REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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FACIL:50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards revised FSAR Section 7.7 clarifying Scram discharge high level vol & computer sys block diagram.Revs will be incorportated in next FSAR amend.

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OCT 07 1983

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
FSAR SECTION 7.7
ER 100450 FILE 841-1
PLA-1837 Docket No. 50-388

Dear Mr. Schwencer:

In order to support obtaining an operating license for Susquehanna SES Unit 2, enclosed is revised Section 7.7 of the Susquehanna SES FSAR. The revisions to this section are as follows:

7.7.1.2.6.2 - This section has been revised to clarify that the scram discharge volume high level scram is bypassed only in the shutdown or refuel mode.

7.7.1.7.5.2 - This section has been revised to show the location of the SPDS CRT's.

7.7.1.10.5.2 - This section has been revised to show that the computer does not log rod blocks.

Fig. 7.7-12 - This figure has been revised to show the revised plant computer system block diagram because of the addition of SPDS.

Fig. 7.7-13 - This figure has been revised to show the location of the SPDS CRT's.

These revisions will be incorporated into the next amendment of the FSAR.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

Enclosure

cc: R. L. Perch NRC

B001
1/1

a. Any average power range monitor (APRM) upscale rod block alarm. The purpose of this rod block function is to avoid conditions that would require reactor protection system action if allowed to proceed. The APRM upscale rod block alarm setting is selected to initiate a rod block before the APRM high neutron flux scram setting is reached.

b. Any APRM inoperative alarm. This assures that no control rod is withdrawn unless the average power range neutron monitoring channels are either in service or correctly bypassed.

c. Either recirculation flow converter upscale or inoperative alarm. This assures that no control rod is withdrawn unless the recirculation flow converters, which are necessary for the proper operation of the RBMs, are operable.

d. Recirculation flow converter comparator alarm or inoperative. This assures that no control rod is withdrawn unless the difference between the outputs of the flow converters is within limits and the comparator is in service.

e. Scram discharge volume high water level. This assures that no control rod is withdrawn unless enough capacity is available in the scram discharge volume to accommodate a scram. The setting is selected to initiate a rod block earlier than the scram that is initiated on scram discharge volume high water level.

f. Scram discharge volume high water level scram trip bypassed. This assures that no control rod is withdrawn while the scram discharge volume high water level scram function is out of service. The scram discharge volume high water level scram is only bypassed in shutdown and refuel.

g. The rod worth minimizer (RWM) function of the process computer can initiate a rod insert block, a rod withdrawal block, and a rod select block. The purpose of this function is to reinforce procedural controls that limit the reactivity worth of control rods under lower power conditions. The rod block trip settings are based on the allowable control rod worth limits established for the design basis rod drop accident. Adherence to prescribed control rod patterns is the normal method by which this reactivity restriction is observed. Additional information on the rod worth minimizer function is available in Subsection 7.7.1.2.8.

7.7.1.7.5.2 Reactor Operator Information

Major components are arranged as shown in Figure 7.7-13. Functional description and operational arrangement is as follows:

Unit Operating Benchboard (H12-P680) (Panel C651) - houses controls, annunciators and displays, including the control rod position display. The primary process displays are computer generated CRT formats from the DCS and PMS computers. All variables in the DCS displays that are required for unit operation, startup and shutdown are displayed on hardwired indicators on either the Unit Operating Benchboard or the Standby Information Panel. These variables in both CRT and hardwired displays generally orginate from the same source.

Standby Information Panel (H12-P678) (C652) - houses hardwired indicators and recorders required to startup, run, and shutdown the plant without the use of the Display Control System. It is a hardwired backup to the DCS.

Reactor Core Cooling System BB (H12-P601) (C601) - houses hardwired indicators, recorders, annunciators and controls for unit BOP system's functions which do not require the operator's immediate attention during normal operation of the power plant. Functions on this panel have been determined to be long time response functions.

Common Plant Benchboard (H12-P853) (C653) - houses hardwired indicators, recorders annunciators and controls for systems which are common to Units 1 and 2. It also houses two CRT's connected to the Performance Monitoring System (PMS).

Unit Monitoring Console (C92-P628) (C684) - provides the unit operator sit down surveillance of the Unit Operating Benchboard and access to DCS and PMS CRT displays with the use of a selection keyboard.

Safety Parameter Display System/Plant Monitoring Console (C667) - provides sit down surveillance of both units and access to DCS, Performance Monitoring System CRT displays and Plant Computer Functions as well as SPDS CRT displays through the use of selection keyboards. The CRTs on this console are shared by the SPDS and Plant Computer Systems.

The annunciator system is a hardwired system which provides the operator with the alarm information required for unit operation, startup, and shutdown. This system is independent of the Plant Computer System although the computer system does provide redundant and auxiliary alarm information as AID's through the DCS and the alarm status summary CRT display from the PMS.

7.7.1.10.5.2 Reactor Operator Information

In the refueling mode, the control room operator has an indicator light for "Select Permissive" whenever all control rods are fully inserted. He can compare this indication with control rod position data from the computer as well as control rod in-out status on the full core status display. Furthermore, whenever a control rod withdrawal block situation occurs, the operator receives annunciation. He can compare these outputs with the status of the variable providing the rod block condition. Both channels of the control rod withdrawal interlocks must agree that permissive conditions exist in order to move control rods; otherwise, a control rod withdrawal block is placed into effect. Failure of one channel may initiate a rod withdrawal block, and will not prevent application of a valid control rod withdrawal block from the remaining operable channel.

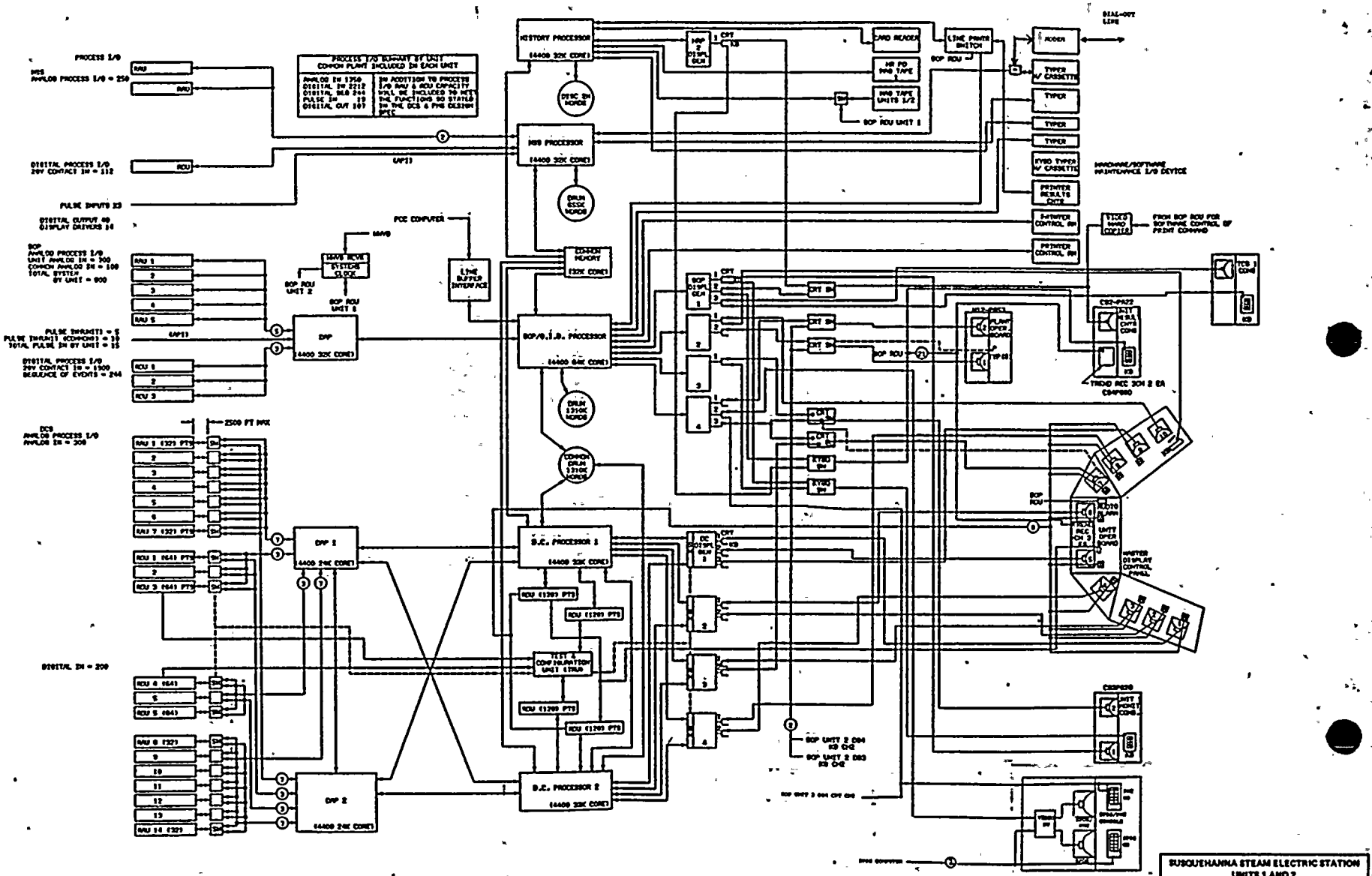
Core flux activity monitoring is provided during refueling by the SRM's and/or dunking chambers which are specified and controlled in Technical Specification 3/4.9.

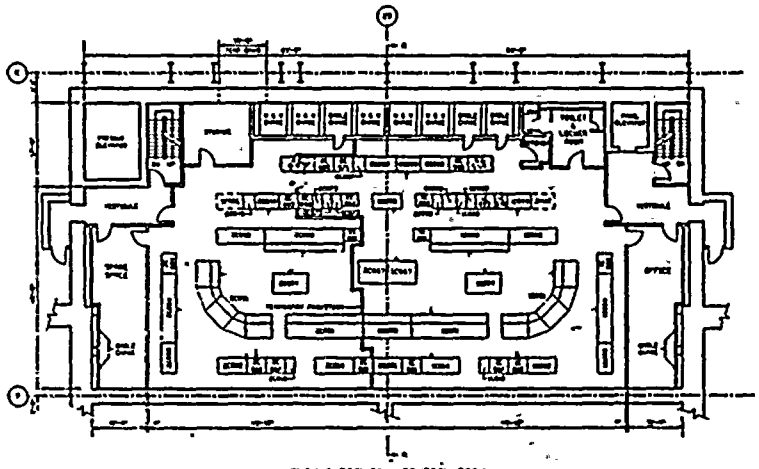
In terms of refueling platform interlocks, the platform operator has analog type readout indicators for the platform x-y position relative to the reactor core.

The position of the grapple is shown on a digital indicator immediately below the platform position indicators. Analog load cell indications of hoist loads are given for each hoist by locally mounted indicators. Individual push button and rotary control switches are provided for local control of the platform and its hoists. The platform operator can immediately determine whether the platform and hoists are responding to his local instructions, and can, in conjunction with the control room operator, verify proper operation of each of the three categories of interlocks listed previously.

7.7.1.10.5.3 Set Points

There are no safety set points associated with this system.


PROCESS I/O
DIGITAL PROCESS I/O
PULSE INPUTS
DIGITAL OUTPUT
BOP
DCS
DIGITAL IN = 200
HISTORY PROCESSOR
MMI PROCESSOR
BOP/D.I.D. PROCESSOR
D.C. PROCESSOR 1
D.C. PROCESSOR 2
DPP 1
DPP 2
DPP
CARD READER
LINE PRINTER SWITCH
TYPER
PRINTER
PCE COMPUTER
LINE BUFFER INTERFACE
SYSTEM CLOCK
BOP RDU UNIT 1
BOP RDU UNIT 2
2500 FT MIX
DIAL-OUT LINE
SUSQUEHANNA STEAM ELECTRIC STATION
UNITS 1 AND 2
FINAL SAFETY ANALYSIS REPORT
PLANT COMPUTER SYSTEM - BLOCK DIAGRAM
FIGURE 7.7-12



PLAN @ 729'-0" - CONTROL ROOM

CONTROL ROOM PANELS
Panel No.

UNIT 1	COMMON PLANT	UNIT 2	DESCRIPTION
1C600	-	2C600	Process Radiation Record V.B.
1C601	-	2C601	Reactor Core Cooling B.B.
1C607	-	2C607	T.I.P. Control & Monitor Cabinet
1C610	-	2C610	Control Rod Test Cabinet
1C614	-	2C614	NSS Temp. Record & Leak Detect. V.B.
1C644	-	2C644	MSIV Leak Control V.B. Div. 2
1C645	-	2C645	MSIV Leak Control V.B. Div. 1
1C650	OC650	2C650	Fire Protection V.B.
1C651	-	2C651	Unit Operation B.B.
1C652	-	2C652	Standby Information Panel (V.B.)
	OC653		Plant Operating B.B.
1C654		2C654	Generator & Transfer Prot. Relay V.B.
1C656	OC656	2C656	Electrical Metering V.B.
	OC657		Startup Transformer Prot. V.B.
	OC658		Span Prot., Swyd, Cont. & Display V.B.
	OC659		500 & 230 KV Swyd. Cont. & Display V.B.
1C667		2C667	SPDS/Plant Monitoring Console
1C668		2C668	Unit Services B.B.
	OC669		Stack Effl. Monitor Console
	OC671		Meteorological & River Telemetor V.B.
1C673	OC673	2C673	Off-gas Recombiner Control V.B.
1C681	OC681	2C681	Heating & Ventilation V.B.
1C684		2C684	Unit Operating Monitor Console
1C692		2C692	Misc. Systems Record V.B.
1C693	OC693	2C693	Misc. Plant Inst. &'Record V.B.
1C694		2C694	Bypass Indication V.B.
	OC695		P.A. & Emergency V.B.
	OC696		Earthquake Monitor V.B.
	OC697		Motor Overload Bypass V.B.
	OC698		Plant Security Console
	OC699		Plant Security Cabinet

SUSQUEHANNA STEAM ELECTRIC STATION
UNITS 1 AND 2
FINAL SAFETY ANALYSIS REPORT

CONTROL ROOM LAYOUT

FIGURE 7.7-13