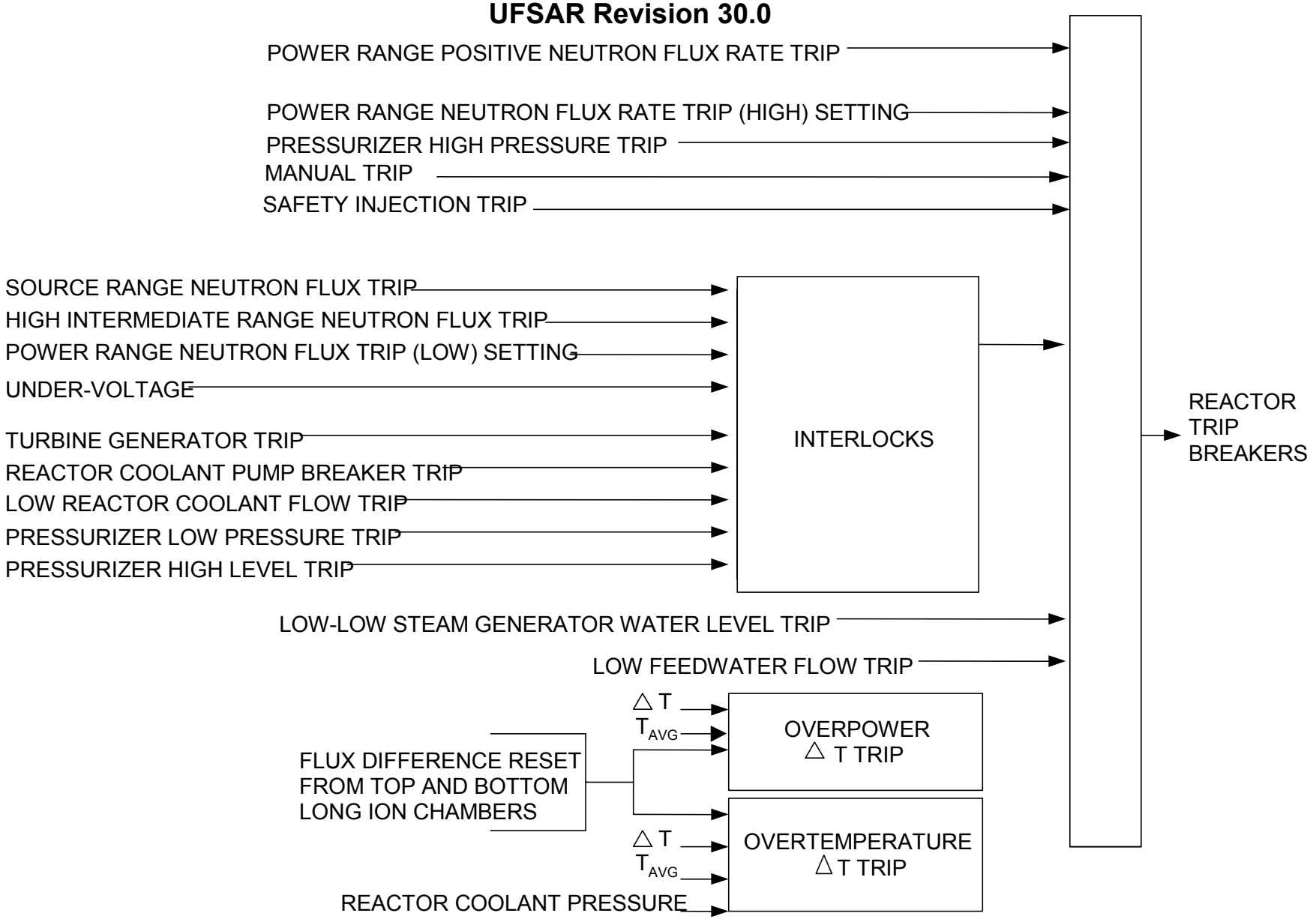
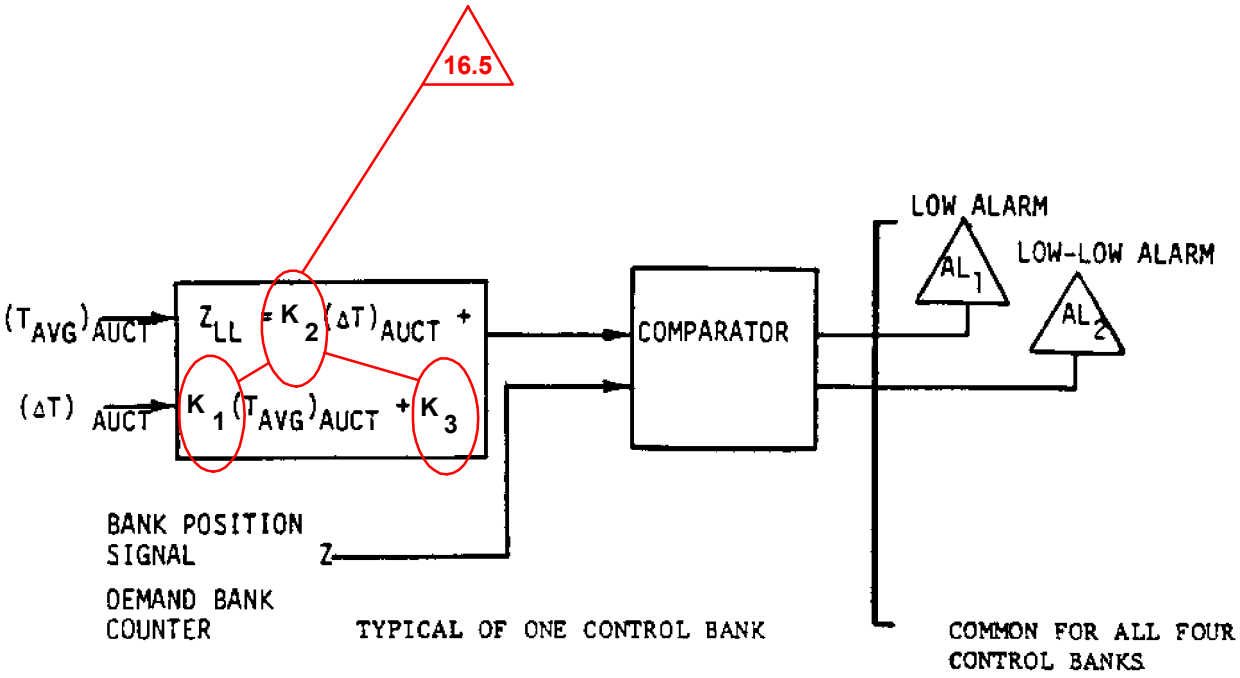


Revision **21**	**Change Description:** **UCR-1852**
AMERICAN ELECTRIC POWER **COOK NUCLEAR PLANT** **NUCLEAR GENERATION GROUP** **BRIDGMAN, MICHIGAN**	**Title:** **REACTOR PROTECTION SYSTEMS**
	DWG. NO. **UFSAR FIG 7.2-2** — Sheet 1 of 1



NOTE:

1. ANALOG CIRCUITRY IS USED FOR THE COMPARATOR NETWORK.

2. COMPARISON IS DONE FOR ALL CONTROL BANKS.

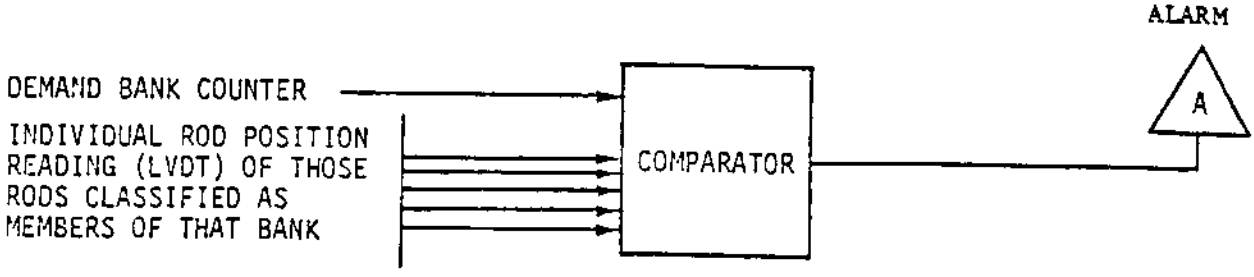
16.5	REVISED PER 98-UFSAR-375
REV. NO.	DESCRIPTION

REVISIONS

AMERICAN ELECTRIC POWER
COOK NUCLEAR PLANT
NUCLEAR GENERATION GROUP
BRIDGMAN, MICHIGAN

TITLE **CONTROL ROD BANK INSERTION MONITOR**

DWG. NO. **FSAR FIG. 7.2-3** SH 1 of 1



NOTE:

1. DIGITAL OR ANALOG SIGNALS MAY BE USED FOR THE COMPARATOR COMPUTER INPUTS.

2. THE COMPARATOR WILL ENERGIZE THE ALARM IF THERE EXISTS A POSITION DIFFERENCE GREATER THAN A PRESET LIMIT BETWEEN ANY INDIVIDUAL ROD AND THE DEMAND BANK COUNTER.

3. COMPARISON IS INDIVIDUALLY DONE FOR ALL CONTROL BANKS.

ROD DEVIATION COMPARATOR

FIGURE 7.2-4

July, 1982

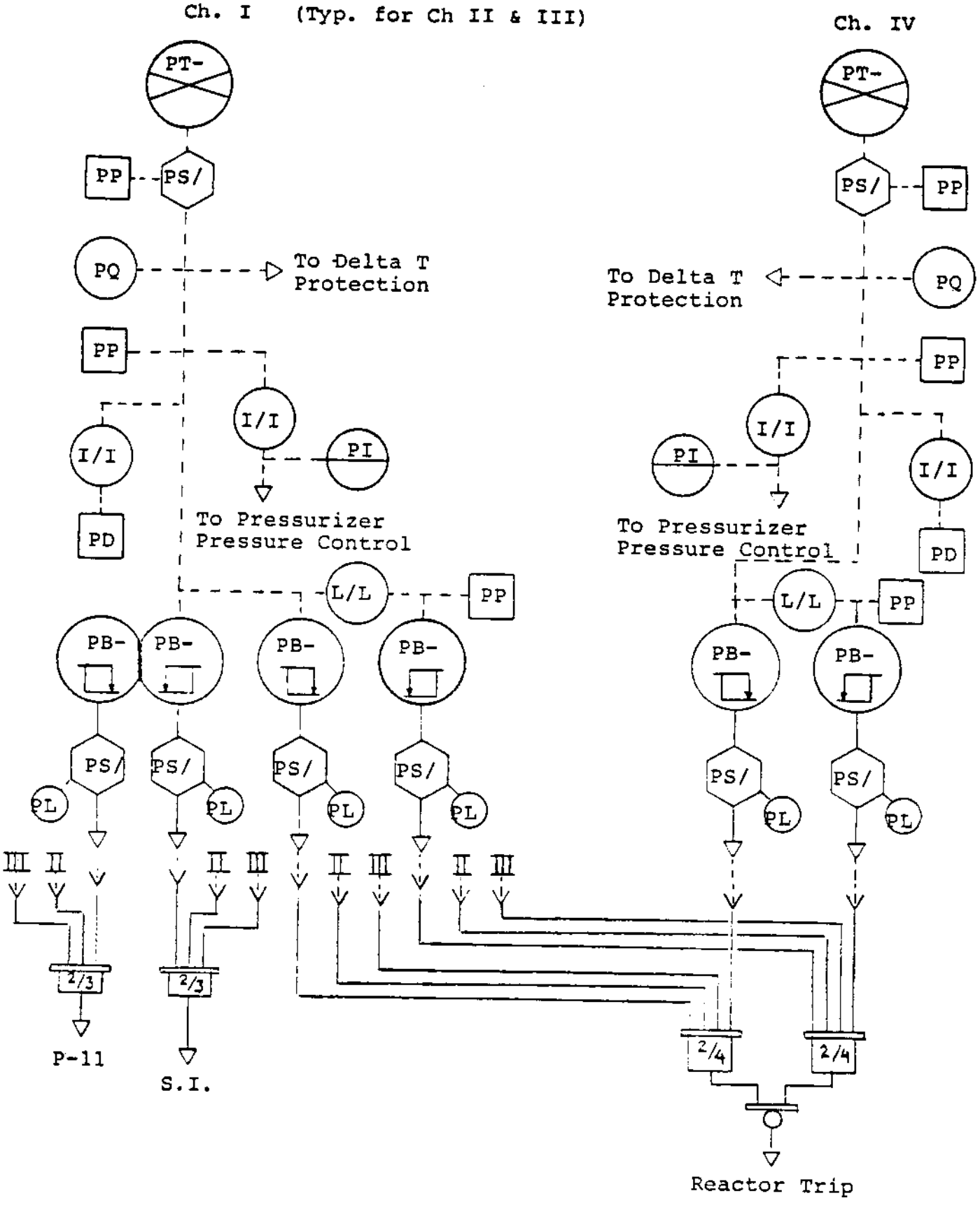


Fig. 7.2-5
PRESSURIZER PRESSURE PROTECTION

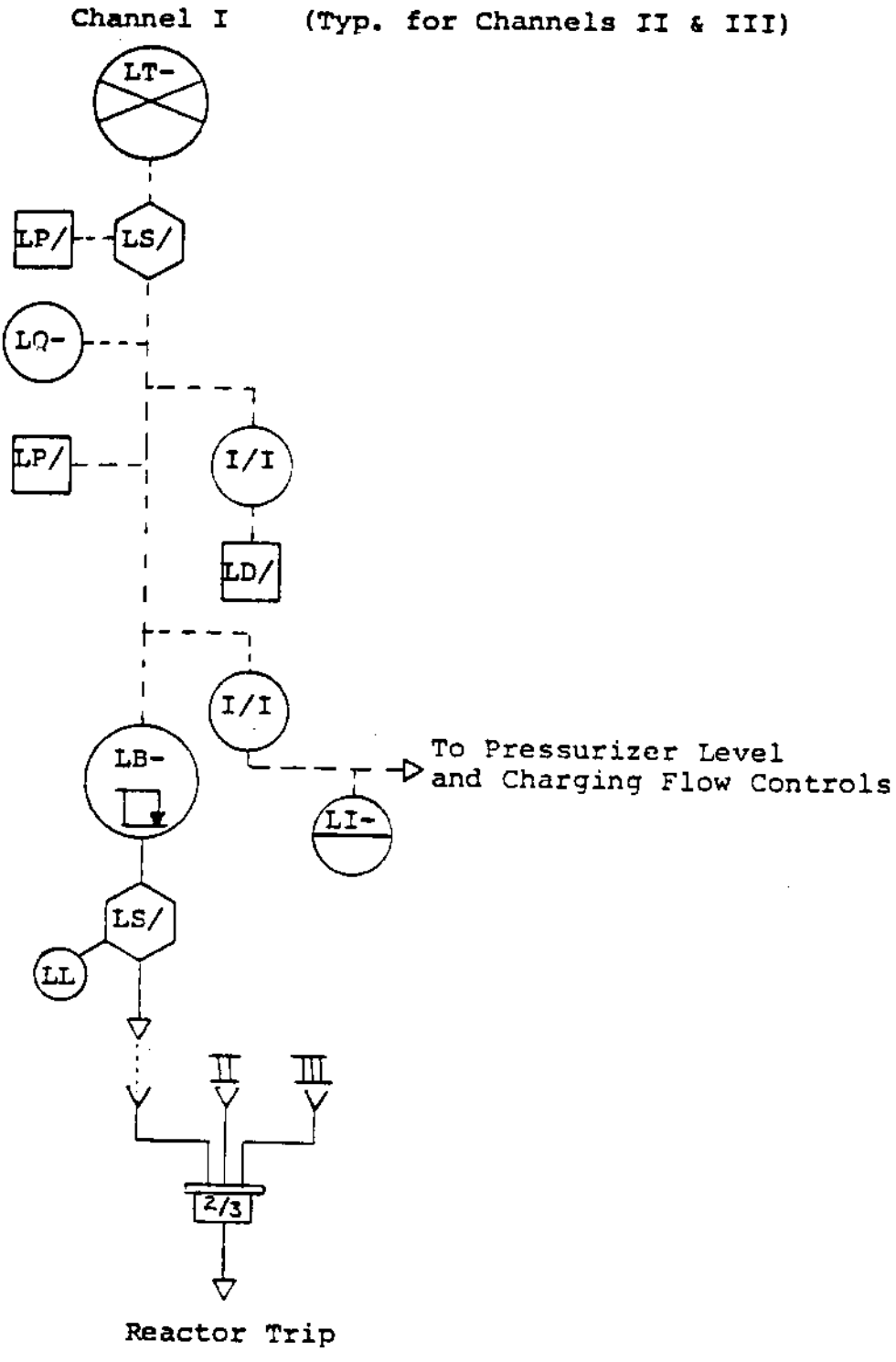
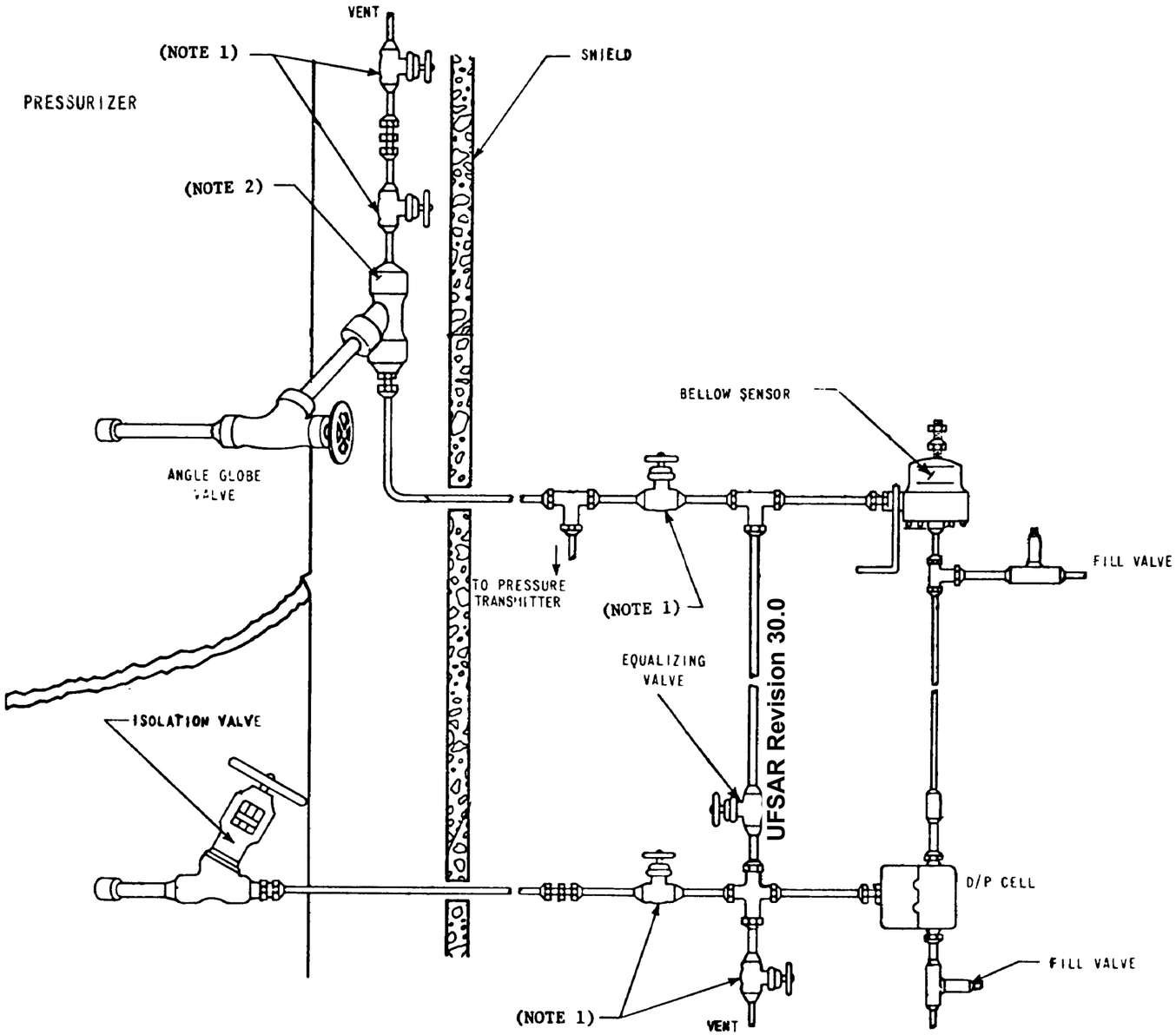


Fig. 7.2-6

Pressurizer Level Protection



NOTES:

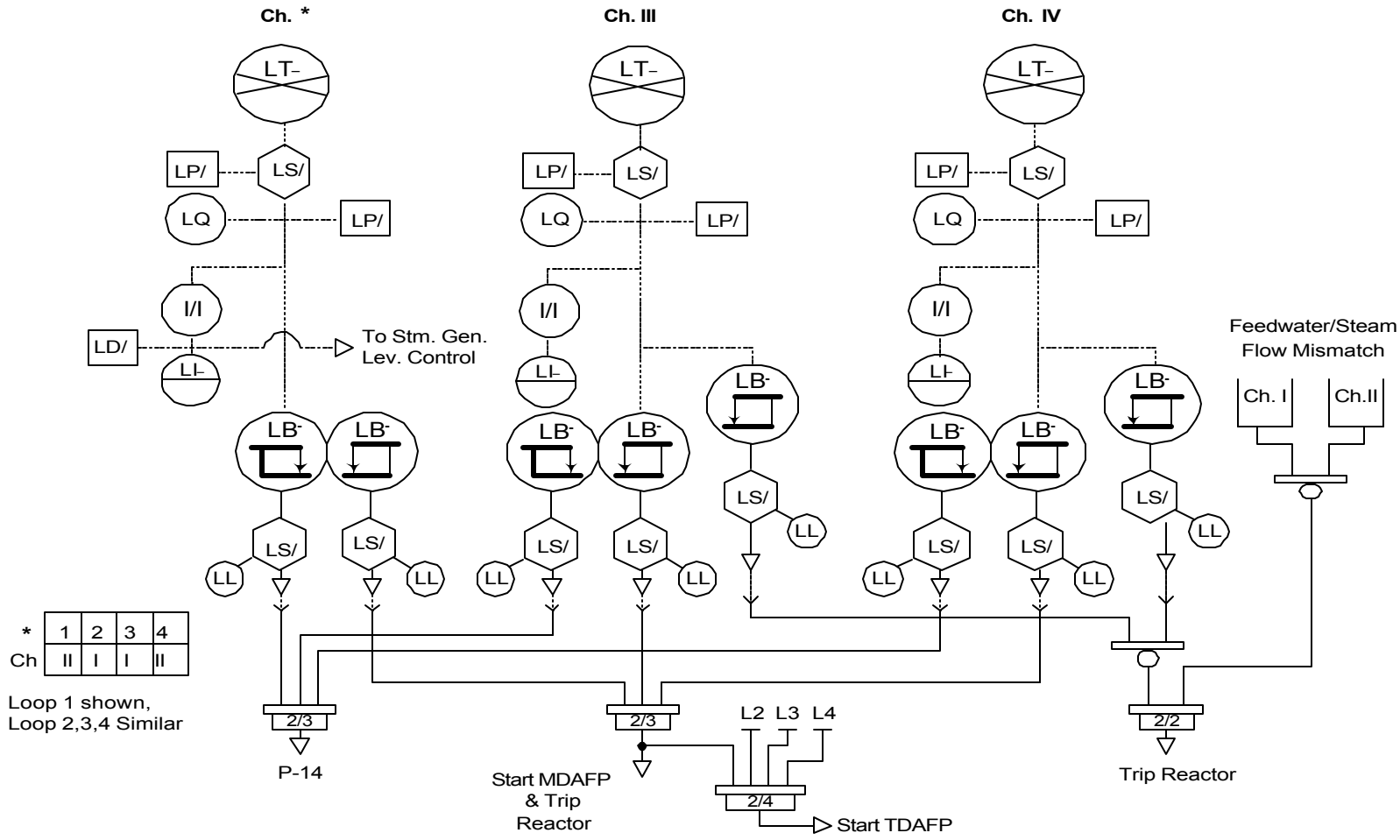
1. INSTRUMENT SHUT-OFF AND VENT
2. CONDENSATE RESERVOIR

PRESSURIZER SEALED REFERENCE LEG LEVEL SYSTEM

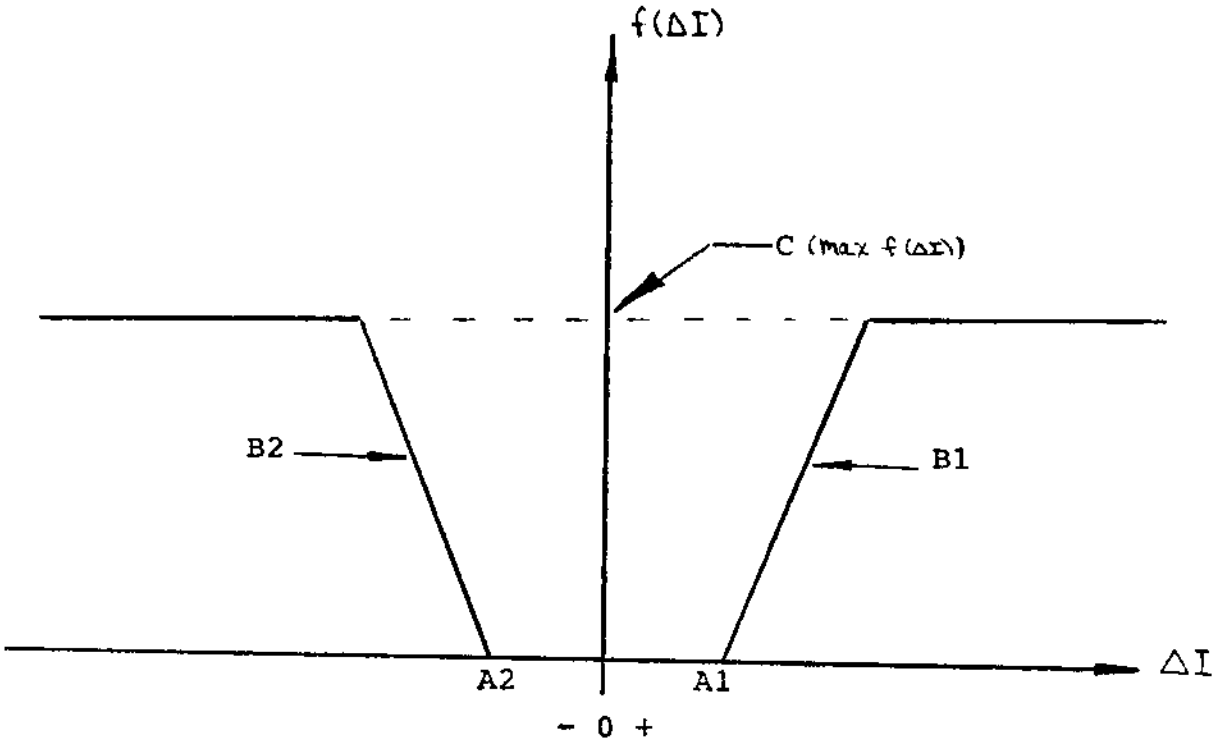
FIGURE 7.2-7

July, 1982

UFSAR Revision 30.0



Revision **17**	**Change Description: UCR-1181**
AMERICAN ELECTRIC POWER **COOK NUCLEAR PLANT** **NUCLEAR GENERATION GROUP** **BRIDGMAN, MICHIGAN**	**Title:** STEAM GENERATOR LEVEL PROTECTION
	DWG. NO. UFSAR FIG 7.2-8 — Sheet 1 of 1



ΔI = Difference between upper and lower long ion chambers. (qt-qb)

1. For qt-qb between A2% and A1%, f(ΔI)=0 Where qt qnd qb are percent Rated Thermal Power in the top and bottom halves of the core respectively, and qt+qb is the total thermal power in percent of Rated Thermal Power.

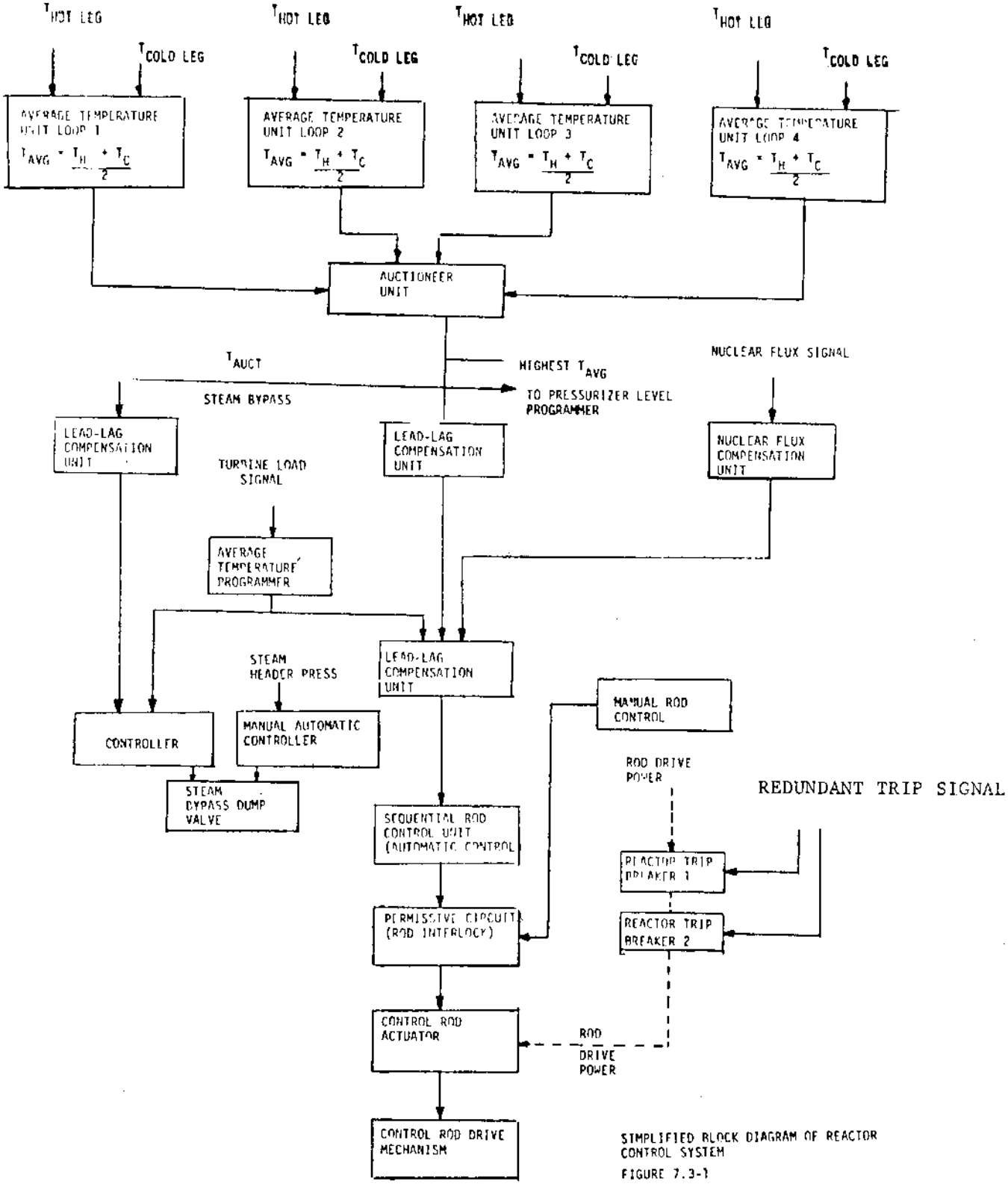
2. For each % that the magnitude of (qt-qb) exceeds A2%, the ΔT trip setpoint is automatically reduced by B2% of its value at Rated Thermal Power.

3. For each % that the magnitude of (qt-qb) exceeds A1%, the ΔT trip setpoint is automatically reduced by B1% of its value at Rated Thermal Power

SETPOINT REDUCTION FUNCTION FOR OVERPOWER AND OVERTEMPERATURE DELTA-T TRIPS

FIGURE 7.2-9

NOTES: 1) Temperatures are measured at steam generator's inlet and outlet.
2) Pressure is measured at the pressurizer.



SIMPLIFIED BLOCK DIAGRAM OF REACTOR CONTROL SYSTEM

FIGURE 7.3-1

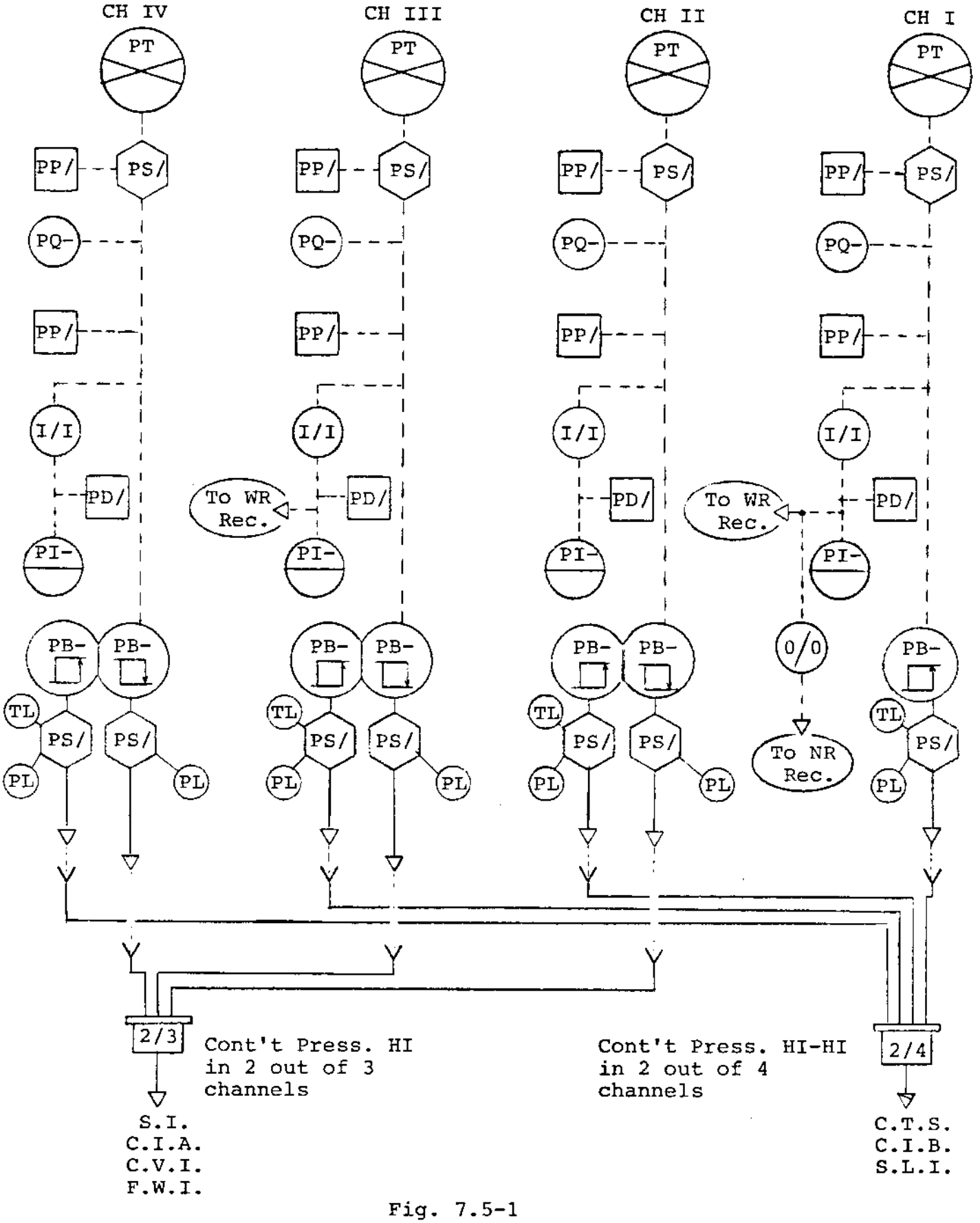


Fig. 7.5-1

CONTAINMENT PRESSURE PROTECTION

for definitions see Table 7.2-4

July, 1982

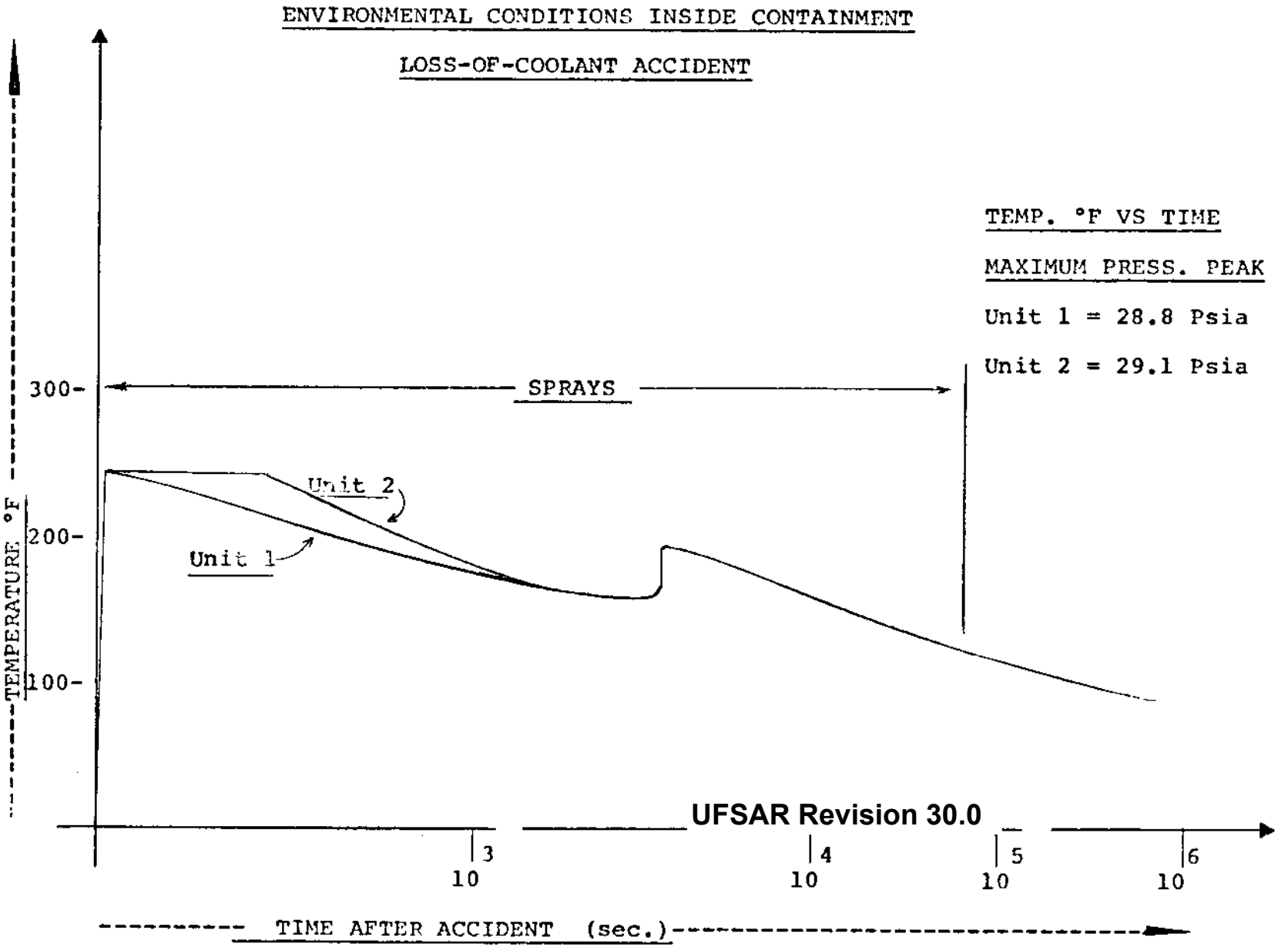
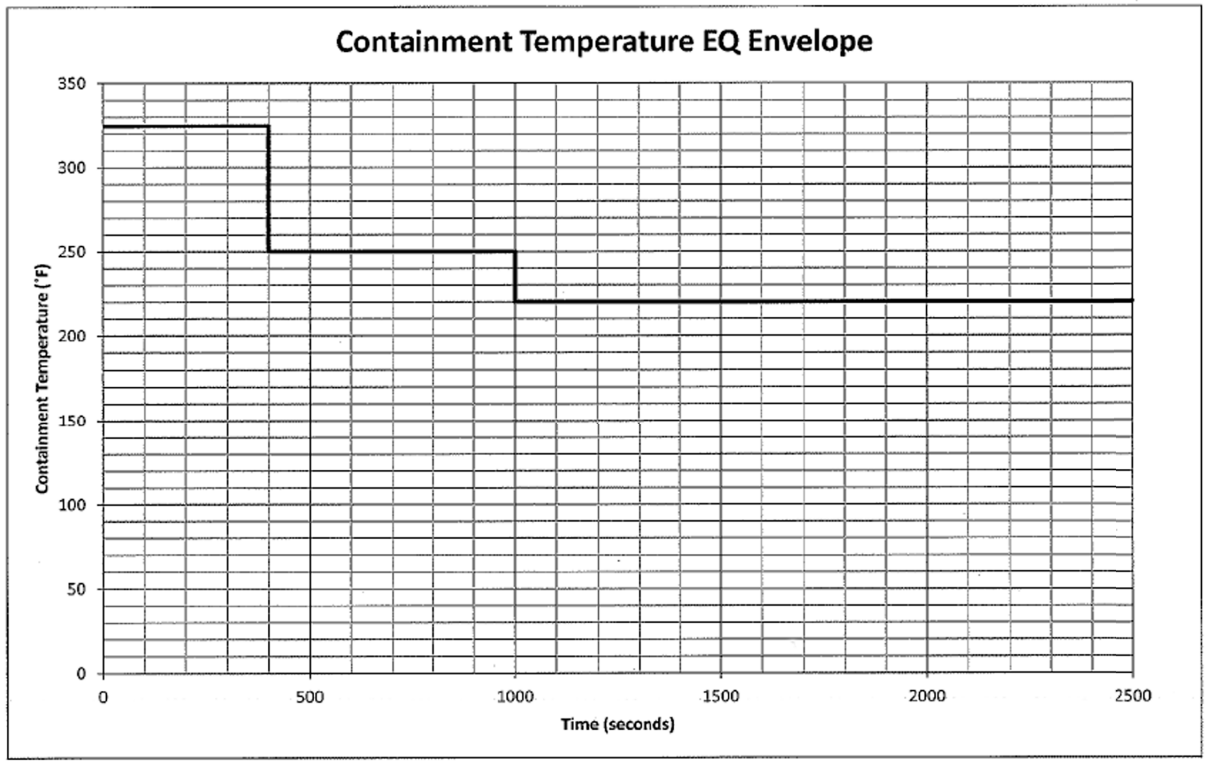


FIGURE 7.5-2

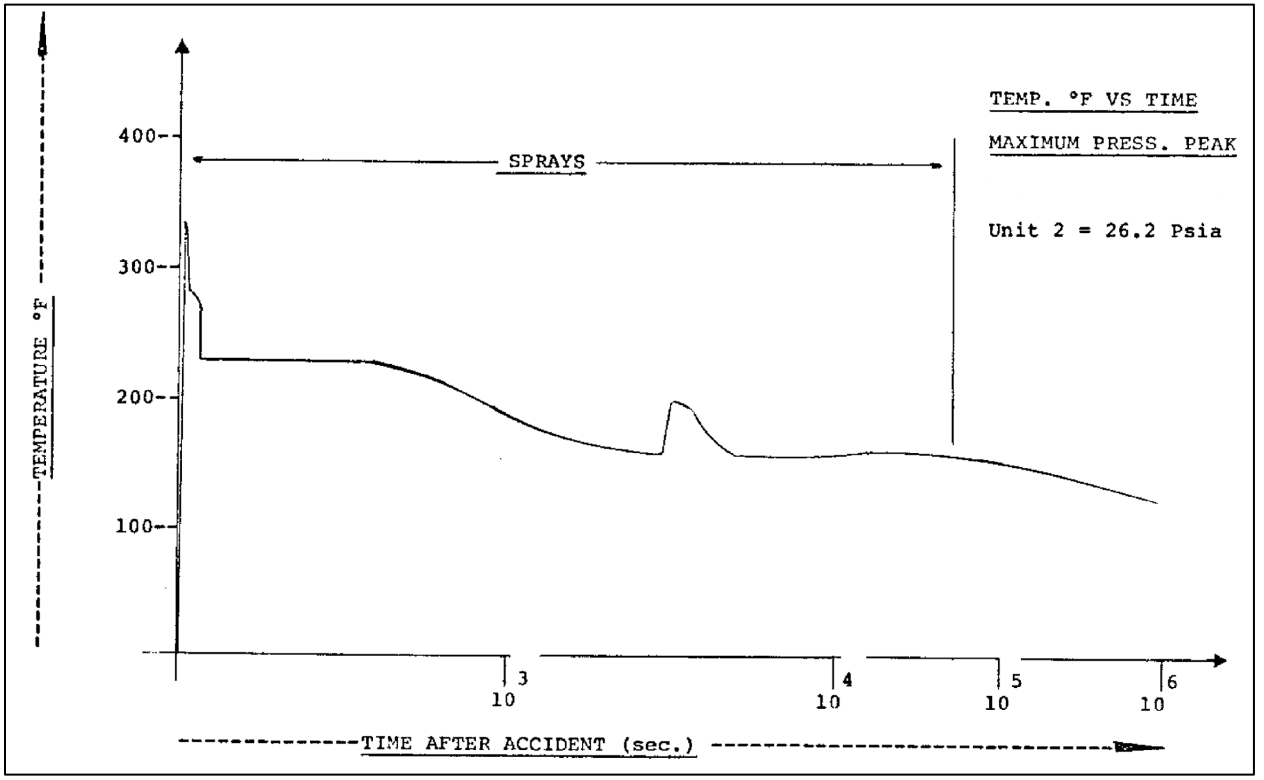
July, 1982

INDIANA MICHIGAN POWER An AEP Company	INDIANA MICHIGAN POWER D. C. COOK NUCLEAR PLANT UPDATED FINAL SAFETY ANALYSIS REPORT	Revised: 27.0 Chapter: 7 Sheet: 1 of 1



UFSAR Figure: 7.5-3A	Change Description: UCR-2054, Rev. 0	Unit 1
Title: Environmental Conditions Inside Containment - Main Steam Break (Unit 1)		

INDIANA MICHIGAN POWER An AEP Company	INDIANA MICHIGAN POWER D. C. COOK NUCLEAR PLANT UPDATED FINAL SAFETY ANALYSIS REPORT	Revised: 27.0 Chapter: 7 Sheet: 1 of 1



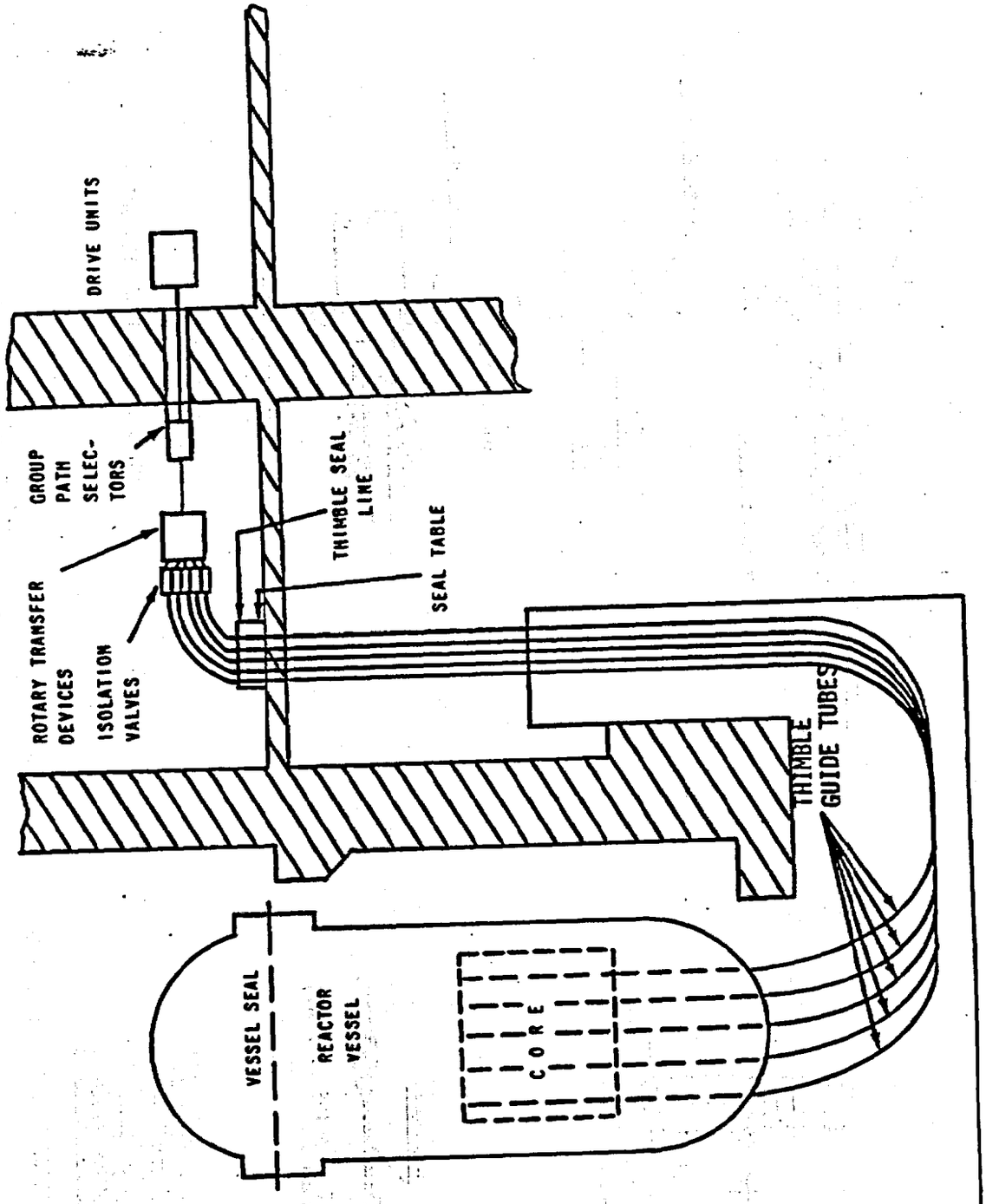
UFSAR Figure: 7.5-3B	Change Description: UCR-2054, Rev. 0	Unit 2

Title: Environmental Conditions Inside Containment - Main Steam Break (Unit 2)

IN-CORE INSTRUMENTATION DETAILS

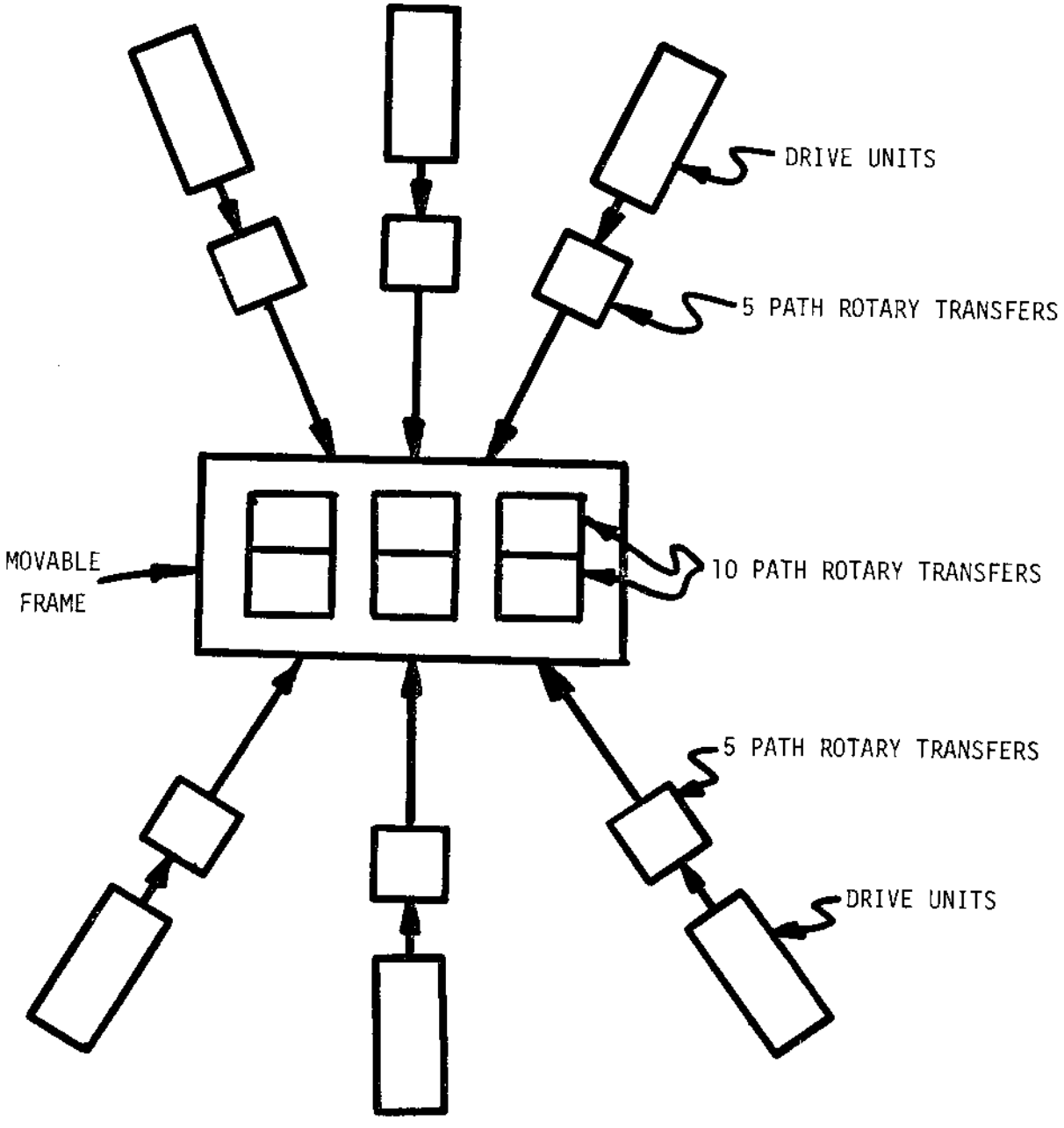
FIGURE 7.6-1

July, 1986



Typical Arrangement of Movable Miniature Neutron Flux Detector System (Elevation View)

FIGURE 7.6-2



SCHEMATIC ARRANGEMENT OF IN-CORE
FLUX DETECTORS (PLAN VIEW)

FIGURE 7.6-3

July, 1982

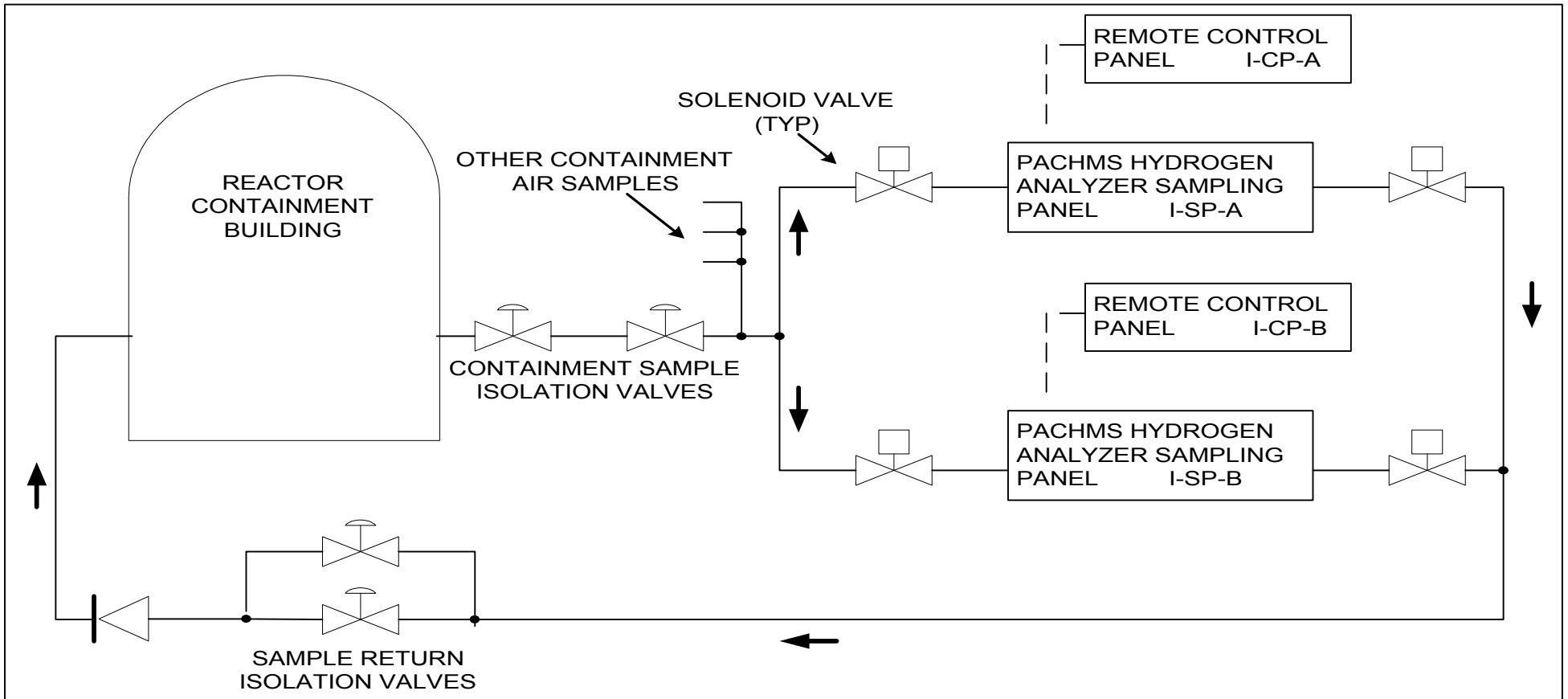
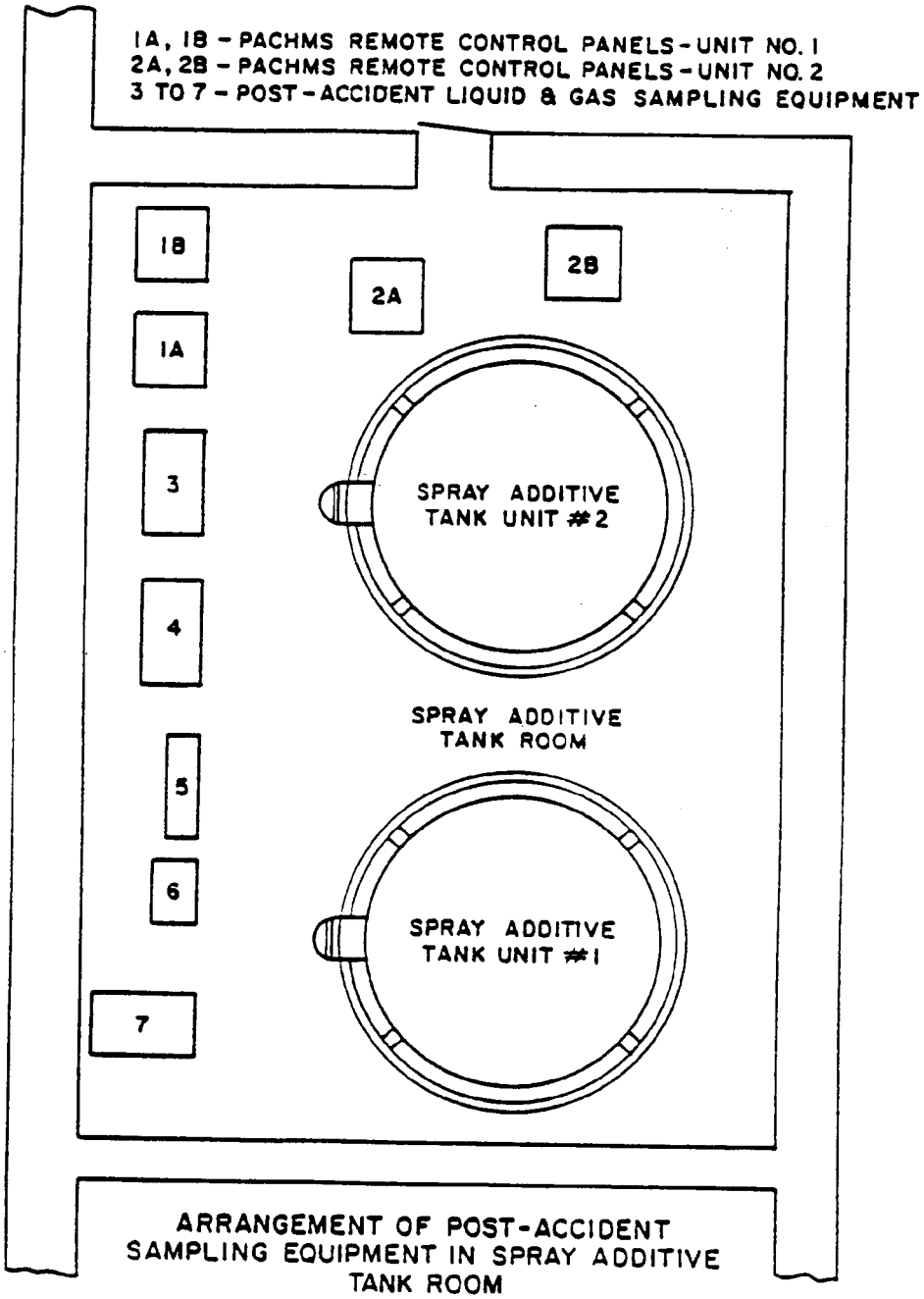


FIGURE 7.8-1

SCHEMATIC DIAGRAM OF POST-ACCIDENT CONTAINMENT HYDROGEN MONITORING SYSTEM (PACHMS)

Revision **17**	**Change Description: UCR-1077**

AMERICAN ELECTRIC POWER **COOK NUCLEAR PLANT** **NUCLEAR GENERATION GROUP** **BRIDGMAN, MICHIGAN**	**Title: SCHEMATIC DIAGRAM OF POST-ACCIDENT CONTAINMENT HYDROGEN MONITORING SYSTEM (PACHMS)**	
	DWG. NO. UFSAR FIG 7.8-1	Sheet 1 of 1



ARRANGEMENT OF POST-ACCIDENT SAMPLING EQUIPMENT IN SPRAY ADDITIVE TANK ROOM

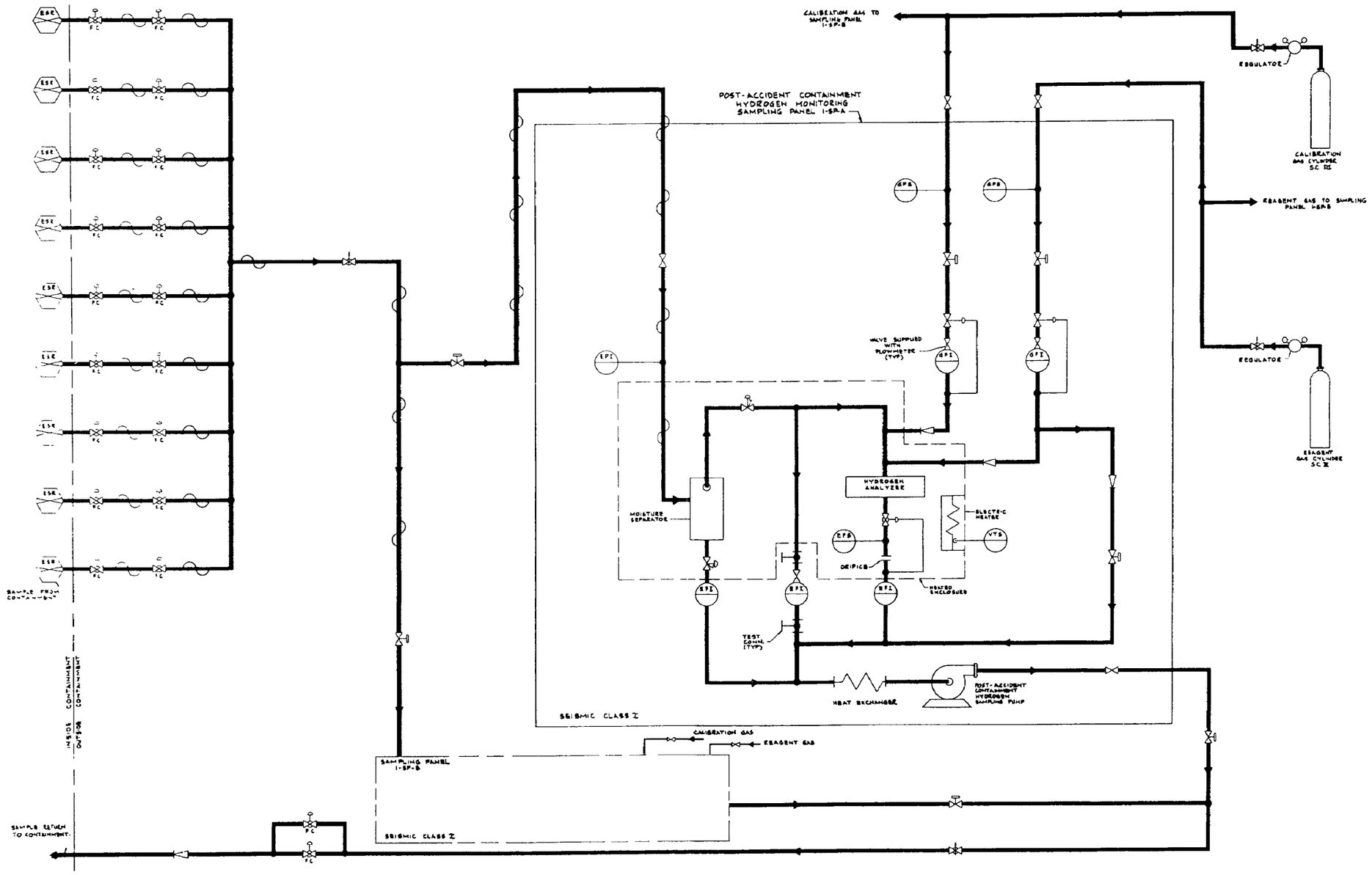
17	REVISED PER UCR 1077	**UNIT 1**
REV. NO.	**DESCRIPTION**	
REVISIONS		

AMERICAN ELECTRIC POWER
COOK NUCLEAR PLANT
NUCLEAR GENERATION GROUP
BRIDGMAN, MICHIGAN

TITLE ARRANGEMENT OF POST-ACCIDENT SAMPLING EQUIPMENT IN SPRAY ADDITIVE TANK ROOM

DWG. NO. **FSAR FIG. 7.8-2** SH 1 of 1

DWG. NO. FSAR FIG. 7.8 - 3



DATE	NO.	DESCRIPTION	APPD.
	17	REVISED PER UCR 1077	

REVISIONS

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK
NUCLEAR PLANT

BRIDGMAN MICHIGAN

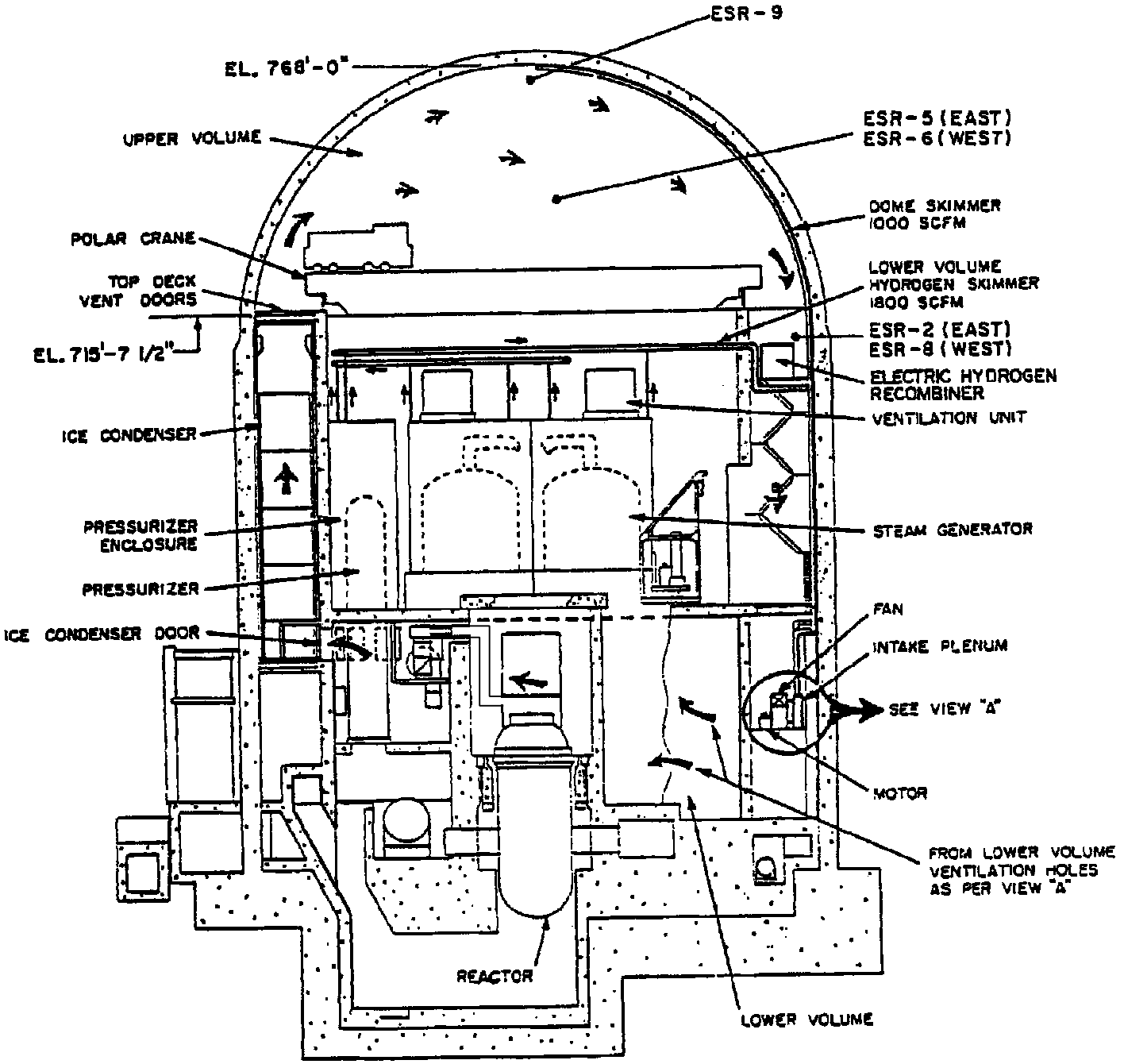
UNIT NO. 1
POST-ACCIDENT
CONT. HYDROGEN

DWG. NO. FSAR FIG. 7.8 - 3

ARCH		ELEC		MECH		STR	

SCALE: BR -
DATE: CH -
DESIGN ENGINEERING DIVISION

AEP AMERICAN ELECTRIC POWER
AEP SERVICE CORP.
1 RIVERSIDE PLAZA
COLUMBUS, OH 43215



NOTES:

1. UNIT NO.1 AND 2 SHOWN.
2. REFERENCE FSAR FIG. 5.5-3

21.2

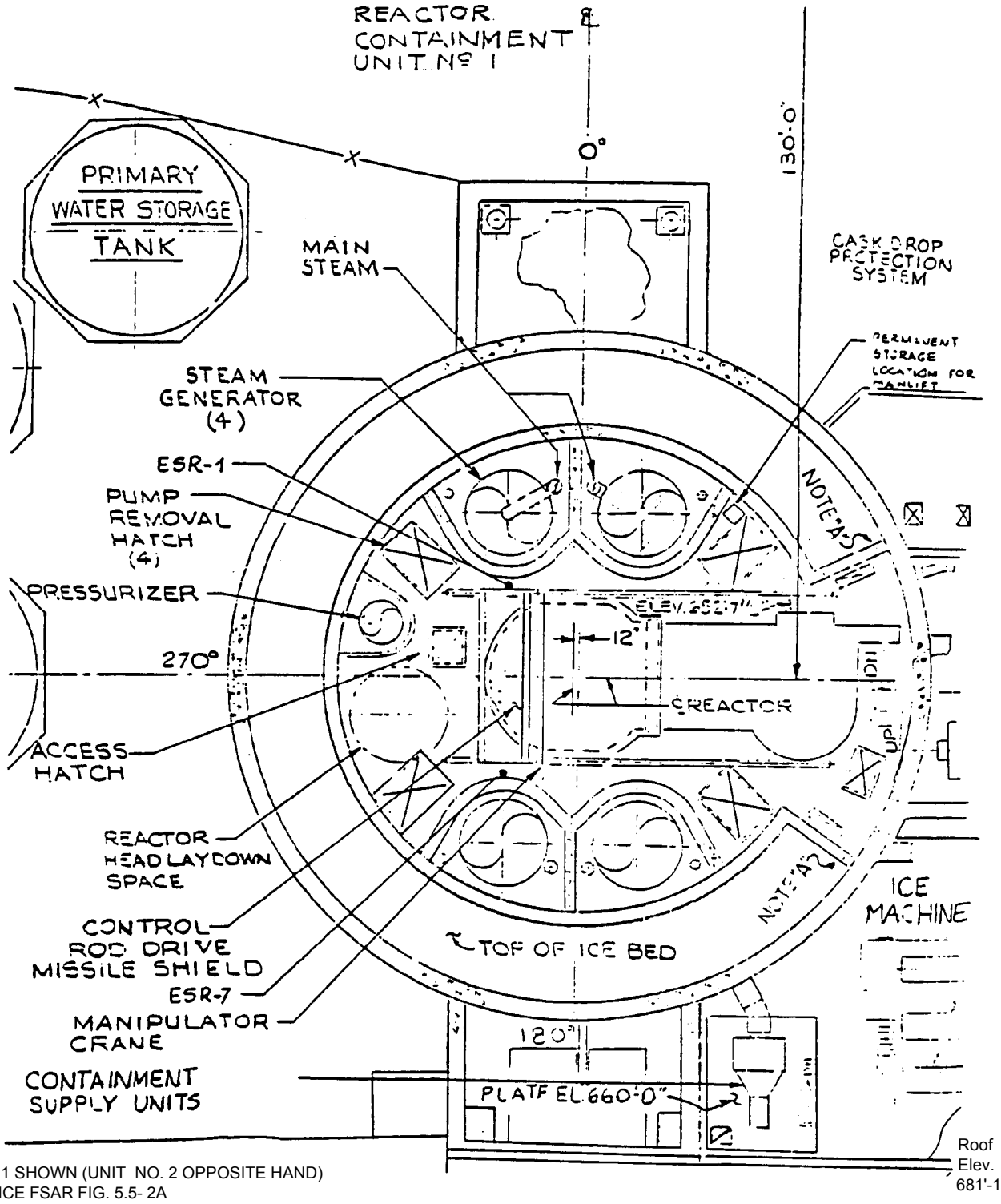
21.2	REVISED PER UCR-1837, REV.0.	UNIT 1
REV. NO.	**DESCRIPTION**	
REVISIONS		

AMERICAN ELECTRIC POWER
COOK NUCLEAR PLANT
NUCLEAR GENERATION GROUP
BRIDGMAN, MICHIGAN

TITLE
SECTION OF CONTAINMENT DETAILING LOCATION OF HYDROGEN MONITORING SAMPLE PORTS ESR-2, 5, 6, 8, AND 9

DWG. NO. FSAR FIG. 7.8-4 | **SH** 1 **OF** 1

fsar-fig-7.8-4_21-2.dgn 3/7/2008 10:56:32 AM



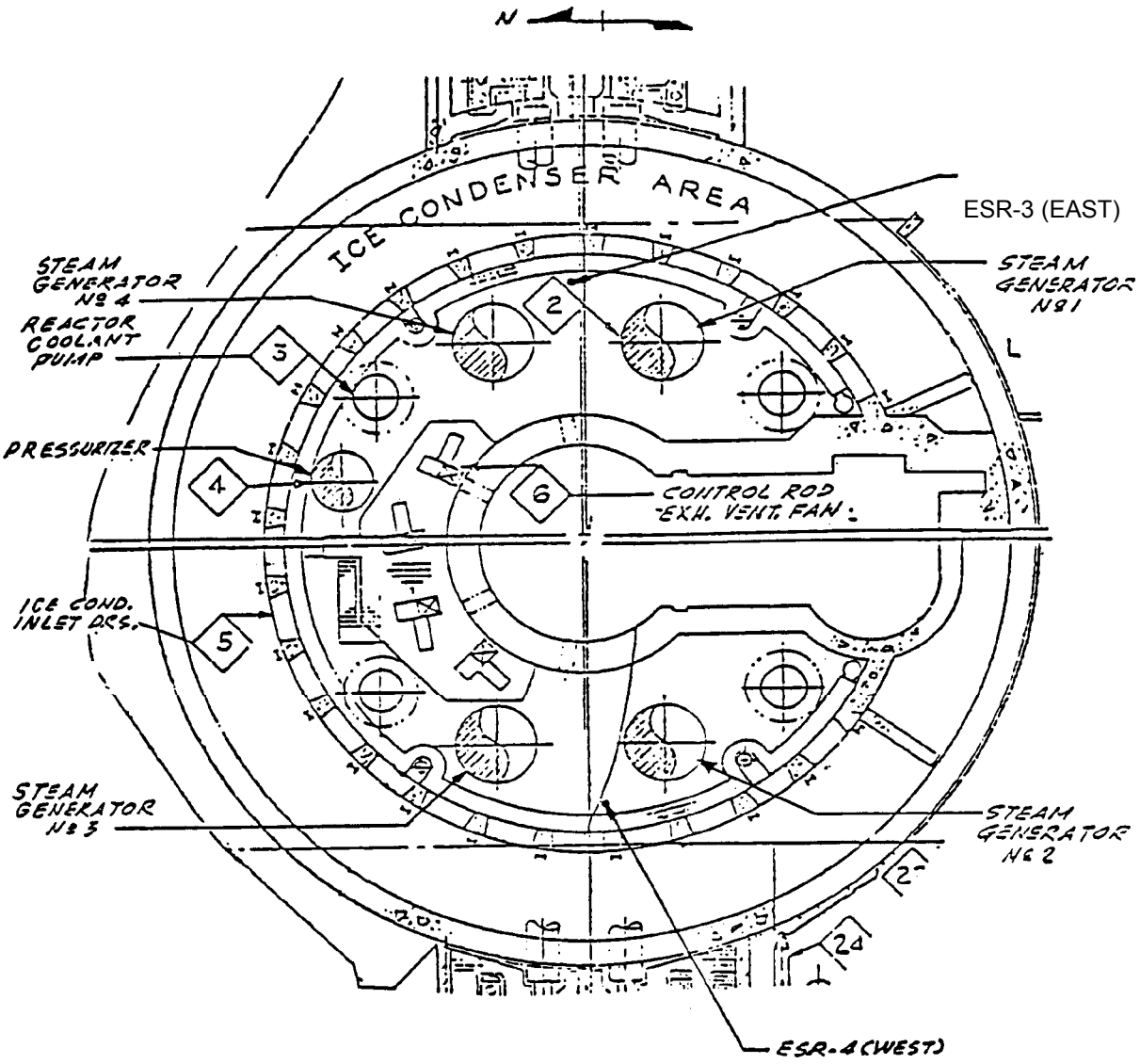
NOTES:
1. UNIT NO. 1 SHOWN (UNIT NO. 2 OPPOSITE HAND)
2. REFERENCE FSAR FIG. 5.5- 2A

17	REVISED PER UCR 1077	**UNIT 1**
REV. NO.	**DESCRIPTION**	
REVISIONS		

AMERICAN ELECTRIC POWER
COOK NUCLEAR PLANT
NUCLEAR GENERATION GROUP
BRIDGMAN, MICHIGAN

TITLE Plan Elevation of Containment (Elevation - 650'-0") Detailing Location of Hydrogen Monitoring Sample Ports ESR- 1 & 7

DWG. NO. **FSAR FIG. 7.8-5** SH 1 of 1



NOTES; 1. UNIT NO. 1 SHOWN (UNIT NO. 2 OPPOSITE HAND)
2. REFERENCE DWG. NO. 12-5169

17	REVISED PER UCR 1077	**UNIT 1**
REV. NO.	**DESCRIPTION**	
REVISIONS		

AMERICAN ELECTRIC POWER
COOK NUCLEAR PLANT
NUCLEAR GENERATION GROUP
BRIDGMAN, MICHIGAN

TITLE **Plan Elevation of Containment (Elevation 633'-0") Detailing Location of Hydrogen Monitoring Sample Ports ESR-3 & 4**

DWG. NO. **FSAR FIG. 7.8-6** SH 1 of 1