY EXPECTED AMPS AND	13-M-EWP-001-R11
4	5	35 5 10 25				VERIFY EXPECTED SUPPLY TEMERATURE AND	13-M-EWP-001-R11
4	5	35 5 10 30				VERIFY EXPECTED RETURN TEMPERATURE AND	13-M-EWP-001-R11
4	5	35 5 10 35				VERIFY ADEQUATE SURGE TANK LEVEL	13-M-EWP-001-R11

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SHUTDOWN COOLING

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	5	35 10 5 10				VERIFY SPRAY POND 'B' LEVEL > MINIMUM REQUIRED LEVEL AND	13-M-SPP-001-R10
4	5	35 10 5 15				VERIFY EXPECTED DISCHARGE PRESSURE AND	13-M-SPP-001-R10
4	5	35 10 5 20				VERIFY EXPECTED FLOW AND	13-M-SPP-001-R10
4	5	35 10 5 25				VERIFY EXPECTED AMPS AND	13-M-SPP-001-R10
4	5	35 10 5 30				VERIFY EXPECTED SUPPLY TEMPERATURE AND	13-M-SPP-001-R10
4	5	35 10 5 35				VERIFY EXPECTED RETURN TEMPERATURE	13-M-SPP-001-R10
4	5	35 10 10 0	NONE	ADDITIONAL STEP TO SUPPORT SHUTDOWN COOLING INITIATION	VERIFY TRAIN 'B' ESSENTIAL COOLING WATER SYSTEM AVAILABLE AND	VERIFY TRAIN 'B' ESSENTIAL COOLING WATER SYSTEM AVAILABLE AND	13-M-EWP-001-R11
4	5	35 10 10 5				VERIFY ESSENTIAL COOLING WATER PUMP EWB-P01 RUNNING AND	13-M-EWP-001-R11
4	5	35 10 10 10				VERIFY EXPECTED DISCHARGE PRESSURE AND	13-EWP-001-R11
4	5	35 10 10 15				VERIFY EXPECTED FLOW AND	13-M-EWP-001-R11
4	5	35 10 10 20				VERIFY EXPECTED AMPS AND	13-M-EWP-001-R11

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : HEAT REMOVAL

EVENT : SHUTDOWN COOLING

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
4	5	35 10 10 25				VERIFY EXPECTED SUPPLY TEMPERATURE AND	13-M-EWP-001-R11
4	5	35 10 10 30				VERIFY EXPECTED RETURN TEMPERATURE AND	13-M-EWP-001-R11
4	5	35 10 10 35				VERIFY ADEQUATE SURGE TANK LEVEL	13-M-EWP-001-R11
4	5	35 10 15 0	NONE	ADDITIONAL STEP TO SUPPORT SHUTDOWN COOLING INITIATION	VERIFY TRAIN 'B' ESSENTIAL CHILLED WATER SYSTEM AVAILABLE	VERIFY TRAIN 'B' ESSENTIAL CHILLED WATER SYSTEM AVAILABLE	13-M-ECP-001-R15
4	5	35 10 15 5				VERIFY ESSENTIAL CHILLER ECB-E01 RUNNING AND	13-M-ECP-001-R15
4	5	35 10 15 10				VERIFY ESSENTIAL CHILLED WATER CIRC PUMP ECB-P01 RUNNING AND	13-M-ECP-001-R15
4	5	35 10 15 15				VERIFY EXPECTED AMPS FOR ESSENTIAL CHILLER ECB-E01 AND	13-M-ECP-001-R15
4	5	35 10 15 20				VERIFY EXPECTED CIRCWATER DIFFERENTIAL PRESSURE AND	13-M-ECP-001-R15
4	5	35 10 15 25				VERIFY EXPECTED CHILLED WATER SUPPLY TEMPERATURE	13-M-ECP-001-R15

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
TASK SEQUENCE NUMBER VS TAG NUMBER

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
5	1	75 0 0 45	1	O/C MANUAL VALVES
5	1	75 0 0 50	1	O/C MANUAL VALVES
5	1	75 0 0 55	1	O/C MANUAL VALVES
5	1	75 0 0 60	1	O/C MANUAL VALVES
5	1	75 0 0 65	1	O/C MANUAL VALVES
5	1	75 0 0 70	1	O/C MANUAL VALVES
5	1	75 0 0 75	1	O/C MANUAL VALVES
5	1	75 0 0 80	1	O/C MANUAL VALVES
5	1	75 0 0 85	1	O/C MANUAL VALVES
5	1	75 0 0 90	1	O/C MANUAL VALVES
5	1	75 0 0 95	1	O/C MANUAL VALVES
5	1	75 0 0 100	1	O/C MANUAL VALVES

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION A[illegible]TROL REQUIREMENTS
OPERATOR AN[illegible]RNATE TASK DATA

SAFE[illegible]NCTION : CONTAINMENT ISOLATION

EVENT : MANUAL CONTAINMENT ISOLATION

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
5	1	75 0 0 45				VERIFY VALVE SG-V603 CLOSED AND	13-M-SGP-002-R12
5	1	75 0 0 50				VERIFY VALVE SG-V611 CLOSED AND	13-M-SGP-002-R12
5	1	75 0 0 55				VERIFY VALVE DW-V061 CLOSED AND	13-M-DWP-002-R14
5	1	75 0 0 60				VERIFY VALVE DW-V062 CLOSED AND	13-M-DWP-002-R14
5	1	75 0 0 65				VERIFY VALVE FP-V089 CLOSED AND	13-M-FPP-006-R9
5	1	75 0 0 70				VERIFY VALVE SI-V463 CLOSED AND	13-M-SIP-001-R13
5	1	75 0 0 75				VERIFY VALVE CH-V854 CLOSED AND	13-M-CHP-001-R11
5	1	75 0 0 80				VERIFY VALVE PC-V070 CLOSED AND	13-M-PCP-001-R12
5	1	75 0 0 85				VERIFY VALVE PC-V071 CLOSED AND	13-M-PCP-001-R12
5	1	75 0 0 90				VERIFY VALVE PC-V075 CLOSED AND	13-M-PCP-001-R12
5	1	75 0 0 95				VERIFY VALVE PC-V076 CLOSED AND	13-PCP-001-R12
5	1	75 0 0 100				VERIFY VALVE IA-V072 CLOSED	13-M-IAP-002-R10

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
7	1	15 10 0 5	1	O/C = HPA-HS-61
7	1	15 10 0 10	1	O/C = HPA-HS-61
7	1	15 15 0 5	1	O/C = HPB-HS-62
7	1	15 15 0 10	1	O/C = HPB-HS-62
7	1	20 0 0 5	1	O/C - NO SWITCH
7	1	20 0 0 10	1	O/C - NO SWITCH
7	1	20 0 0 15	1	O/C - NO SWITCH
7	1	20 0 0 20	1	O/C - NO SWITCH
7	1	20 0 0 55	1	O/C - NO SWITCH
7	1	20 0 0 60	1	O/C - NO SWITCH
7	1	20 0 0 65	1	O/C - NO SWITCH
7	1	20 0 0 70	1	O/C - NO SWITCH

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND COORDINATE TASK DATA

SAFETY FUNCTION : CONTAINMENT HYDROGEN CONTROL

EVENT :

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
7	1	10 10 0 25				MONITOR HYDROGEN CONCENTRATION	13-M-HPP-001-R9
7	1	15 0 0 0	NONE	NA	NONE	MANUALLY START AT LEAST ONE HYDROGEN RECOMBINER BEFORE CONTAINMENT HYDROGEN CONCENTRATION REACHES 3.5% OR	PVNGS FSAR 6.2.5
7	1	15 5 0 0	NONE	NA	NONE	VERIFY CONTAINMENT HYDROGEN CONCENTRATION < 3.5% AND	PVNGS FSAR 6.2.5
7	1	15 10 0 0	NONE	NA	NONE	MANUALLY START HYDROGEN RECOMBINER 'A' AND/OR	13-M-HPP-001-R9
7	1	15 10 0 2				ACTUATE OVERRIDE ON HP-UV1 IF CIAS ACTUATED AND	13-M-HPP-001-R9
7	1	15 10 0 3				ACTUATE OVERRIDE ON HP-UV3 IF CIAS ACTUATED AND	13-M-HPP-001-R9
7	1	15 10 0 4				ACTUATE OVERRIDE ON HP-UV5 IF CIAS ACTUATED ANS	13-M-HPP-001-R9
7	1	15 10 0 5				OPEN DAMPER HPA-M01 AND	13-M-HPP-001-R9
7	1	15 10 0 10				OPEN DAMPER HPA-M02 AND	13-M-HPP-001-R9

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : CONTAINMENT HYDROGEN CONTROL

EVENT :

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
7	1	15 10 0 15				VERIFY OPEN VALVE HP-UV1 AND	13-M-HPP-001-R9
7	1	15 10 0 20				OPEN VALVE HP-UV3 AND	13-M-HPP-001-R9
7	1	15 10 0 25				OPEN VALVE HP-UV5 AND	13-M-HPP-001-R9
7	1	15 10 0 30				START HYDROGEN RECOMBINER 'A' AND	13-M-HPP-001-R9
7	1	15 10 0 35				MONITOR HYDROGEN CONCENTRATION	13-M-HPP-001-R9
7	1	15 15 0 0	NONE	NA	NONE	MANUALLY START HYDROGEN RECOMBINER 'B'	13-M-HPP-001-R9
7	1	15 15 0 2				ACTUATE OVERRIDE ON HP-UV2 IF CIAS ACTUATED AND	13-M-HPP-001-R9
7	1	15 15 0 3				ACTUATE OVERRIDE ON HP-UV4 IF CIAS ACTUATED AND	13-M-HPP-001-R9
7	1	15 15 0 4				ACTUATE OVERRIDE ON HP-UV6 IF CIAS ACTUATED AND	13-M-HPP-001-R9
7	1	15 15 0 5				OPEN DAMPER HPB-M01 AND	13-M-HPP-001-R9
7	1	15 15 0 10				OPEN DAMPER HPB-M02 AND	13-M-HPP-001-R9

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND COORDINATE TASK DATA

SAFETY FUNCTION : CONTAINMENT HYDROGEN CONTROL EVENT :

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
7	1	15 15 0 15				VERIFY OPEN VALVE HP-UV2 AND	13-M-HPP-001-R9
7	1	15 15 0 20				OPEN VALVE HP-UV4 AND	13-M-HPP-001-R9
7	1	15 15 0 25				OPEN VALVE HP-UV6 AND	13-M-HPP-001-R9
7	1	15 15 0 30				START HYDROGEN RECOMBINER 'B' AND	13-M-HPP-001-R9
7	1	15 15 0 35				MONITOR HYDROGEN CONCENTRATION	13-M-HPP-001-R9
7	1	20 0 0 0	NONE	NA	NONE	MANUALLY START HYDROGEN PURGE EXHAUST UNIT	PVNGS FSAR 6.2.5
7	1	20 0 0 5				CLOSE VALVE HP-V010 AND	13-M-HPP-001-R9
7	1	20 0 0 10				CLOSE VALVE HP-V011 AND	13-M-HPP-001-R9
7	1	20 0 0 15				CLOSE VALVE HP-V012 AND	13-M-HPP-001-R9
7	1	20 0 0 20				CLOSE VALVE HP-V013 AND	13-M-HPP-001-R9
7	1	20 0 0 25				OPEN VALVE HP-UV1 AND	13-M-HPP-001-R9
7	1	20 0 0 30				OPEN VALVE HP-UV2 AND	13-M-HPP-001-R9
7	1	20 0 0 35				OPEN VALVE HP-UV3 AND	13-M-HPP-001-R9

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : CONTAINMENT HYDROGEN CONTROL

EVENT :

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
7	1	20 0 0 40				OPEN VALVE HP-UV4 AND	13-M-HPP-001-R9
7	1	20 0 0 45				OPEN VALVE HP-UV5 AND	13-M-HPP-001-R9
7	1	20 0 0 50				OPEN VALVE HP-UV6 AND	13-M-HHP-001-R9
7	1	20 0 0 55				OPEN VALVE HP-V005 AND	13-M-HPP-001-R9
7	1	20 0 0 60				OPEN VALVE HP-V006 AND	13-M-HPP-001-R9
7	1	20 0 0 65				OPEN VALVE HP-V001 AND	13-M-HPP-001-R9
7	1	20 0 0 70				OPEN VALVE HP-V003	13-M-HPP-001-R9
7	1	25 0 0 0	MAINTAIN CONTAINMENT HYDROGEN CONCENTRATION < 4%	MAINTAIN CONTAINMENT HYDROGEN CONCENTRATION < 4%	MAINTAIN CONTAINMENT HYDROGEN CONCENTRATION < 4%	MAINTAIN CONTAINMENT HYDROGEN CONCENTRATION < 4%	PVNGS FSAR 6.2.5

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
12	20	60 30 5 0	1	O/C
12	20	60 30 10 0	1	O/C
12	20	60 30 15 0	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : LOCA

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
12	20	60 25 0 0	MAINTAIN RCS HEAT REMOVAL AND	NONE	MAINTAIN RCS HEAT REMOVAL AND	MAINTAIN RCS HEAT REMOVAL AND	CEN-152 R1
12	20	60 25 5 0	USING MAIN OR AUX FEEDWATER AND	NONE	USING MAIN OR AUX FEEDWATER AND	USING MAIN OR AUX FEEDWATER AND	CEN-152 R1
12	20	60 25 5 5	SEE TASKS 3-5-25-5-5-0 THRU 3-5-25-5-5-10 FOR SG1 AND	SEE TASKS 3-5-25-5-5-0 THRU 3-5-25-5-5-10 FOR SG1 AND	SEE TASKS 3-5-25-5-5-0 THRU 3-5-25-5-5-10 FOR SG1 AND	SEE TASKS 3-5-25-5-5-0 THRU 3-5-25-5-5-10 FOR SG1 AND	SEE TASKS 3-5-25-5-5-0 THRU 3-5-25-5-5-10 FOR SG1 AND
12	20	60 25 5 10	SEE TASKS 3-5-25-5-20-0 THRU 3-5-25-5-20-10 FOR SG2	SEE TASKS 3-5-25-5-20-0 THRU 3-5-25-5-20-10 FOR SG2	SEE TASKS 3-5-25-5-20-0 THRU 3-5-25-5-20-10 FOR SG2	SEE TASKS 3-5-25-5-20-0 THRU 3-5-25-5-20-10 FOR SG2	SEE TASKS 3-5-25-5-20-0 THRU 3-5-25-5-20-10 FOR SG2
12	20	60 25 10 0	USING TURBINE BYPASS SYSTEM OR ATMOSPHERIC DUMP VALVES	NONE	USING TURBINE BYPASS SYSTEM OR ATMOSPHERIC DUMP VALVES	USING TURBINE BYPASS SYSTEM OR ATMOSPHERIC DUMP VALVES	CEN-152 R1
12	20	60 25 10 5	SEE TASKS 3-5-35-15-0-0 THRU 3-5-35-15-10-0 AND 3-5-35-20-5-25 THRU 3-5-35-20-5-30 OR	SEE TASKS 3-5-35-15-0-0 THRU 3-5-35-15-10-0 AND 3-5-35-20-5-25 THRU 3-5-35-20-5-30 OR	SEE TASKS 3-5-35-15-0-0 THRU 3-5-35-15-10-0 AND 3-5-35-20-5-25 THRU 3-5-35-20-5-30 OR	SEE TASKS 3-5-35-15-0-0 THRU 3-5-35-15-10-0 AND 3-5-35-20-5-25 THRU 3-5-35-20-5-30 OR	SEE TASKS 3-5-35-15-0-0 THRU 3-5-35-15-10-0 AND 3-5-35-20-5-25 THRU 3-5-35-20-5-
12	20	60 25 10 10	SEE TASK 3-5-35-25-5-5 THRU 3-5-35-25-5-25 AND 3-5-35-25-5-50	SEE TASK 3-5-35-25-5-5 THRU 3-5-35-25-5-25 AND 3-5-35-25-5-50	SEE TASK 3-5-35-25-5-5 THRU 3-5-35-25-5-25 AND 3-5-35-25-5-50	SEE TASK 3-5-35-25-5-5 THRU 3-5-35-25-5-25 AND 3-5-35-25-5-50	SEE TASK 3-5-35-25-5-5 THRU 3-5-35-25-5-25 AND 3-5-35-25-5-50
12	20	60 30 0 0	IF PLANT CONDITIONS PERMIT BYPASS AUTOMATIC INITIATIONS [BY LOWERING THE SETPOINT AS RCS COOLDOWN AND DEPRESSURIZATION PROCEED] AND	NONE	IF PLANT CONDITIONS PERMIT BYPASS AUTOMATIC INITIATIONS [BY LOWERING THE SETPOINT AS RCS COOLDOWN AND DEPRESSURIZATION PROCEED] AND	IF PLANT CONDITIONS PERMIT BYPASS AUTOMATIC INITIATIONS [BY LOWERING THE SETPOINT AS RCS COOLDOWN AND DEPRESSURIZATION PROCEED] AND	CEN-152 R1
12	20	60 30 5 0	BYPASS [MSIS] AND	NONE	BYPASS [MSIS] AND	BYPASS [MSIS] AND	CEN-152 R1

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYSIS ALTERNATE TASK DATA

SAFETY FUNCTION : LOCA

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
12	20	60 30 5 5				VERIFY SG LOW PRESSURE PRETRIP ALARM AND	CE LETTER V-CE-30690
12	20	60 30 5 10				LOWER SG LOW PRESSURE TRIP SETPOINT	CE LETTER V-CE-30690
12	20	60 30 5 15				VERIFY SG LOW PRESSURE TRIP SETPOINT LOWERED	CE LETTER V-CE-30690
12	20	60 30 10 0	BYPASS [CIAS] AND	NONE	BYPASS [CIAS] AND	BYPASS [CIAS] AND	CEN-152 R1
12	20	60 30 10 5				VERIFY LOW PRESSURIZER PRESSURE PRE TRIP ALARM AND	CE LETTER V-CE 30690
12	20	60 30 10.10				LOWER LOW PRESSURIZER PRESSURE TRIP SETPOINT	CE LETTER V-CE-30690
12	20	60 30 10 15				VERIFY LOW PRESSURIZER PRESSURE SETPOINT LOWERED	CE LETTER V-CE-30690
12	20	60 30 15 0	BYPASS [SIAS] AND	NONE	BYPASS [SIAS] AND	BYPASS [SIAS] AND	CEN-152 R1
12	20	60 30 15 5				VERIFY LOW PRESSURIZER PRESSURE PRETRIP ALARM AND	CE LETTER V-CE-30690
12	20	60 30 15 10				LOWER LOW PRESSURIZER PRESSURE TRIP SETPOINT	CE-LETTER V-CE-30690
12	20	60 30 15 15				VERIFY LOW PRESSURIZER PRESSURE SETPOINT LOWERED	CE LETTER V-CE-30690

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	DEVICE	INDICATOR TAG NUMBER
13	20	25 5 10 0	1	O/C
13	20	25 5 15 0	1	O/C
13	20	25 5 20 0	1	O/C
13	20	25 5 25 0	1	O/C
13	20	25 5 30 0	1	O/C
13	20	25 5 35 0	1	O/C
13	20	85 5 0 15	1	O/C
13	20	85 5 0 30	1	O/C
13	20	85 5 0 45	1	O/C
13	20	85 10 0 0	1	O/C
13	20	85 15 0 0	1	O/C
13	20	85 20 0 0	1	O/C
13	20	100 10 0 5	1	O/C
13	20	100 10 0 10	1	O/C
13	20	100 15 0 5	1	O/C
13	20	100 15 0 10	1	O/C
13	20	100 15 0 15	1	O/C
13	20	100 15 0 20	1	O/C
13	20	100 15 0 25	1	O/C
13	20	100 15 0 30	1	O/C
13	20	100 15 0 35	1	O/C
13	20	100 15 0 40	1	O/C
13	20	100 15 0 45	1	O/C

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION A[illegible]TROL REQUIREMENTS
OPERATOR A[illegible]RNATE TASK DATA

SAFE[illegible]NCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	20 10 10 5	SEE TASKS 3-5-35-25-0-0 THRU 3-5-35-25-5-50 OR	SEE TASKS 3-5-35-25-0-0 THRU 3-5-35-25-5-50 OR	SEE TASKS 3-5-35-25-0-0 THRU 3-5-35-25-5-50 OR	SEE TASKS 3-5-35-25-0-0 THRU 3-5-35-25-5-50 OR	SEE TASKS 3-5-35-25-0-0 THRU 3-5-35-25-5-50 OR
13	20	20 10 10 10	SEE TASK 3-5-35-25-0-0 AND TASKS 3-5-35-25-10-0 THRU 3-5-35-25-10-15	SEE TASK 3-5-35-25-0-0 AND TASKS 3-5-35-25-10-0 THRU 3-5-35-25-10-15	SEE TASK 3-5-35-25-0-0 AND TASKS 3-5-35-25-10-0 THRU 3-5-35-25-10-15	SEE TASK 3-5-35-25-0-0 AND TASKS 3-5-35-25-10-0 THRU 3-5-35-25-10-15	SEE TASK 3-5-35-25-0-0 AND TASKS 3-5-35-25-10-0 THRU 3-5-35-25-10-15
13	20	20 10 15 0	VERIFY RCS HOT LEG TEMPERATURE < [545] DEG-F	TEMPERATURE VALUE	VERIFY RCS HOT LEG TEMPERATURE < [ ] DEG-F	VERIFY RCS HOT LEG TEMPERATURE < 565 DEG-F	CEN-152 R1 TBD
13	20	20 10 15 5	SEE TASKS 13-20-20-5-0-5 AND 13-20-20-5-0-10	SEE TASKS 13-20-20-5-0-5 AND 13-20-20-5-0-10	SEE TASKS 13-20-20-5-0-5 AND 13-20-20-5-0-10	SEE TASKS 13-20-20-5-0-5 AND 13-20-20-5-0-10	SEE TASKS 13-20-20-5-0-5 AND 13-20-20-5-0-10
13	20	25 0 0 0	DETERMINE WHICH SG HAS THE TUBE RUPTURE BY PERFORMING THE FOLLOWING AND	NONE	DETERMINE WHICH SG HAS THE TUBE RUPTURE BY PERFORMING THE FOLLOWING AND	DETERMINE WHICH SG HAS THE TUBE RUPTURE BY PERFORMING THE FOLLOWING AND	CEN-152 R1
13	20	25 5 0 0	MONITOR AND/OR SAMPLE STEAM GENERATORS FOR ACTIVITY AND	NONE	MONITOR AND/OR SAMPLE STEAM GENERATORS FOR ACTIVITY AND	MONITOR AND/OR SAMPLE STEAM GENERATORS FOR ACTIVITY AND	CEN-152 R1
13	20	25 5 5 0	MONITOR SG'S FOR ACTIVITY AND	NONE	MONITOR SG'S FOR ACTIVITY AND	MONITOR SG'S FOR ACTIVITY AND	CEN-152 R1
13	20	25 5 5 5				MONITOR SG1 BLOWDOWN RADIATION LEVEL AND	PVNGS FSAR 11.5-1
13	20	25 5 5 10				MONITOR SG2 BLOWDOWN RADIATION LEVEL AND	PVNGS FSAR 11.5-1
13	20	25 5 10 0				SAMPLE SG1 DOWNCOMER FOR ACTIVITY AND/OR	13-M-SGP-002-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	25 5 10 5				OPEN VALVE SG-UV220 AND	13-M-SGP-002-R12
13	20	25 5 10 10				OPEN VALVE SG-UV221	13-M-SGP-002-R12
13	20	25 5 15 0				SAMPLE SG1 COLD LEG BLOWDOWN FOR ACTIVITY AND/OR	13-M-SGP-002-R12
13	20	25 5 15 5				OPEN VALVE SG-UV211 AND	13-M-SGP-002-R12
13	20	25 5 15 10				OPEN VALVE SG-UV228	13-M-SGP-002-R12
13	20	25 5 20 0				SAMPLE SG1 HOT LEG BLOWDOWN FOR ACTIVITY AND/OR	13-M-SGP-002-R12
13	20	25 5 20 5				OPEN VALVE SG-UV204 AND	13-M-SGP-002-R12
13	20	25 5 20 10				OPEN VALVE SG-UV219	13-M-SGP-002-R12
13	20	25 5 25 0				SAMPLE SG2 DOWNCOMER FOR ACTIVITY AND/OR	13-M-SGP-002-R12
13	20	25 5 25 5.				OPEN VALVE SG-UV226 AND	13-M-SGP-002-R12
13	20	25 5 25 10				OPEN VALVE SG-UV227	13-M-SGP-002-R12
13	20	25 5 30 0				SAMPLE SG2 COLD LEG BLOWDOWN FOR ACTIVITY AND/OR	13-M-SGP-002-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND COORDINATE TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	25 5 30 5				OPEN VALVE SG-UV222 AND	13-M-SGP-002-R12
13	20	25 5 30 10				OPEN VALVE SG-UV223	13-M-SGP-002-R12
13	20	25 5 35 0				SAMPLE SG2 HOT LEG BLOWDOWN FOR ACTIVITY	13-M-SGP-002-R12
13	20	25 5 35 5				OPEN VALVE SG-UV224 AND	13-M-SGP-002-R12
13	20	25 5 35 10				OPEN VALVE SG-UV225	13-M-SGP-002-R12
13	20	25 10 0 0	MONITOR MAIN STEAM PIPING FOR ACTIVITY AND	NONE	MONITOR MAIN STEAM PIPING FOR ACTIVITY AND	MONITOR MAIN STEAM PIPING FOR ACTIVITY AND	CEN-152 R1
13	20	25 10 0 5				MONITOR SG1 MAIN STEAM LINE RADIATION LEVEL AND	PVNGS FSAR TABLE 11.5-1
13	20	25 10 0 10				MONITOR SG2 MAIN STEAM LINE RADIATION LEVEL	PVNGS FSAR TABLE 11.5-1
13	20	25 15 0 0	MONITOR SG'S FOR STEAM FLOW TO FEED FLOW MISMATCH AND	NONE	MONITOR SG'S FOR STEAM FLOW TO FEED FLOW MISMATCH AND	MONITOR SG'S FOR STEAM FLOW TO FEED FLOW MISMATCH AND	CEN-152 R1
13	20	25 15 0 5				MONITOR SG1 FEEDWATER FLOW AND	13-M-SGP-002-R12
13	20	25 15 0 10				MONITOR SG1 STEAM FLOW AND	13-M-SGP-001-R16

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	85 0 0 0	SAMPLE THE RCS FOR RADIOACTIVITY AND BORON CONCENTRATION AND ENSURE TECH SPEC SHUTDOWN MARGIN ACHIEVED AND	NONE	SAMPLE THE RCS FOR RADIOACTIVITY AND BORON CONCENTRATION AND ENSURE TECH SPEC SHUTDOWN MARGIN ACHIEVED AND	SAMPLE THE RCS FOR RADIOACTIVITY AND BORON CONCENTRATION AND ENSURE TECH SPEC SHUTDOWN MARGIN ACHIEVED AND	CEN-152 R1
13	20	85 5 0 0	SAMPLE THE RCS AND	NONE	SAMPLE THE RCS AND	SAMPLE THE RCS AND	CEN-152 R1
13	20	85 5 0 5				OPEN VALVE SS-UV200 TO SAMPLE LOOP 1 HOT LEG AND	13-N-SSP-001-R16
13	20	85 5 0 10				OPEN VALVE SS-UV203 TO SAMPLE LOOP 1 HOT LEG AND	13-N-SSP-001-R16
13	20	85 5 0 15				OPEN VALVE SS-HV15 TO SAMPLE LOOP 1 HOT LEG AND/OR	13-N-SSP-001-R16
13	20	85 5 0 20				OPEN VALVE SS-UV201 TO SAMPLE PRESSURIZER SURGE LINE AND	13-N-SSP-001-R16
13	20	85 5 0 25				OPEN VALVE SS-UV204 TO SAMPLE PRESSURIZER SURGE LINE AND	13-N-SSP-001-R16
13	20	85 5 0 30				OPEN VALVE SG-HV16 TO SAMPLE PRESSURIZER SURGE LINE AND/OR	13-N-SSP-001-R16
13	20	85 5 0 35				OPEN VALVE SS-UV202 TO SAMPLE PRESSURIZER STEAM SPACE AND	13-N-SSP-001-R16

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	85 5 0 40				OPEN VALVE SS-UV205 TO SAMPLE PRESSURIZER STEAM SPACE AND	13-N-SSP-001-R16
13	20	85 5 0 45				OPEN VALVE SS-HV17 TO SAMPLE PRESSURIZER STEAM SPACE	13-N-SSP-001-R16
13	20	85 10 0 0	VERIFY RCS ACTIVITY LEVEL AND	NONE	VERIFY RCS ACTIVITY LEVEL AND	VERIFY RCS ACTIVITY LEVEL AND	CEN-152 R1
13	20	85 15 0 0	VERIFY RCS BORON CONCENTRATION AND	NONE	VERIFY RCS BORON CONCENTRATION AND	VERIFY RCS BORON CONCENTRATION AND	CEN-152 R1
13	20	85 20 0 0	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED OR	NONE	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED OR	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED OR	CEN-152 R1
13	20	85 25 0 0	BORATE THE RCS TO OBTAIN TECH SPEC SHUTDOWN MARGIN	NONE	BORATE THE RCS TO OBTAIN TECH SPEC SHUTDOWN MARGIN	BORATE THE RCS TO OBTAIN TECH SPEC SHUTDOWN MARGIN	CEN-152 R1
13	20	85 25 5 0	USING CHARGING SYSTEM OR	PUMP DESIGNATORS	USING CHARGING SYSTEM OR	USING CHARGING SYSTEM OR	CEN-152 R1
13	20	85 25 5 5	SEE TASKS 2-1-20-5-0-0 THRU 2-1-20-5-5-10 OR	SEE TASKS 2-1-20-5-0-0 THRU 2-1-20-5-5-10 OR	SEE TASKS 2-1-20-5-0-0 THRU 2-1-20-5-5-10 OR	SEE TASKS 2-1-20-5-0-0 THRU 2-1-20-5-5-10 OR	SEE TASKS 2-1-20-5-0-0 THRU 2-1-20-5-5-10 OR
13	20	85 25 10 0	USING ECCS AND	NONE	USING ECCS AND	USING ECCS AND	CEN-152 R1
13	20	85 25 10 5	SEE TASKS 1-3-10-0-0-0 THRU 1-3-35-15-30-0	SEE TASKS 1-3-10-0-0-0 THRU 1-3-35-15-30-0	SEE TASKS 1-3-10-0-0-0 THRU 1-3-35-15-30-0	SEE TASKS 1-3-10-0-0-0 THRU 1-3-35-15-30-0	SEE TASKS 1-3-10-0-0-0 THRU 1-3-35-15-30-0
13	20	85 25 15 0	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED	NONE	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED	VERIFY TECH SPEC SHUTDOWN MARGIN ACHIEVED	CEN-152 R1

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR AND ALTERNATE TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	100 10 0 0	SAMPLE SYSTEMS CONNECTED TO THE CONDENSATE SYSTEM FOR ACTIVITY AND	NONE	SAMPLE SYSTEMS CONNECTED TO THE CONDENSATE SYSTEM FOR ACTIVITY AND	SAMPLE SYSTEMS CONNECTED TO THE CONDENSATE SYSTEM FOR ACTIVITY AND	CEN-152 R1
13	20	100 10 0 5				SAMPLE THE CONDENSATE STORAGE TANK FOR ACTIVITY AND	13-M-CTP-001-R11
13	20	100 10 0 10				SAMPLE THE MAIN FEEDWATER SYSTEM FOR ACTIVITY	13-M-FWP-001-R13
13	20	100 15 0 0	SAMPLE TURBINE BUILDING SUMPS FOR ACTIVITY	NONE	SAMPLE TURBINE BUILDING SUMPS FOR ACTIVITY	SAMPLE TURBINE BUILDING SUMPS FOR ACTIVITY	CEN-152 R1
13	20	100 15 0 5				SAMPLE TURBINE BUILDING SUMP FOR ACTIVITY AND	13-M-OWP-001-R8
13	20	100 15 0 10				SAMPLE SOUTH CONDENSER AREA SUMP FOR ACTIVITY AND	13-M-OWP-001-R8
13	20	100 15 0 15				SAMPLE NORTH CONDENSER AREA SUMP FOR ACTIVITY AND	13-M-OWP-001-R8
13	20	100 15 0 20				SAMPLE CONDENSATE DEMIN LOW TDS SUMP FOR ACTIVITY AND	13-M-CWP-002-R12
13	20	100 15 0 25				SAMPLE CONDENSATE DEMIN HIGH TDS SUMP FOR ACTIVITY AND	13-M-CWP-002-R12

PALO VERDE NUCLEAR GENERATING STATION
INFORMATION AND CONTROL REQUIREMENTS
OPERATOR ANALYTIC TASK DATA

SAFETY FUNCTION : STEAM GENERATOR TUBE RUPTURE

EVENT : RECOVERY ACTIONS

SF	EVENT (PATH)	TASK SEQUENCE NUMBER	CEN-152 TASK	GENERIC DIFFERENCE	SYSTEM 80 TASK	PLANT SPECIFIC TASK	SPECIFIC TASK REFERENCE
13	20	100 15 0 30				SAMPLE OIL/WATER SEPARATOR SUMP FOR ACTIVITY AND	13-M-OWP-001-R8
13	20	100 15 0 35				SAMPLE RETENTION BASIN 1 FOR ACTIVITY AND	AD-M-OWP-004-R10
13	20	100 15 0 40				SAMPLE RETENTION BASIN 2 FOR ACTIVITY AND	AD-M-OWP-004-R10
13	20	100 15 0 45				SAMPLE EVAP POND FOR ACTIVITY	AD-M-OWP-004-R10
13	20	105 0 0 0	CONTINUALLY MONITOR [TURBINE] AND [AUXILIARY] BUILDING VENTILATION SYSTEMS' RADIATION MONITORS AND OTHER APPLICABLE MONITORS AND	PVNGS HAS NO TURBINE BUILDING VENTILATION RADIATION MONITORS	CONTINUALLY MONITOR AUX BUILDING VENTILATION SYSTEM RADIATION MONITORS AND OTHER APPLICABLE MONITORS AND	CONTINUALLY MONITOR AUX BUILDING VENTILATION SYSTEM RADIATION MONITORS AND OTHER APPLICABLE MONITORS AND	CEN-152 R1
13	20	105 0 0 5				MONITOR AUX BUILDING LOWER LEVEL VENTILATION EXHAUST RADIATION LEVEL (RU-9)	PVNGS FSAR TABLE 11.5-1
13	20	105 0 0 10				MONITOR AUX BUILDING UPPER LEVEL VENTILATION EXHAUST RADIATION LEVEL (RU-10)	PVNGS FSAR TABLE 11.5-1
13	20	105 0 0 15				MONITOR AUX BUILDING VENTILATION EXHAUST FILTER INLET RADIATION LEVEL (RU-8)	PVNGS FSAR TABLE 11.5-1

APPENDIX I

COLLECTION OF OBSERVATIONS REGARDING THE SUITABILITY OF CONTROL ROOM DEVICES

, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION ~~DISCREPANCY~~
1-1-15-10-0-0	VERIFY REACTOR POWER < IGE[X]% AND CONSTANT OR DECREASING	LOOP ACCURACY OF 30% IS IN DISAGREEMENT WITH ½ DECADE ACCURACY REQUIREMENT

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Inventory Control - CVCS

SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
1-2-15-15-0-0	verify spent fuel pool level	no indication for spent fuel pool level is provided in the control room

SYSTEM, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
1-3-40-30-5-25	S.G. Aux feed flow	no adequate instrumentation
1-3-40-30-20-25		for AF pump 'N' flow, should
		be in GPM

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
1-3-35-10-15-20	LPSI pump amps	Resolution on the ammeters. 51A-HS-3 & 51B-HS-4,
1-3-35-15-15-20		does not meet accuracy of ± 2 amp
		requirements.

SE...EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
1-4-0-0-0-0	REACTIVITY CONTROL	NONE
	CEA DRIVE DOWN	

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
	INVENTORY CONTROL	
2-1-0-0-0-0	CVCS (LOW)	NONE
2-2-0-0-0-0	ECCS (LOW)	NONE
2-3-0-0-0-0	CVCS (HIGH)	NONE

SUBEVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
3-1-0-0-0-0	Pressure Control - Manual Control PPC	NONE

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
3-2-0-0-0-0	Pressure Control	None
	CVCS (Low)	

SEQUENCE, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
		PRESSURE CONTROL ECCS (LOW)
3-3-10-5-0-20 3-3-10-5-0-40	HPSI PUMP AMPS	RESOLUTION ON THE AMMETERS, SIA-HS-1 AND SIA-HS-2 DOES NOT MEET ACCURACY OF ± 2 AMP REQUIREMENT
3-3-10-5-0-40 3-3-15-20-20-20 3-3-25-15-15-10	LPSI PUMP AMPS	RESOLUTION ON THE AMMETERS, SIA-HS-2 AND SIA-HS-3 DOES NOT MEET ACCURACY OF ± 2 AMP REQUIREMENTS
3-3-20-25-15-20	CS PUMP AMPS	RESOLUTION ON THE AMMETER, SIB-HS-6 DOES NOT MEET ACCURACY OF ± 2 AMP REQUIREMENT
3-3-50-5-5-5 3-3-50-5-10-5	CONTAINMENT SUMP A AND B LEVEL	THE AVAILABLE CONTROL ROOM INSTRUMENTS, SIA-LI-706 AND SIB-LI-707, DO NOT MEET TRENDING REQUIREMENTS

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
	PRESSURE CONTROL - MANUAL CONTROL OF PPCS (HIGH)	
3-4-30-0-0-0	VERIFY RCS PRESSURE	RESOLUTION FOR PRESSURE RECORDER LISTED
	constant or DECREASING	DOES NOT MEET ACCURACY REQ. RCA-PR-102A

PRESSURE CONTROL - FORCED CIRC, RCP & SG

EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
3-5-25-5-20-25	'N' AUX FEED PUMP FLOW	PARAMETER MEASURED IN GPM, WHILE ALL
		INDICATORS LISTED MEASURE IN LB/HR, SGN-FR-1113, 1123
3-5-35-10-0-15	same as above	same as above "
3-5-30-20-10-15	same as above	same as above "
3-5-25-5-5-25	same as above	same as above "
3-5-60-5-0-10	RMWT LEVEL STATUS	PARAMETER GIVEN IN (%) while indicator
	CTA-LR-35	listed measures in ft.
3-5-60-5-0-5	CST LEVEL STATUS	same as above

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PALO VERDE NUCLEAR GENERATING STATION
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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
	PRESSURE CONTROL: RCS NATURAL CIRCULATION & SG (HIGH)	
3-6-45-10-0-15	'N' AFW Pump FLOW	Parameter given in GPM, while indicators
		listed measure in lb/HR, SGN-FR-1113, SGN-FR-1123
3-6-45-20-10-15	" " " "	" " " " "
3-6-60-15-5-25	" " " "	" " " " "
3-6-45-20-10-20	SG1 FLOW CONTROLLER	Parameter not given, SGN-FIC-1111
3-6-45-20-10-25	SG2 FLOW CONTROLLER	" " " SGN-FIC-1121

EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
4-1-35-10-15-0	'N'AUX FEED PUMP FLOW	JGU-FR-1112 MEASURES IN LB/HR while Parameter is given in GPM
4-1-60-5-0-5	CST LEVEL STATUS	CTA-LR-35 measures in FT while Parameter given in %.
4-1-60-5-0-10	RMWT LEVEL STATUS	CHN-LT-210 MEASURES IN FT while Parameter given in %.

HEAT REMOVAL - NAT CIRC

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
4-2-30-5-10-15 4-2-30-10-0-20	LOOP 2B T-COLD TEMP	TCO-T1-112CD HAS INADEQUATE RANGE (465-615°F) FOR REQ'D PARAMETER (350-565°F)
4-2-35-10-0-15 4-2-80-5-0-30 4-2-80-10-0-30	'N' AUX FEED PUMP FLOW	SEN-FR-1113 MEASURES FLOW IN LB/HR while CE PARAMETER IS GIVEN IN GPM

ITEM REMOVE

SG TECCS

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EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
4-3-10-15-0-20	VERIFY EXPECTED AMPS	SIA-HS-1 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±3 AMPS
4-3-10-15-0-40	same AS ABOVE	SIB-HS-2 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±3 AMPS
4-3-10-15-0-60	same AS ABOVE	SIA-HS-3 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±2 AMPS
4-3-10-15-0-80	same AS ABOVE	SIB-HS-4 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±2 AMPS

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HEAT REMOVAL

PALO VERDE NUCLEAR GENERATING STATION
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SG + ECCS

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
4-3-10-15-0-20	VERIFY EXPECTED AMPS	SIA-HS-1 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±3 AMPS
4-3-10-15-0-40	same AS ABOVE	SIB-HS-2 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ±3 AMPS
4-3-10-15-0-60	same AS ABOVE	SIA-HS-3 HAS A RESOLUTION OF ±10 AMPS BUT REQ'D ACCURACY IS ± 2 AMPS
4-3-10-15-0-80	same AS ABOVE	SIB-HS-4 HAS A RESOLUTION OF ± 10 AMPS BUT REQ'D ACCURACY IS ± 2 AMPS
4-3-20-10-0-0	VERIFY HPSI FLOW > 1100 GPM	NO INDICATORS FOR HPSI TOTAL FLOW
4-3-20-15-40-10 4-3-20-15-35-15	VERIFY MAIN FEED PUMP SUPPLYING FEEDWATER	NO INDICATORS FOR 'A' MAIN FEED FLOW
4-3-20-15-40-30 4-3-20-15-35-20	same as above	" " " 'B' " " "
4-3-20-15-35-35 4-3-20-15-40-30	AUX FEED PUMP FLOW	parameter given in GPM, while indicators (JC-N-FR-1113, JC-N-FR-1122) MEASURE IN LB/HR

HEAT REMOVAL
SHUTDOWN COOLING

SEQUENCE, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
4-5-35-10-15-20	VERIFY CIRCWATER DIFF PRESS	Resolution + Loop Accuracy does not meet ACCURACY REQUIREMENTS, ECN-PDI-10
4-5-35-10-15-25	VERIFY CHILLED WATER SUPPLY TEMPERATURE	SAME AS ABOVE ECN-TI-12
4-5-45-5-10-85	VERIFY 'A' LPSI PUMP AMPS	RESOLUTION NOT ADEQUATE SIA-HS-3
4-5-45-5-15-60	MONITOR SDC LOOP 'A' HEATUP RATE	NO INSTRUMENT AVAILABLE
4-5-45-10-15-60	SAME AS ABOVE	SAME AS ABOVE
4-5-45-5-15-95	MONITOR RCS COOLDOWN RATE	SAME AS ABOVE
4-5-45-10-15-95	SAME AS ABOVE	SAME AS ABOVE

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
5-1-0-0-0-0	CONTAINMENT ISOLATION	NONE; (Comment No Parameters For Tasks 5-1-15-0-0-5 AND 5-1-70-10-0-10)

CONTAINMENT TEMP + PRESS CONTROL

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CS SYSTEM

EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
6-2-20-20-0-0 6-2-10-20-0-0 6-2-25-10-30-0 6-2-30-10-30-0	VERIFY CONTAINMENT PRESSURE CONSTANT OR DECREASING	HCA-PR-353A HAS A RESOLUTION OF ±2 PSIG, WHILE THE REQ'D ACCURACY IS ± 0.5 PSIG AND THE LOOP ACCURACY IS ± 1.0 PSIG
6-2-50-5-5-5 6-2-50-5-10-5	VERIFY CTMT LEVEL INCREASING	NO RECORDERS AVAILABLE IN CONTROL ROOM (SIA-LI-706 CONTAINMENT SUMP 'A' LEVEL) (SIB-LI-707 " " 'B' ")
6-2-50-5-5-35	VERIFY EXPECTED AMPS FOR HPSI 'A' PUMP	SIA-HS-1 HAS A RESOLUTION OF ±10 AMPS WHILE THE REQ'D ACCURACY IS ±3 AMPS
6-2-50-5-10-35	VERIFY EXPECTED AMPS FOR HPSI 'B' PUMP	SIB-HS-2 SAME AS ABOVE
6-2-65-0-05	RESET CSAS (CONTAINMENT SPRAY ACTUATION SIGNAL)	NO INSTRUMENTATION FOUND TO RESET CSAS

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
7-1-0-0-0-0	CONTAINMENT HYDROGEN CONT.	NONE

SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
8-1-0-0-0-0	MAINT. OF VITAL AUXILIARIES	NONE

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
11-20-45-0-5-5	CST LEVEL STATUS	Parameter given in (%); while instrument
	CTA-LR-35	listed measures in ft.
11-20-45-0-5-10	RMWT LEVEL STATUS	same as above
	CTA-LR-35	

EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
12-15-10-20-5-15	'A' CHARGING PUMP AMP STATUS	NO INSTRUMENT TO MEASURE Pump CHA-P01 Amps
12-15-10-20-10-15	'B' CHARGING PUMP AMP STATUS	NO INSTRUMENT TO MEASURE PUMP CHB-P01 Amps
12-15-10-20-15-0	'E' CHARGING PUMP AMP STATUS	NO INSTRUMENT TO MEASURE PUMP CHE-P01 Amps
12-20-65-40-0-10	RU-1 LEVEL RADIATION STATUS	Parameter not provided
12-20-65-40-0-20	RU-148 LEVEL RADIATION STATUS	RANGE ON SQA-RI-148 NOT ADEQUATE (1E00 TO 1E07 R/HR) TO MEASURE REQ'D PARAMETER < 1 R/HR
12-20-65-40-0-25	RU-149 LEVEL RADIATION STATUS	SAME AS ABOVE
12-20-65-75-0-10 12-20-65-60-30-10	RHRCT LEVEL	CHN-LT-210 HAS A RANGE OF 1.5-41.5 FT WHILE PARAMETER IS GIVEN IN PERCENT

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
		SGTR
13-10-10-0-0-0	Volume Control Tank	NO RECORDER PROVIDED FOR TRENDING IN CONTROL RM. ONLY COMPUTER INPUT
13-20-100-15-0-20	RADIATION SAMPLE ACTIVITY	NO PARAMETER PROVIDED ON COND. DEMIN SUMP
-35		RETENTION BASIN 1
-40		2
-45		EVAP POND

STEAM LINE BREAK

EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
14-10-85-0-0-5	VERIFY SG PRESSURE DEC.	RESOLUTION NOT ADEQUATE FOR REQ'D ACCURACY (OF 20PSIA / CE / OF ±10PSIA), SGA-PR-1013A
14-10-85-0-0-5	SAME AS ABOVE	SAME AS ABOVE, SGA-PR-1013A

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SF, EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
	LOSS OF FEEDWATER	
15-10-30-0-0-5	VERIFY MAIN FW PUMP 'A'	Parameter not provided
	SUCTION LOW	FWN-PSL-17A ALARM (PAL)
15-10-30-0-0-5	Verify main FW Pump 'B'	Parameter not provided
	SUCTION LOW	FWN-PSL-18A ALARM (PAL)
15-20-10-15-0-25	SG AUX FEED FLOW	NO ADEQUATE INSTRUMENTATION
		FOR AFI PUMP 'N' FLOW SGN-FR-1113 ; SGN-FR-1123
15-20-10-15-0-30	" " " "	same
15-20 20-10-5-70	" " " "	same
15-2020-10-5-75	" " " "	same
15-2020-10-10-70	" " " "	same
15-2020-10-10-75	" " " "	same

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SE[illegible]EVENT, & TASK SEQ. NUMBER	TASK DESCRIPTION	OBSERVATION
16-5-0-0-0-0	Loss of Forced Circulation	None