



PLANT COMPUTER SYSTEM

Section 18.0

Objectives

1. State the purpose of the Plant Computer.
2. Given a list of application programs, state the purpose of each application.

Objectives (Cont.)

3. State the purpose of the Safety Parameter Display System (SPDS).
4. List The Critical Safety Functions (CSF) monitored by the SPDS.

1806	POST-TRIP REVIEW													
	N0000A	N0000A	N0001A	N0002A	TIME 1	P0000A	P0000A	P0000A	T0000A	TIME 2				
	95.00	95.45	95.62	95.16	3252.4	422.7	423.1	325.2	97.1.1	325.1.9				
	95.00	95.50	95.62	95.16	3254.2	193.2	193.3	194.1	95.1.9	3254.2				
	95.00	95.60	95.70	95.27	3256.4	92.4	92.5	127.9	95.1.9	3256.4				
	95.72	95.01	97.65	95.99	3258.2	71.2	71.6	12.4	95.1.7	3258.4				
1807	POST-TRIP DATA-TRIP TIME 183258													
	4.69	4.75	4.69	4.63	3300.5	29.8	29.4	4.4	95.1.9	3300.9				
	3.81	3.93	3.87	3.79	3302.4	81.9	84.1	-4.0	95.1.9	3302.4				
	3.29	3.28	3.23	3.05	3304.4	81.5	83.7	-4.0	95.1.9	3304.4				
	2.41	2.45	2.41	2.34	3306.4	82.2	82.8	-4.0	95.1.9	3306.4				
	N0001A	N0002A	N0003A	N0004A	N0005A	N0006A	N0007A	N0008A	N0009A	N0010A	N0011A	N0012A	N0013A	N0014A
	0.03	0.03	105.04	140.11	3.60	4.03	3.61	3.99	3.64	4.03	3.66	4.03	95.92	95.99
	0.03	0.03	105.61	140.11	3.59	4.03	3.60	3.98	3.63	4.03	3.66	4.03	95.98	95.91
	0.03	0.03	106.92	140.99	3.58	4.02	3.60	3.98	3.63	4.01	3.66	4.03	95.97	95.96
	0.03	0.03	106.92	140.99	3.59	4.03	3.61	3.98	3.63	4.01	3.65	3.99	95.98	95.74
	0.03	0.03	102.31	142.88	3.60	4.03	3.59	3.97	3.64	4.03	3.65	4.03	95.98	95.99
	0.03	0.03	105.61	142.88	3.59	4.02	3.60	3.98	3.63	4.02	3.66	4.03	95.92	95.92
	0.03	0.03	105.61	139.81	3.60	4.03	3.60	3.98	3.63	4.01	3.65	3.99	95.98	95.91
	0.03	0.03	105.04	140.99	3.60	4.03	3.61	3.99	3.63	4.02	3.66	4.03	95.98	95.92
	0.03	0.03	105.04	140.11	3.60	4.03	3.60	3.98	3.63	4.02	3.67	4.01	95.99	95.91
	0.03	0.03	105.04	142.88	3.60	4.04	3.61	3.99	3.64	4.02	3.66	4.03	95.99	95.74
	0.03	0.03	105.61	139.81	3.59	4.03	3.60	3.97	3.63	4.02	3.66	4.03	95.98	95.91
	0.03	0.03	102.31	142.88	3.59	4.03	3.61	3.99	3.64	4.02	3.66	4.03	95.98	95.99
	0.03	0.03	104.04	140.99	3.59	4.03	3.60	3.99	3.64	4.02	3.67	4.01	95.98	95.99
	0.03	0.03	105.01	142.88	3.59	4.03	3.60	3.97	3.64	4.02	3.66	4.03	95.74	95.98
	0.03	0.03	105.61	142.88	3.59	4.03	3.60	3.99	3.64	4.02	3.66	4.03	95.98	95.91
	0.03	0.03	105.61	142.88	3.59	4.03	3.60	3.99	3.64	4.02	3.66	4.03	95.98	95.91
1814	POST-TRIP DATA-TRIP TIME 183258													
	0.03	0.04	105.35	135.61	2.03	3.37	3.07	3.23	2.08	3.26	1.84	3.08	36.72	38.91
	0.03	0.04	8.29	9.21	0.10	0.11	0.10	0.11	0.11	0.12	0.11	0.10	2.76	2.87
	0.03	0.04	5.05	5.73	0.07	0.07	0.07	0.07	0.08	0.07	0.06	1.76	1.82	1.76
	0.03	0.04	3.68	4.14	0.05	0.05	0.05	0.05	0.05	0.05	0.04	1.29	1.41	1.35
	0.03	0.04	3.79	3.13	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.02	1.09	1.05
	0.03	0.04	2.05	2.31	0.03	0.02	0.03	0.03	0.03	0.04	0.03	0.01	0.82	0.82
	0.03	0.04	1.45	1.88	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.01	0.79	0.82
	0.03	0.04	1.32	1.45	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.53	0.59
	0.03	0.04	1.14	1.25	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.53	0.53
	0.03	0.04	0.92	1.06	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.47	0.47
	0.03	0.03	0.78	0.85	0.01	0.00	0.01	0.00	0.01	0.02	0.01	-0.01	0.39	0.35
	0.03	0.03	0.62	0.70	0.01	-0.00	0.00	0.00	0.01	0.01	0.01	-0.01	0.18	0.23
	0.03	0.03	0.52	0.59	0.01	0.00	0.01	0.00	0.01	0.01	0.01	-0.01	0.18	0.30
	0.03	0.03	0.45	0.50	0.01	0.00	0.01	0.00	0.01	0.01	0.01	-0.01	0.23	0.23
	0.03	0.03	0.37	0.41	0.00	-0.00	0.00	0.00	0.01	0.01	0.00	-0.01	0.12	0.18
	0.03	0.03	0.32	0.35	0.00	-0.00	0.00	-0.00	0.00	0.01	0.00	-0.01	0.12	0.18
	0.03	0.03	0.27	0.30	0.00	-0.00	0.00	-0.00	0.00	0.01	0.00	-0.01	0.18	0.18
	0.03	0.03	0.23	0.26	0.00	0.00	0.00	0.00	0.01	0.01	0.01	-0.01	0.18	0.23
	0.03	0.03	0.20	0.23	0.00	-0.00	0.00	-0.00	0.00	0.01	0.00	-0.02	0.05	0.04
	0.03	0.03	0.17	0.19	0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.02	0.09	0.12
	0.03	0.03	0.15	0.16	0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.02	0.00	0.10
	0.03	0.03	0.13	0.14	0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.02	0.00	0.10
	0.03	0.03	0.11	0.13	0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.02	0.00	0.10
	0.03	0.03	0.10	0.11	-0.00	-0.00	0.00	-0.01	-0.00	0.00	-0.00	-0.02	0.06	-0.05

Post-Trip Review Fig 18-1

SELECT FUNC. KEY OR TURN-ON CODE

CAL: 6/ 9/99
12:05:25Y SPDS

TROJAN NUCLEAR POWER PLANT
CALORIMETRIC CALCULATION SUMMARY
CURRENT DATA FEED FLOW

PAGE 1 OF 3
DATE 6/ 9/99
TIME 12:05:05

TOTAL CORE THERMAL POWER	VALUE	UNITS
STEAM GENERATOR THERMAL POWER - LOOP A	838.73	MWT
- LOOP B	834.31	MWT
- LOOP C	809.92	MWT
- LOOP D	836.02	MWT
TOTAL	3318.97	MWT
TOTAL CORE THERMAL POWER (CTP)	3304.50	MWT
TOTAL CORE ELECTRIC POWER	1165.35	MWE
MWE GROSS DEVIATION	6.97	%
CORE THERMAL POWER	96.88	% POWER
AVERAGE OF NIS READINGS	100.17	% POWER
AVERAGE OF RCS DELTA TEMPERATURES	101.61	% POWER

SUMMARY OF NIS INDICATIONS

	VALUE	UNITS	NIS - CAL
NUCLEAR POWER RANGE CHANNEL N41 04	100.20	% POWER	3.31
NUCLEAR POWER RANGE CHANNEL N42 02	100.03	% POWER	3.14
NUCLEAR POWER RANGE CHANNEL N43 01	100.20	% POWER	3.31
NUCLEAR POWER RANGE CHANNEL N44 03	100.24	% POWER	3.35

FLOW/TEMPERATURE INFORMATION

	LOOP A	LOOP B	LOOP C	LOOP D	UNITS
CORRECTED FEED FLOW	3.6603	3.6395	3.5356	3.6483	MLB/HR
CORRECTED STEAM FLOW	3.5655	3.5009	3.3796	3.5327	MLB/HR
CORRECTED BLOWDOWN FLOW	0.0339	0.0339	0.0339	0.0339	MLB/HR
FEEDWATER TEMPERATURE	430.88	430.88	430.88	430.88	DEGF

PAGE BACK

CAL MENU

NIS MENU

PAGE FORWARD

F1=CAL MENU
PREV CAND < >

F2= TROJAN TERM=TT17 CPU=A

F3= F4= CONSOLE=PRIMARY

F5= F6= MODE=PWR OPER EVENT=UNU

Calorimetric Screen Fig 18-2

SELECT FUNC. KEY OR TURN-ON CODE

RLR: 6/ 9/99
12:07:10

Y SPDS

TROJAN NUCLEAR PLANT
RCS LEAK RATE

TEST PERIOD: 9-JUN-1999 07:55:25 TO 9-JUN-1999 11:55:25

PARAMETER	ADDRESS	INITIAL VALUE	FINAL VALUE	CHANGE

TOTAL MINUTES OF RUN TIME				240.00 MINS.
TOTAL FLOW INTEGRATOR		593398. STEPS	593398. STEPS	0. GALS.
PRIMARY SAMPLE VOLUME			0.00 GALS.	0.00 GALS.
PZR LEVEL	L0482A	61.660 GOOD	61.660 GOOD	0.000 %
UCT LEVEL	L0112A	52.784 GOOD	52.784 GOOD	0.000 %
PRT LEVEL	L0485A	65.140 GOOD	65.140 GOOD	0.000 %
PRT TEMPERATURE	T0485A	98.242 GOOD	98.242 GOOD	0.000 DEGF
RCDT LEVEL	L3060A	48.361 GOOD	48.361 GOOD	0.000 %
RCS AVE Tave	U0484	583.056 GOOD	583.056 GOOD	0.000 DEGF
PZR AVE PRESSURE	U0482	2233.129 GOOD	2233.129 GOOD	0.000 PSIG
PZR PRESS. ABS		2247.829 GOOD	2247.829 GOOD	0.000 PSIA

LEAKAGE TO THE PRESSURIZER RELIEF TANK 0.000 GPM
LEAKAGE TO REACTOR COOLANT DRAIN TANK 0.000 GPM

PRIMARY COOLANT AVERAGE LOSS RATE 0.000 GALS.

TOTAL RCS LEAKAGE RATE (ALR) 0.000 GOOD GPM

TOTAL LEAKRATE INSIDE CONTAINMENT (TLRIC) 0.000 GPM

TOTAL LEAKRATE OUTSIDE CONTAINMENT(TLROC) 0.000 GPM

IDENTIFIED LEAKAGE RATE 0.000 GOOD GPM 10 GPM max allowable

UNIDENTIFIED LEAKAGE RATE 0.000 GOOD GPM 1 GPM max allowable

MESSAGE(S):

CANCEL

NEW CALC

PRINT RPT

NSSS MENU

F1=
REV CANC ↔F2=NEW CALC F3=PRINT RPT F4=
TROJAN TERM=TT17 CPU=A CONSOLE=PRIMARYF5=NSSS MENU F6=FIELD SEL
MODE=PWR OPER EVENT=UNU

RCS Leak Rate Fig 18-3

SELECT FUNC. KEY OR TURN-ON CODE

>

6/9/99
07:40:25Y
SPDS

RIL - ROD INSERTION LIMIT MONITOR

NSSS MENU

ROD INSERTION
LOW LIMIT
----NORMAL----ROD INSERTION
LOW LOW LIMIT
----NORMAL----ROD BANK D
WITHDRAWAL
----NORMAL----ROD BANK
UPDATE STATUS
-NOT UPDATED--ROD BANK
SEQUENCE

----NORMAL----

ROD TO BANK
DEVIATION

----NORMAL----

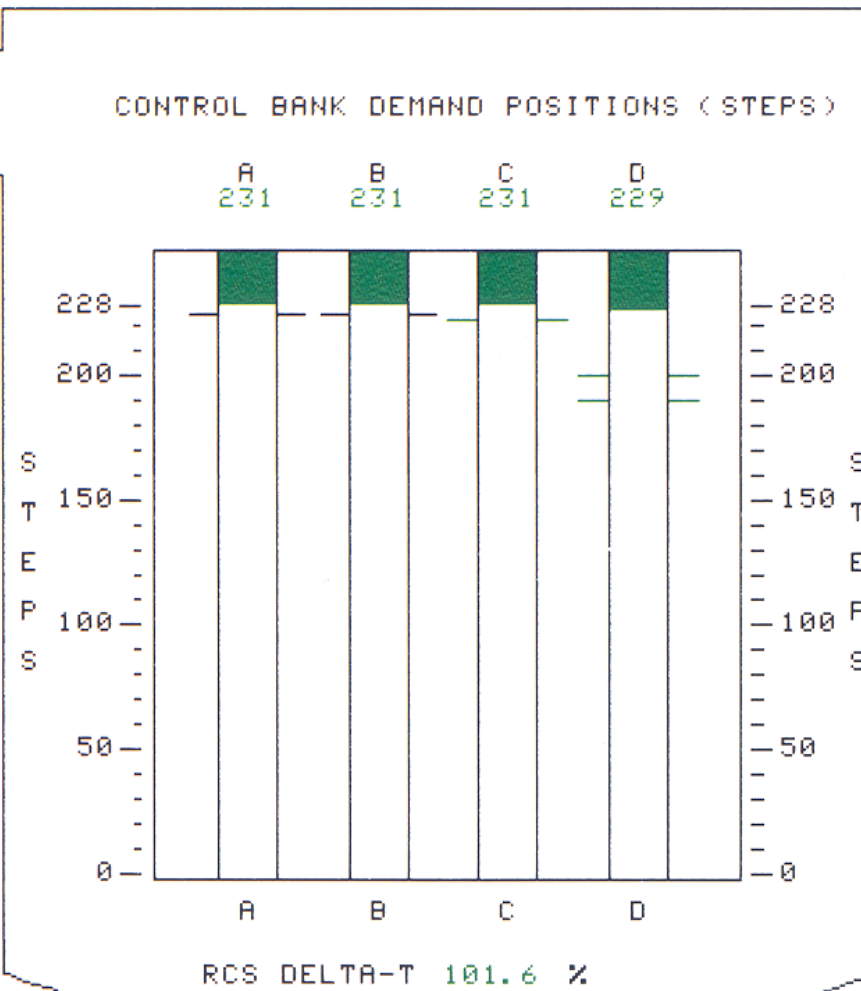
ROD TO ROD
DEVIATION

----NORMAL----

ROD TO ROD AVG
DEVIATION

----NORMAL----

BANK	LOW LIMIT	LOW-LOW LIMIT
A	N/A	225
B	N/A	225
C	225	225
D	202	192

RCS DT INPUTS
(0 - 150 PCNT)

INPUTS	VALUE	STAT
T0403A	101.8	GOOD
T0423A	101.5	GOOD
T0443A	101.3	GOOD
T0463A	101.7	GOOD

F1= CLEAR
PREV. CANG

F2= TROJAN TERM=TT17 CPU=A

F3= CONSOLE=PRIMARY

F4= MODE=PWR OPER

F5= EVENT=UNU

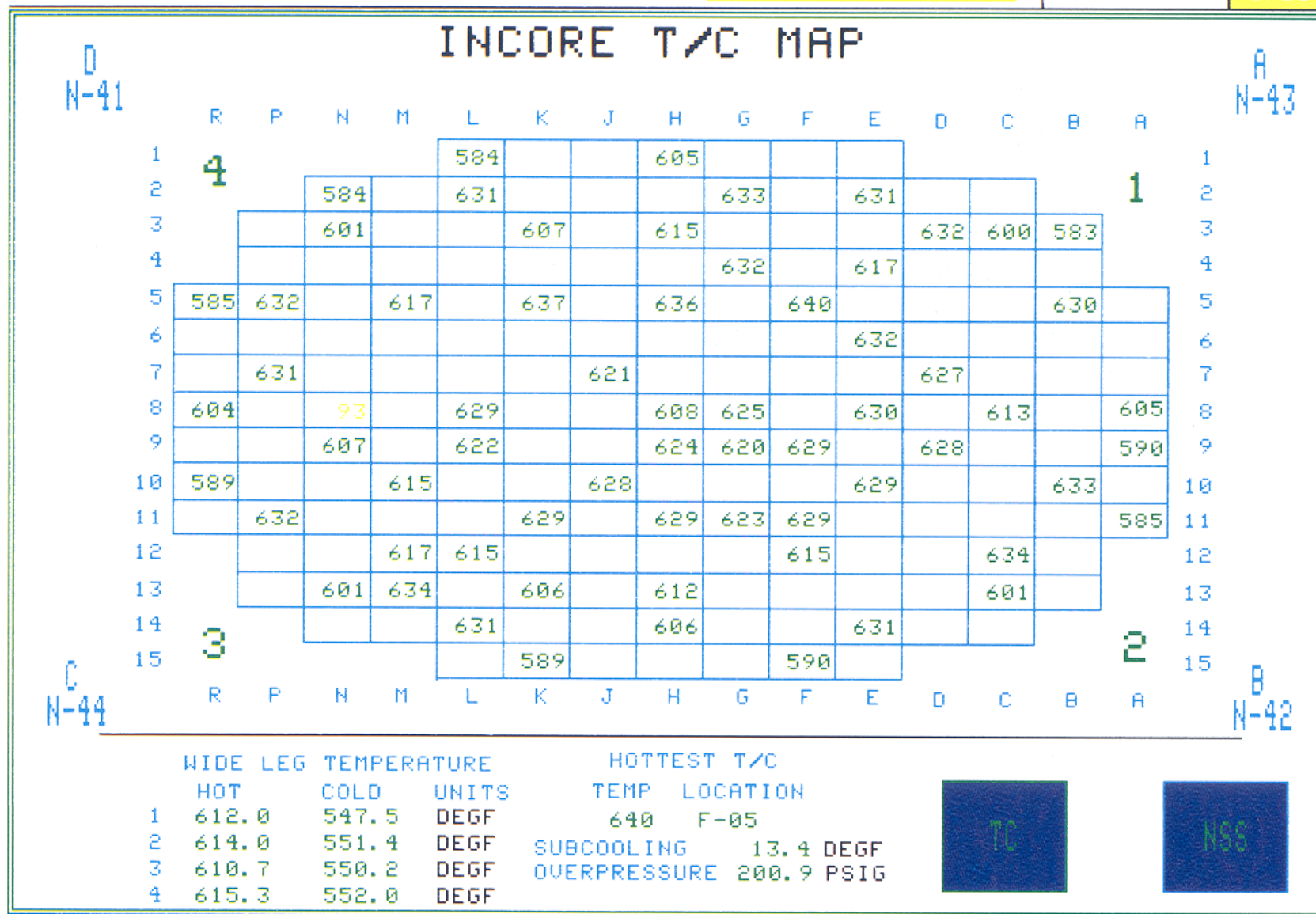
Rod Insertion Limit Fig 18-4

SELECT FUNC. KEY OR TURN-ON CODE

>

6/ 9/99
07:40:25

SPDS

F1=NSS MENU
PREV CARG

F2=

TROJAN TERM=TT17 CPU=A

F3=TC MENU

F4=

CONSOLE=PRIMARY

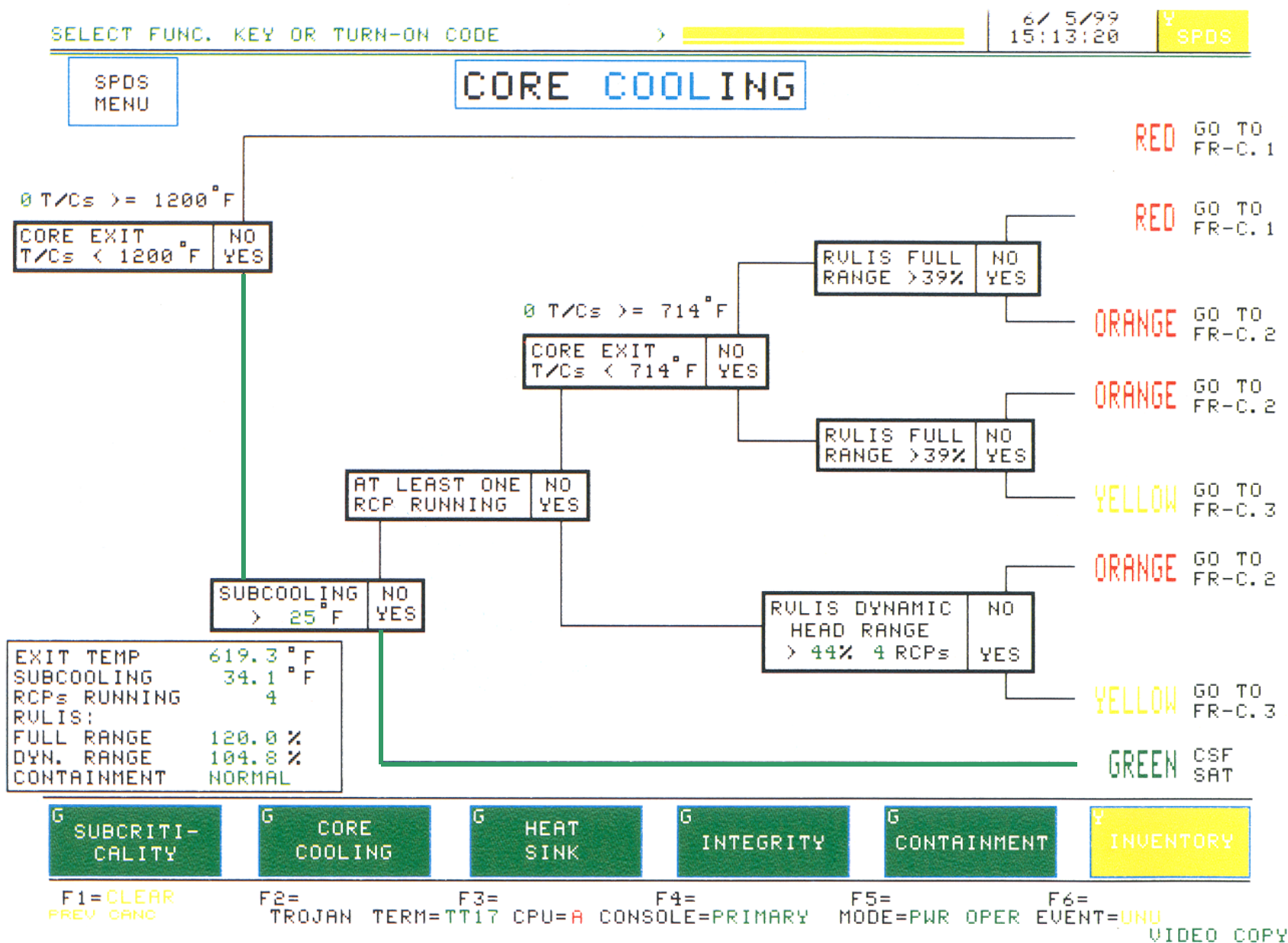
F5=

MODE=PWR OPER

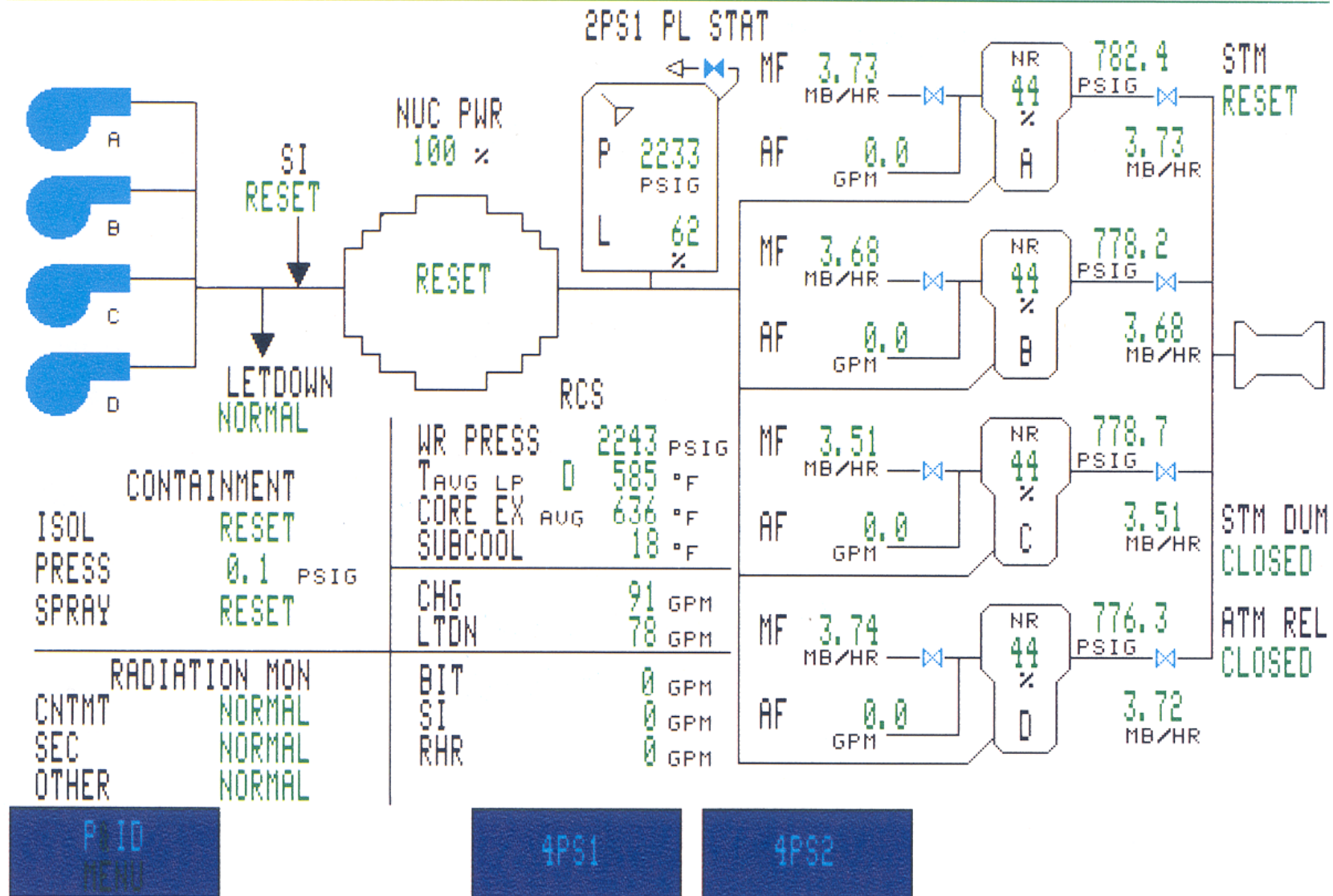
F6=

EVENT=UNU

Incore T/C Map Fig 18-6



CSF Status Tree Fig 18-7

F1= CLEAR
PREV CANG

F2= TROJAN TERM=TT17 CPU=A F3= F4= F5= F6=

MODE=PWR OPER EVENT=UNU

VIDEO 0

At Power Display Fig 18-8

ERDS

Emergency **R**esponse **D**isplay **S**ystem

- ◆ Consists of data sent by the plant to the NRC for events classified as Alert or higher.
- ◆ Data consists of information needed to determine status of CSFs plus weather data.