


ACCUM. TANK NO.	LT. NO.	PT. NO.	VALVE NOS.			
			"C"	"D"	"E"	"F"
21	LT-931A LT-935A	PT-936A PT-937A	837BB	5275	837DD	5276
22	LT-934B LT-935B	PT-936B PT-937B	837FF	5277	837HH	5278
23	LT-934C LT-935C		837KK	5279	837MM	5280
24	LT-934D LT-935D		837PP	5281	837SS	5282


RESERVOIR IDENTIFICATION NO.
SIS-TANK-POT-1001 (LT-935A)
SIS-TANK-POT-1003 (LT-935B)
SIS-TANK-POT-1005 (LT-935C)
SIS-TANK-POT-1007 (LT-935D)

SIS-TANK-POT-1000 (LT-934A)
SIS-TANK-POT-1002 (LT-934B)
SIS-TANK-POT-1004 (LT-934C)
SIS-TANK-POT-1006 (LT-934D)


CONT. SEE DWG NO. 9321-F-273

LOOP 21 COLD LEG OF R.C.S. ← 


897B
10-C-482

LOOP 22 COLD LEG OF R.C.S. ← 

897C
10-C-482

LOOP 23 COLD LEG OF R.C.S. ← 

897D
10-C-482

LOOP 24 COLD LEG OF R.C.S. ← 

NOTE:
FOR TESTING OF S.I.S
SYSTEM SEE FLOW
DIAG. B206115

INSIDE CONTAINMENT
BUILDING

TO LOOP 21
COLD LEG OF R.C.S.
2" - #16-2-SI-2501R
(9321-F-2738)

TO LOOP 22
COLD LEG OF R.C.S.
2" - #16-2-SI-2501R
(9321-F-2738)

TO LOOP 24
COLD LEG OF R.C.S.
2" - #16-2-SI-2501R
(9321-F-2738)

RY
C
N 2735

INSIDE P
AUX. BUI
FOR CONT
SEE DWG.

LOOP 22
14'-#10

A

MP
PS
RS

NOTES:
1. IN THE
TO
TH


LEGEND

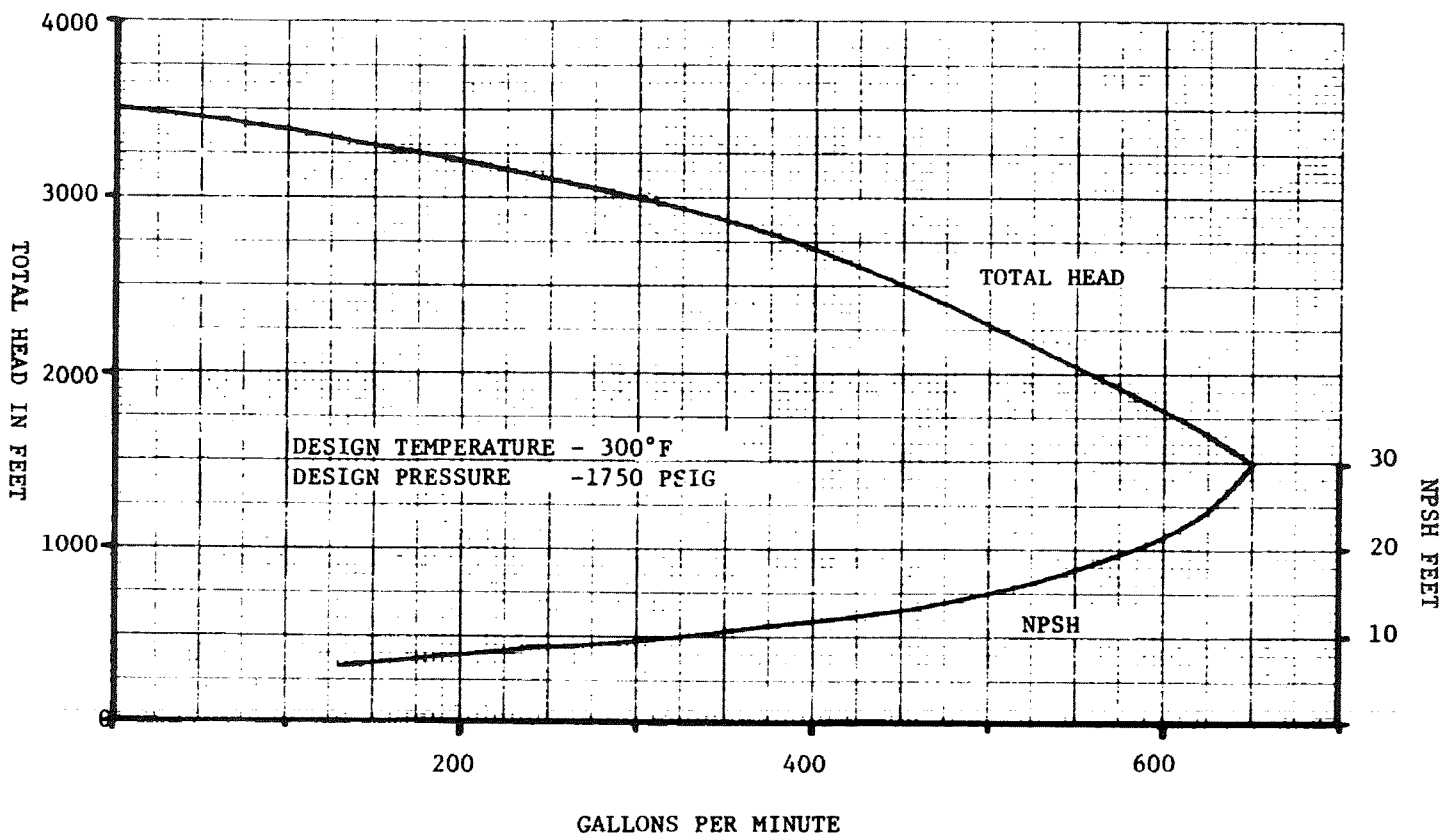
RCS--REACH
SIS--SAFE
CSS--CONT.
RHR--RESI
RWS1--REFU
LWPS--LIQU

ES AND REF. DRAWINGS SEE

INSERVICE INSPECTION NOTES:
1.CP=CONTAINMENT PENETRATIONS, ASME CLASS MC APPLIES.
2.FOR NON-CODE PIPING PENETRATING CONTAINMENT & NOT
CLASSIFIED QUALITY GROUP "A", "B" OR "C" QUALITY

WORK THIS DWG
WITH DWGS.9321-F-2735
& A226076

72 INCORPORATED EC-58811				4/6/16	VMR	APPROVAL SIGNATURES ON FILE	DATE	EXP.	SUPPLY.	DESIGN	ENG.	ENG. NO.	TITLE: FLOW DIAGRAM SAFETY INJECTION SYSTEM			 STATION INDIAN POINT	
REV	DESCRIPTION			DATE	BY	CHKD							APP.	DISC.	ENG.		- UFSAR FIGURE NO. 6.2-1 (SHT. 2)
REVISIONS							REVIEW			APPROVALS			H			I	



INDIAN POINT UNIT No. 2

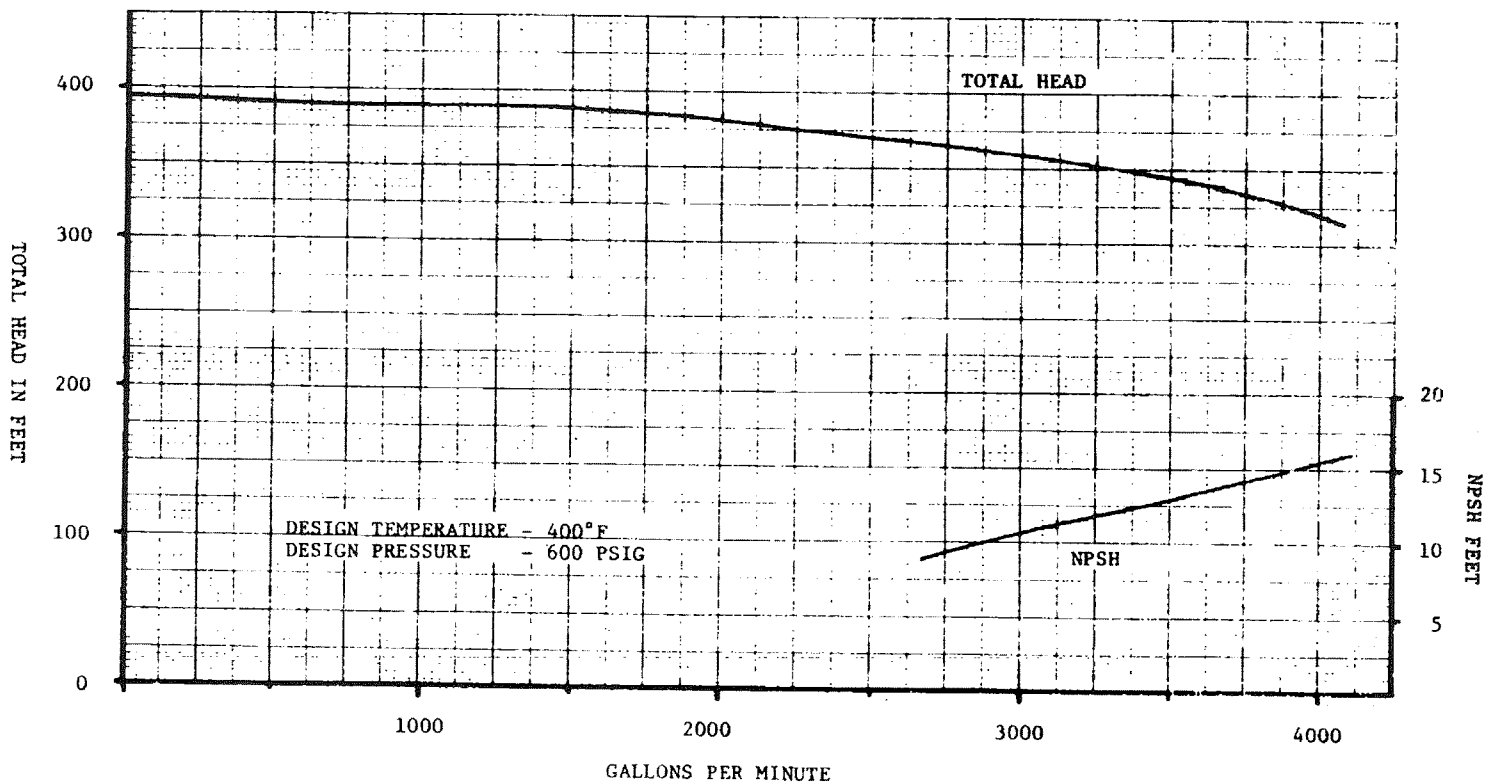
UFSAR FIGURE 6.2-6

SAFETY INJECTION PUMP PERFORMANCE

MIC. No. 1999MC3829

REV. No. 17A

RESIDUAL HEAT REMOVAL PUMP PERFORMANCE



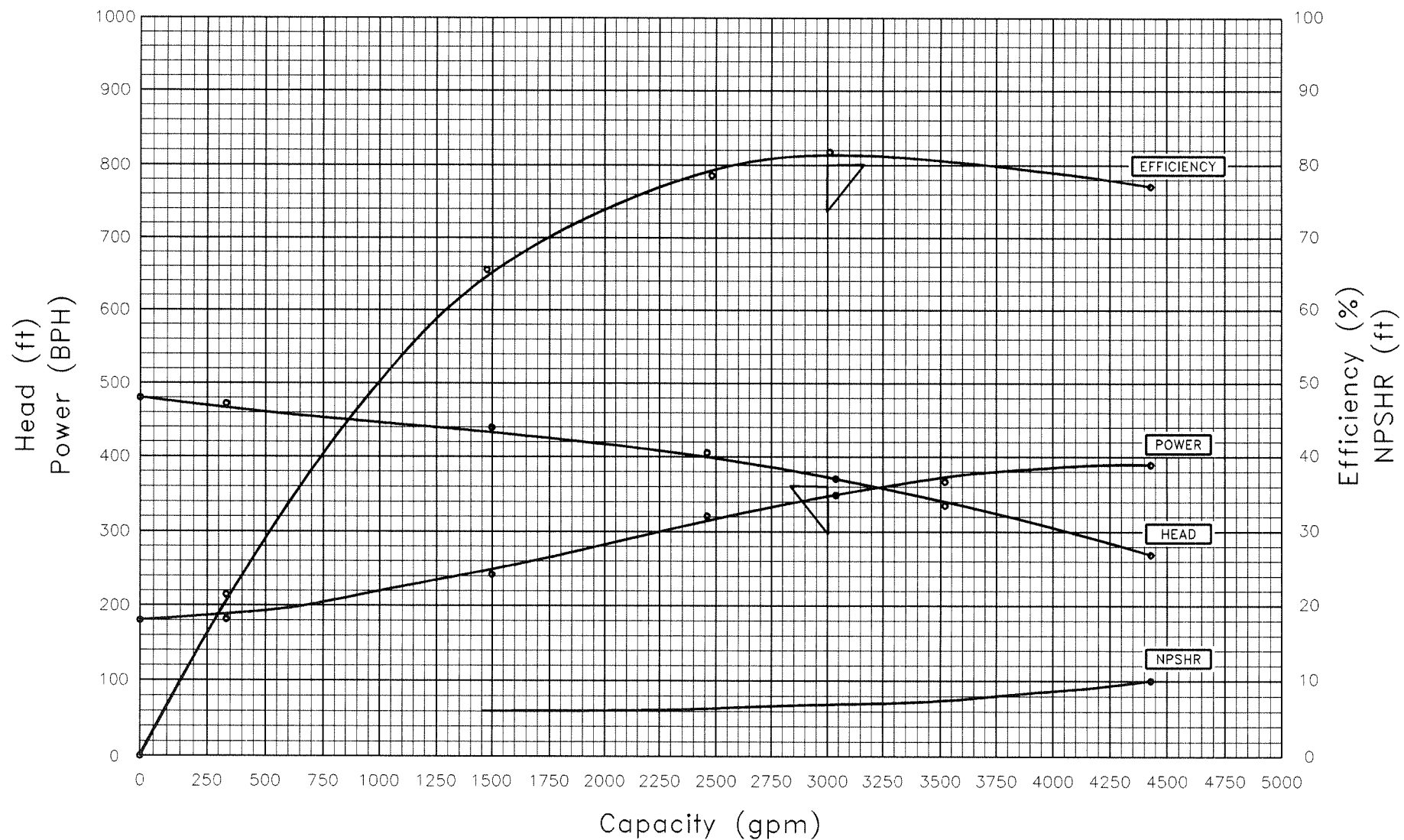
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6.2-7

RESIDUAL HEAT REMOVAL
PUMP PERFORMANCE

MIC. No. 1999MC3830

REV. No. 17A



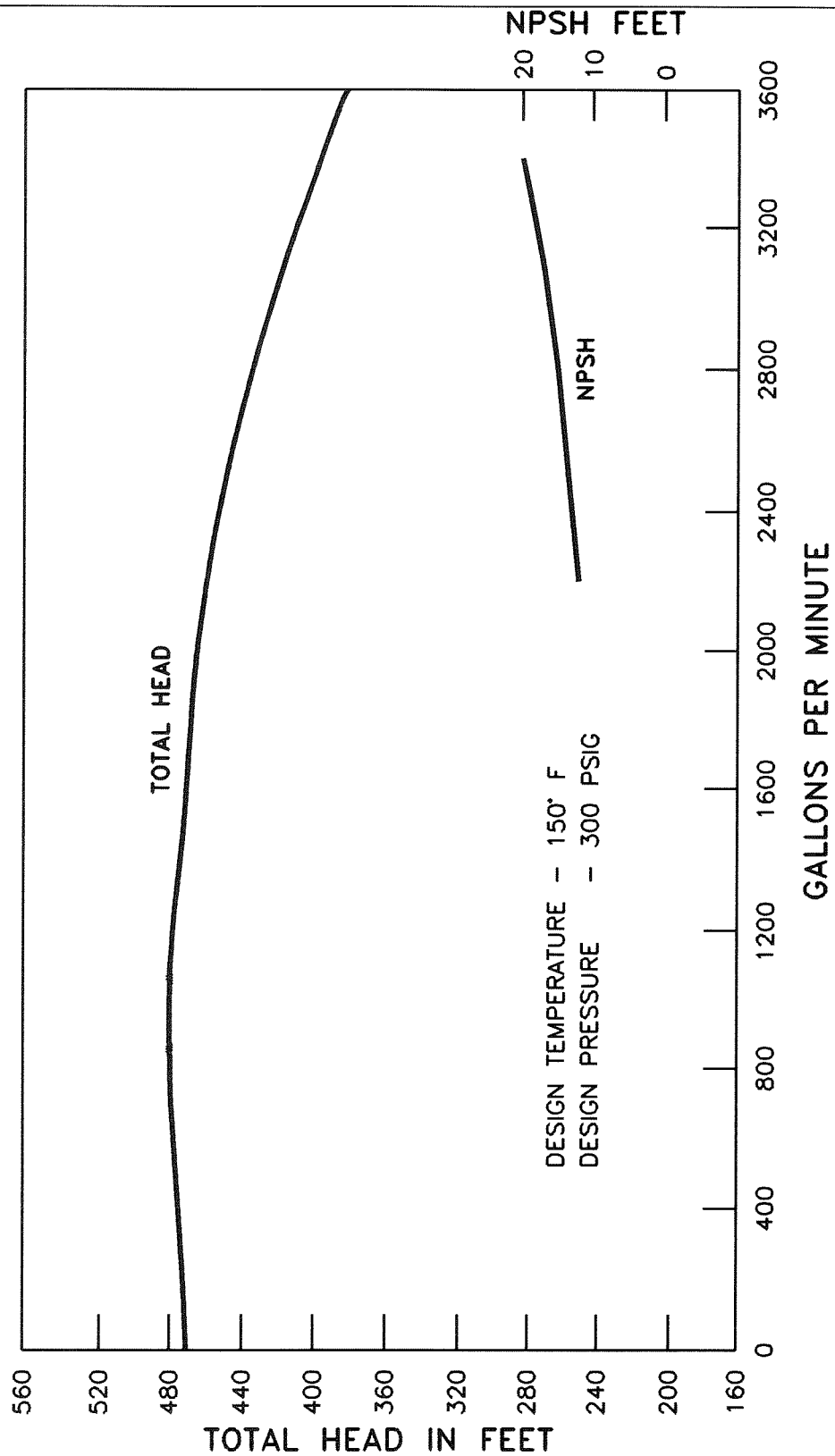
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6.2-8

RECIRCULATION PUMP PERFORMANCE

MIC. No. 1999MC3831

REV. No. 17A



INDIAN POINT UNIT No. 2

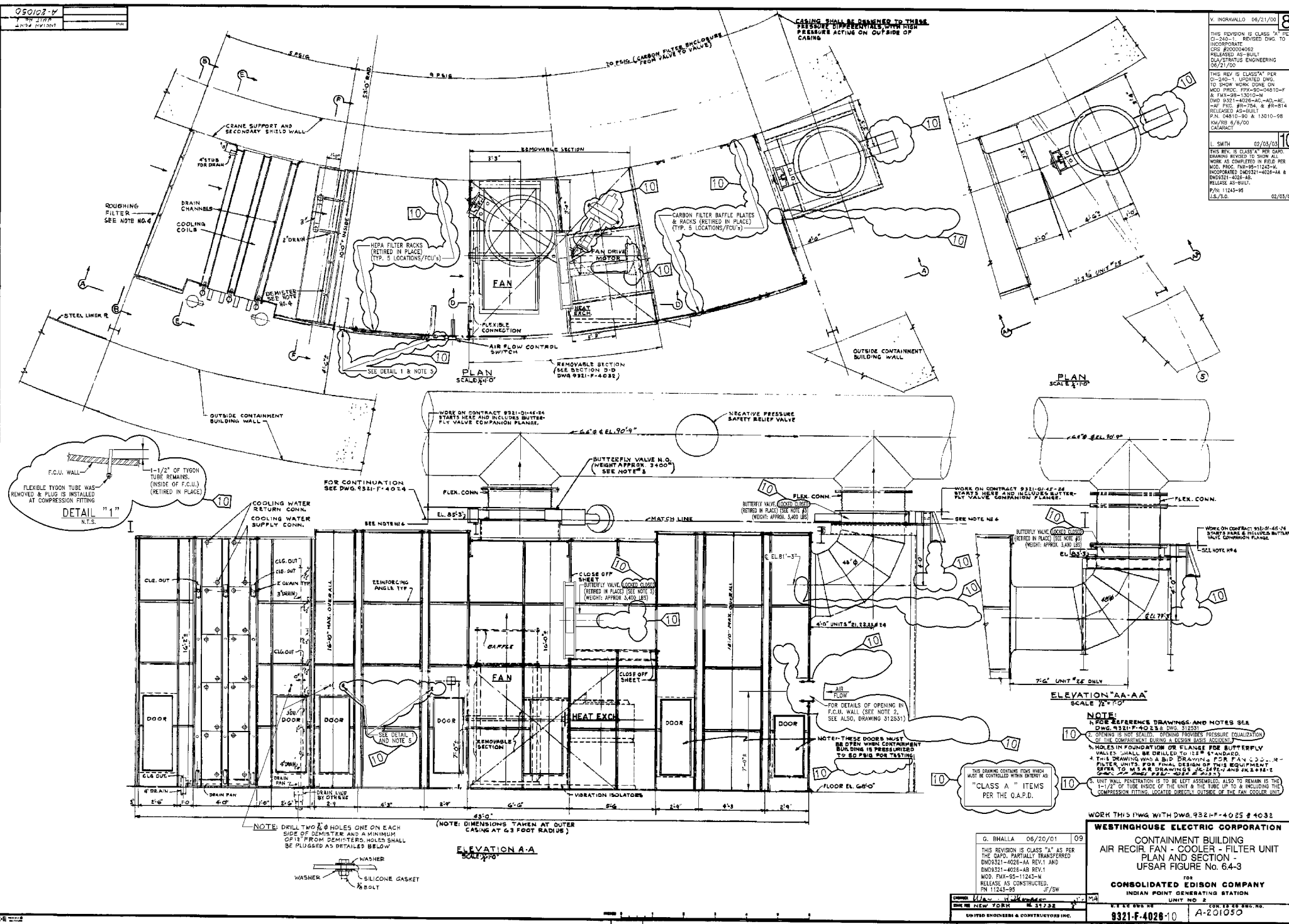
UFSAR FIGURE 6.3-1

CONTAINMENT SPRAY PUMP
PERFORMANCE CHARACTERISTICS

MIC. No. 1999MC3833

REV. No. 17A

950103-4
WESTINGHOUSE

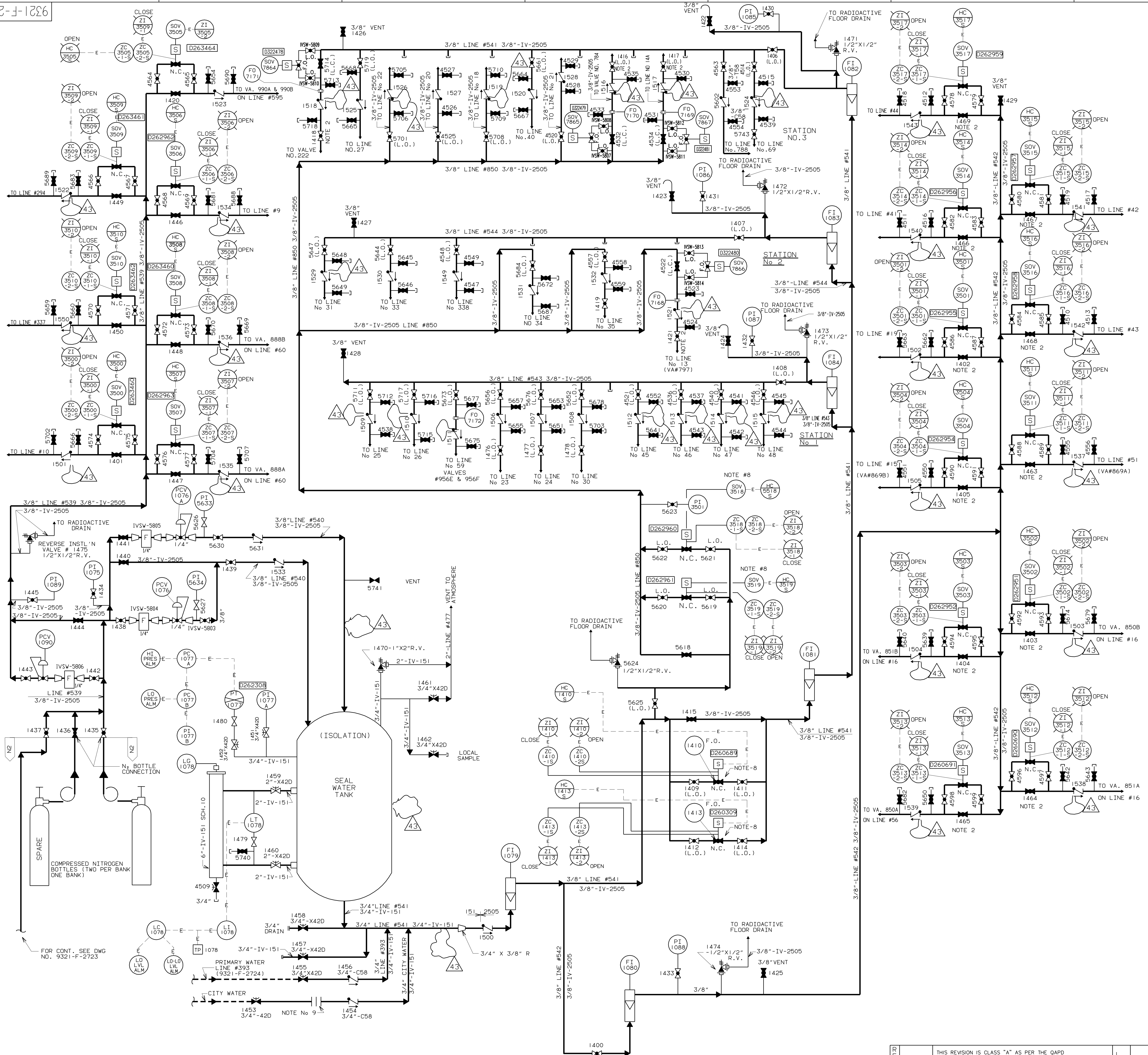


V. INKAWALLO 06/21/00 8
THIS REVISION IS CLASS "A" PER
C-240-1. REVISED DWG. TO
INCORPORATE
CIR 9000000000
RELEASED AS-BUILT
DATE 06/21/00
P/N 1244-98
K/W/88 6/6/00
C/AN/0001
L. SMITH 02/03/03 10
THIS REV. IS CLASS "A" PER C-240-1. REVISED DWG. TO
SHOW WORK DONE ON
MOD. PROC. 776-80-040-0-F
& FMX-98-13010-M
DMD 9321-4025-AB REV. 1
& AF PGC. 88-754 & 88-814
RELEASED AS-BUILT
P/N 1244-98 & 13010-08
K/W/88 6/6/00
C/AN/0001
02/03/03

NOTE:
1. SEE REFERENCE DRAWINGS AND NOTES SEE
DWG. 9321-F-4025-B & DWG. 312531
2. OPENING IS NOT SEALED. OPENING PROVIDES PRESSURE EQUALIZATION
OF THE COMPARTMENT DURING A DESIGN BASIS ACCIDENT
3. HOLES IN FOUNDATION OR FLANGE FOR BUTTERFLY
VALVES SHALL BE DRILLED TO 1/2" & 4" AND 400.
4. THIS DRAWING WAS A BID DRAWING FOR FAN COOL-
ING FILTER UNITS. FOR FINAL DESIGN OF THIS EQUIPMENT
REFER TO WSAE DRAWINGS J/C 34762 AND 34763-2
5. UNIT WALL PENETRATION IS TO BE LEFT ASSEMBLED. ALSO TO REMAIN IS THE
1-1/2" OF TUBE INSIDE OF THE UNIT & THE TUBE UP TO & INCLUDING THE
COMPRESSION FITTING, LOCATED DIRECTLY OUTSIDE OF THE FAN COOLING UNIT

WORK THIS DWG WITH DWG. 9321-F-4025-B & 4032
WESTINGHOUSE ELECTRIC CORPORATION
CONTAINMENT BUILDING
AIR RECIR. FAN - COOLER - FILTER UNIT
PLAN AND SECTION -
UFSAR FIGURE NO. 64-3
OR
CONSOLIDATED EDISON COMPANY
INDIAN POINT GENERATING STATION
UNIT NO. 2
G. BHALLA 06/20/01 09
THIS REVISION IS CLASS "A" AS PER
THE DAPD. PARTIALLY TRANSFERRED
DMD9321-4025-AB REV. 1 AND
DMD9321-4025-AB REV. 1
MOD. FMX-98-11245-M
RELEASED AS-BUILT
P/N 11245-98
J/SW
DWG. NO. 9321-F-4025-B
REV. 1
UNIFIED ENGINEERS & CONTRACTORS INC.
8321-F-4025-10 A-2101050

9321-F-2746



PENETRATION LIST				
SEAL CONN TO LINE NO.	INJECTION POINTS	CONTAINMENT PENETRATION SLEEVE	LINE DESCRIPTION	REMARKS
10	VALVE #744	K	RESIDUAL HEAT REMOVAL LOOP IN	NITROGEN INJ.
13	IN LINE #337	NONE	D.C. PUMPS COOLING WATER IN	
14	VALVE #784	O	DITTO	
14A	VALVE FCV #628	O	DITTO	
15	VALVE #8698	P	CONTAINMENT SPRAY HEADER	
16	VALVE #8508	Q	SAFETY INJECTION LINE	IN P.A.B.
17	VALVE #8518	Q	DITTO	
19	VALVE #8522	R	R.C. PUMPS SEAL WATER RETURN	
21	IN LINE #18	R	EXCESS LETDOWN HT. EXCH. COOLING WTR. RET.	
22	IN LINE #22	U	EXCESS LETDOWN HT. EXCH. COOLING WTR. SUPPLY	
23	IN LINE #23	V	CONTAINMENT VENT HEADER	
24	IN LINE #24	V	P.R.T. GAS ANALYZER LINE	
25	IN LINE #25	W	PERISURTER STEAM SAMPLE	
26	IN LINE #26	W	DITTO	
27	IN LINE #27	X	LETDOWN LINE	
30	IN LINE #30	Y	R.C. DRAIN TANK GAS ANALYZER LINE	
31	IN LINE #31	Y	S.I.S. TEST LINE	
33	IN LINE #33	Y	P.R.T. MAKE-UP LINE	
34	IN LINE #34	Y	SERVICE AIR	
35	IN LINE #35	Y	CITY WATER	
40	IN LINE #40	Z	R.C. DRAIN TANK WATER DISCHARGE	
41	IN LINE #41	Z	R.C. PUMP SEAL WATER SUPPLY	
42	IN LINE #42	Z	DITTO	
43	IN LINE #43	Z	DITTO	
44	IN LINE #44	Z	DITTO	
45	IN LINE #45	AA	STEAM GENERATOR BLOWDOWN LINE	
46	IN LINE #46	BB	DITTO	
47	IN LINE #47	CC	DITTO	
48	IN LINE #48	DD	DITTO	
51	VALVE #859A	GG	CONTAINMENT SPRAY HEADER	
51A	VALVE #859A	GG	RESIDUAL HEAT REMOVAL LOOP SAMPLE	NITROGEN INJ.
59	IN LINE #59	NN	SAFETY INJECTION LINE	IN P.A.B.
60	VALVE #8888	NN	DITTO	
69	IN LINE #69	RR	REACTOR COOLANT SAMPLE LINE	
338	IN LINE #338	YY	SUMP PUMP DISCHARGE	NITROGEN INJ.
788	IN LINE #788	TT	SECURITOP PUMP DISCH. SAMPLE	
			HRSS RETURN TO VC SUMP	

REFERENCES:

- PROCESS FLOW DIAGRAM----- (V)
- DEFINITIONS OF SYMBOLS ----- (V) SPEC. G.675176 REV. D.
- INSTRUMENT & CONTROL STD ----- (V) SYMBOLS & APPLICATIONS FOR INST. DIAGRAMS SECTION - 1.1, ISSUED AUG. 12 1966.
- MATERIAL SPEC & FITTINGS ----- (V) INST. INSTALLATION: SECT.3.0 ISSUE (V) SPEC. G.569866 REV. 2 (V) SPEC. G.676398 REV. 0

REFERENCE DRAWINGS

- UE & C. DWGS
- 9321-F-2738 ----- REACTOR COOLANT SYSTEM
- 9321-F-2736 ----- CHEMICAL VOLUME CONTROL SH. 1
- 9321-F-2737 ----- CHEMICAL VOLUME CONTROL SH. 2
- 9321-F-2719 ----- WASTE DISPOSAL SYSTEM SH. 1
- 9321-F-2730 ----- WASTE DISPOSAL SYSTEM SH. 2
- 9321-F-2735 ----- SAFETY INJECTION SYSTEM
- 9321-F-2745 ----- SAMPLE SYSTEM
- 9321-F-2729 ----- STEAM GEN. BLOWDOWN SYSTEM
- 9321-F-2720 ----- AUXILIARY COOLANT
- 9321-F-2724 ----- PRIMARY WATER MAKE-UP SYSTEM
- 9321-F-2768 ----- ISOLATION SEAL WATER PIPING ARRGT.
- 9321-F-2769 ----- ISOLATION SEAL WATER PIPING ARRGT.
- 9321-C-2016 ----- FLOW DIAGRAM SYMBOLS
- B209776 ----- I.V.S.W.S. INJECTION LINE TEST CONNECTIONS

GENERAL NOTES

- ALL PIPING TO BE 3/8" S.S., O.D. TUBING (LINE DESIGNATION 3/8" - IV-2505 (EXCEPT AS NOTED)).
- ALL GLOBE VALVES INSTALLED WITH FLOW UNDER SEAT, EXCEPT NO. S 1402-1405, 1416-1418, 1421, 1463-1469.
- ALL GLOBE VALVES ARE TYPE 3/8" T58 EXCEPT NO. S 1434-1448 (NITROGEN-SUPPLY) WHICH ARE TYPE 3/8" T8880T SEATS AND LARGE ORIFICES).
- ALL CHECK VALVES ARE TYPE 3/8" C58, EXCEPT NO. S 1454, 1456 & 1533 TO 1536, VALVE 1533-1536 ARE TYPE 3/8" C58S (SOFT SEAT).
- ALL GLOBE & CHECK VALVES ARE WELDED OR EQUIPPED WITH SWAGelok FITTINGS. (SWAGelok PREFERRED FOR MAINTENANCE EASE).
- ADDITIONAL VENTS AND DRAINS MAY BE REQUIRED.
- THE INDIVIDUAL SEAL WATER LINES ARE ROUTED TO THE CONTAINMENT ISOLATION POINTS BY THE LINE NUMBERS INDICATED.
- VALVES 1410, 1413, SOV-35-18 & SOV-35-19 ARE OPENED AUTOMATICALLY BY A PHASE "A" CONTAINMENT ISOLATION SIGNAL.
- FLANGES AND BLANK OFF DISC.
- THE QUALITY GROUP A, B, C AND SEISMIC BOUNDARIES EXTEND TO THE FIRST SEISMIC SUPPORT/RESTRAINT BEYOND THE BOUNDARIES SHOWN.

INSERVICE INSPECTION NOTES:

- 1CP=CONTAINMENT PENETRATIONS, ASME CLASS MC APPLIES.
- 2FDR=NON-CODE PIPING PENETRATING CONTAINMENT & NOT CLASSIFIED QUALITY GROUP "A", "B" OR "C" QUALITY GROUP "MC" DESIGNATION SHALL BE APPLIED

LEGEND

- PW-----PRIMARY WATER
- FC-----FAIL CLOSE
- N.C.-----NORMALLY CLOSED
- CW-----CITY WATER
- LO-----LOCKED OPEN

THIS DRAWING CONTAINS ITEMS WHICH MUST BE CONTROLLED WITHIN OUR DESIGN AS "CLASS A" ITEMS PER CI-240-1

REV	DESCRIPTION	DATE	BY	CHKD	APP.
43	INCORPORATED DRN-06-04733, ER-IP2-05-22495	11/08/06	CLG		

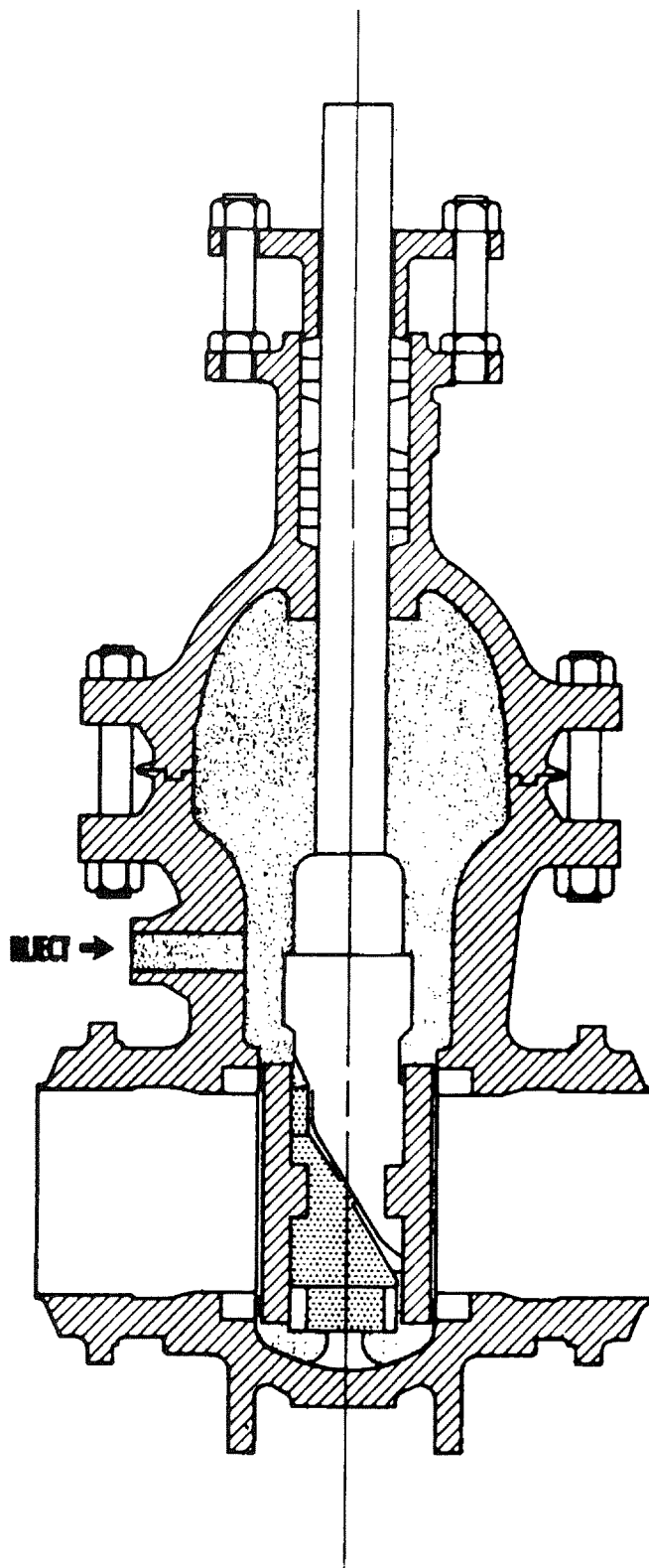
THIS REVISION IS CLASS "A" AS PER THE QAPD TRANSFERRED DMD9321-2746-AF REV.0 AND DMD9321-2746-AG REV.0 MOD FMX-00-12338-M RELEASED AS CONSTRUCTED PN 12338-00 3/08

DATE	CHKD	SUPV.	DESIGN	ENR	DISC	ENG. MGR.
11/28/07	D.P.					

DATE	CHKD	SUPV.	DESIGN	ENR	DISC	ENG. MGR.
11/28/07	D.P.					

TITLE	SCALE	FIGURE NO.	REV.
ISOLATION VALVE SEAL WATER SYSTEM	NONE	6.5-1	

STATION	INDIAN POINT
DWG. NO. 9321-F-2746	MY



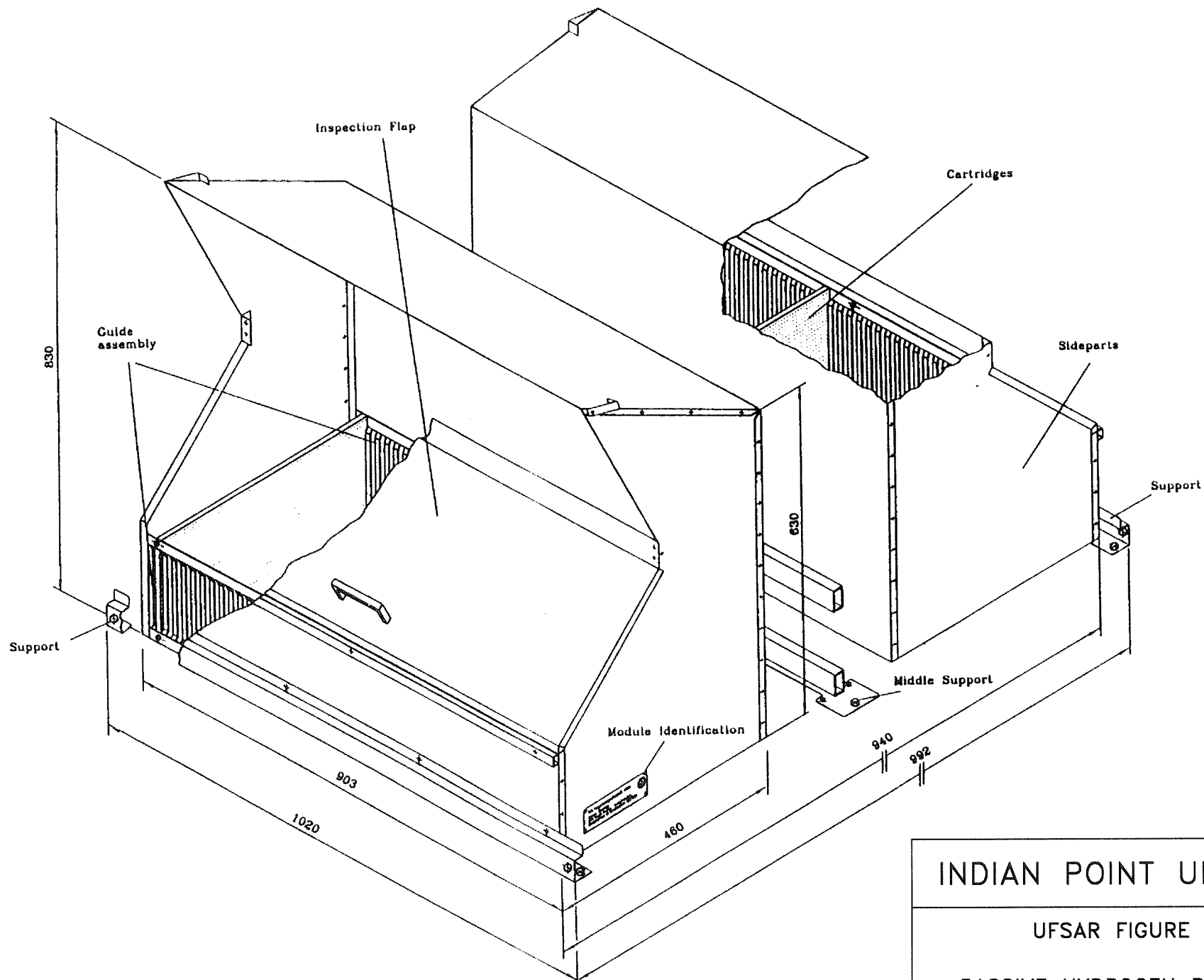
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6.5-2

DOUBLE DISK ISOLATION VALVE WITH
SEAL WATER INJECTION

MIC. No. 1999MC3836

REV. No. 17A



INDIAN POINT UNIT No. 2

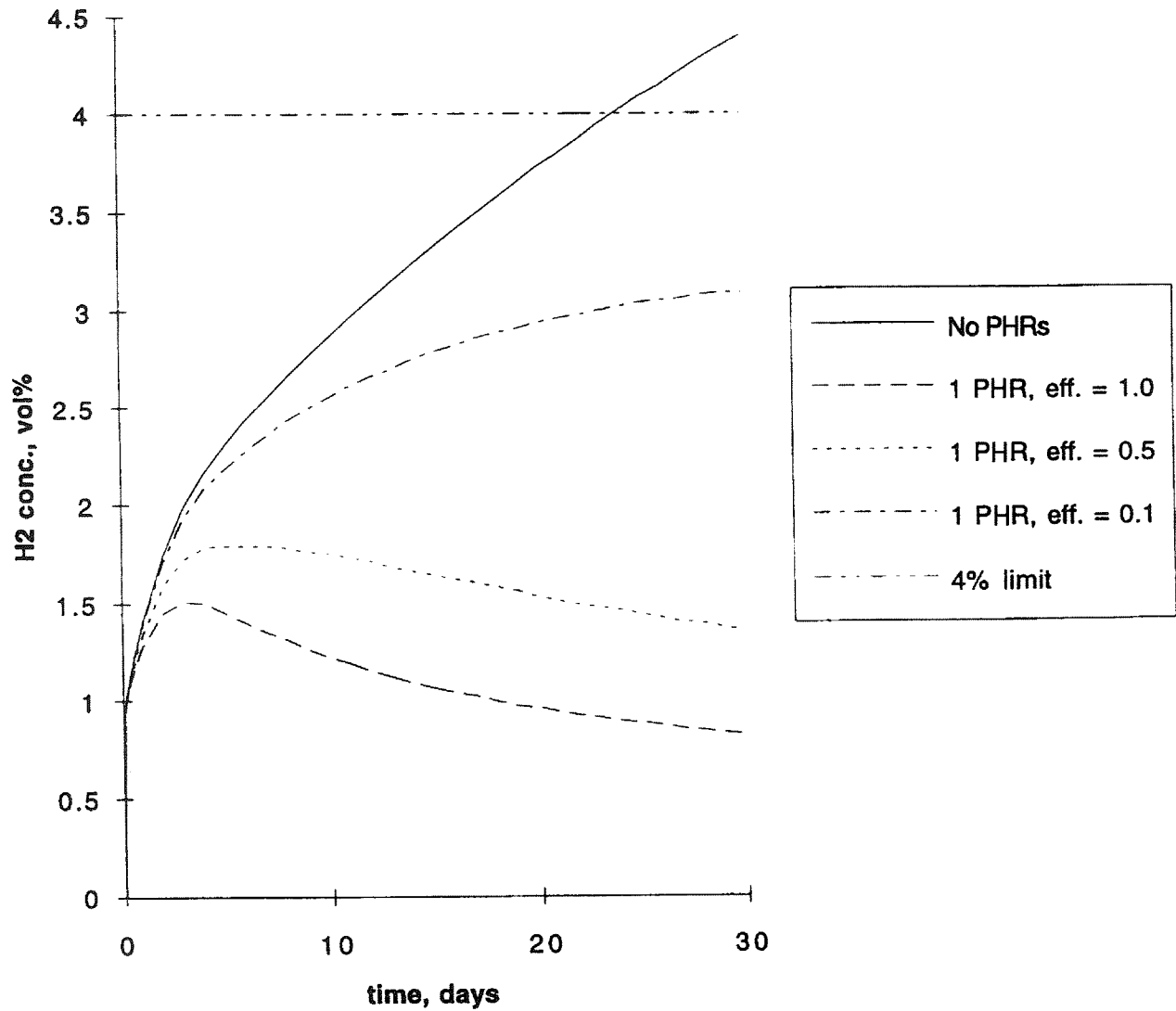
UFSAR FIGURE 6.8-1

PASSIVE HYDROGEN RECOMBINERS

MIC. No. 1999MC3528

REV. No. 17A

IP2 - effect of PHR efficiency



INDIAN POINT UNIT No. 2

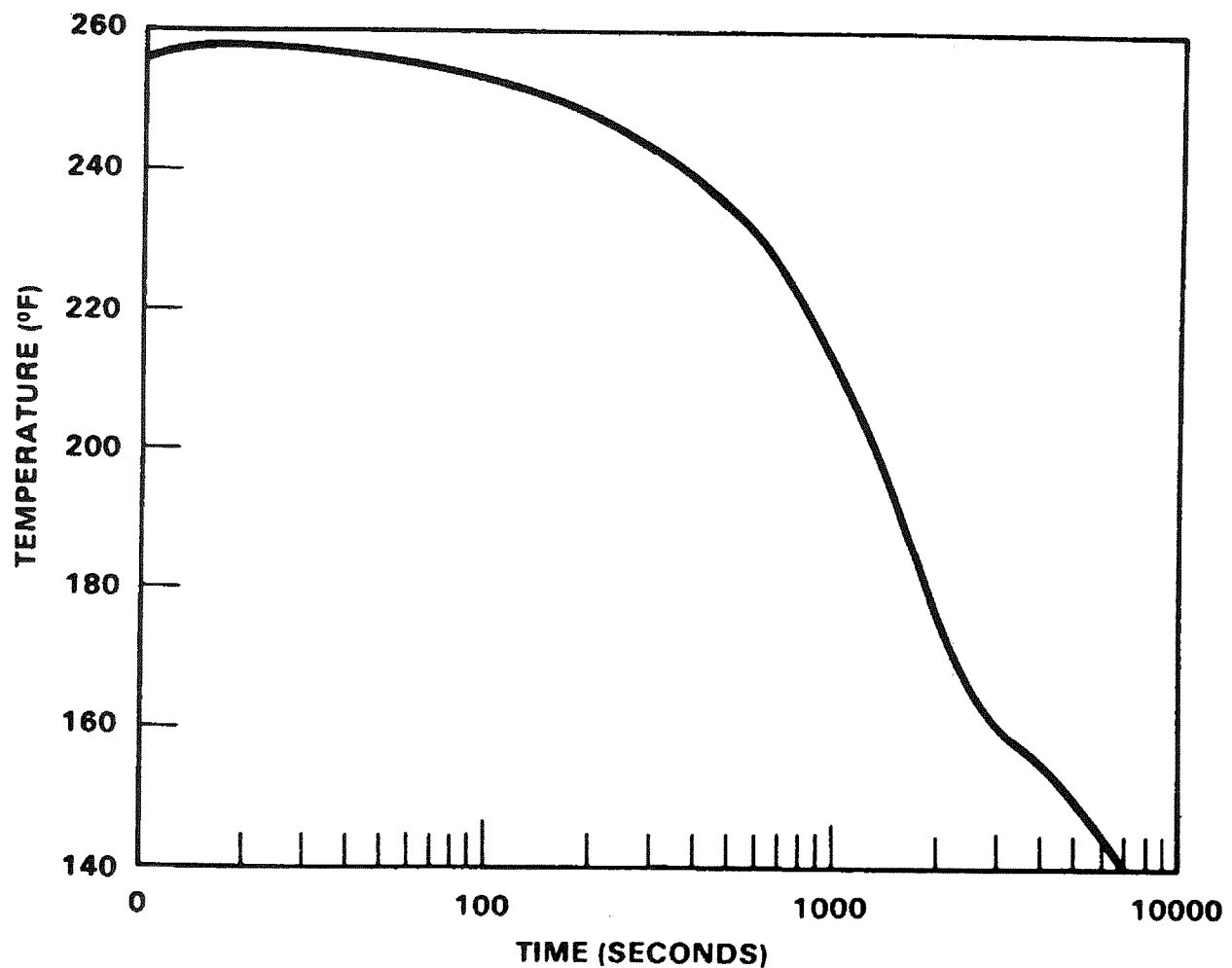
UFSAR FIGURE 6.8-2

CONTAINMENT HYDROGEN Vs TIME
POST-LOCA

MIC. No. 1999MC3619

REV. No. 17A





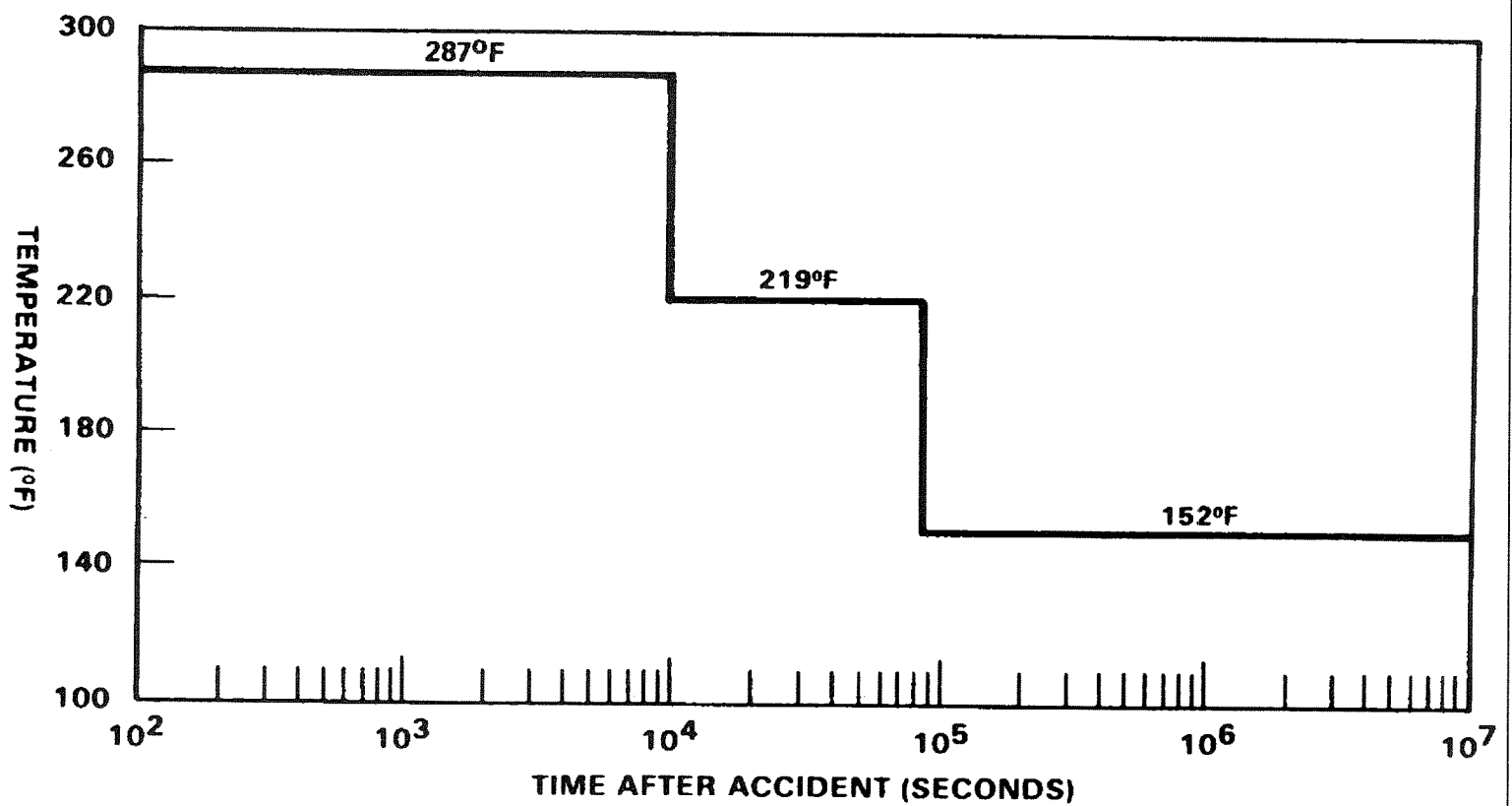
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-1

CONTAINMENT ATMOSPHERE TEMPERATURE
DESIGN BASES SAFETY INJECTION

MIC. No. 1999MC3855

REV. No. 17A



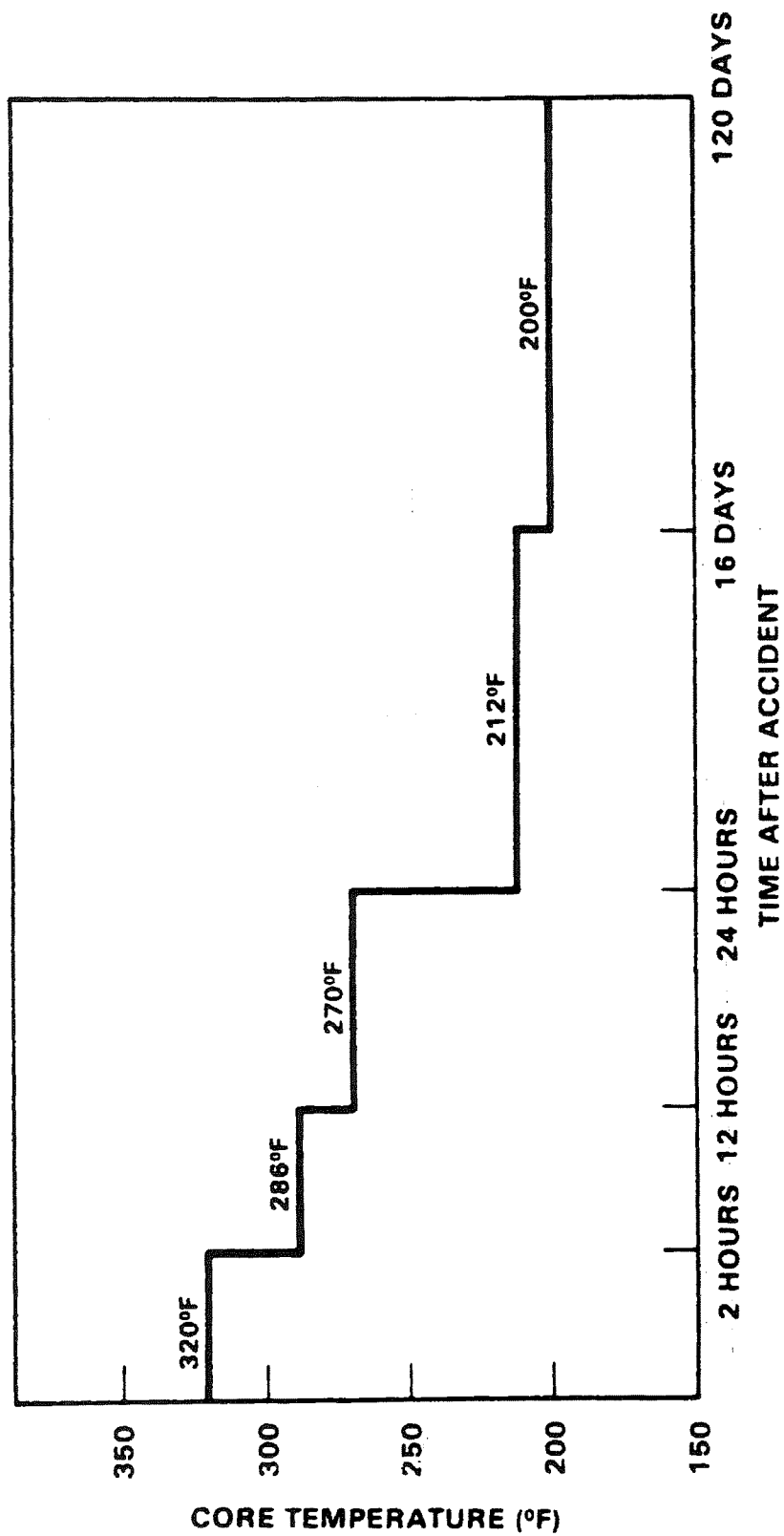
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-2

INDIAN POINT UNIT 2 POSTACCIDENT
CONTAINMENT MATERIALS DESIGN

MIC. No. 1999MC3856

REV. No. 17A



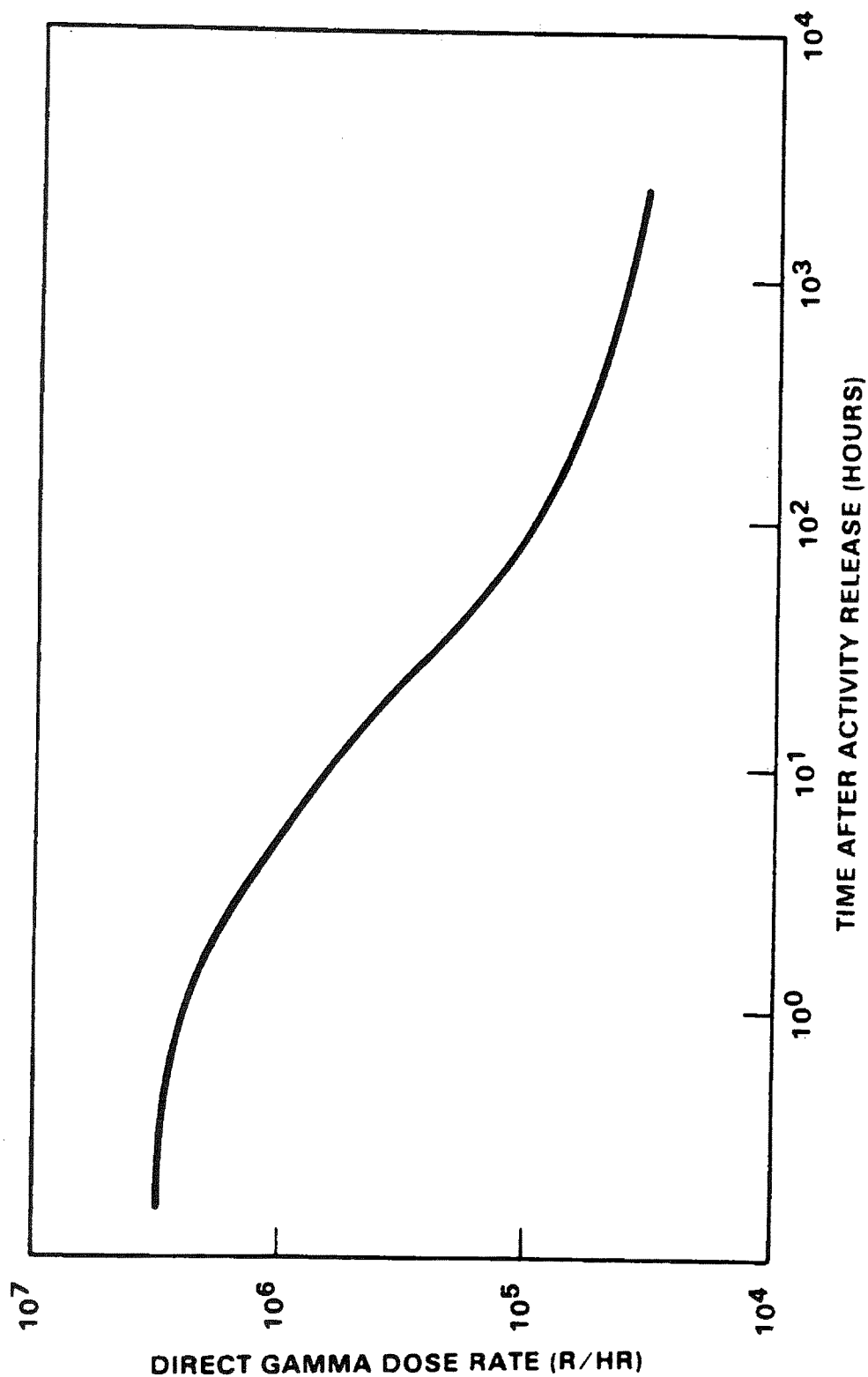
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-3

POSTACCIDENT CORE MATERIALS
DESIGN CONDITIONS

MIC. No. 1999MC3857

REV. No. 17A



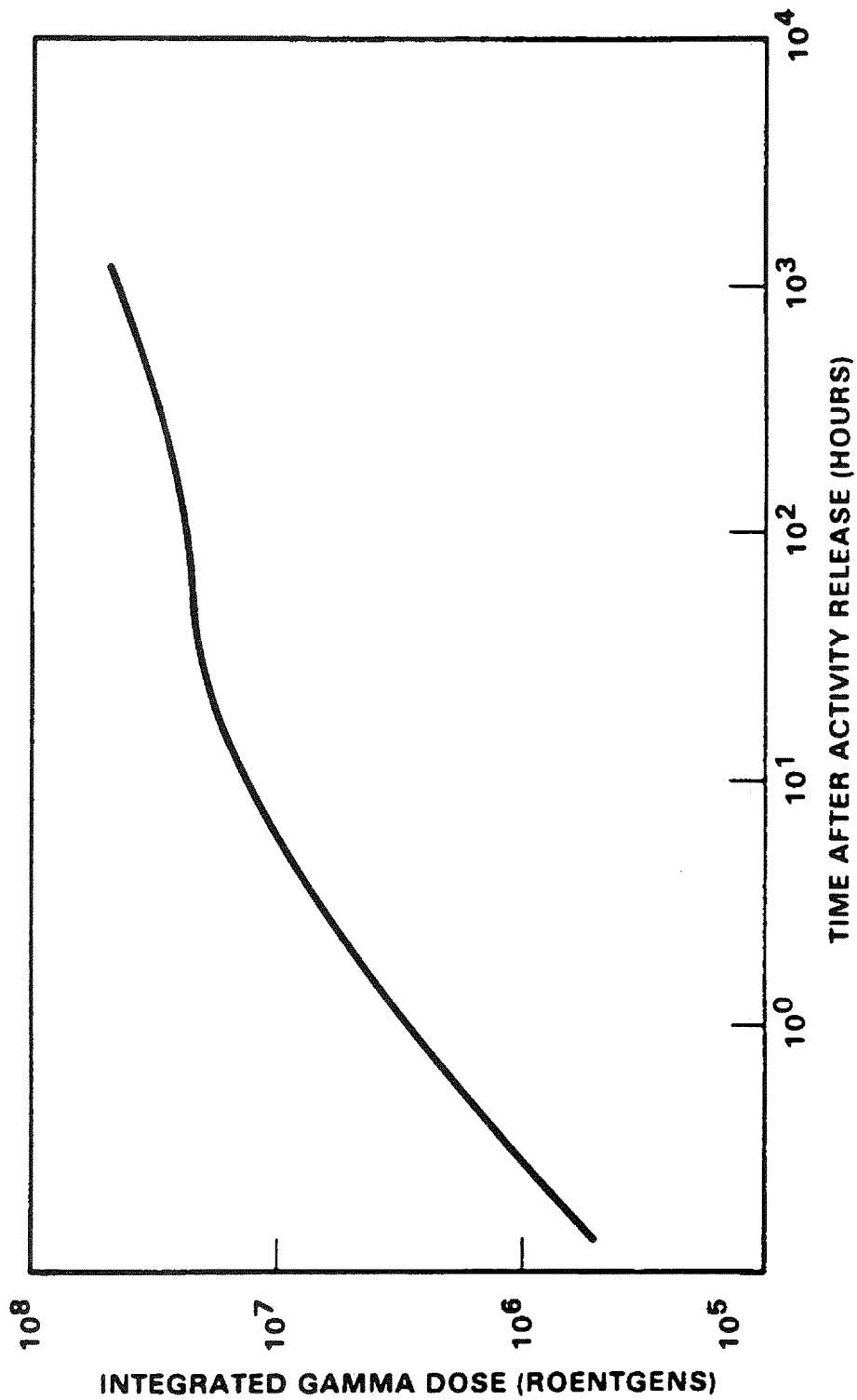
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-4

INDIAN POINT UNIT 2 CONTAINMENT
ATMOSPHERE DIRECT GAMMA DOSE RATE

MIC. No. 1999MC3858

REV. No. 17A



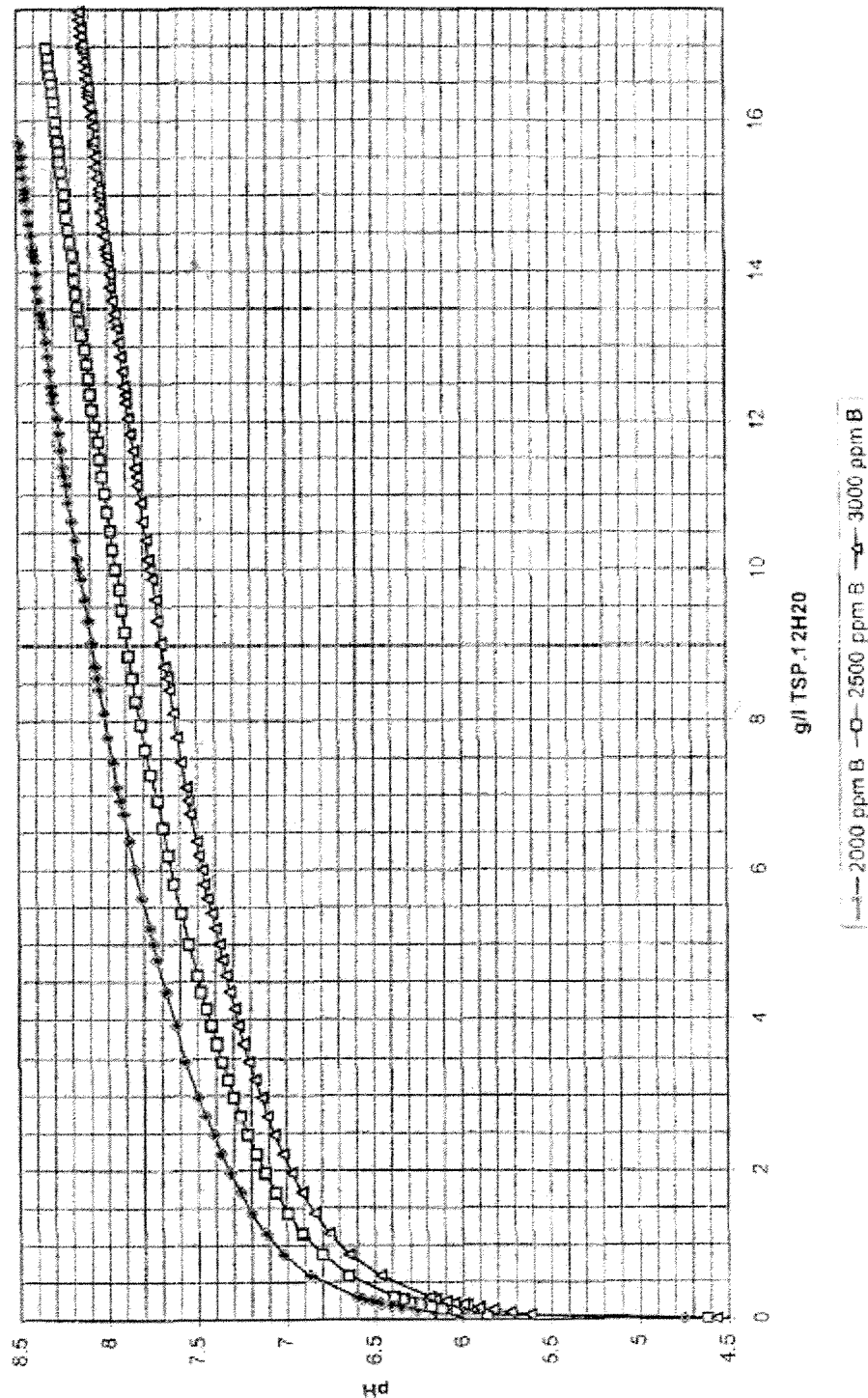
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-5

INDIAN POINT UNIT 2 CONTAINMENT
ATMOSPHERE INTEGRATED
GAMMA DOSE LEVEL

MIC. No. 1999MC3859

REV. No. 17A

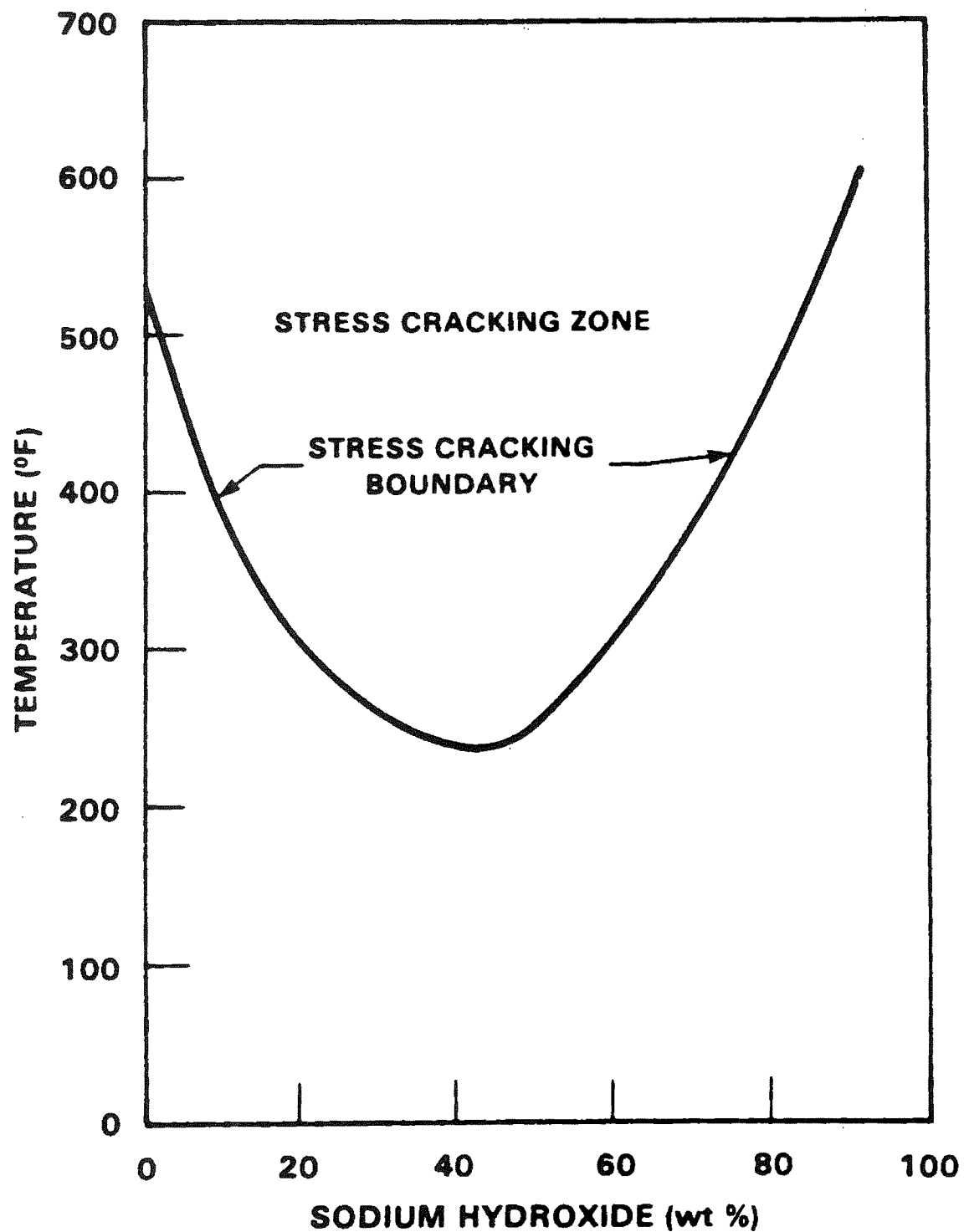


INDIAN POINT UNIT No. 2

BORIC ACID
TSP.12H2O TITRATION CURVES

UFSAR FIGURE 6C-6

REV. No. 19



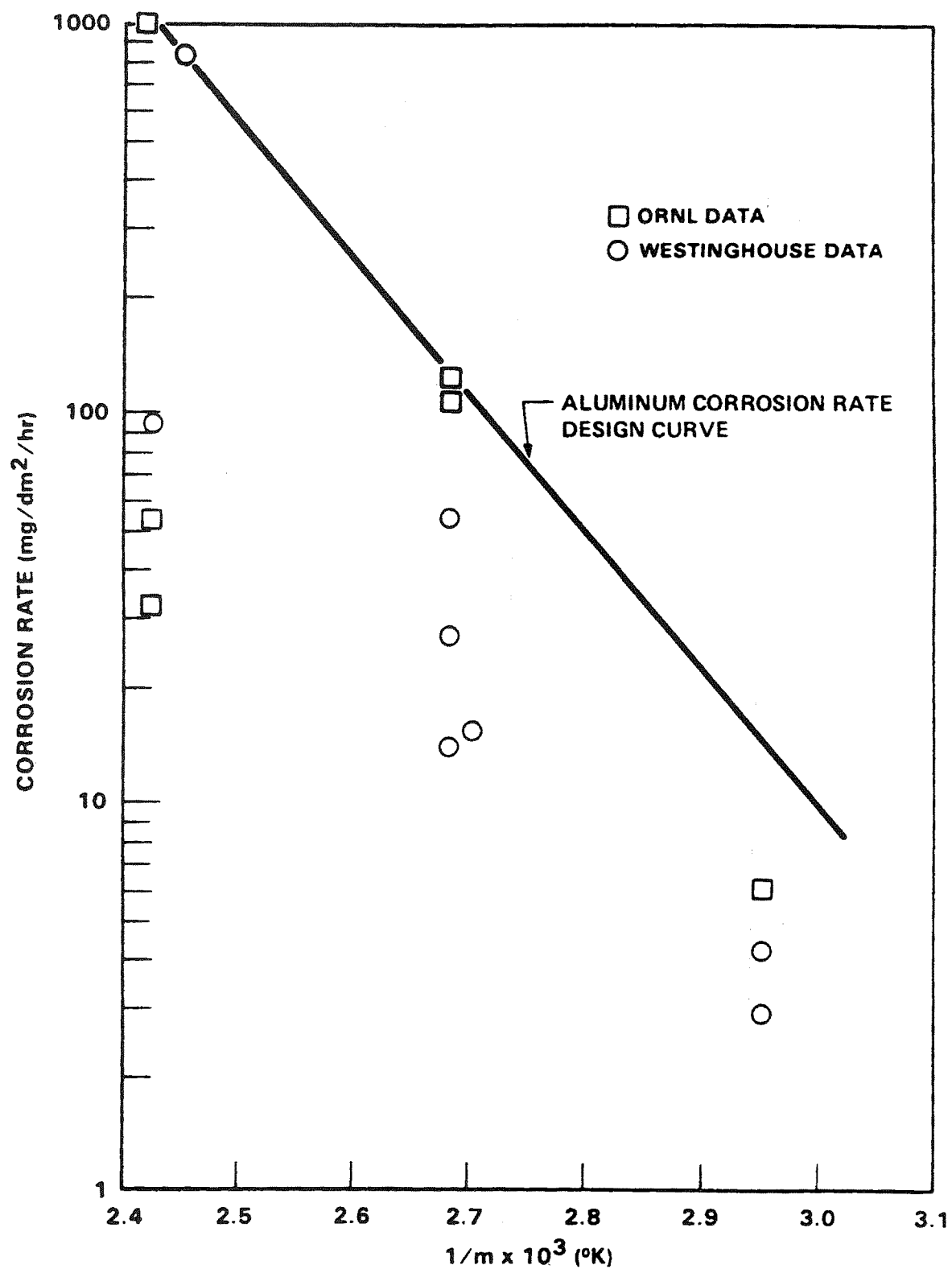
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-7

TEMPERATURE-CONCENTRATION
RELATION FOR CAUSTIC CORROSION OF
AUSTENITIC STAINLESS STEEL

MIC. No. 1999MC3861

REV. No. 17A



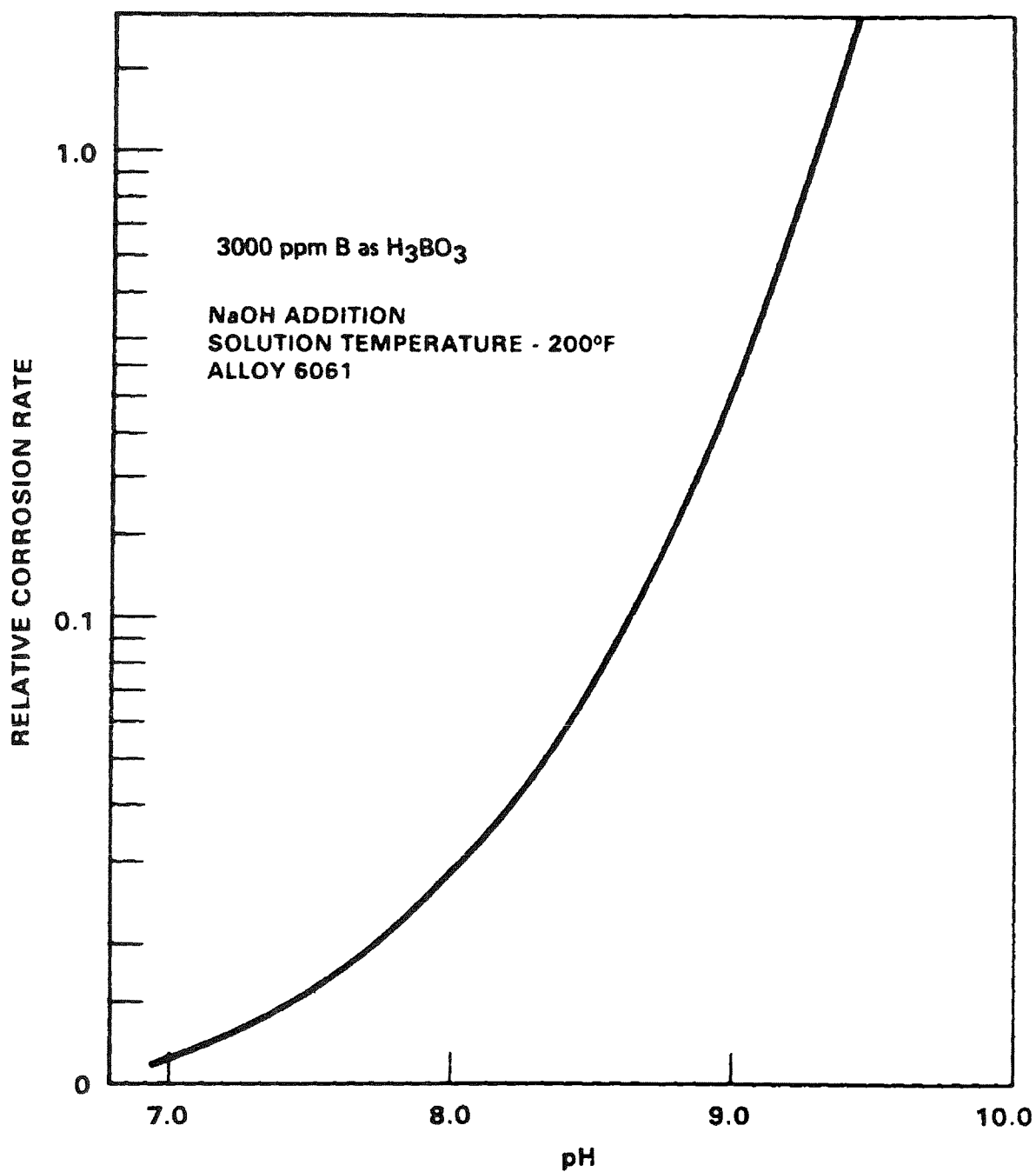
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-8

ALUMINUM CORROSION IN
DESIGN-BASIS-ACCIDENT ENVIRONMENT

MIC. No. 1999MC3862

REV. No. 17A



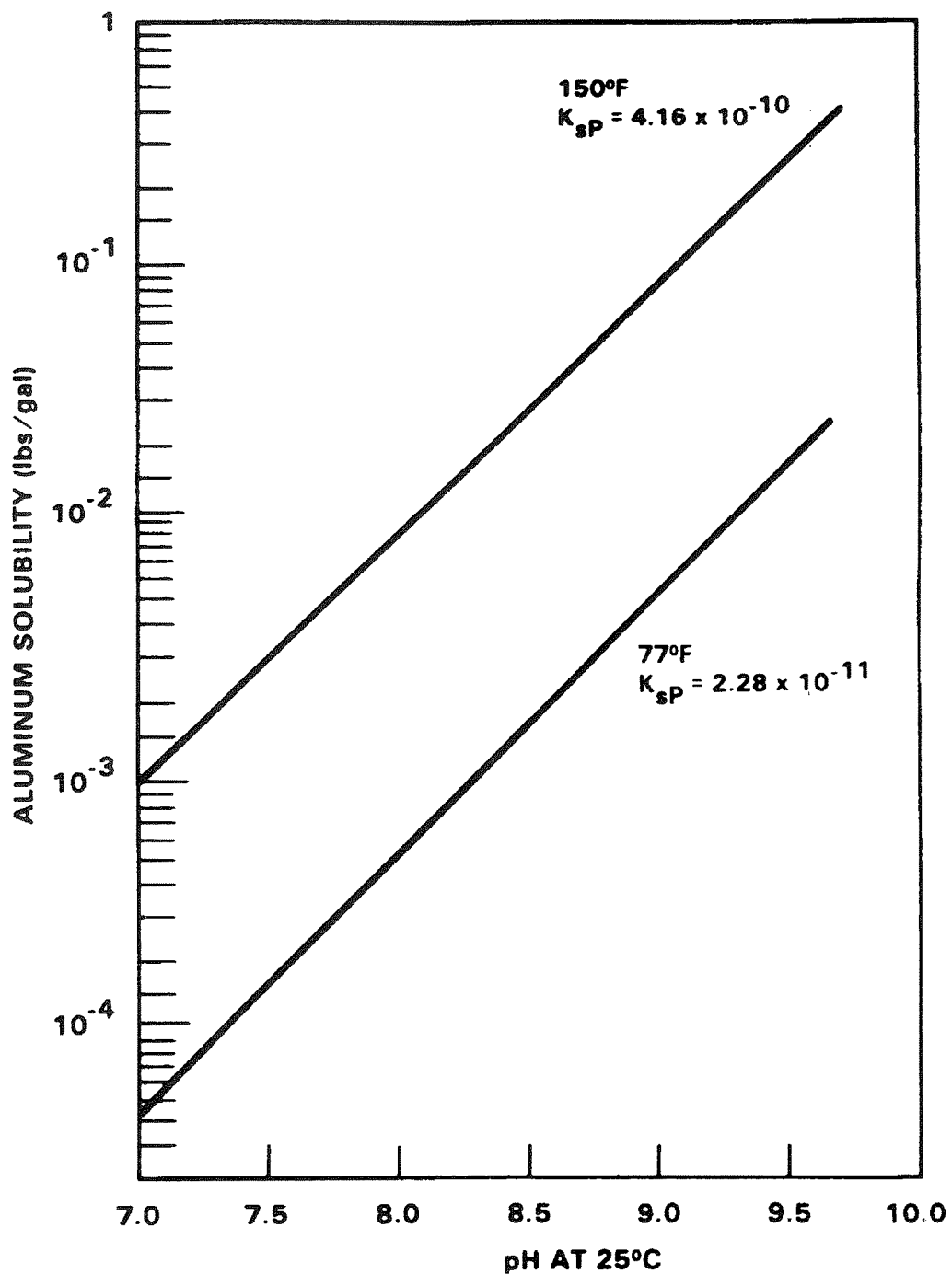
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-9

ALUMINUM CORROSION AS A
FUNCTION OF PH

MIC. No. 1999MC3863

REV. No. 17A



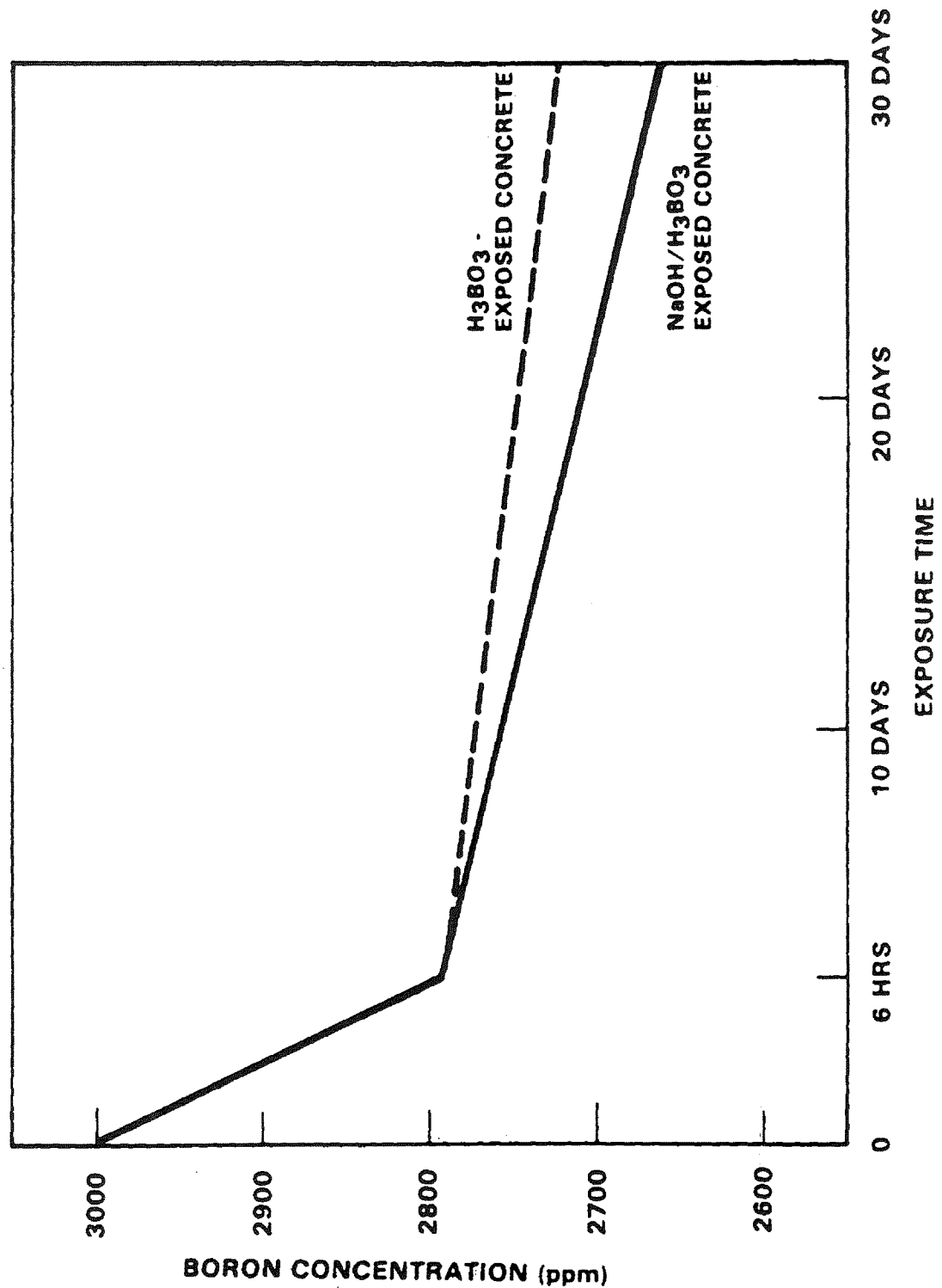
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-10

SOLUBILITY OF ALUMINUM CORROSION
PRODUCTS AS A FUNCTION OF
PH AT 77°F AND 150°F

MIC. No. 1999MC3864

REV. No. 17A



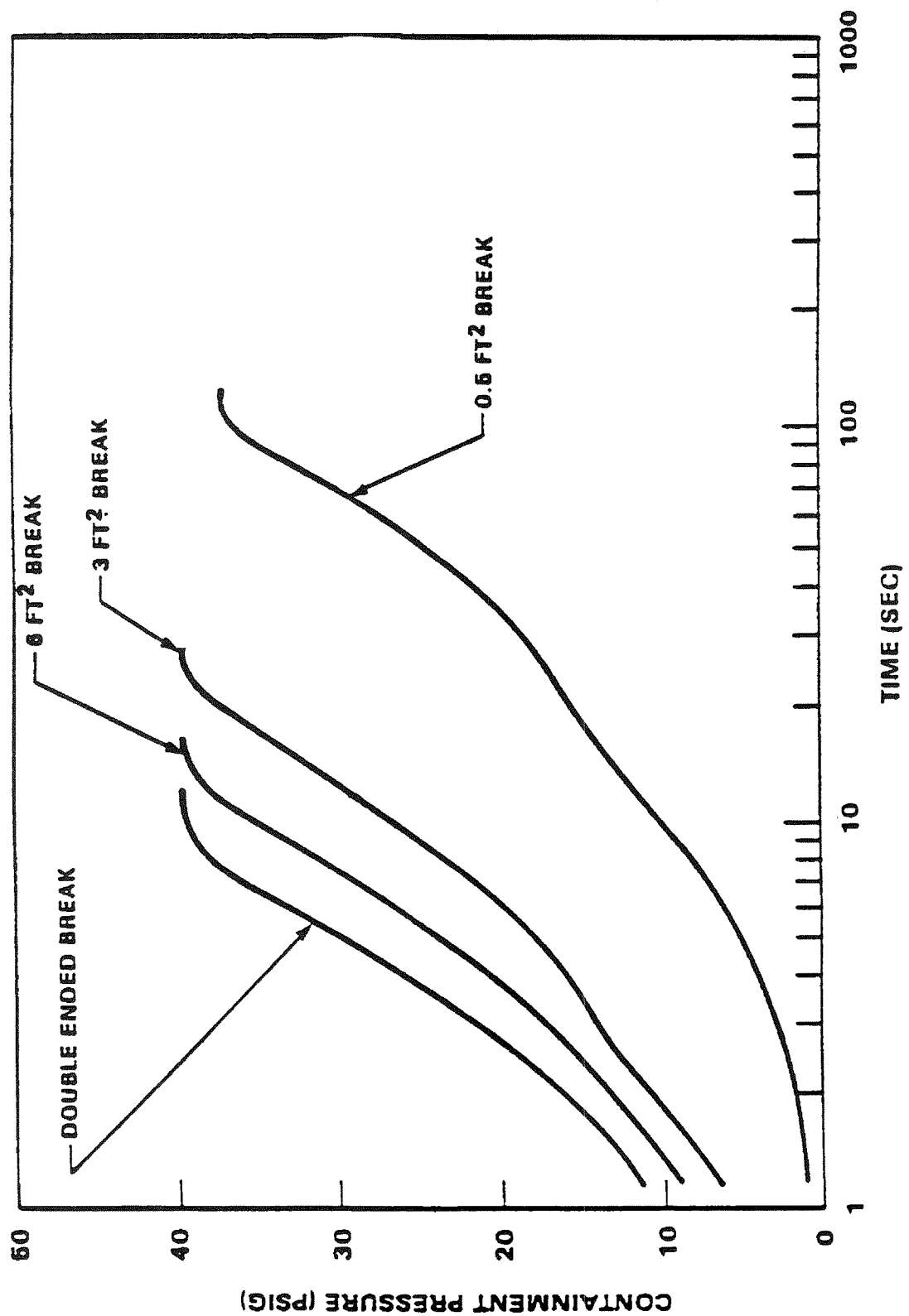
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-11

BORON LOSS FROM BORON-CONCRETE
REACTION FOLLOWING A
DESIGN-BASIS ACCIDENT

MIC. No. 1999MC3865

REV. No. 17A



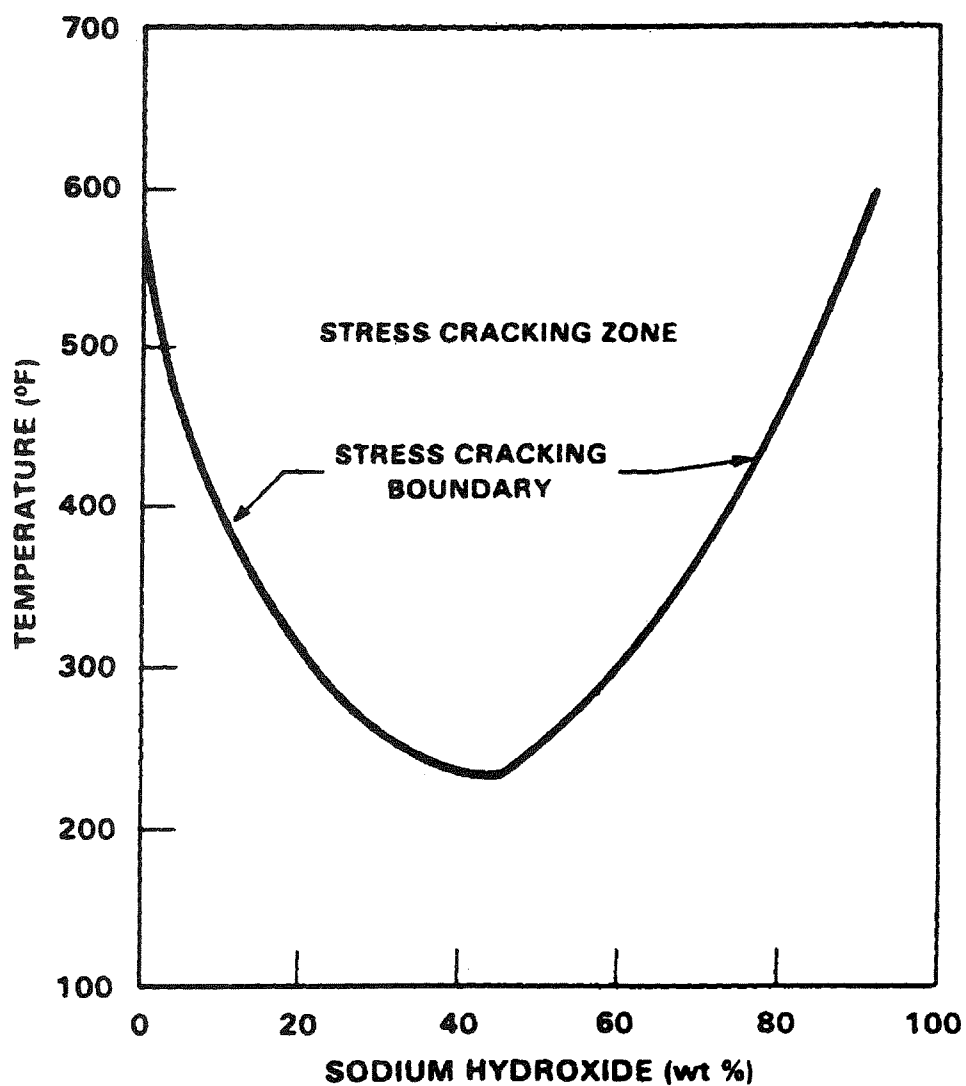
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6C-12

CONTAINMENT PRESSURE TRANSIENT -
DURING BLOWDOWN PHASE vs TIME

MIC. No. 1999MC3866

REV. No. 17A



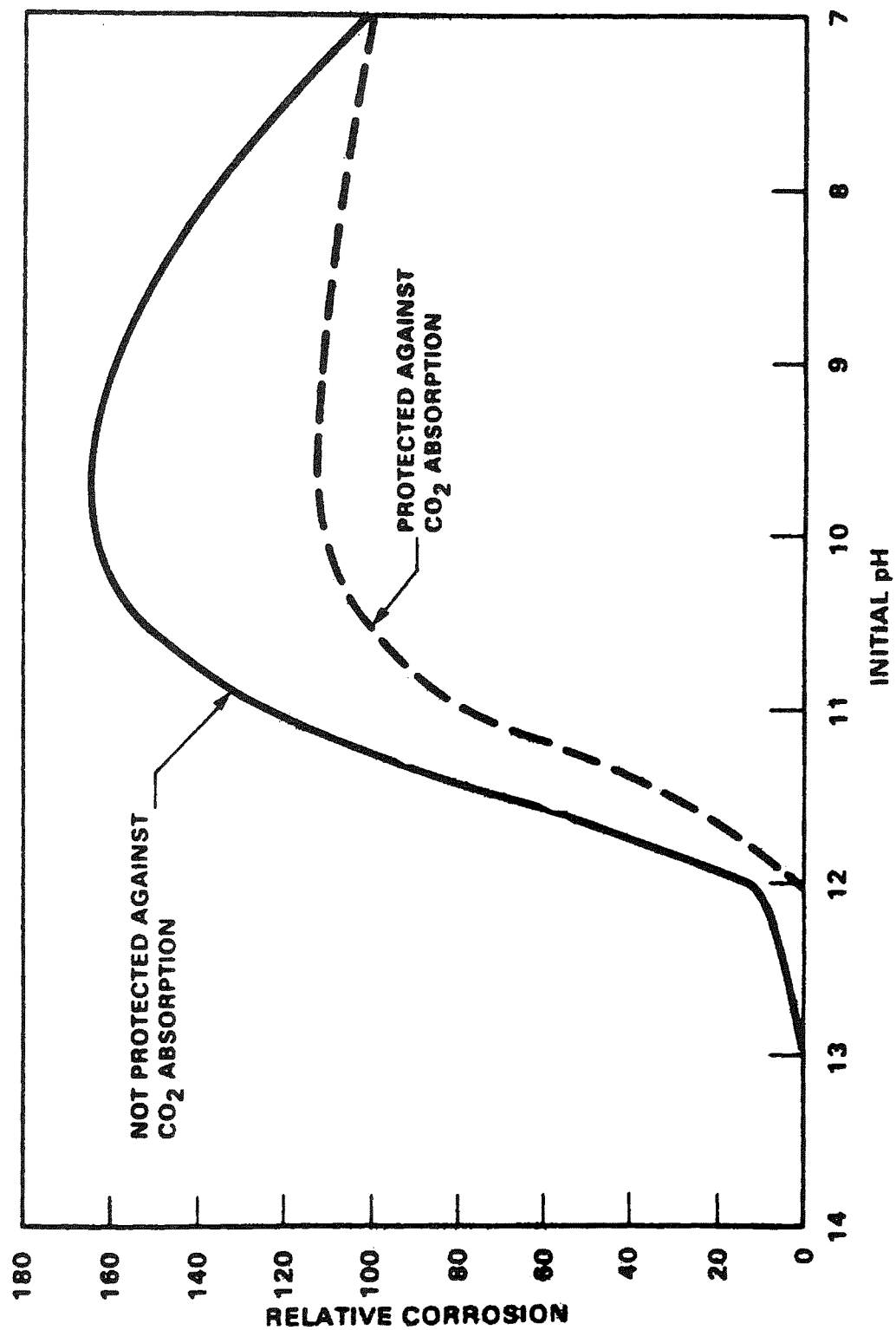
INDIAN POINT UNIT No. 2

UFSAR FIGURE 6D-1

TEMPERATURE - CONCENTRATION RELATIONS
FOR CAUSTIC CORROSION OF AUSTENITIC
STAINLESS STEEL

MIC. No. 1999MC3867

REV. No. 17A



INDIAN POINT UNIT No. 2

UFSAR FIGURE 6D-2

EFFECT OF CARBON DIOXIDE ON
CORROSION OF IRON IN
NaOH SOLUTION

MIC. No. 1999MC3868

REV. No. 17A