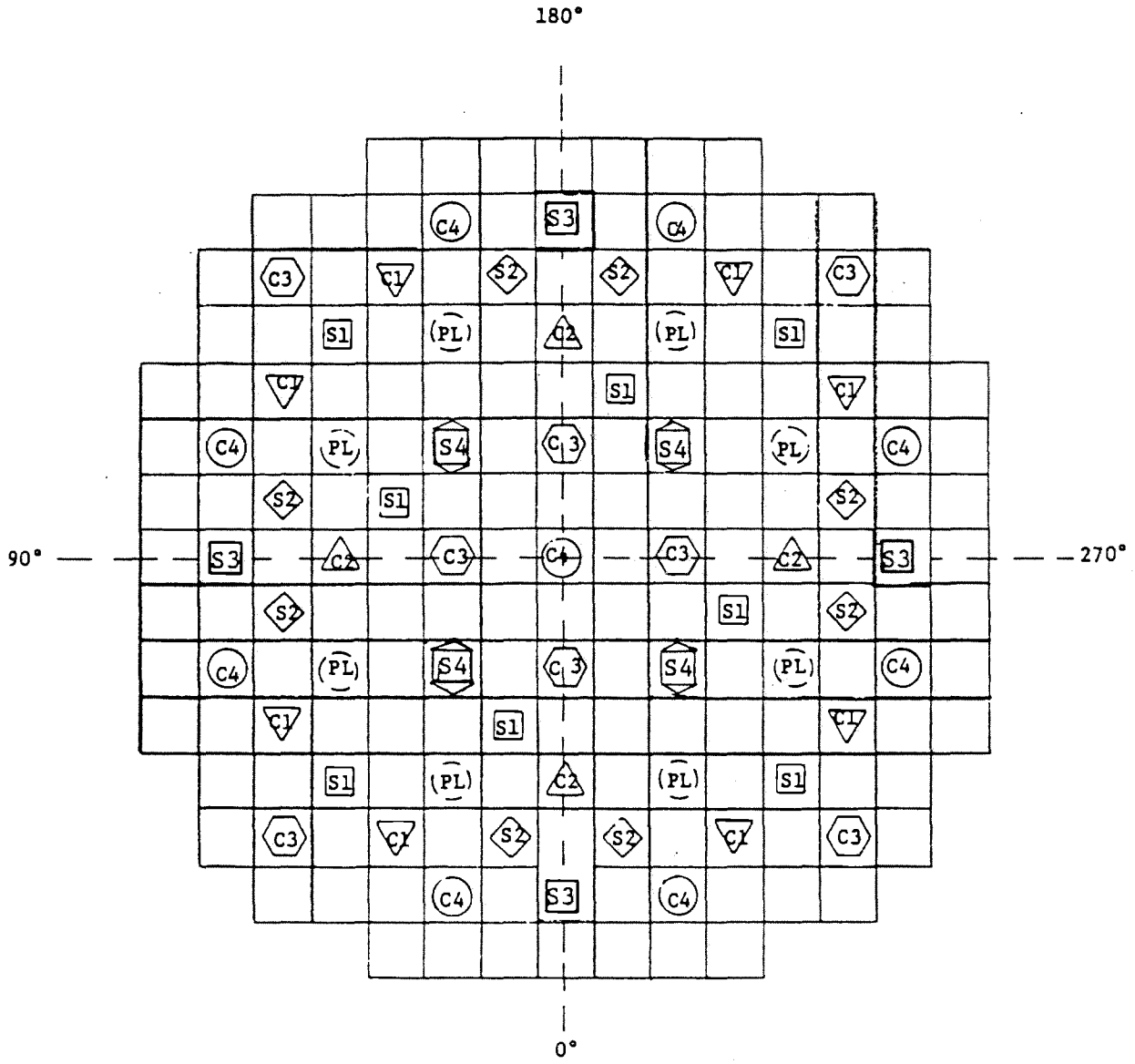
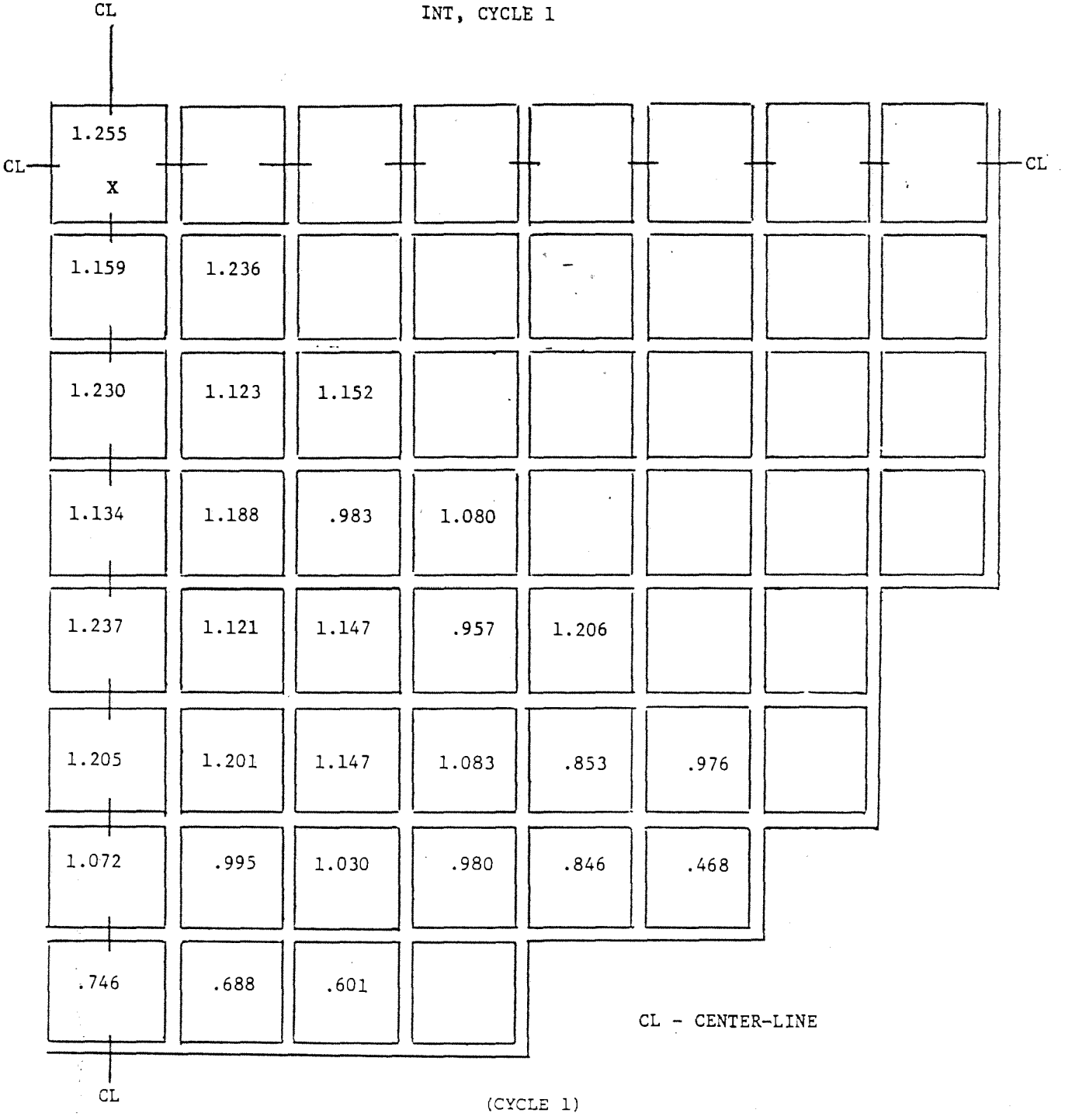


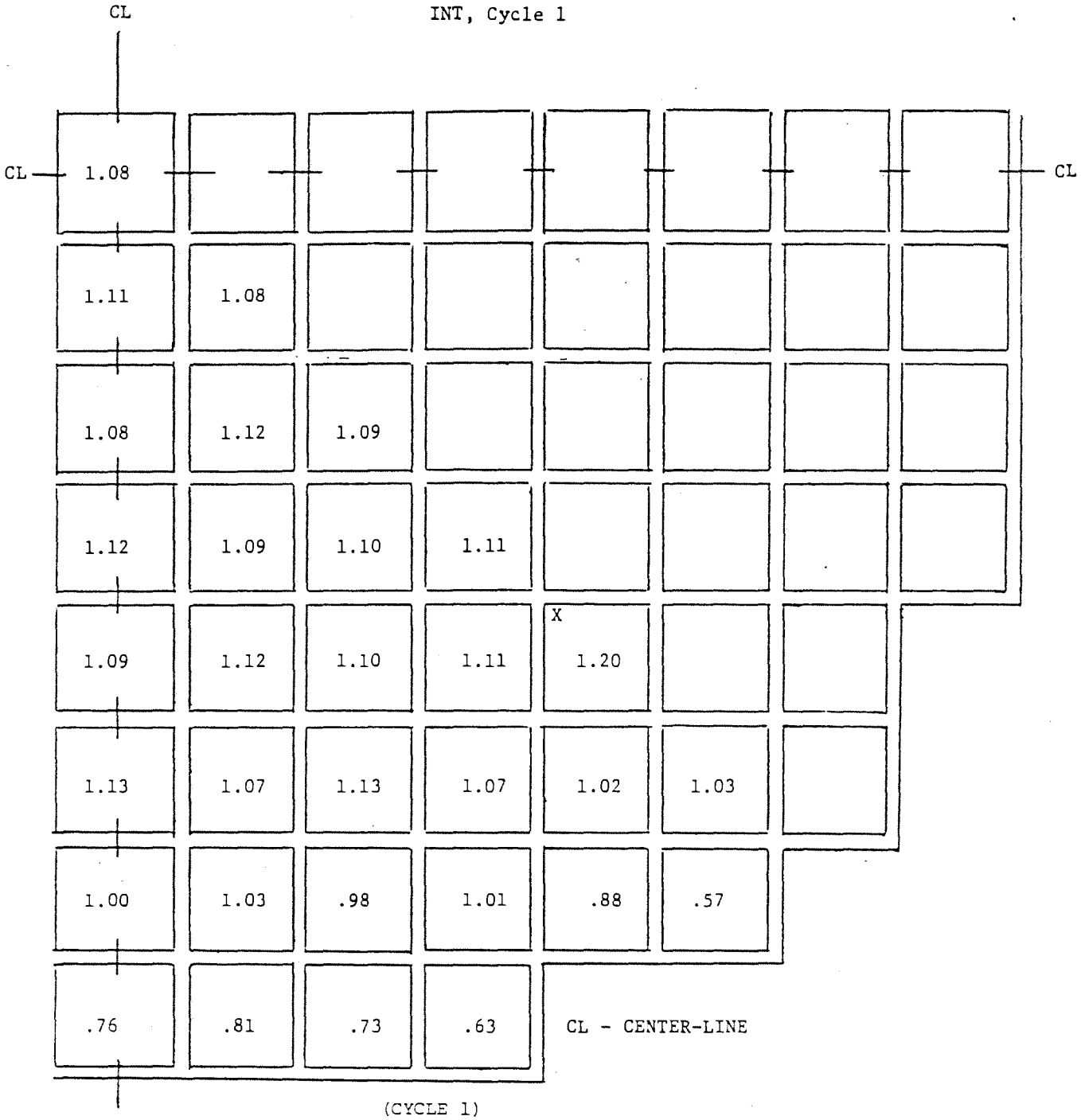
GROUP	SYMBOL	NUMBER OF ROD CLUSTERS	
S1	□	8	
S2	◇	8	
S3	▢	4	
S4	⬭	4	
C1	▽	8	
C2	△	4	
C3	⬡	8	
C4	○	9	
PL (Part Length)	◠	8	(Removed)
		61	

INDIAN POINT 3		FSAR UPDATE
ROD CLUSTER CONTROL BANKS		
REV. 0	JULY, 1982	FIGURE NO. 3.2-1



$F^N_{\Delta H}$ = 1.35 at (x), HFP, NO XENON

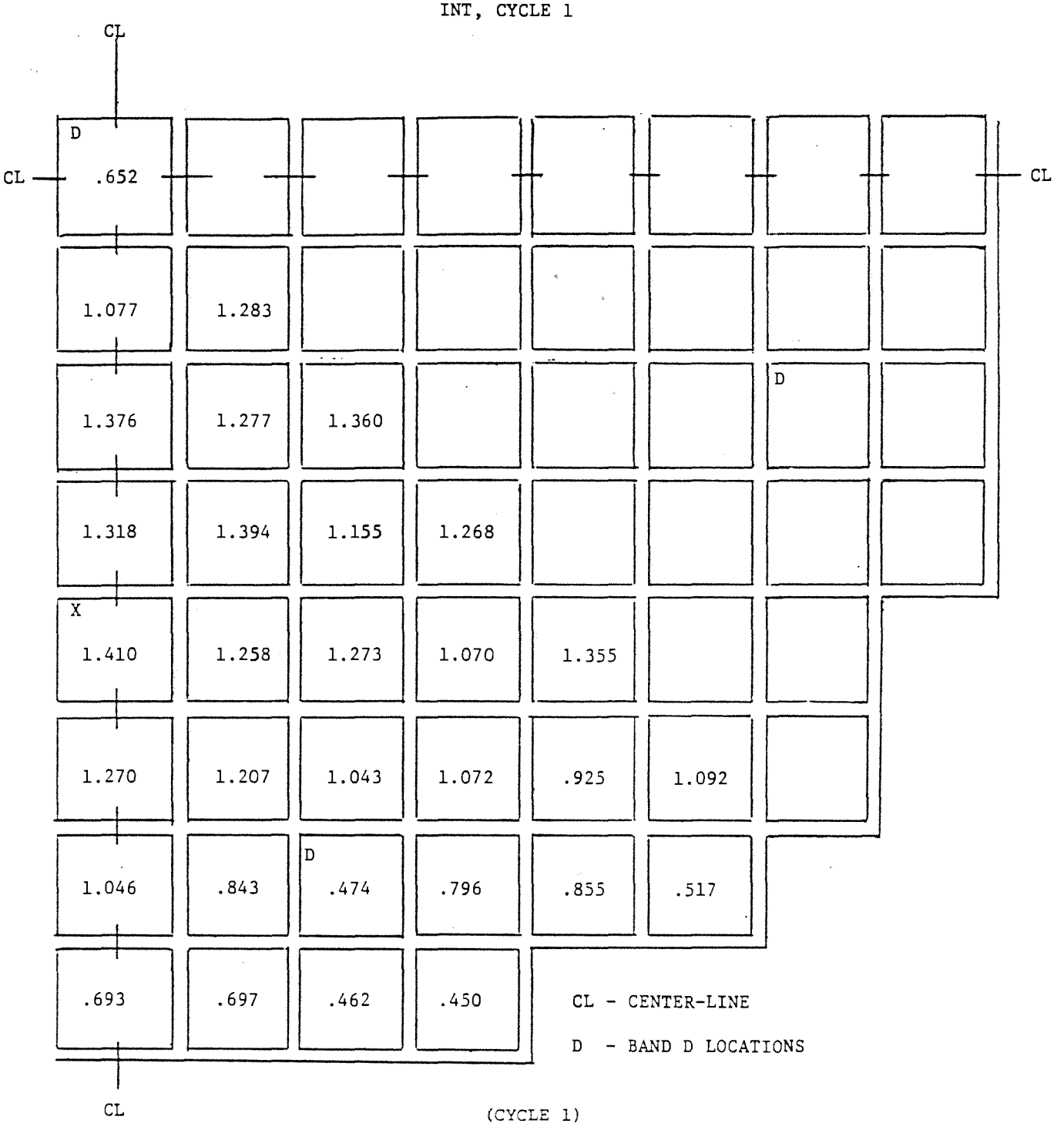
INDIAN POINT 3	FSAR UPDATE
ASSEMBLYWISE AVERAGE POWER DISTRIBUTION BEGINNING OF LIFE, UNRODDED CORE (CYCLE 1)	
REV. 0 JULY, 1982	FIGURE NO. 3.2-2



$F^N_{\Delta H}$ = 1.30 at (x), HFP

INDIAN POINT 3	FSAR UPDATE
ASSEMBLYWISE AVERAGE POWER DISTRIBUTION END OF LIFE, UNRODDED CORE (CYCLE 1)	
REV. 0 JULY, 1982	FIGURE NO. 3.2-3

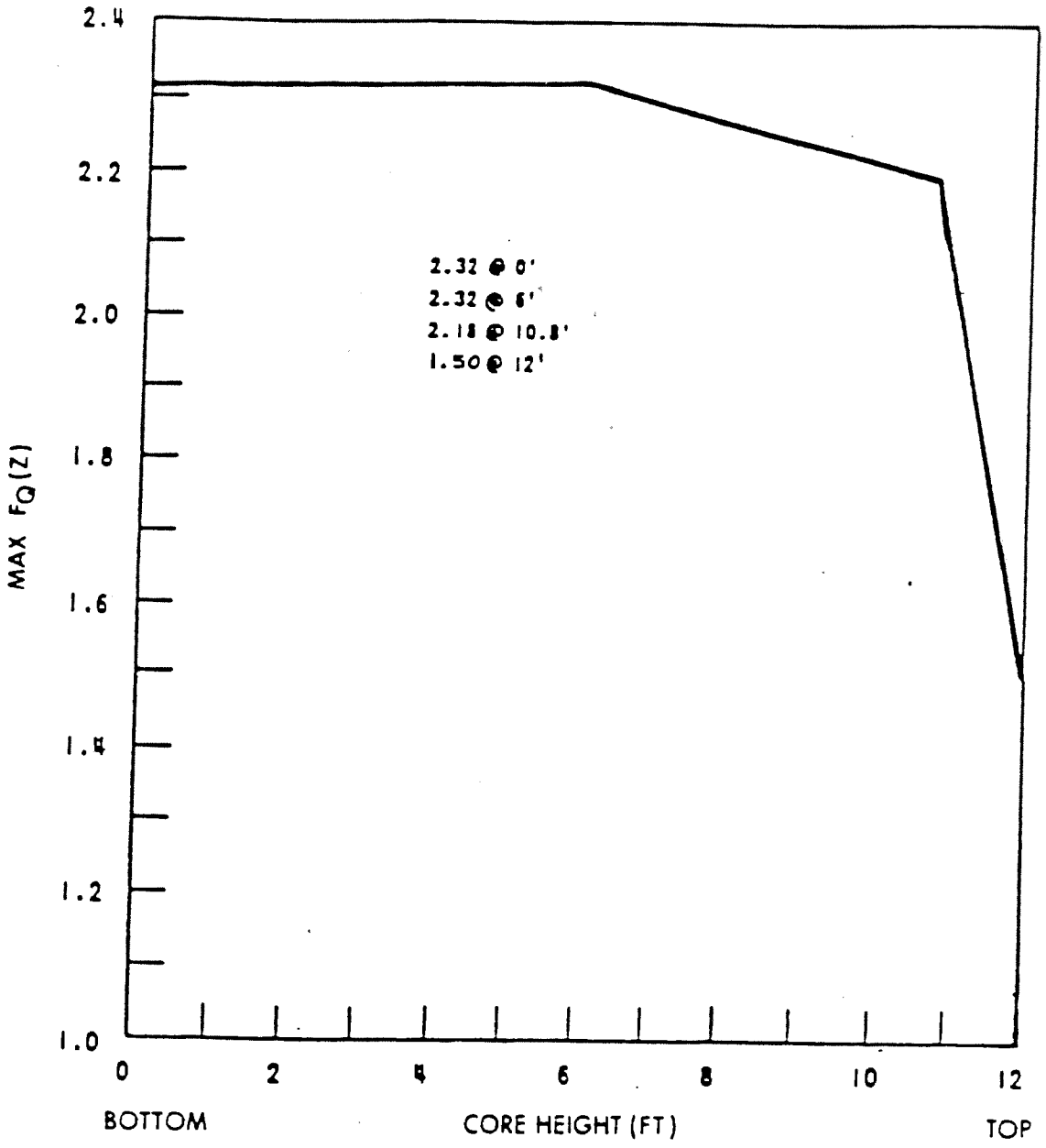
INT, CYCLE 1



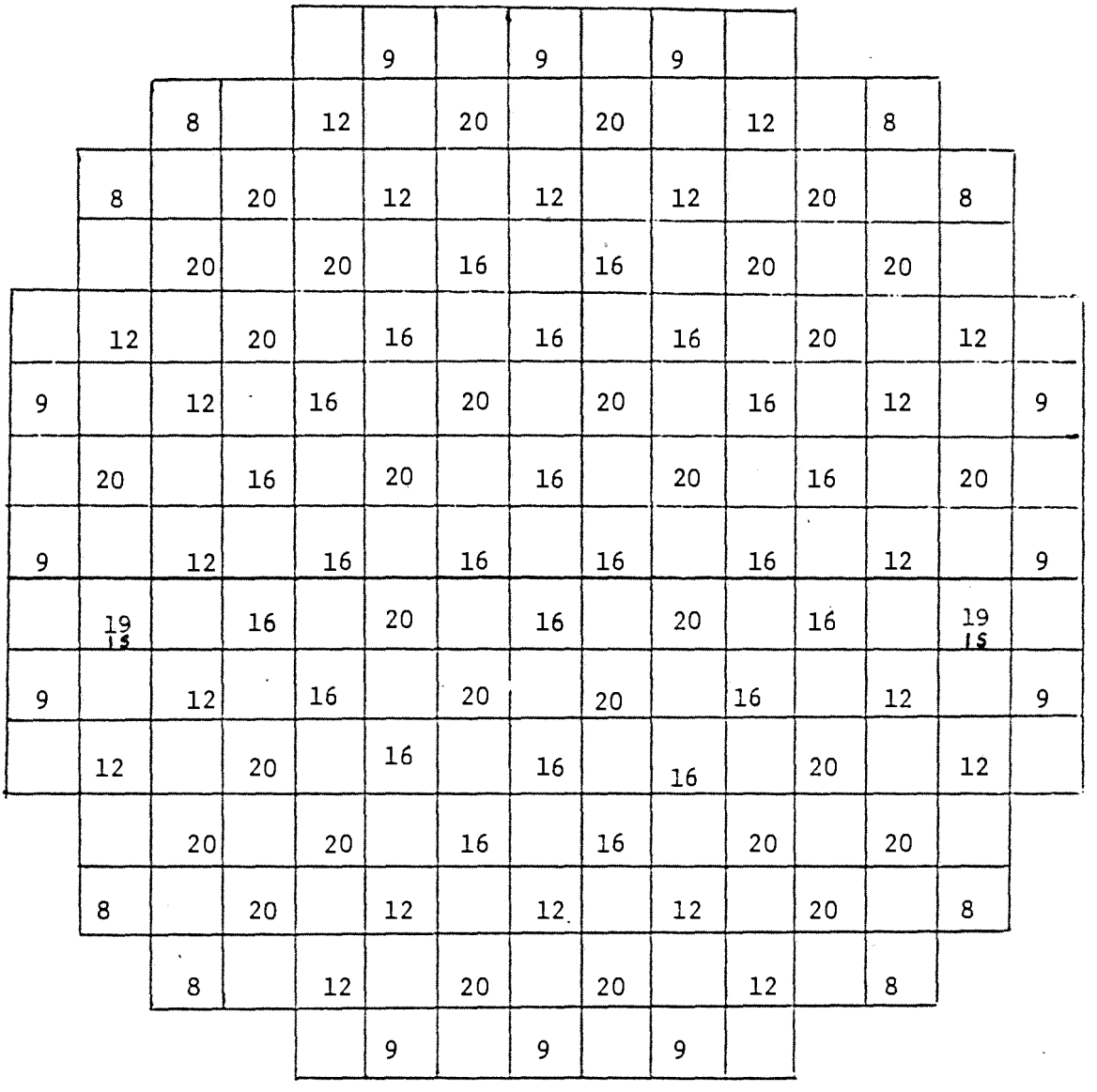
(CYCLE 1)

$F^{N}_{\Delta H}$ = 1.52 at (x), Equilibrium Xenon

INDIAN POINT 3	FSAR UPDATE
ASSEMBLYWISE AVERAGE POWER DISTRIBUTION BEGINNING OF LIFE, BANK D INSERTED (CYCLE 1)	
REV. 0 JULY, 1982	FIGURE NO. 3.2-4

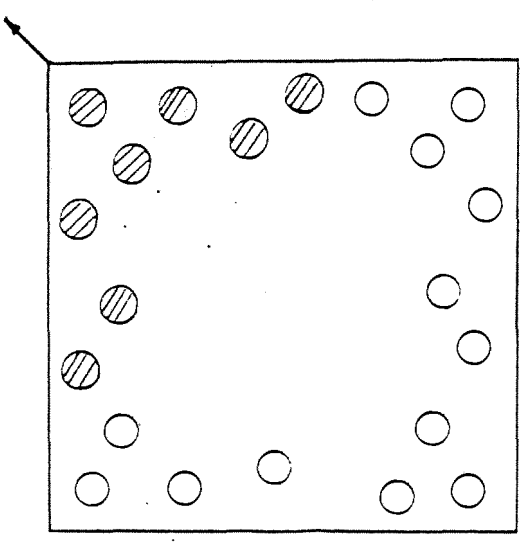


INDIAN POINT 3 FSAR UPDATE	
MAX FQ(Z) VS. AXIAL HEIGHT DURING NORMAL OPERATION (CYCLE 1)	
REV. 1, JULY 1990	FIGURE NO. 3.2-5

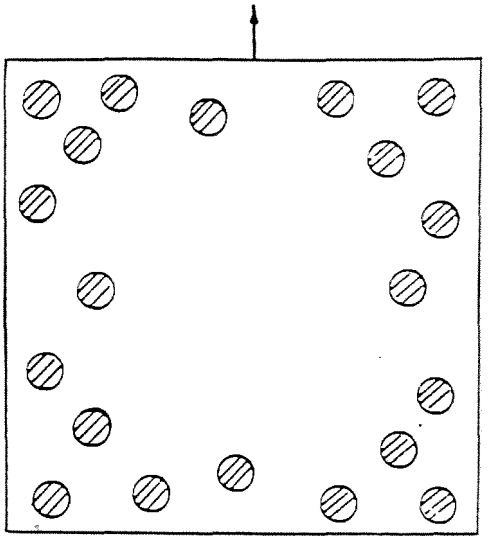


[1434 total 2 source rods (s)]

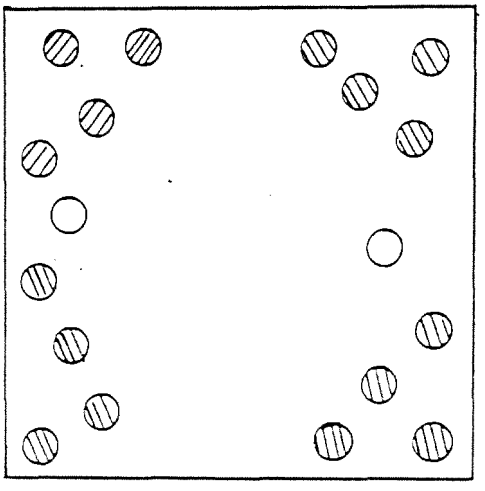
INDIAN POINT 3		FSAR UPDATE
DISTRIBUTION OF BURNABLE POISON RODS (CYCLE 1)		
REV. 0	JULY, 1982	FIGURE NO. 3.2-6



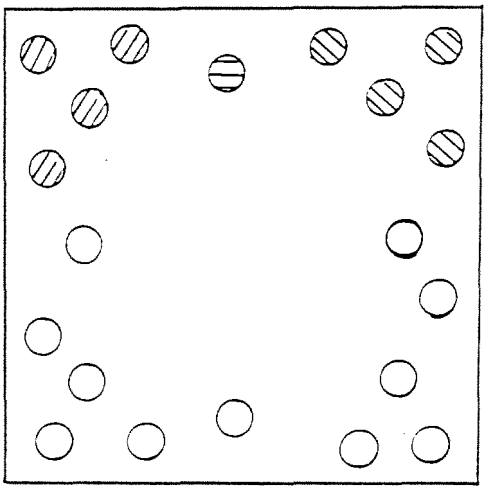
8 RODS



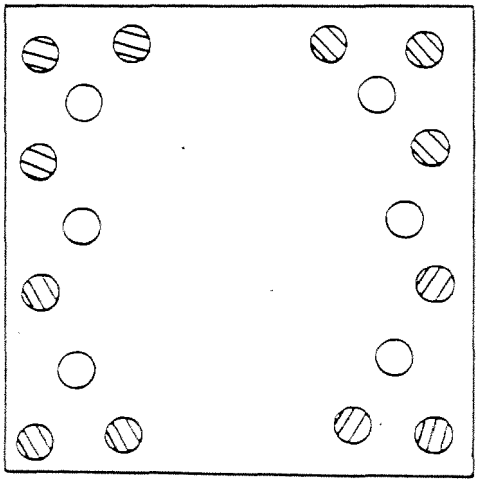
20 RODS



16 RODS

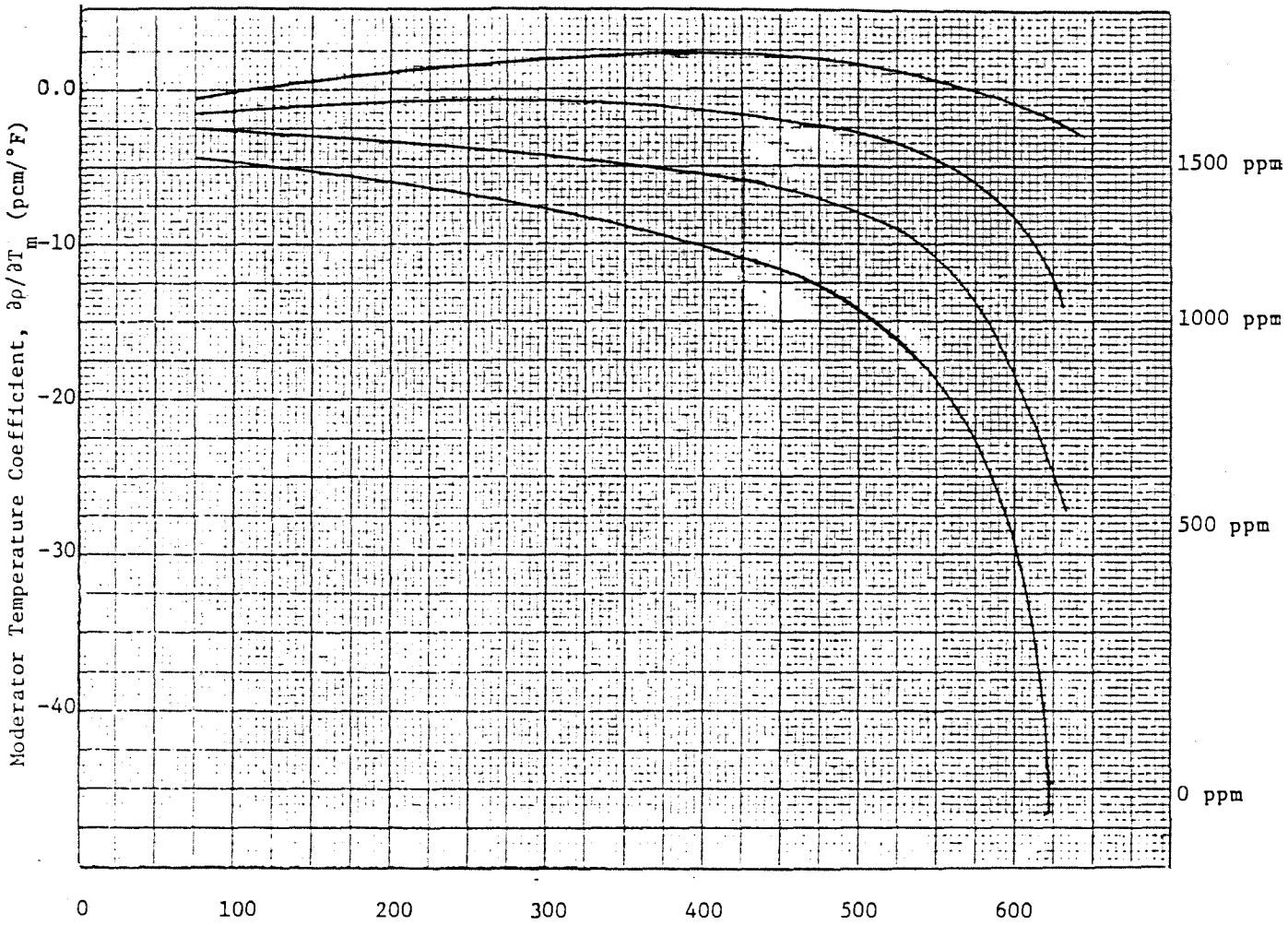


9 RODS

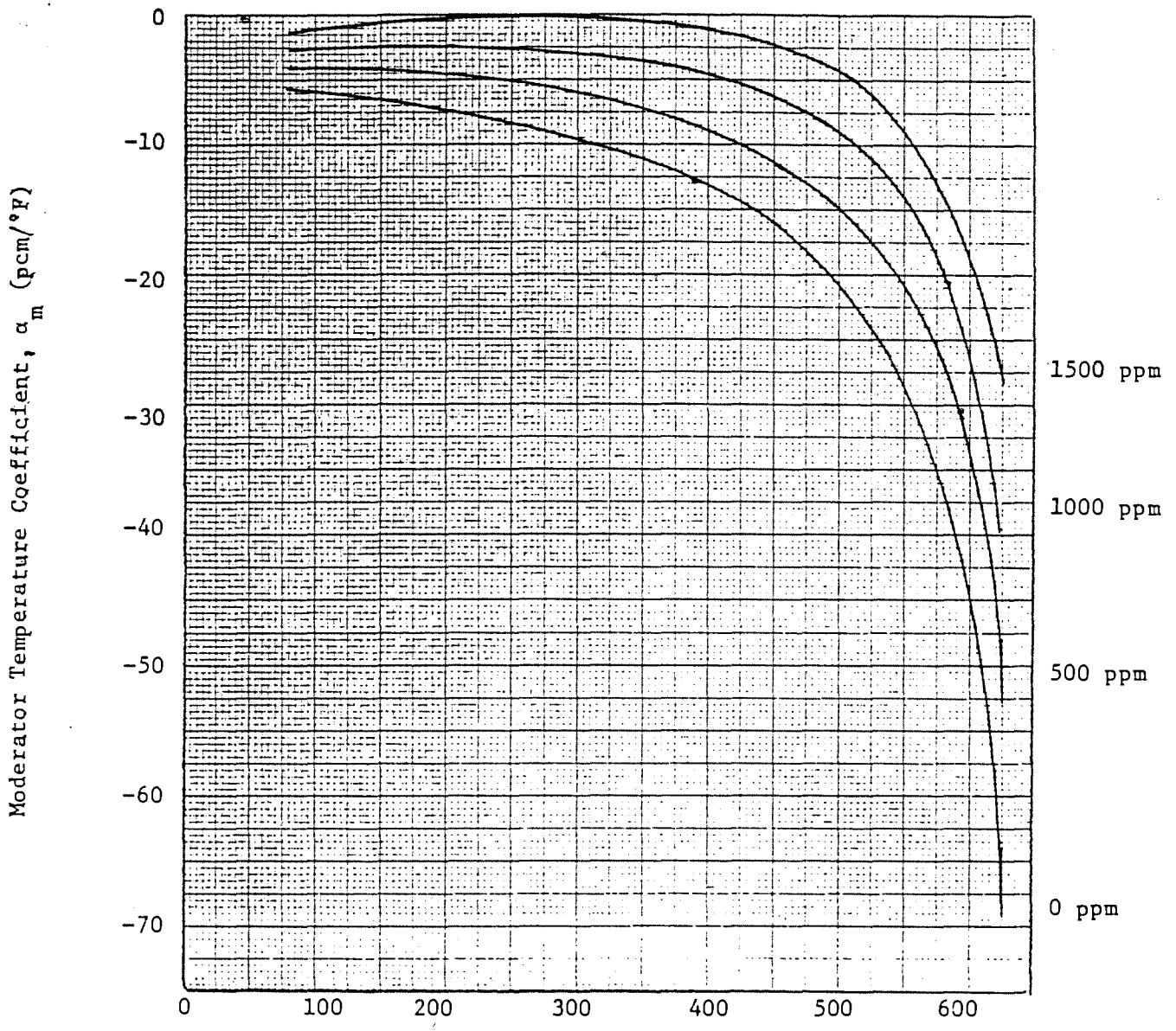


12 RODS

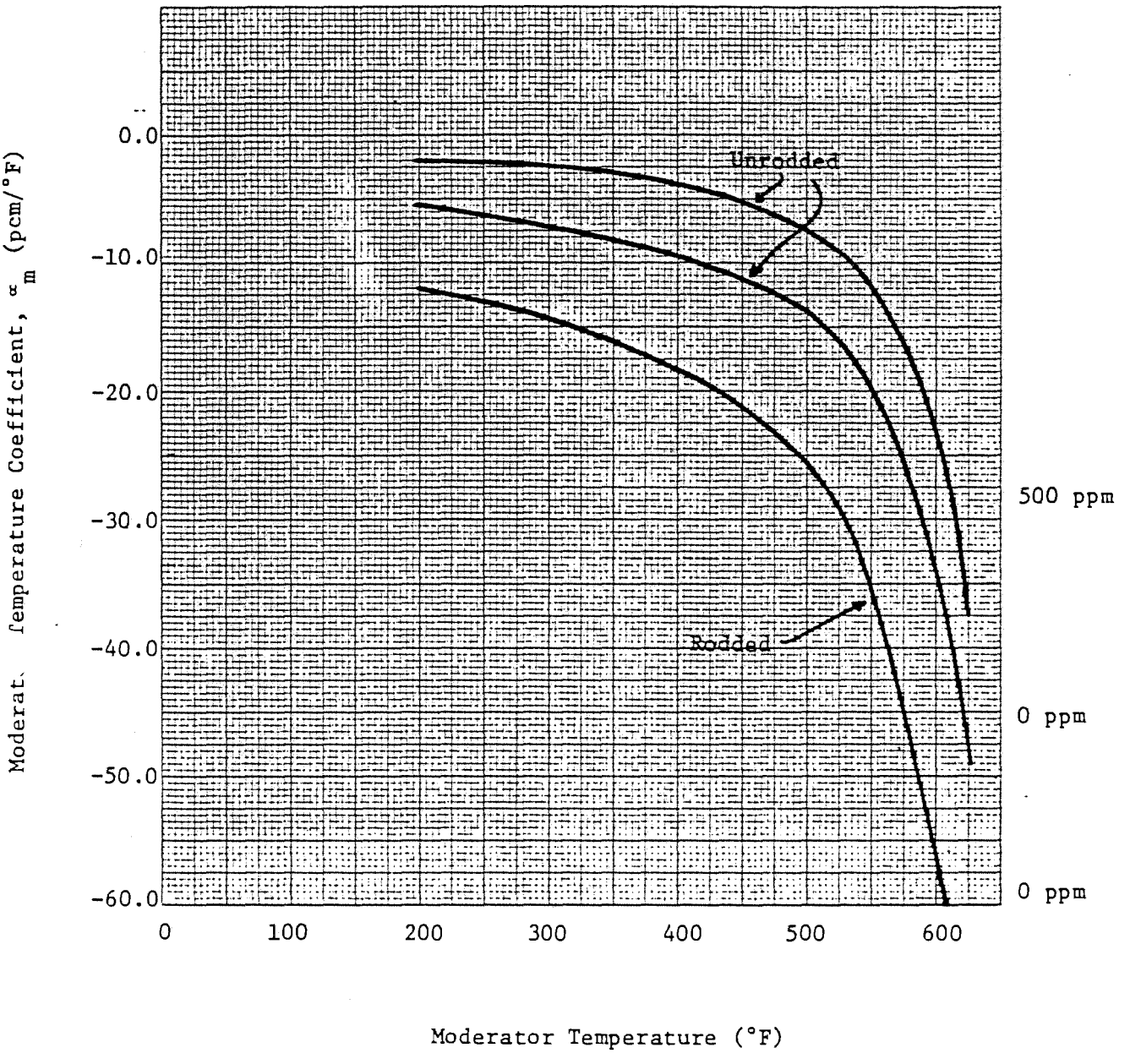
INDIAN POINT 3		FSAR UPDATE
ARRANGEMENT OF BURNABLE POISON RODS (CYCLE 1)		
REV. 0	JULY, 1982	FIGURE NO. 3.2-7



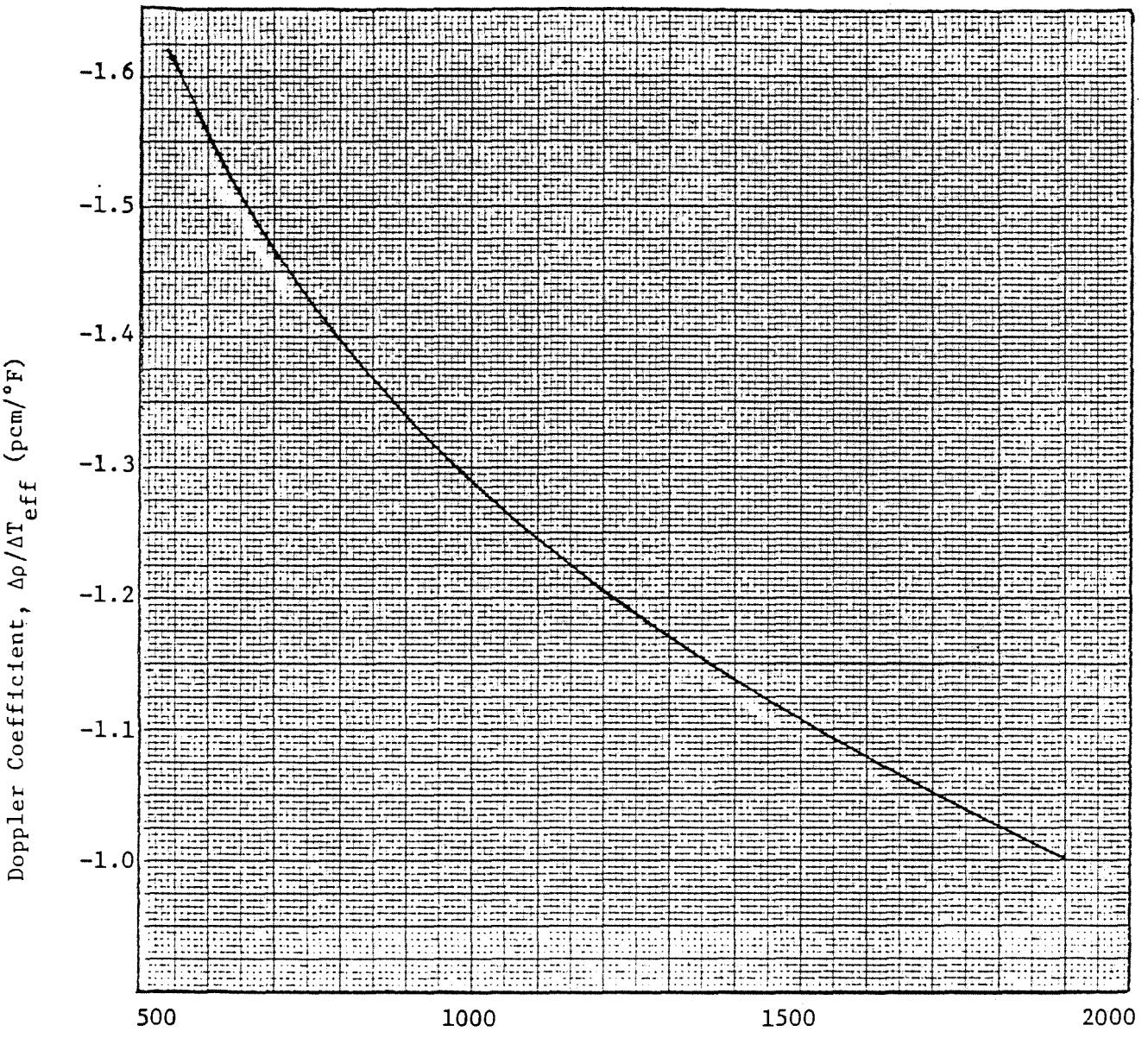
INDIAN POINT 3		FSAR UPDATE
MODERATOR TEMPERATURE COEFFICIENT VS. MODERATOR TEMPERATURE,BOL, CYCLE 1		
REV. 0	JULY, 1982	FIGURE NO. 3.2-8



INDIAN POINT 3		FSAR UPDATE
MODERATOR TEMPERATURE COEFFICIENT VS. MODERATOR TEMPERATURE,BOL, CYCLE 1 CONTROL RODS PRESENT		
REV. 0	JULY, 1982	FIGURE NO. 3.2-9



INDIAN POINT 3		FSAR UPDATE
MODERATOR TEMPERATURE COEFFICIENT VS. MODERATOR TEMPERATURE,EOL, CYCLE 1		
REV. 0	JULY, 1982	FIGURE NO. 3.2-10

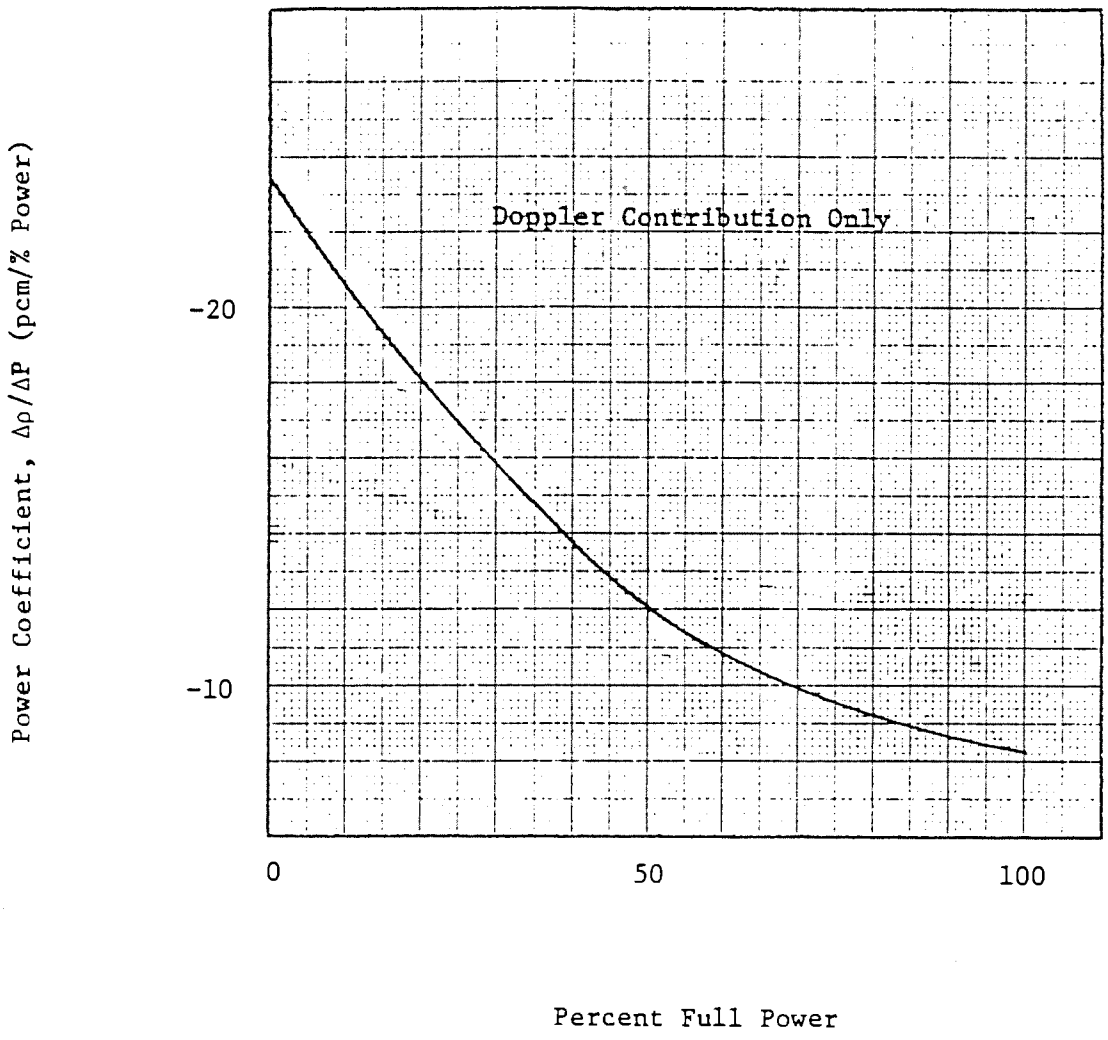


BOL, Cycle 1

T_m = 574°F

Avg. Enrichment = 2.8

INDIAN POINT 3		FSAR UPDATE
DOPPLER COEFFICIENT VS. RESONANCE EFFECTIVE TEMPERATURE		
REV. 0	JULY, 1982	FIGURE NO. 3.2-11

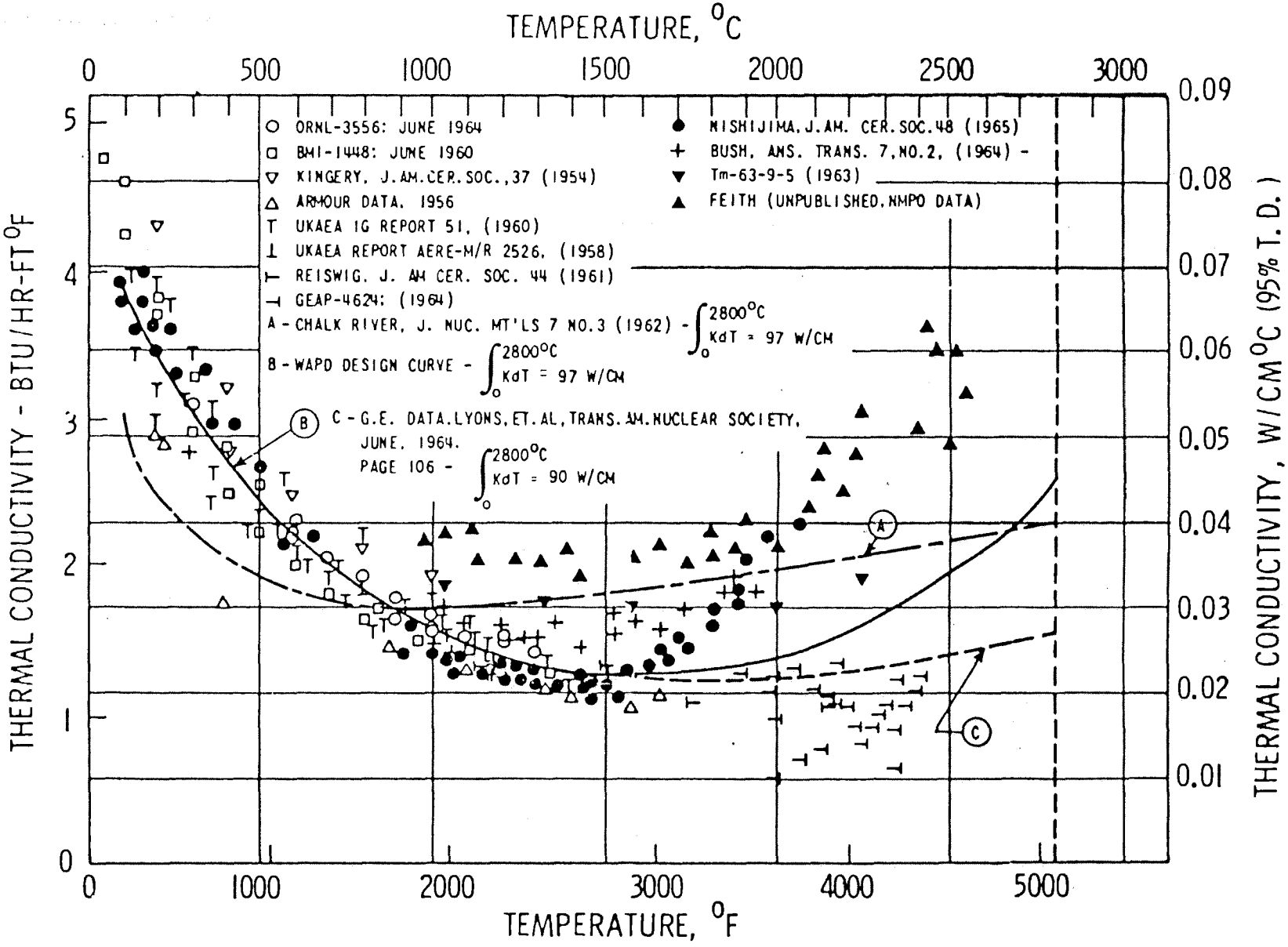


BOL, cycle 1

T_m = 547°F

Avg. Erichment = 2.8

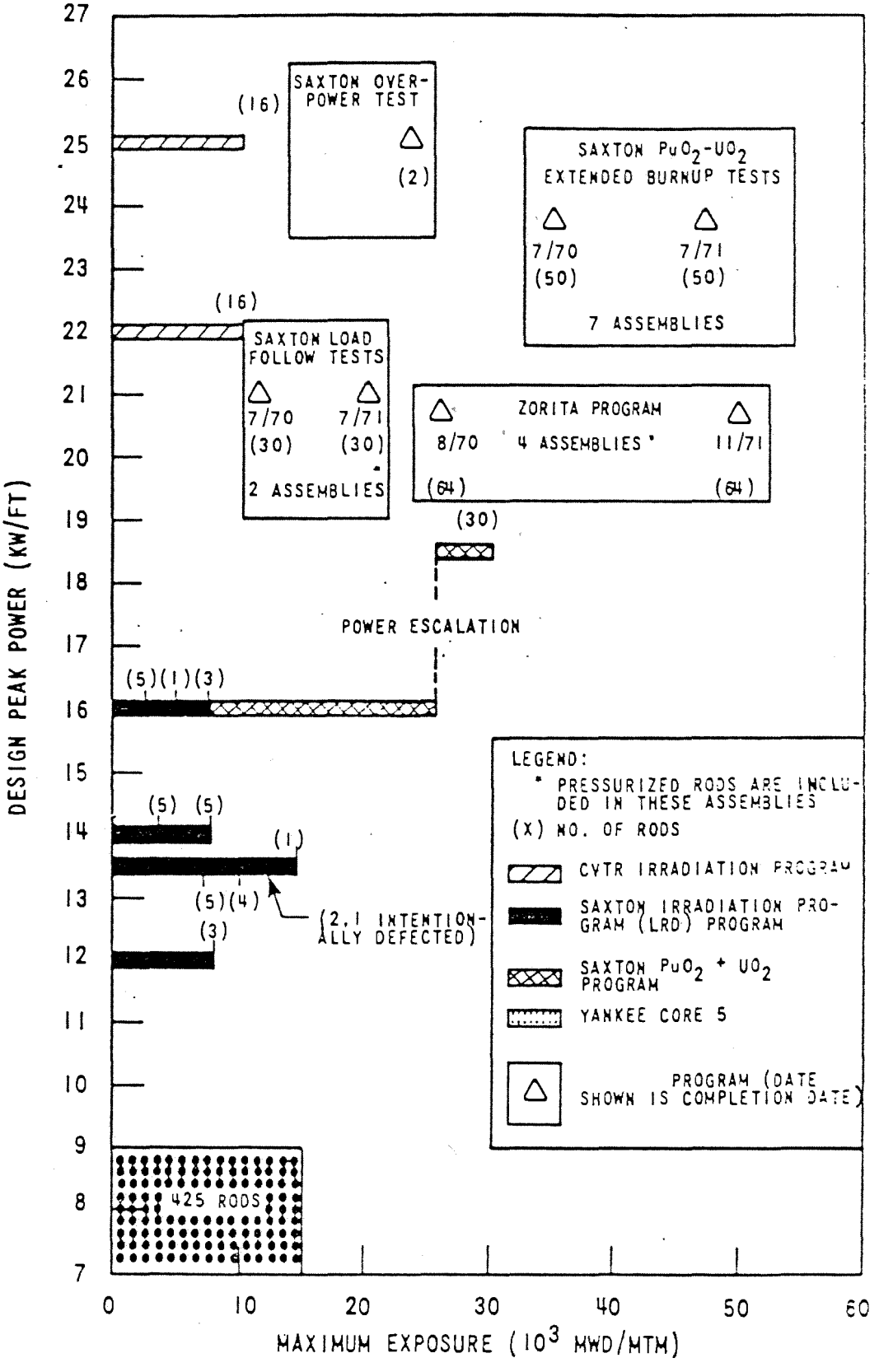
INDIAN POINT 3		FSAR UPDATE
DOPPLER CONTRIBUTIONS TO THE POWER COEFFICIENT VS. POWER LEVEL		
REV. 0	JULY, 1982	FIGURE NO. 3.2-12



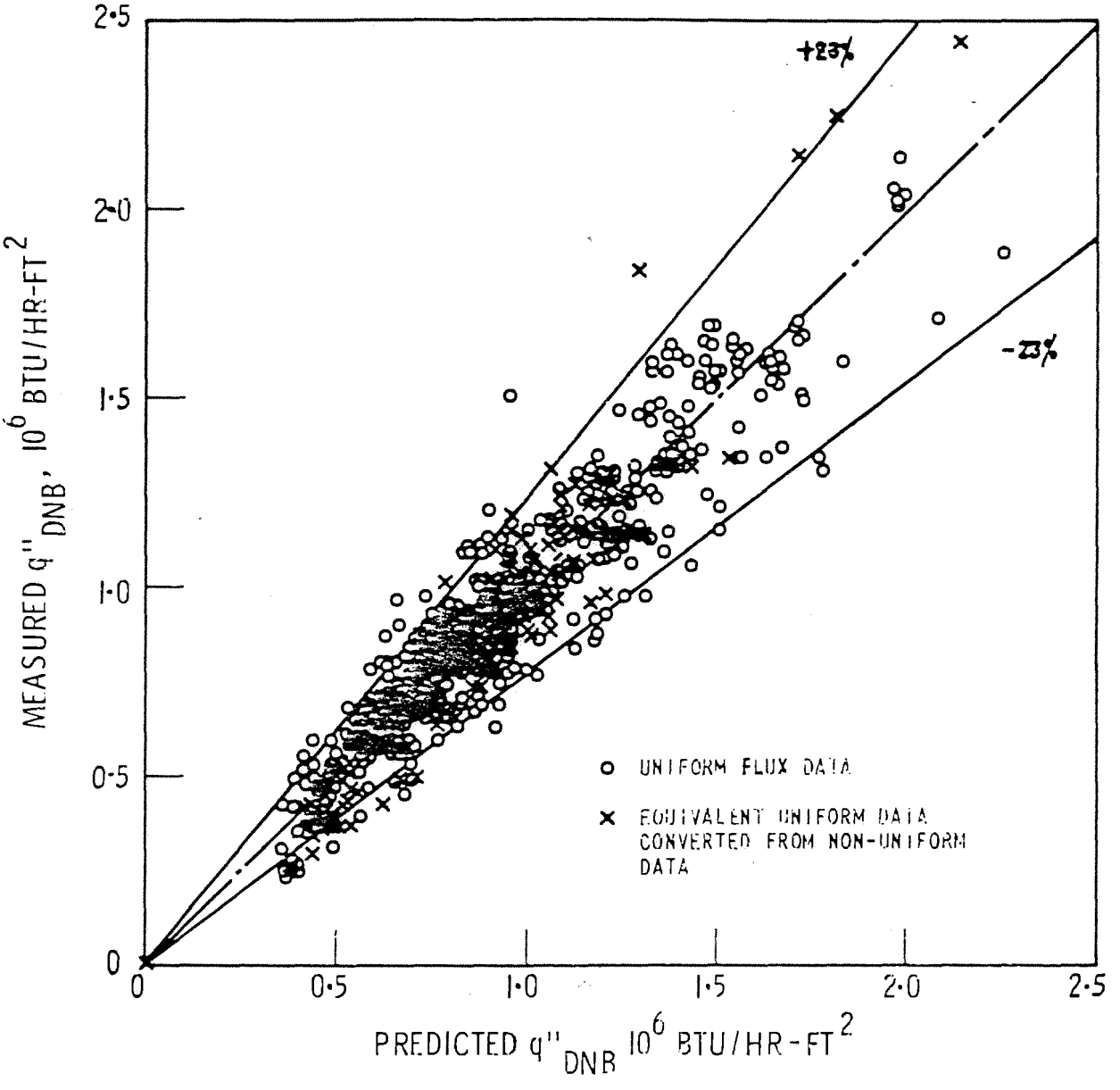
THERMAL CONDUCTIVITY OF URANIUM DIOXIDE

INDIAN POINT 3 FSAR UPDATE

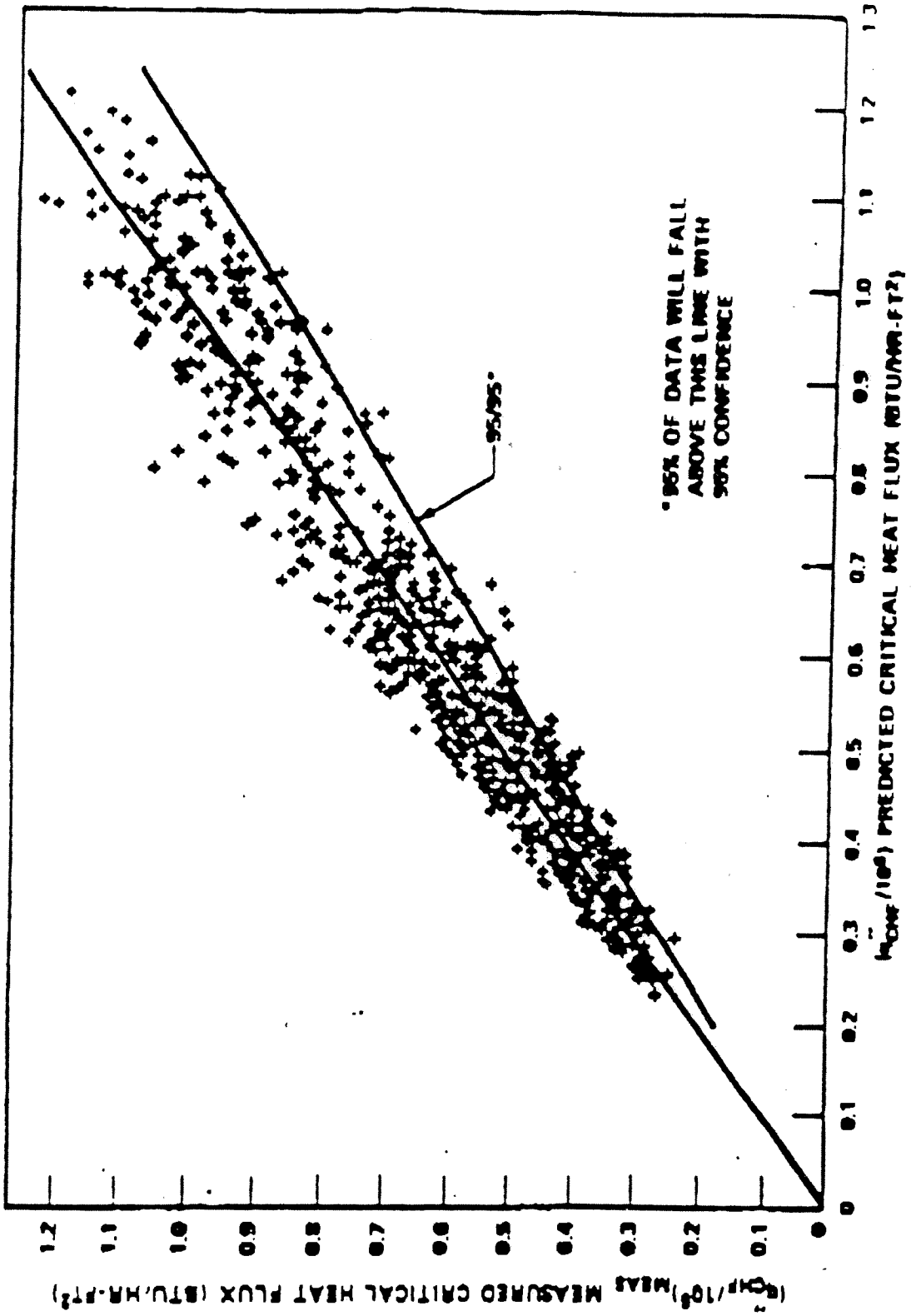
REV. 0 | JULY, 1982 | FIGURE NO. 3.2-13



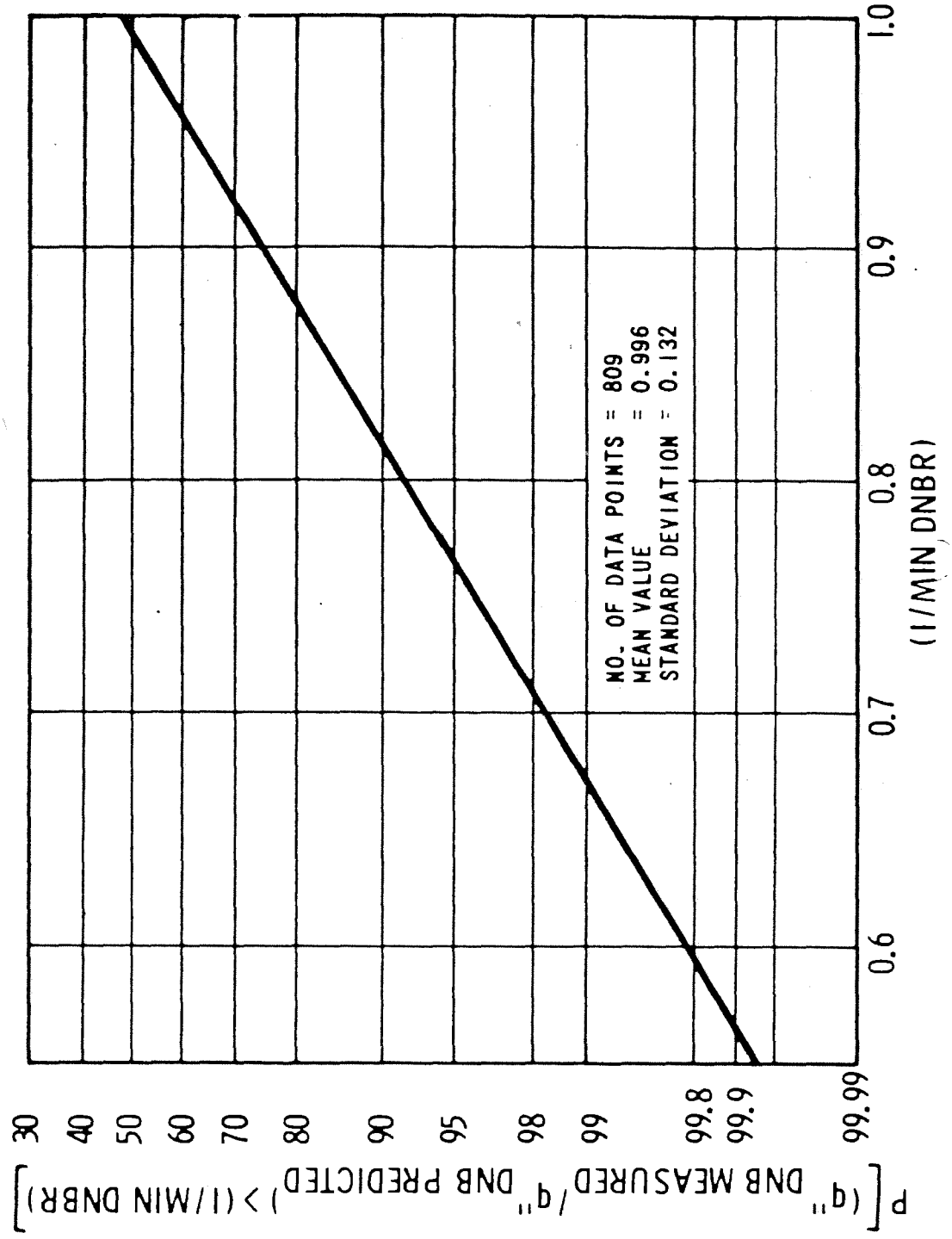
INDIAN POINT 3	FSAR UPDATE
HIGH POWER FUEL ROD EXPERIMENTAL PROGRAM	
REV. 0 JULY, 1982	FIGURE NO. 3.2-14



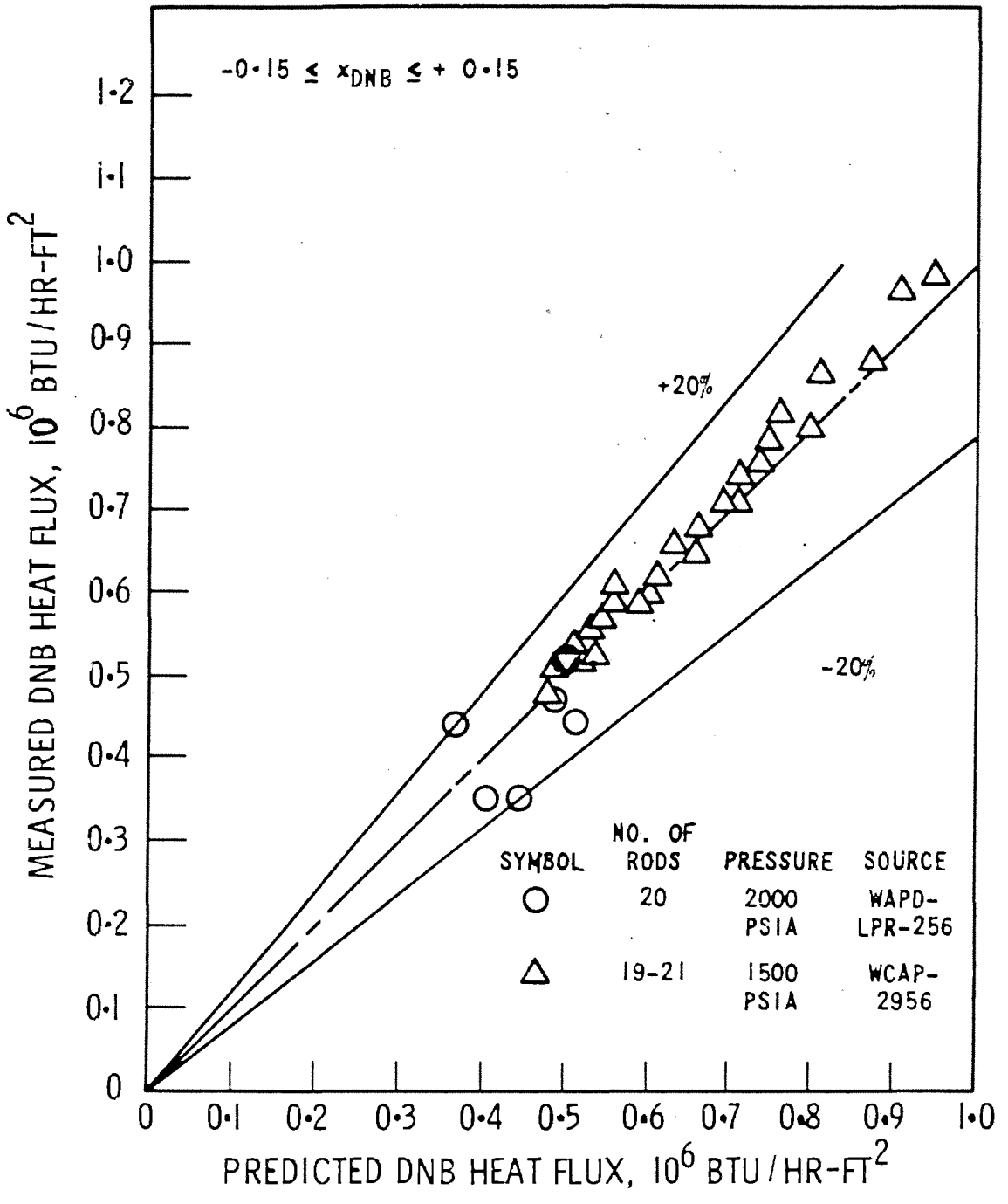
INDIAN POINT 3		FSAR UPDATE
COMPARISON OF W-3 PREDICTION AND UNIFORM FLUX DATA		
REV. 0	JULY, 1982	FIGURE NO. 3.2-15



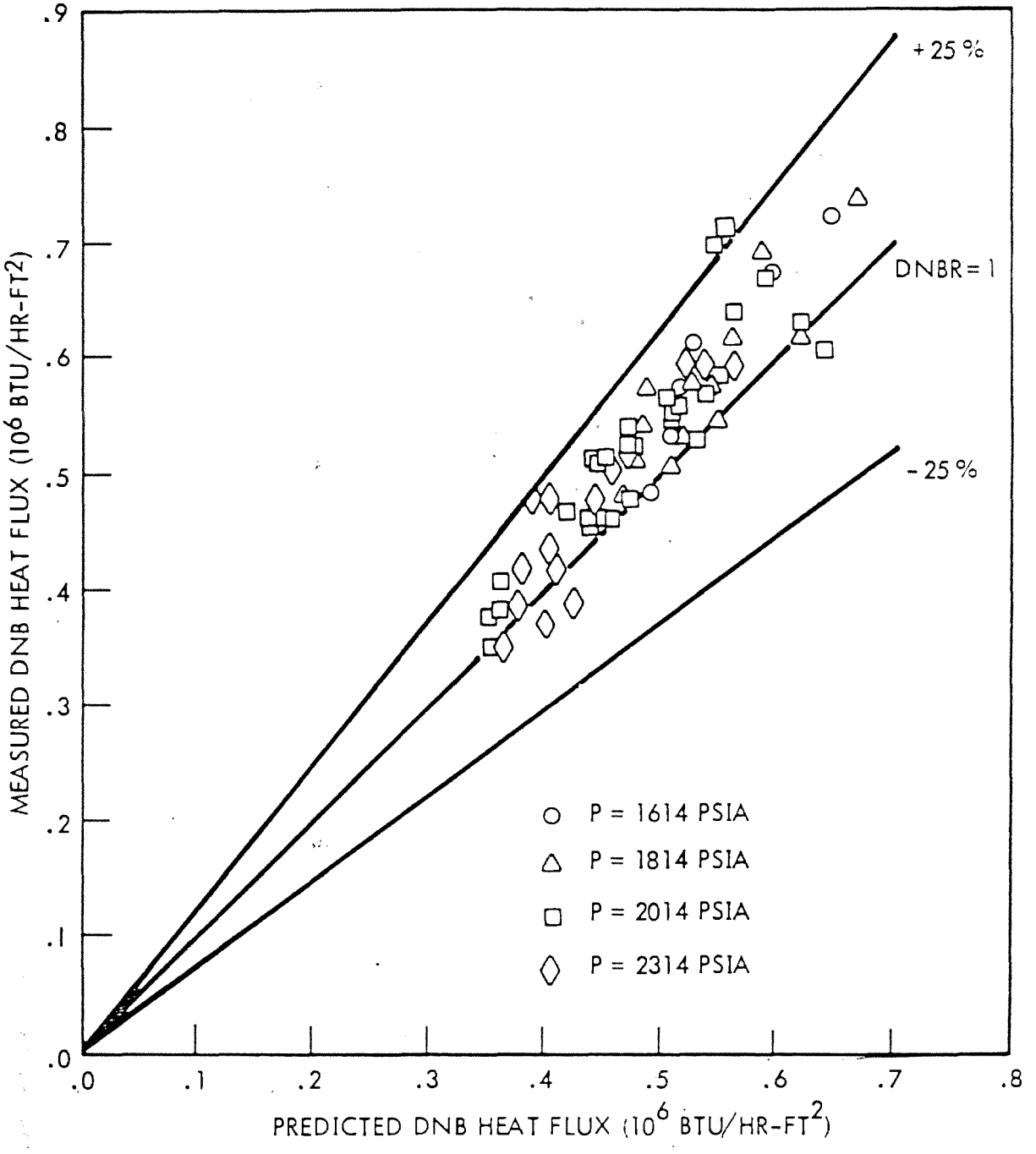
INDIAN POINT 3 FSAR UPDATE	
MEASURED VERSUS PREDICTED CRITICAL HEAT FLUX WRB-1 CORRELATION	
REV. 0, JULY 1990	FIGURE NO. 3.2-15A



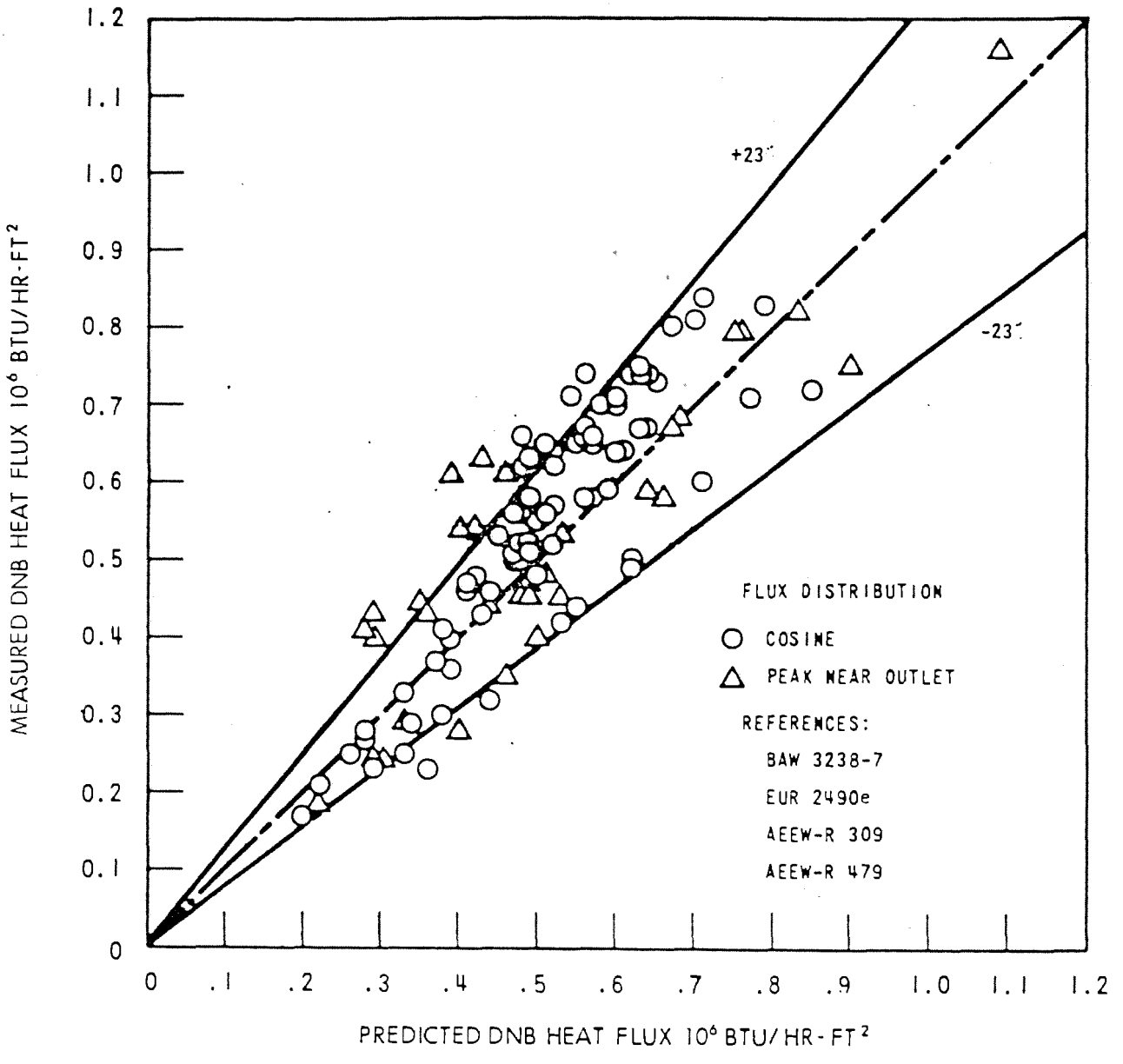
INDIAN POINT 3		FSAR UPDATE
W-3 CORRELATION PROBABILITY DISTRIBUTION CURVE		
REV. 0	JULY, 1982	FIGURE NO. 3.2-16



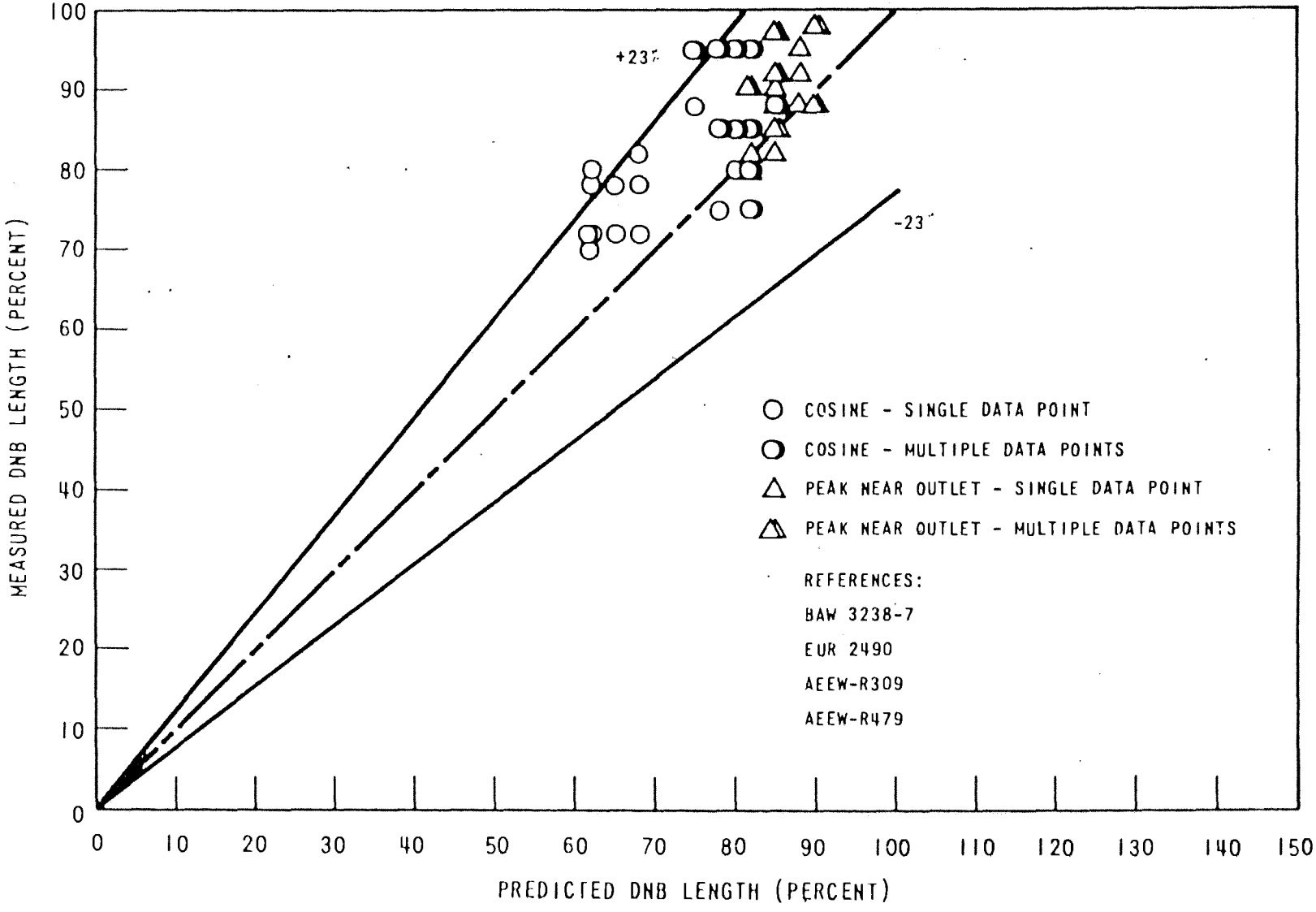
INDIAN POINT 3		FSAR UPDATE
COMPARISON OF W-3 CORRELATION WITH ROD BUNDLE DNB DATA (SIMPLE GRID WITHOUT MIXING VANE)		
REV. 0	JULY, 1982	FIGURE NO. 3.2-17



INDIAN POINT 3		FSAR UPDATE
COMPARISON OF W-3 CORRELATION WITH ROD BUNDLE DNB DATA (SIMPLE GRID WITH MIXING VANE)		
REV. 0	JULY, 1982	FIGURE NO. 3.2-18



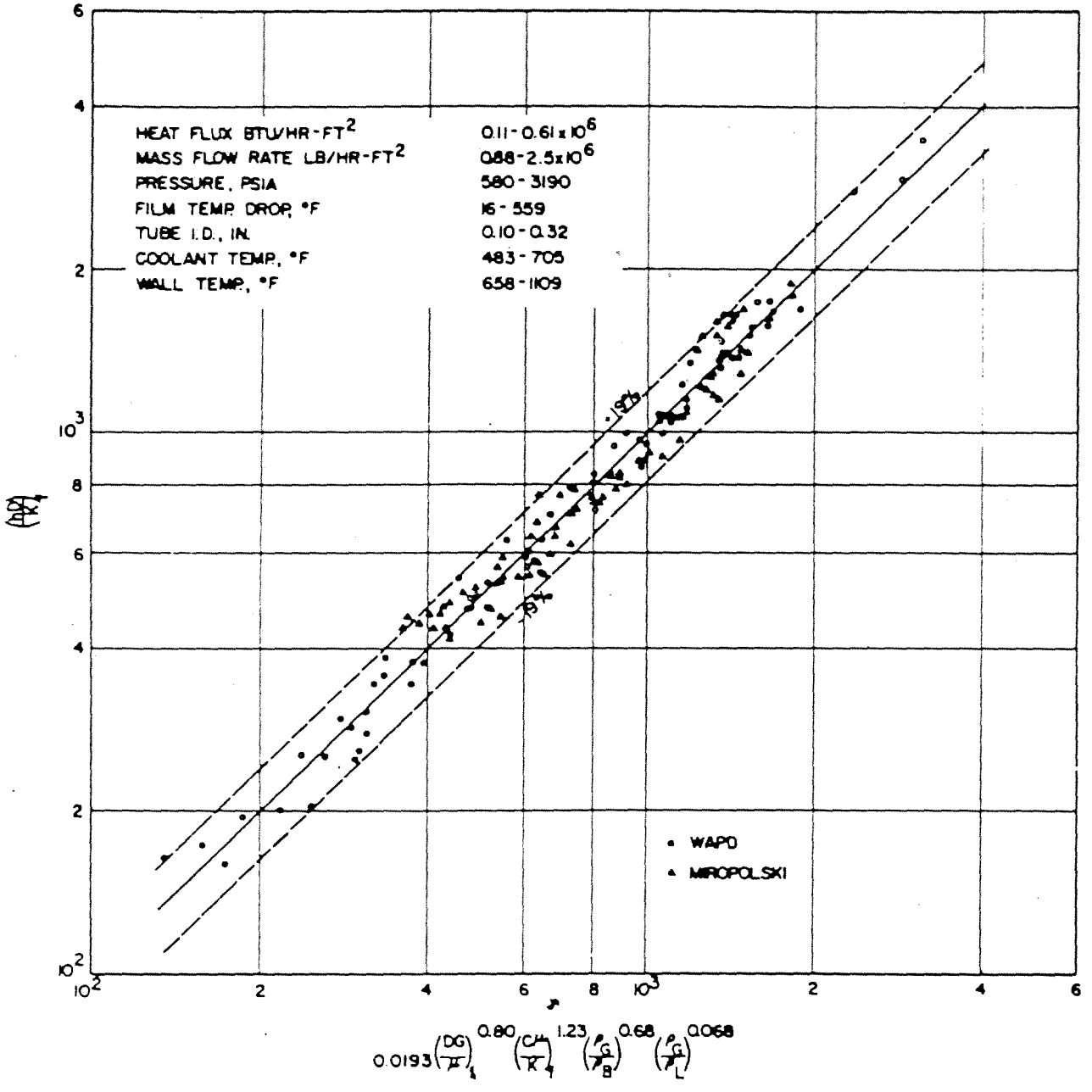
INDIAN POINT 3		FSAR UPDATE
COMPARISON OF NON-UNIFORM DNB DATA WITH W-3 PREDICTIONS		
REV. 0	JULY, 1982	FIGURE NO. 3.2-19



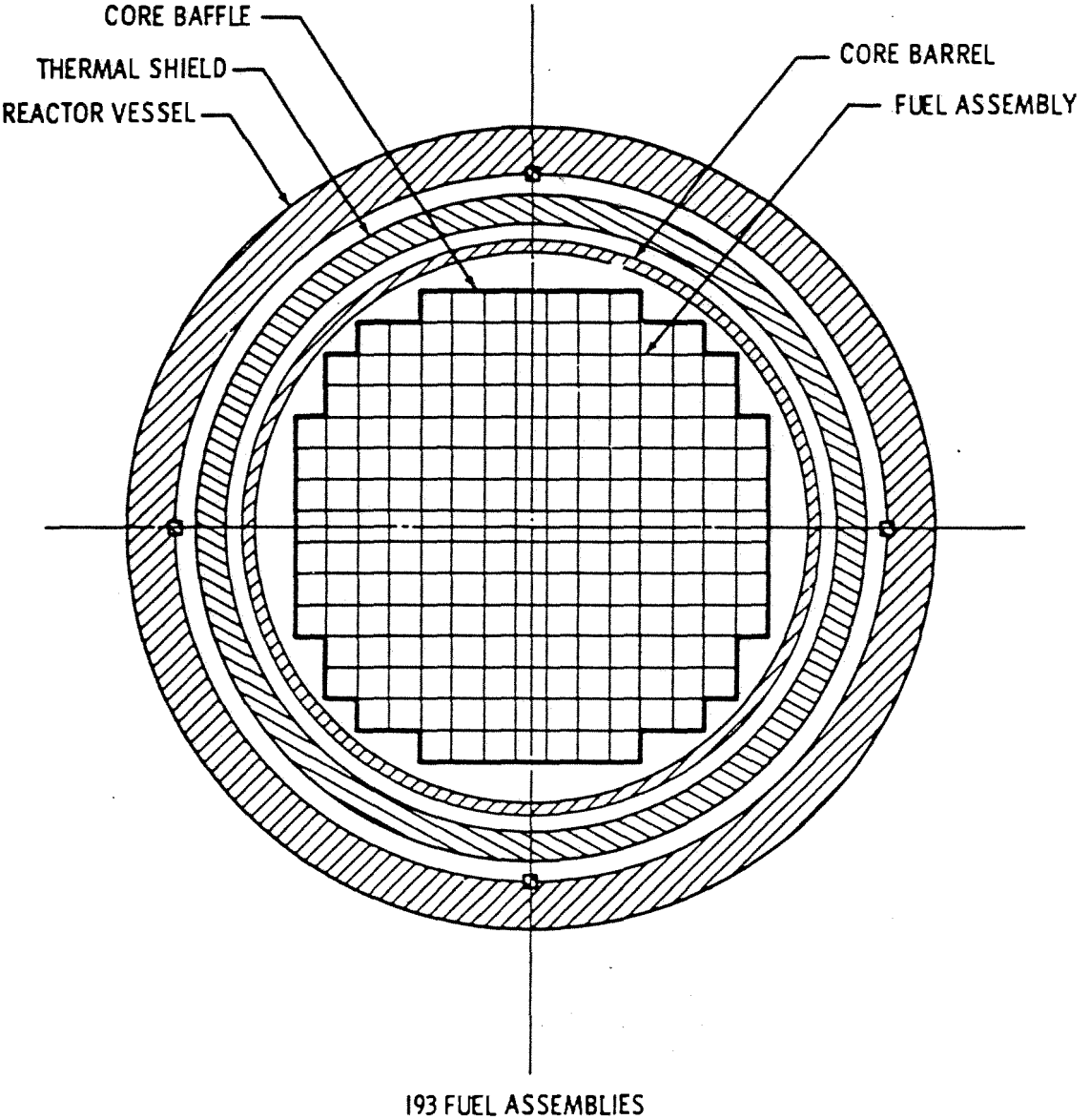
INDIAN POINT 3 FSAR UPDATE

COMPARISON OF W-3 PREDICTION WITH MEASURED DNB LOCATION

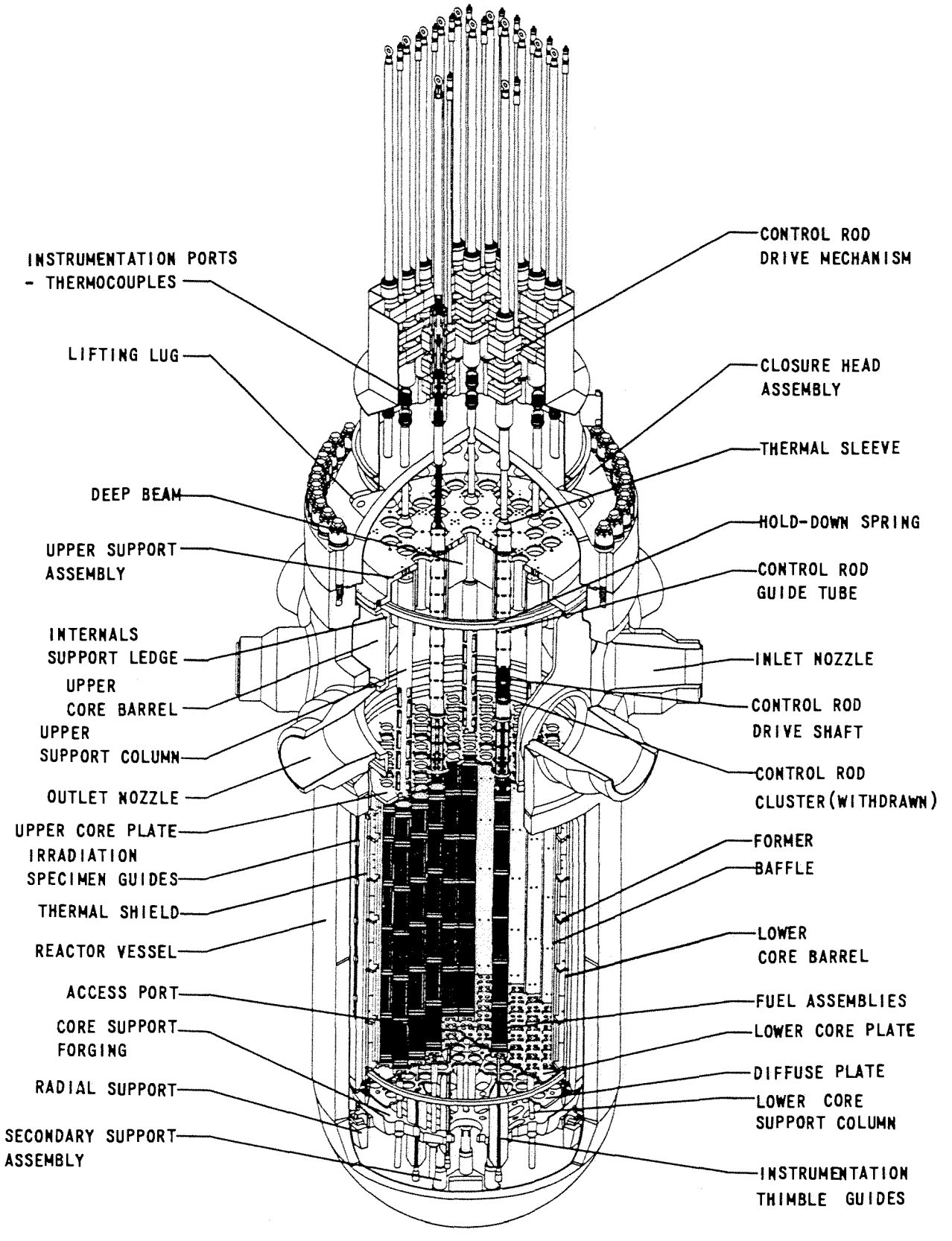
REV. 0 | JULY, 1982 | FIGURE NO. 3.2-20



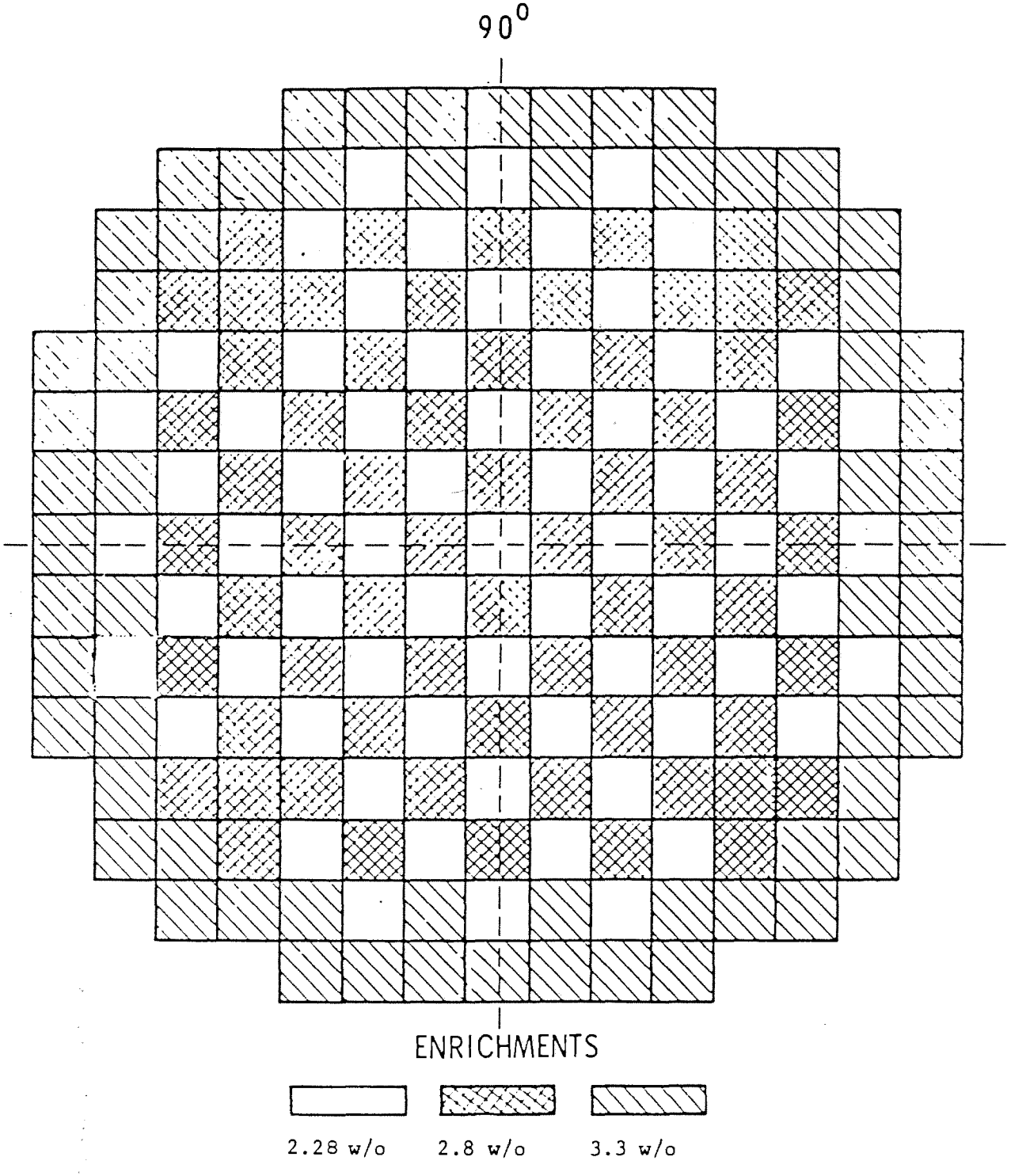
INDIAN POINT 3		FSAR UPDATE
STABLE FILM BOILING HEAT TRANSFER DATA AND CORRELATION		
REV. 0	JULY, 1982	FIGURE NO. 3.2-21



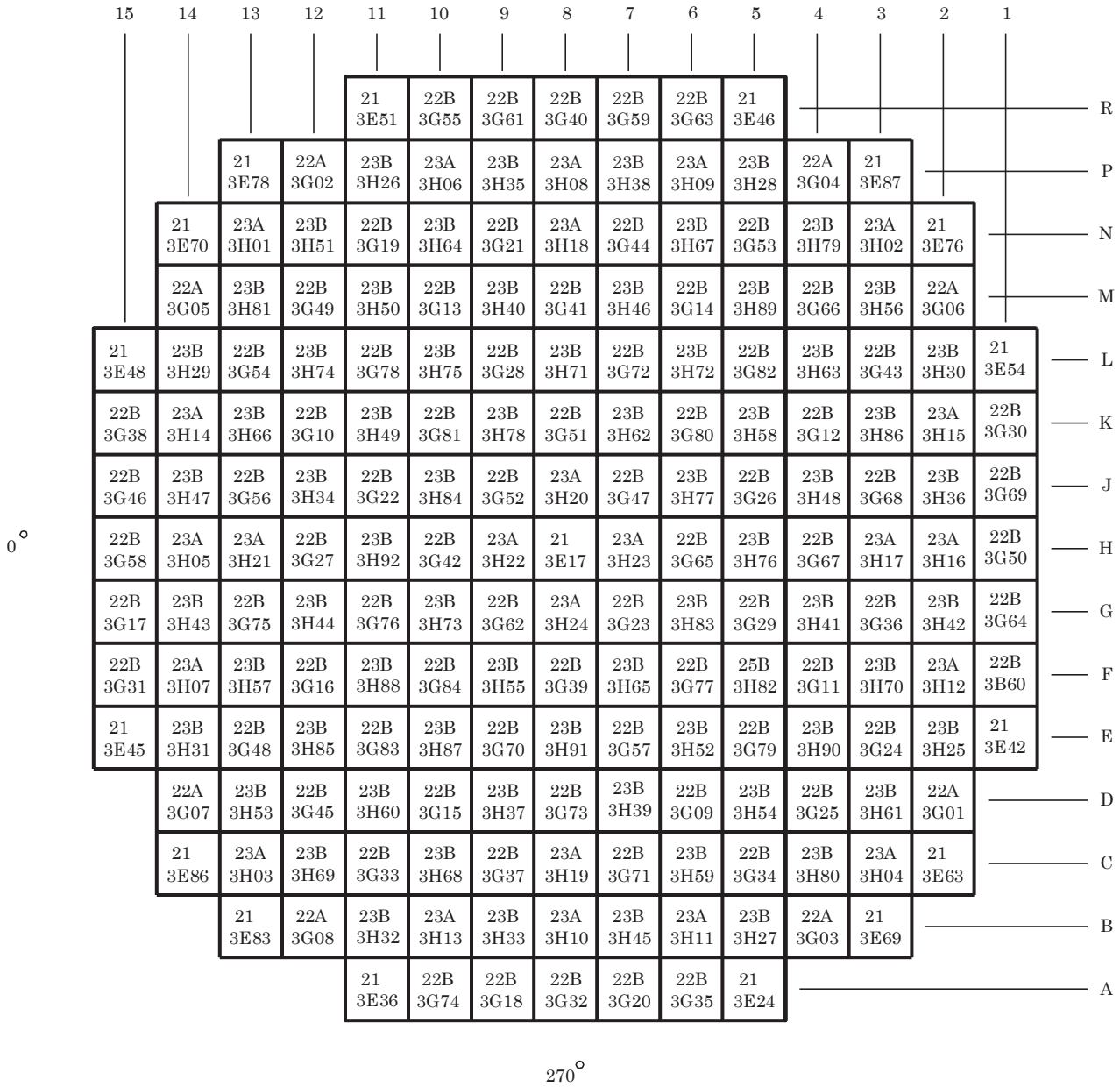
INDIAN POINT 3		FSAR UPDATE
CORE CROSS SECTION		
REV. 0	JULY, 1982	FIGURE NO. 3.2-22



INDIAN POINT 3		FSAR UPDATE
REACTOR VESSEL AND INTERNALS		
REV. 0	JULY, 1982	FIGURE NO. 3.2-23



INDIAN POINT 3		FSAR UPDATE
CORE LOADING ARRANGEMENT (FIRST CYCLE)		
REV. 0	JULY, 1982	FIGURE NO. 3.2-24



LEGEND

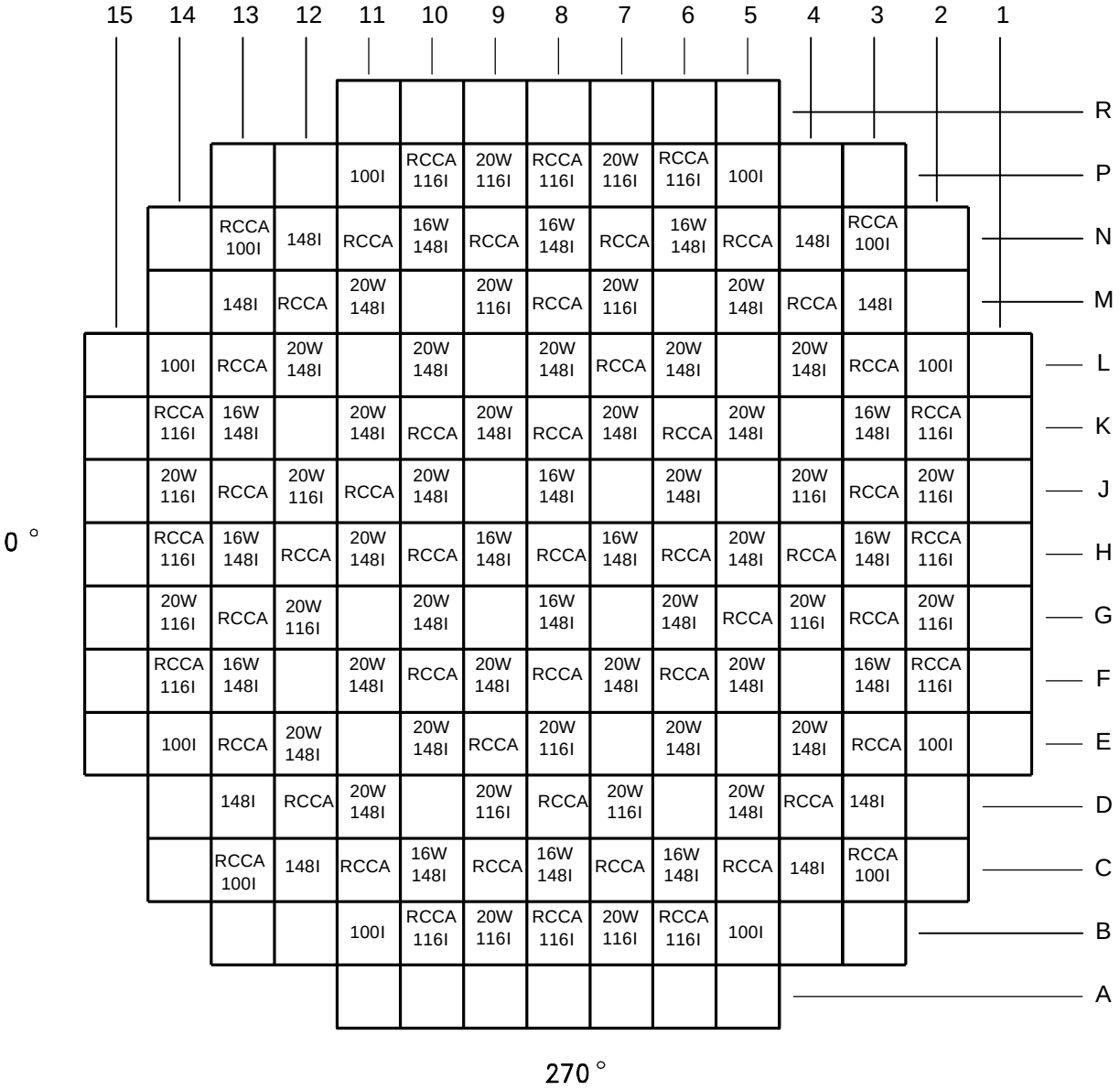
R ID	Region Identifier Fuel Assembly Identifier

Fuel Assembly Orientation

- • Reference Hole
- ○ Core Pin Hole
- ↖ Holddown Bar

NOTE: Figures are Top View

INDIAN POINT UNIT No. 3	
CYCLE 21 REGION AND FUEL ASSEMBLY LOCATIONS	
UFSAR FIGURE 3.2–24A	REV. No. 8



Fuel Assembly Orientation

LEGEND

TYPE	COMPONENT TYPE
###I	NUMBER OF FRESH IFBA RODS

• Reference Hole
○ Core Pin Hole
\ Holddown Bar

NOTE: Figures are Top View

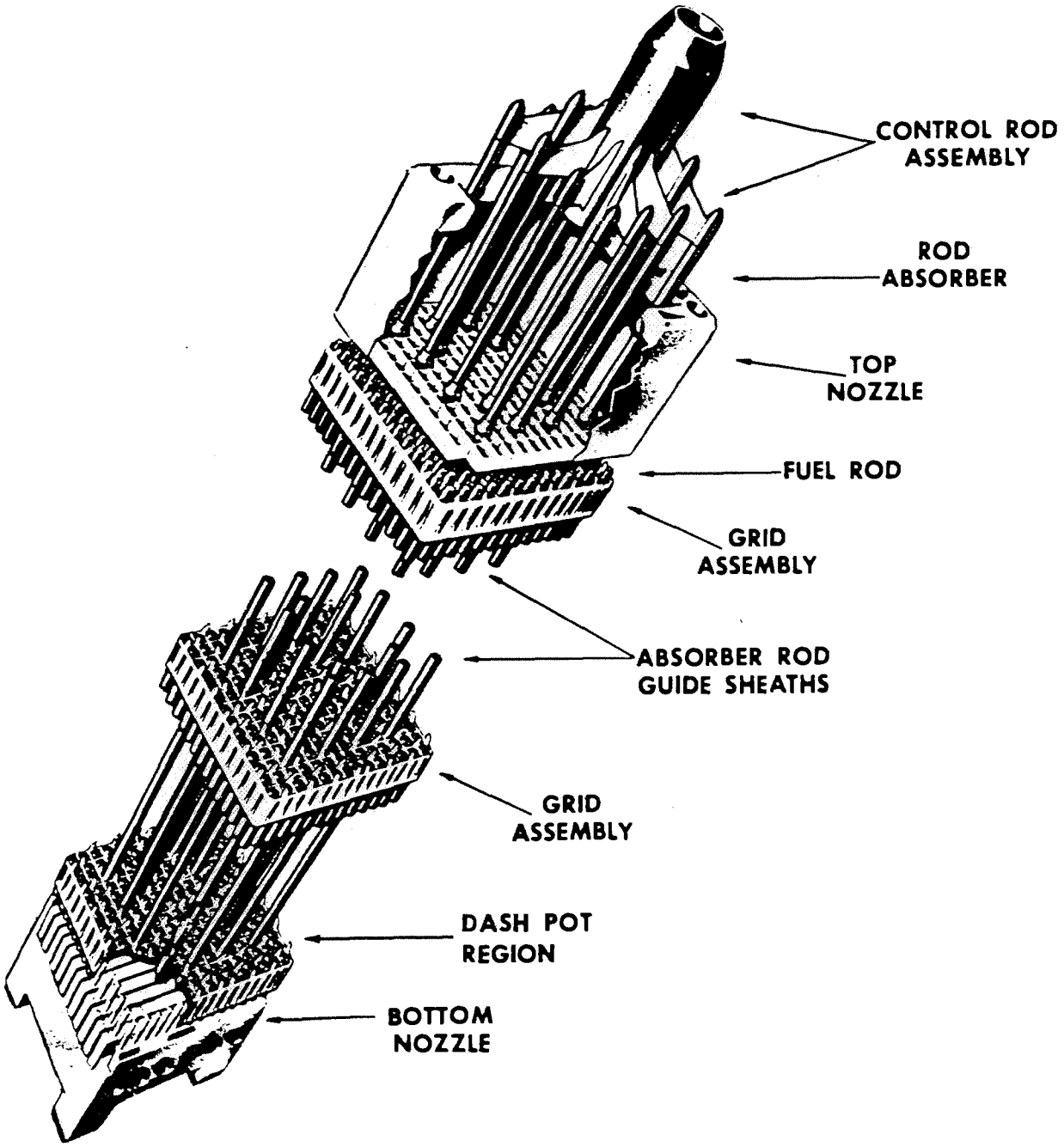
CORE COMPONENT TYPES

RCCA - CONTROL OR SHUTDOWN RCCA
W - NUMBER OF RODLETS ON WABA ASSEMBLY

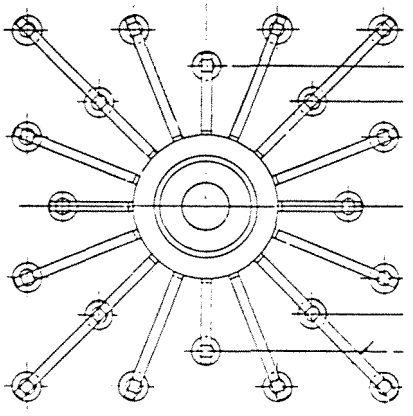
INDIAN POINT UNIT No. 3

CYCLE 21 CORE COMPONENTS AND FRESH IFBA LOCATIONS

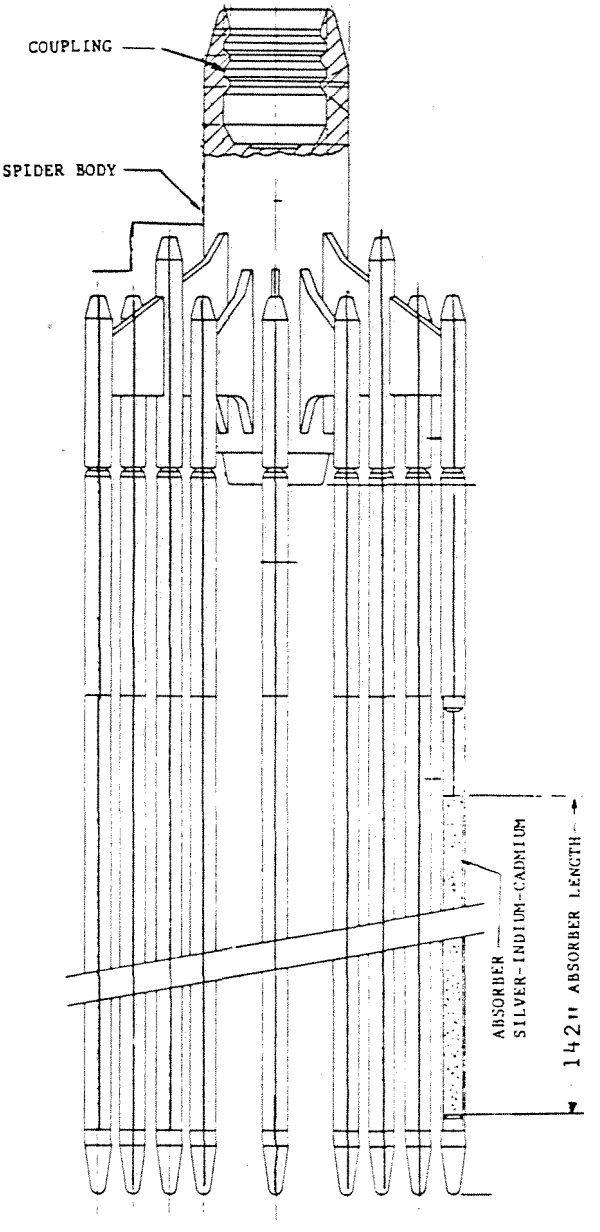
UFSAR FIGURE 3.2-24B | REV. No. 8



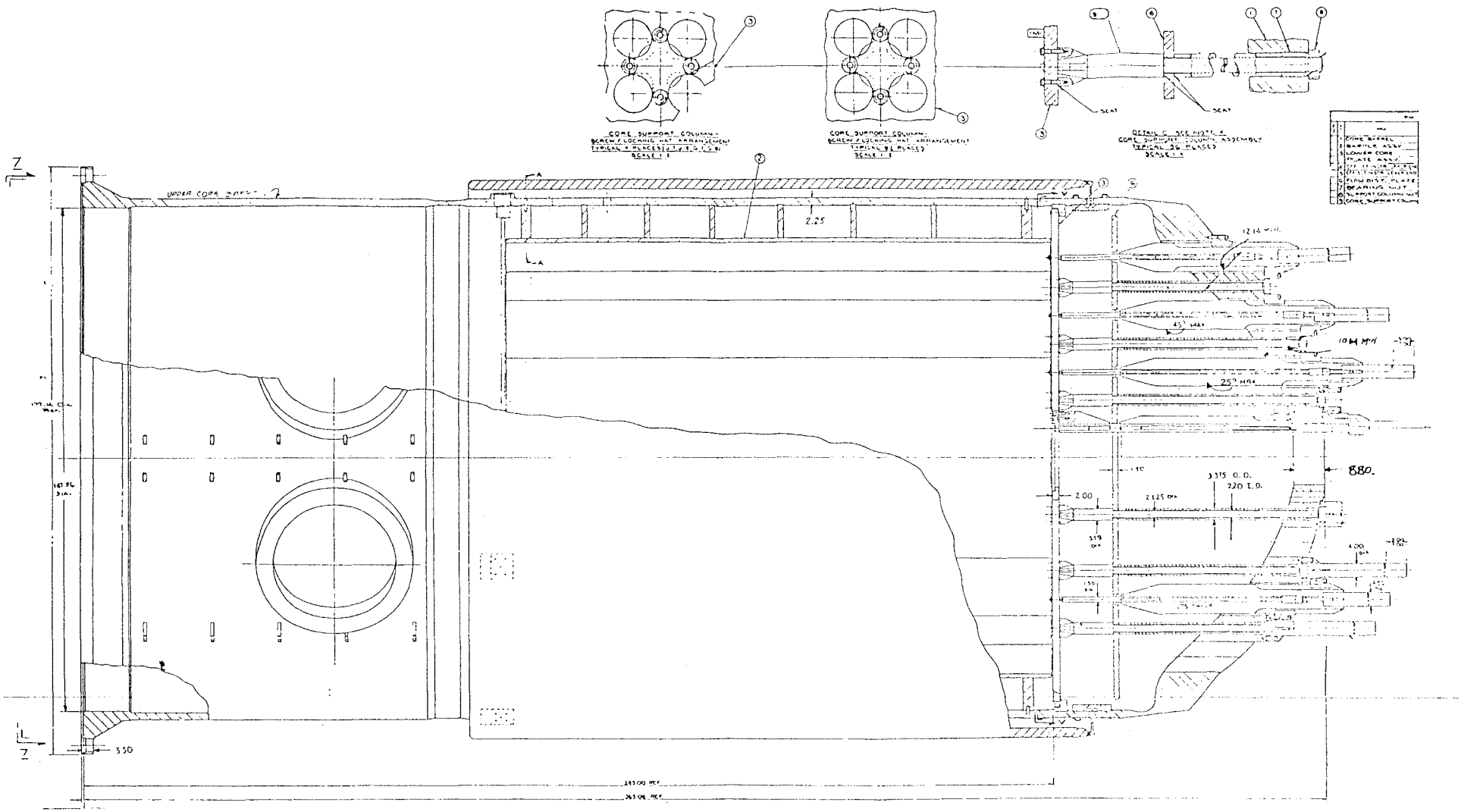
INDIAN POINT 3		FSAR UPDATE
TYPICAL ROD CLUSTER CONTROL ASSEMBLY		
REV. 0	JULY, 1982	FIGURE NO. 3.2-25



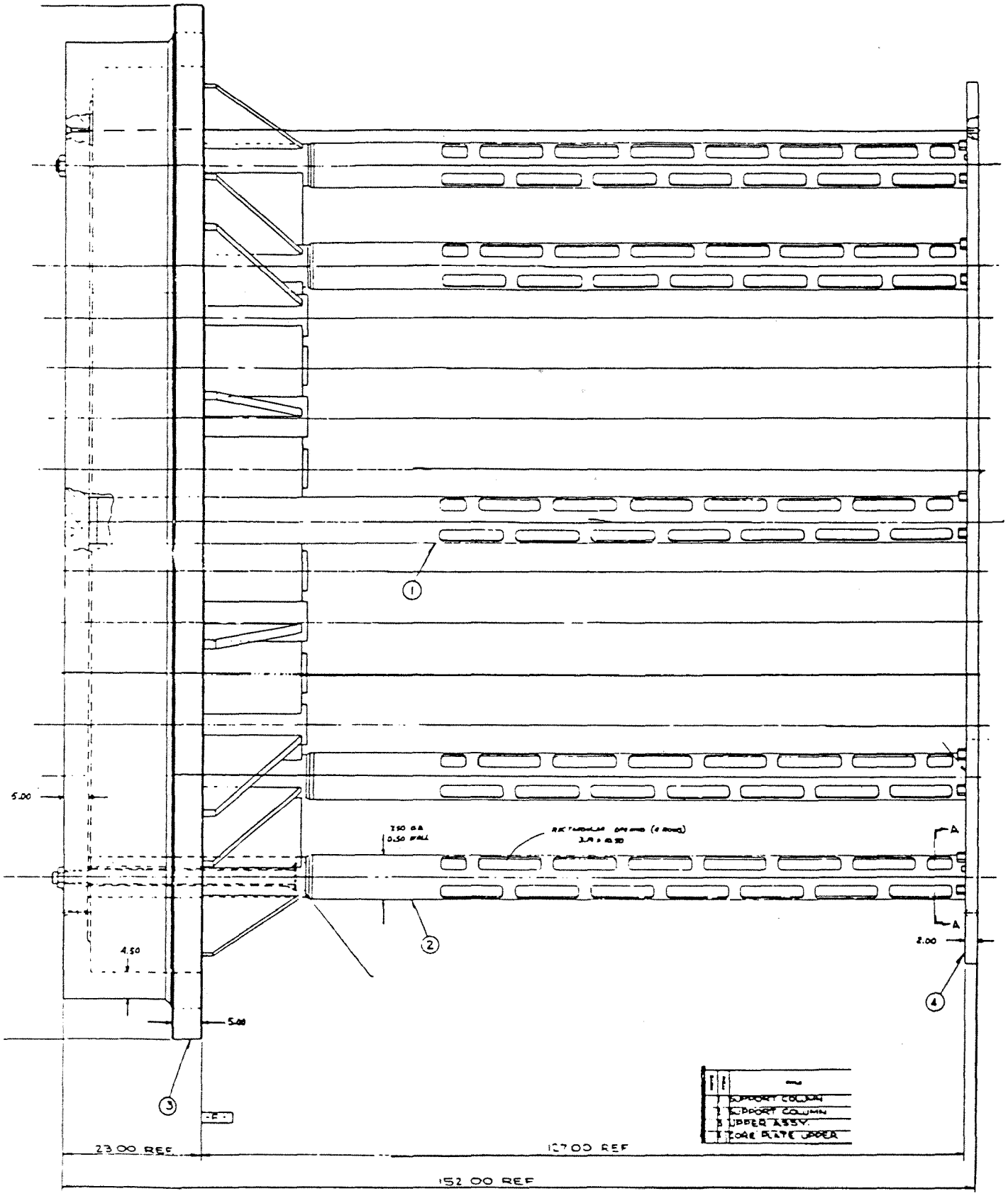
TOP VIEW



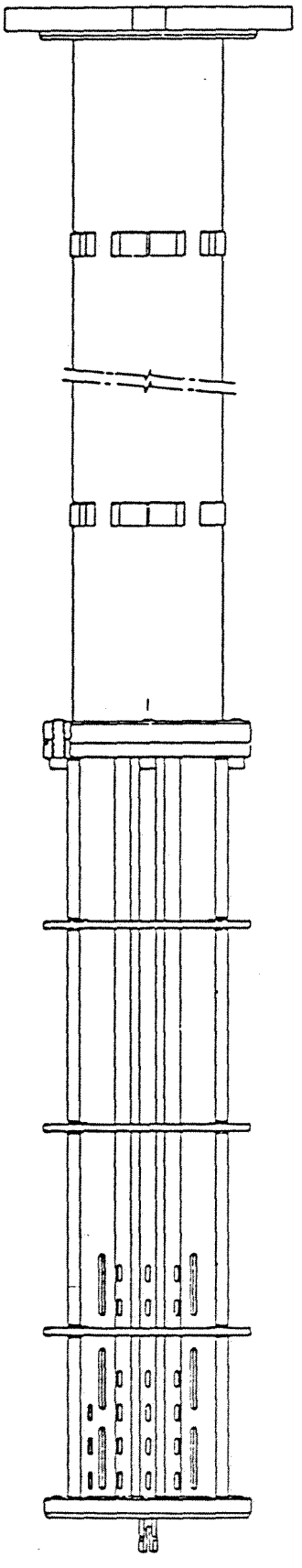
INDIAN POINT 3		FSAR UPDATE
ROD CONTROL CLUSTER ASSEMBLY OUTLINE		
REV. 0	JULY, 1982	FIGURE NO. 3.2-26

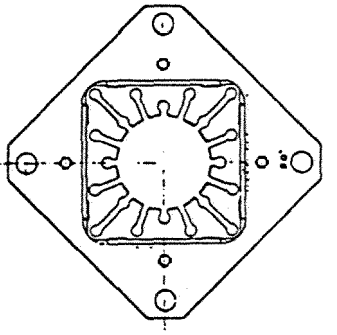


INDIAN POINT 3		FSAR UPDATE
CORE BARREL ASSEMBLY		
REV. 0	JULY, 1982	FIGURE NO. 3.2-27

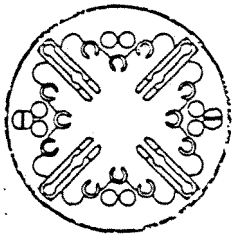


INDIAN POINT 3		FSAR UPDATE
UPPER CORE SUPPORT STRUCTURE		
REV. 0	JULY, 1982	FIGURE NO. 3.2-28



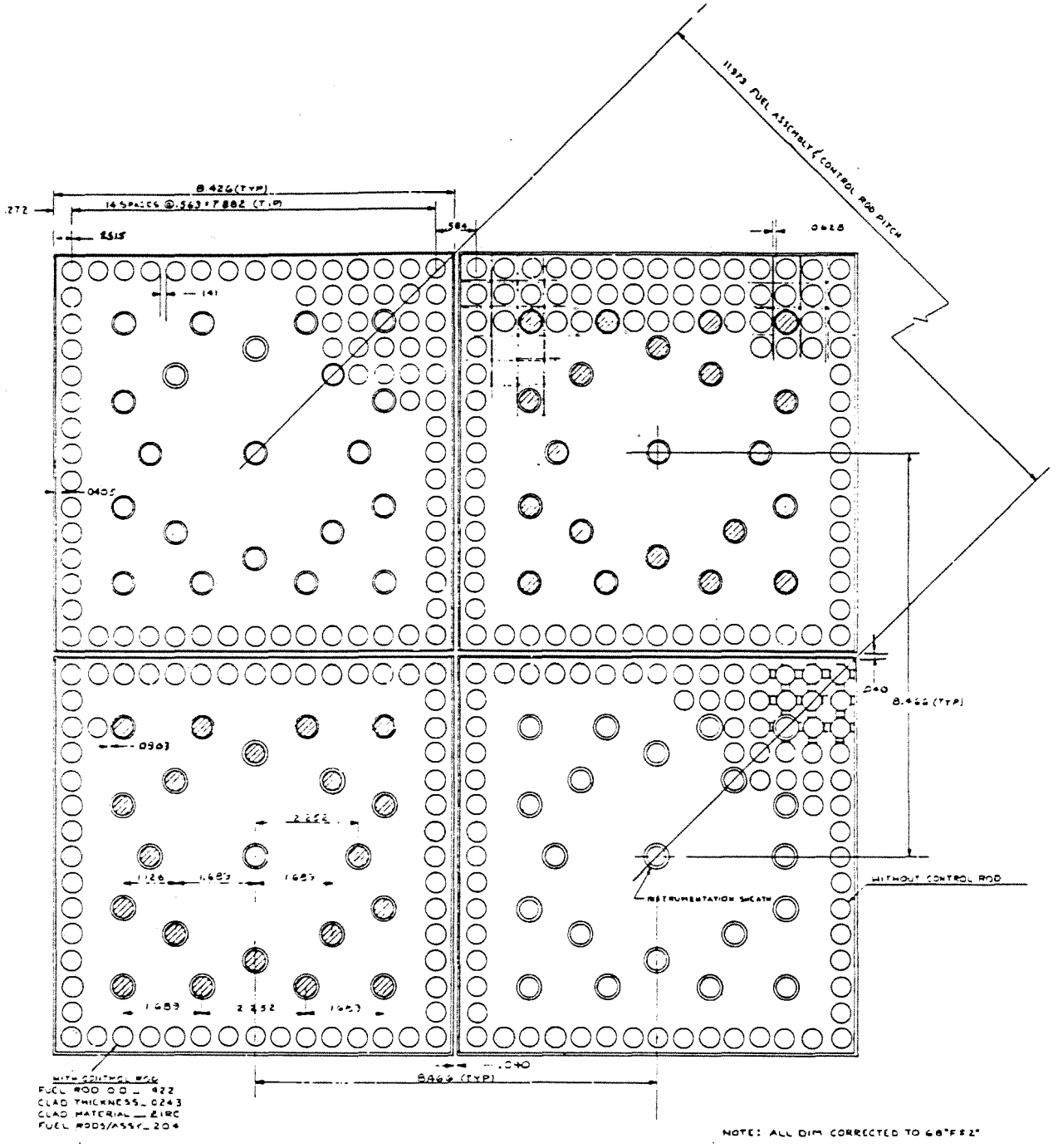


TOP VIEW



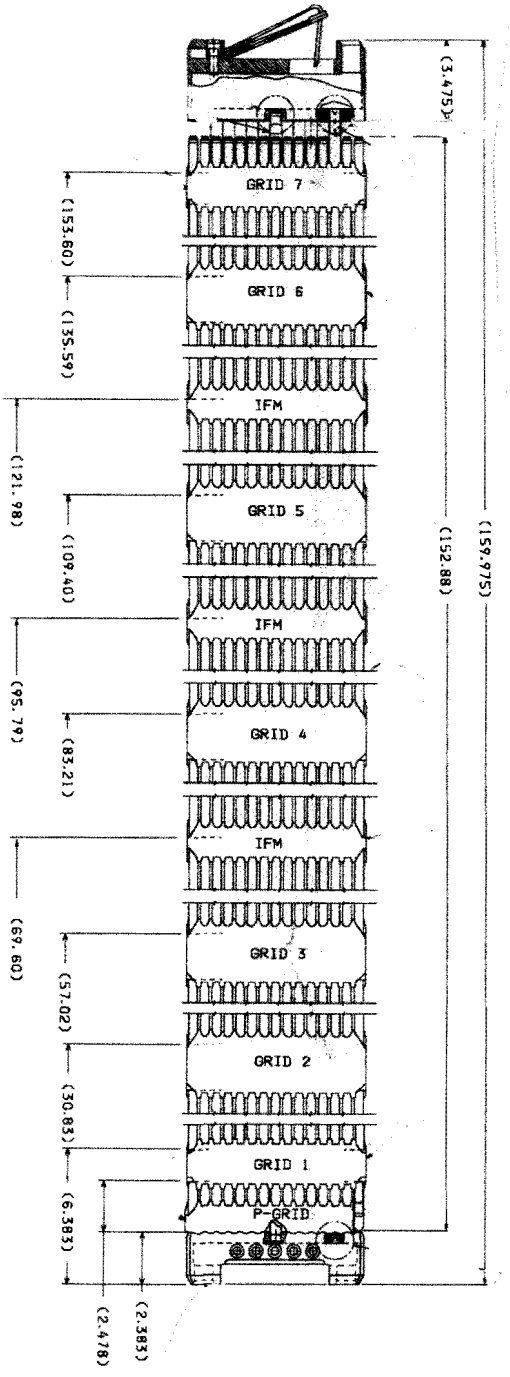
BOTTOM VIEW

INDIAN POINT 3		FSAR UPDATE
GUIDE TUBE ASSEMBLY		
REV. 0	JULY, 1982	FIGURE NO. 3.2-29

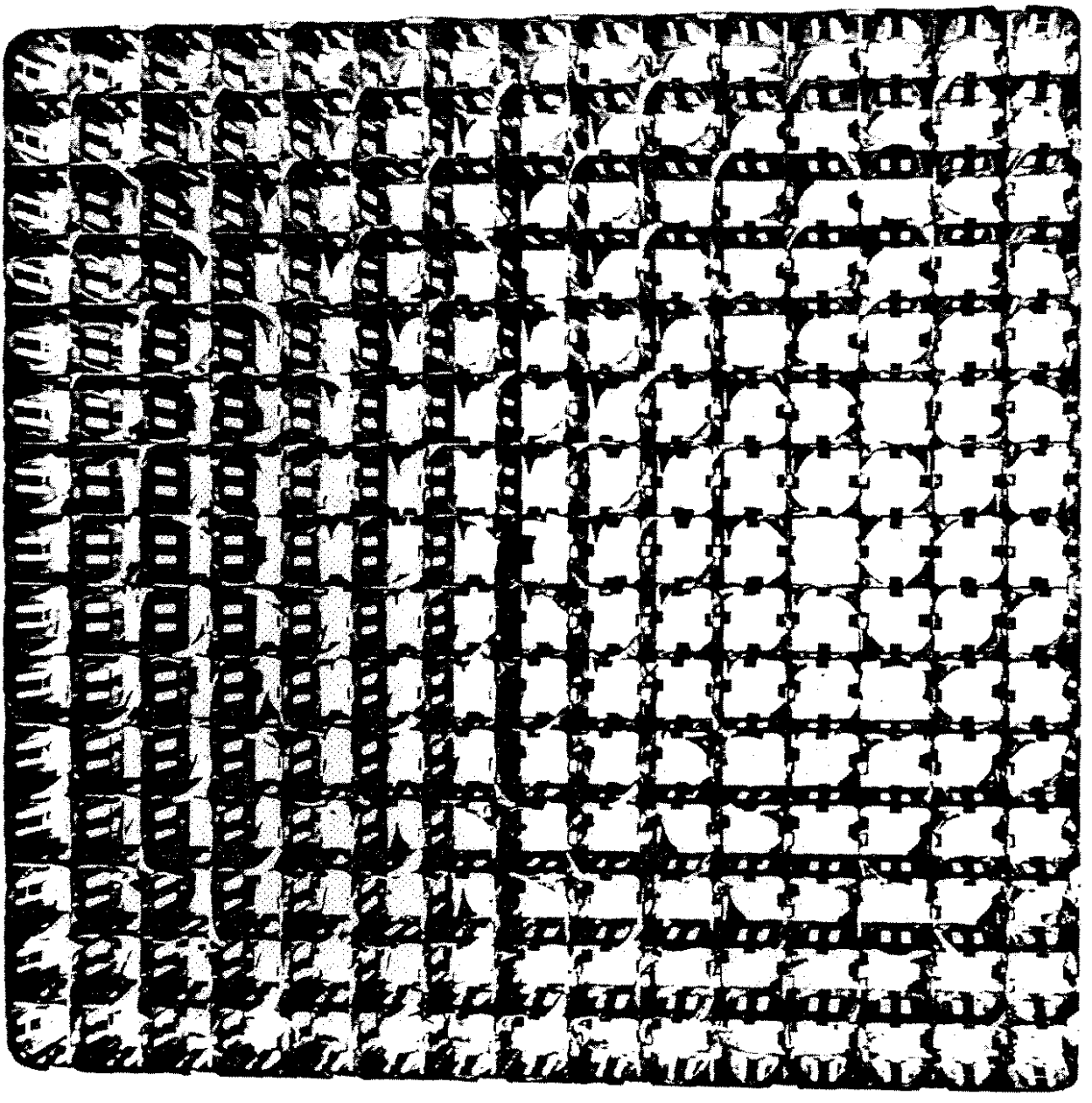


NOTE: ALL DIM CORRECTED TO 68°F 82°

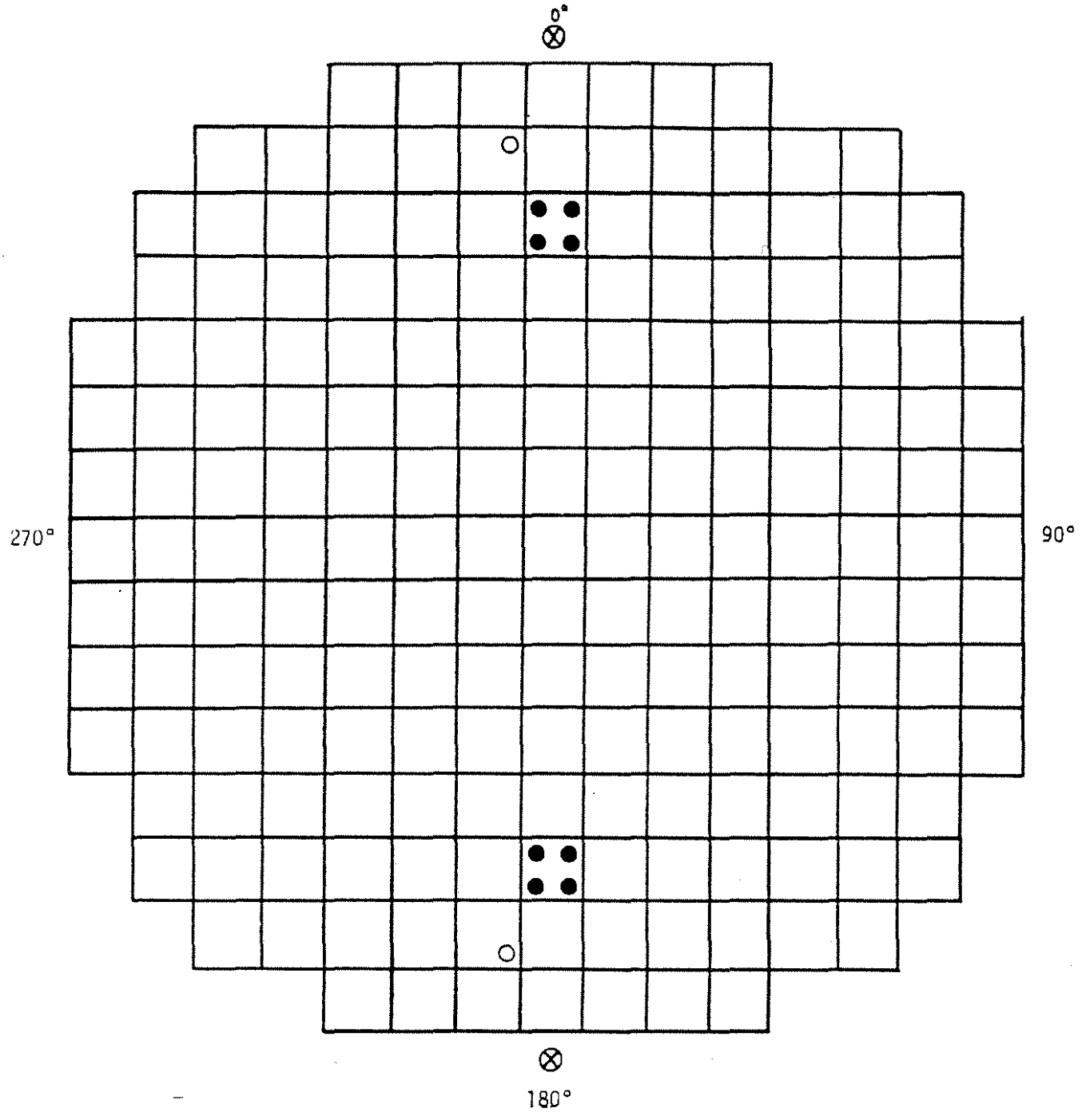
INDIAN POINT 3	FSAR UPDATE
FUEL ASSEMBLY AND CONTROL CLUSTER CROSS SECTION	
REV. 0 JULY, 1982	FIGURE NO. 3.2-30



INDIAN POINT 3	FSAR UPDATE
FUEL ASSEMBLY OUTLINE (Ref: Westinghouse Dwg 10006E64 r1)	
	FIGURE NO. 3.2-31



INDIAN POINT 3		FSAR UPDATE
SPRING CLIP GRID ASSEMBLY		
REV. 0	JULY, 1982	FIGURE NO. 3.2-32

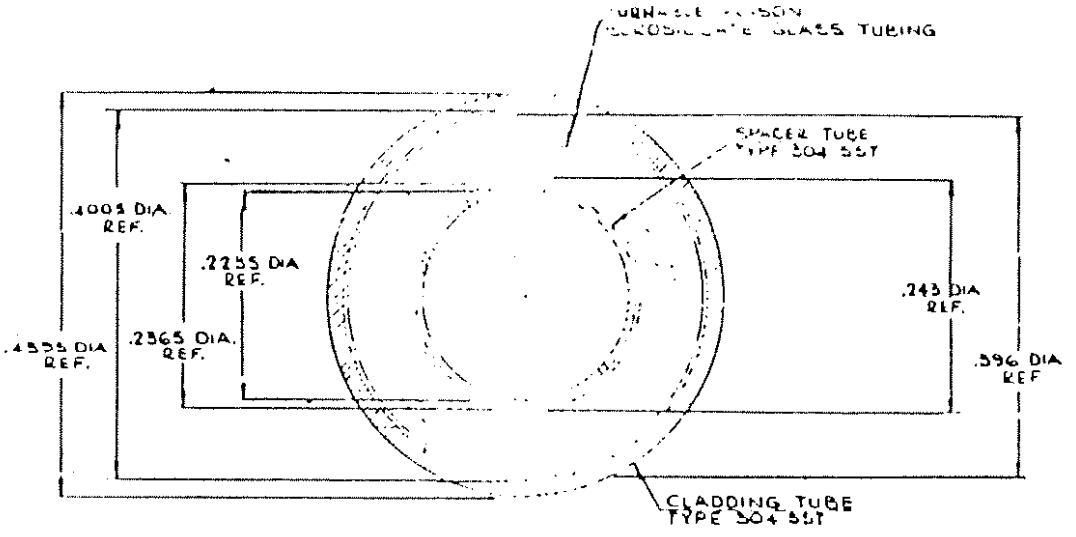


○ Primary source rod

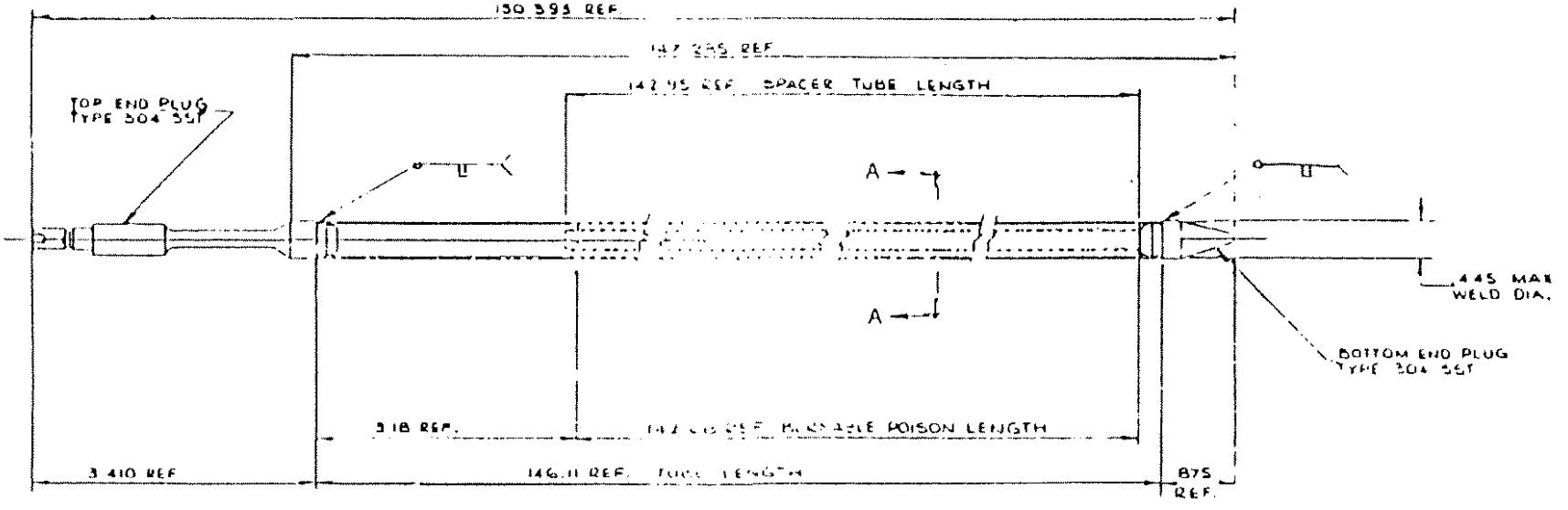
● Secondary source rod

⊗ Detector Location

INDIAN POINT 3	FSAR UPDATE
NEUTRON SOURCE LOCATIONS (FIRST CYCLE)	
REV. 0 JULY, 1982	FIGURE NO. 3.2-33



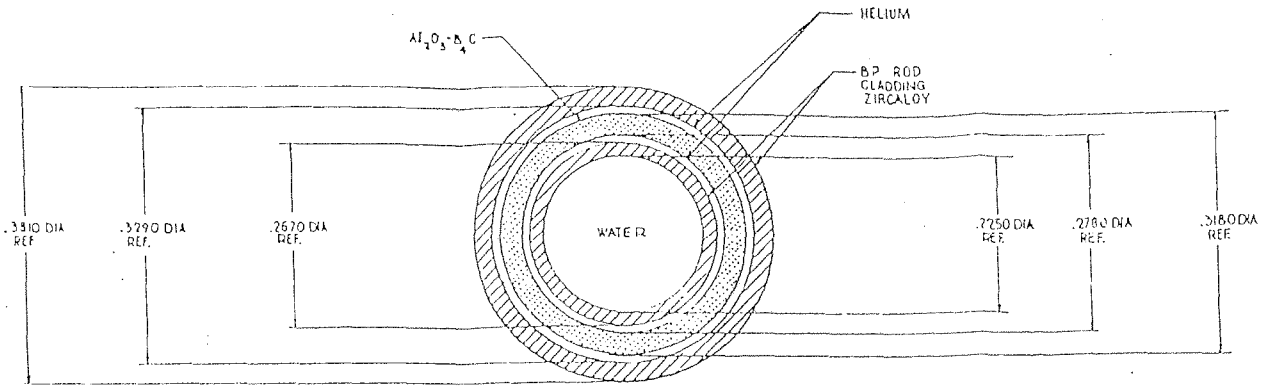
SECTION A-A



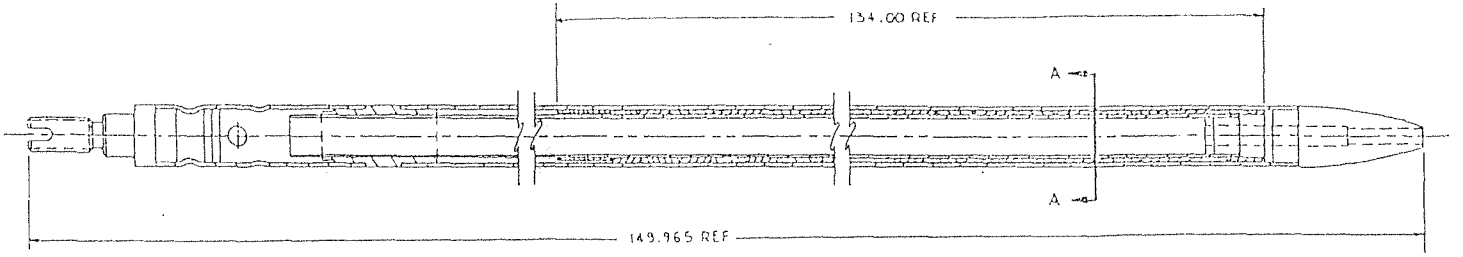
OLD BURNABLE POISON ROD
(BOROSILICATE GLASS BURNABLE ABSORBER)

INDIAN POINT 3 FSAR UPDATE

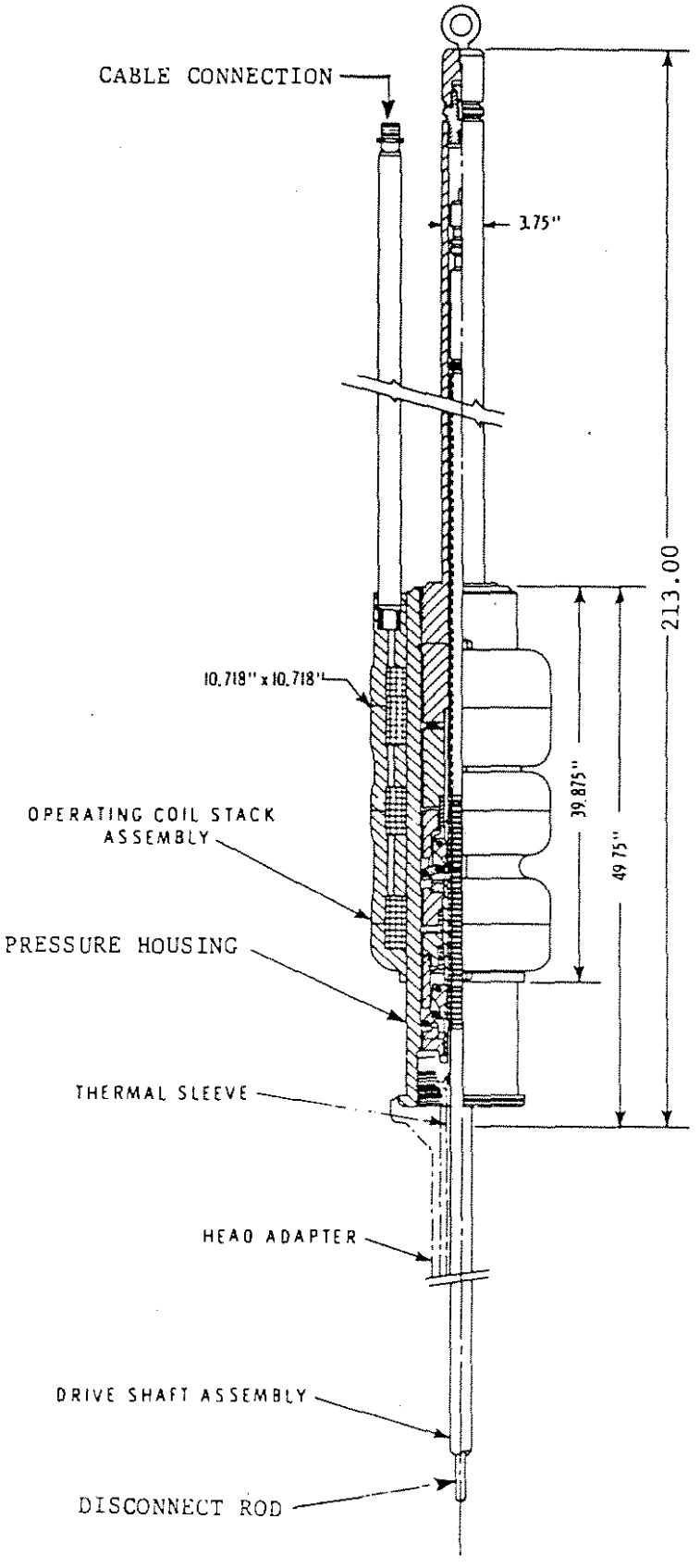
PE/1 | JULY 1986 | FIGURE NO. 3.2-14



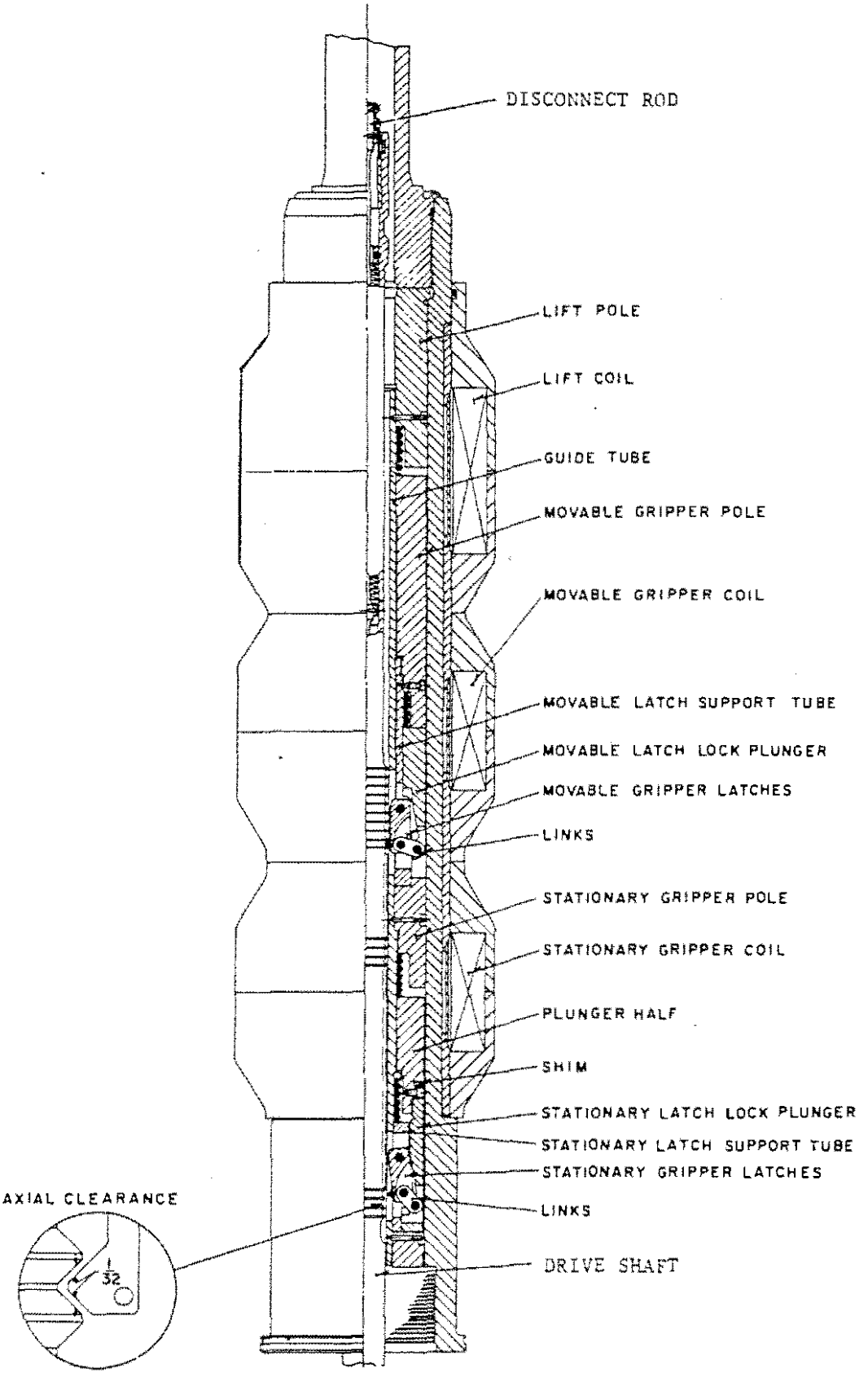
SECTION A-A
SCALE 2:1



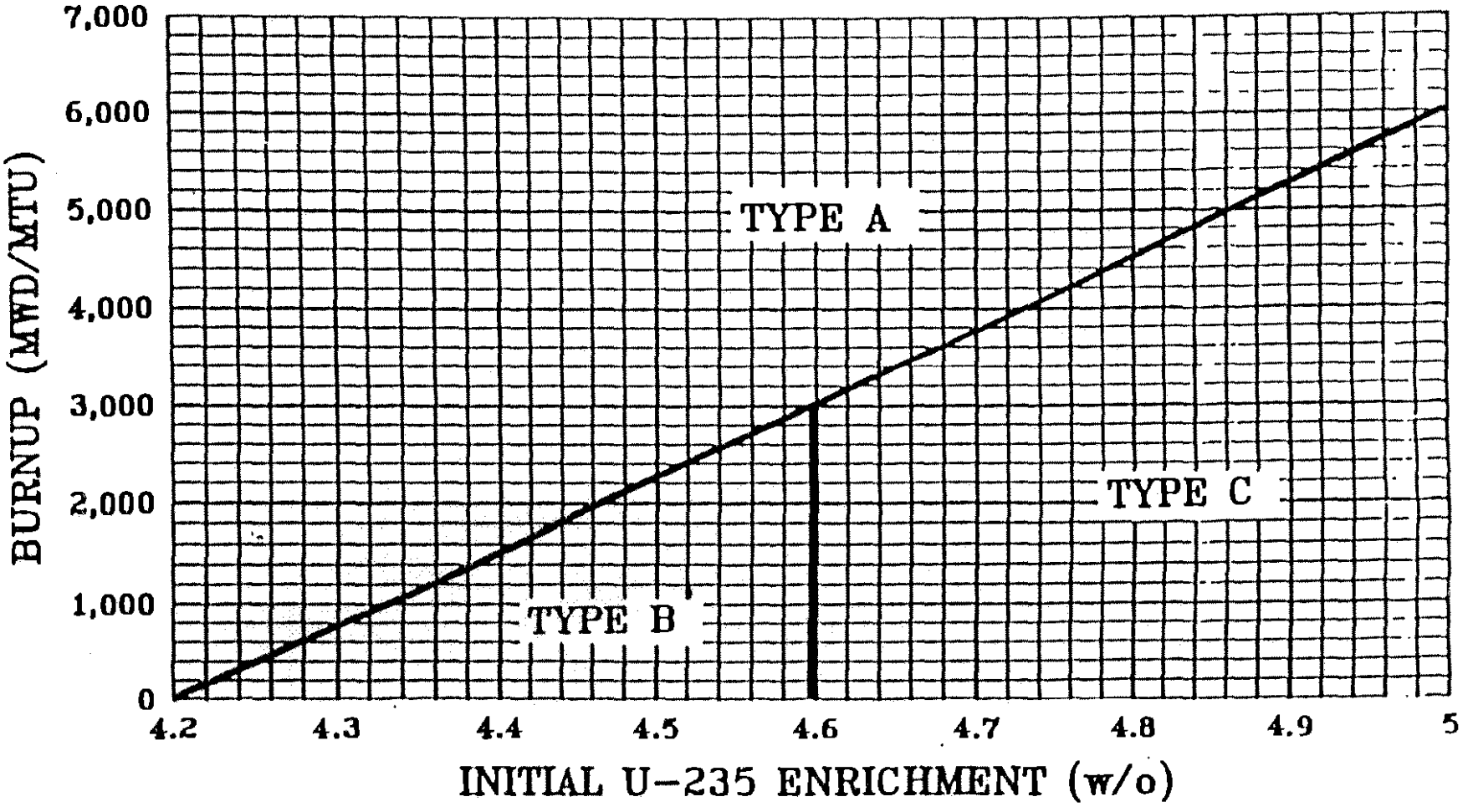
INDIAN POINT 3	FSAR UPDATE
NEW BURNABLE POISON ROD (WET ANNULAR BURNABLE ABSORBER)	
REV. 0 JULY, 1986	FIGURE NO. 3.2-34a



INDIAN POINT 3		FSAR UPDATE
CONTROL ROD DRIVE MECHANISM ASSEMBLY		
REV. 0	JULY, 1982	FIGURE NO. 3.2-35

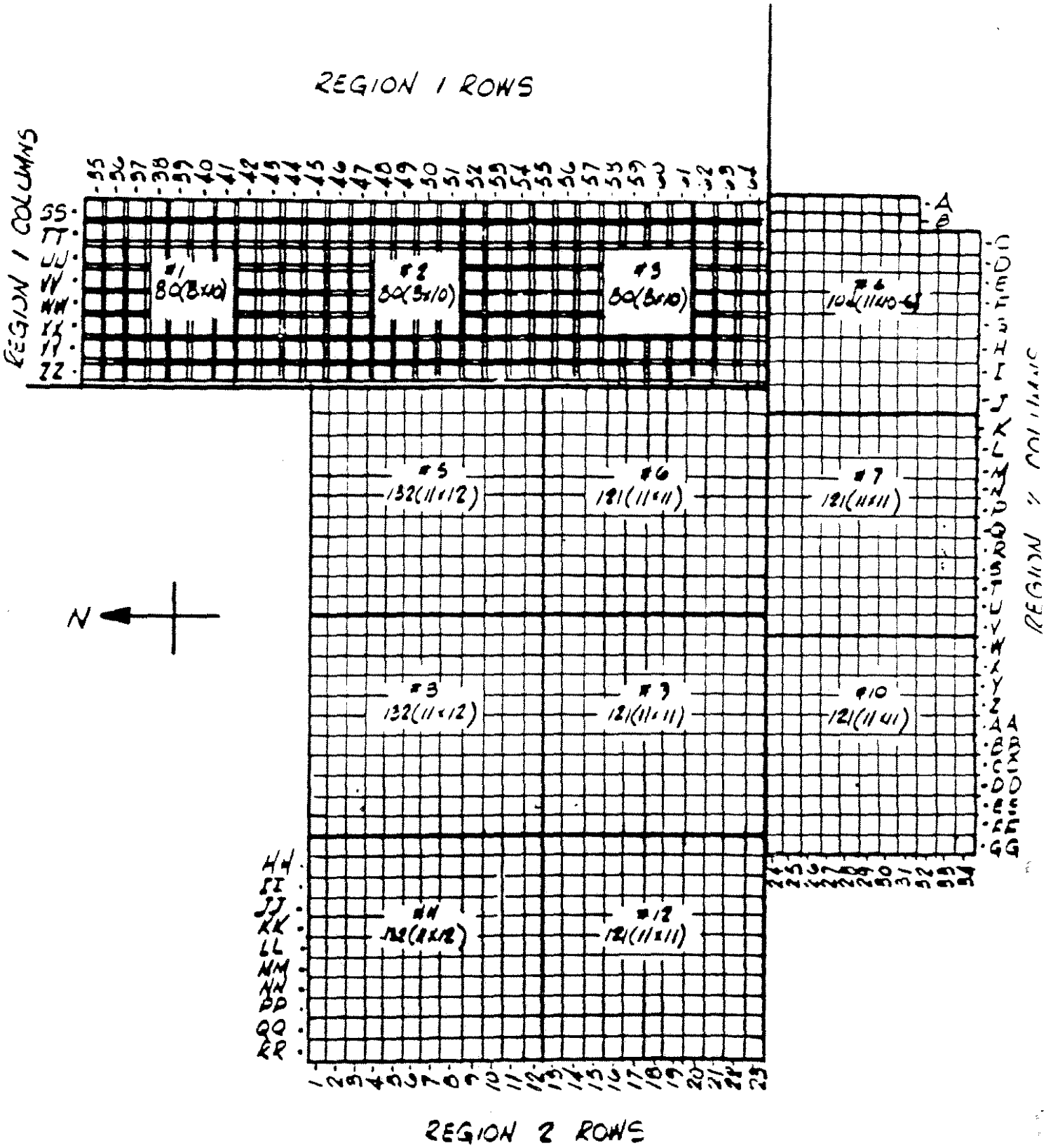


INDIAN POINT 3		FSAR UPDATE
CONTROL ROD DRIVE MECHANISM SCHEMATIC		
REV. 0	JULY, 1982	FIGURE NO. 3.2-36

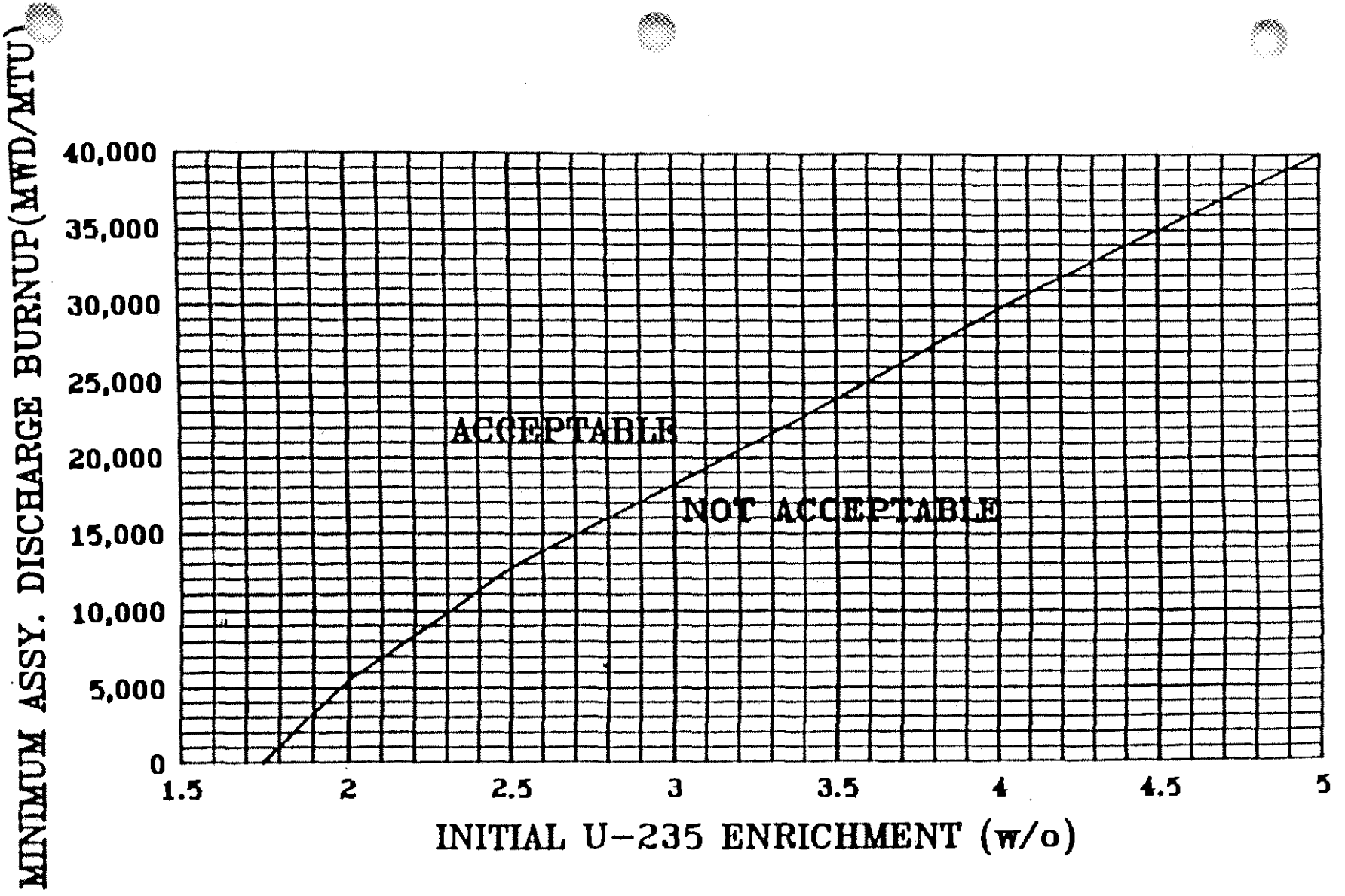


Note: Fresh (unburned) fuel is defined as fuel with a burnup of 0 MWD/MTU.

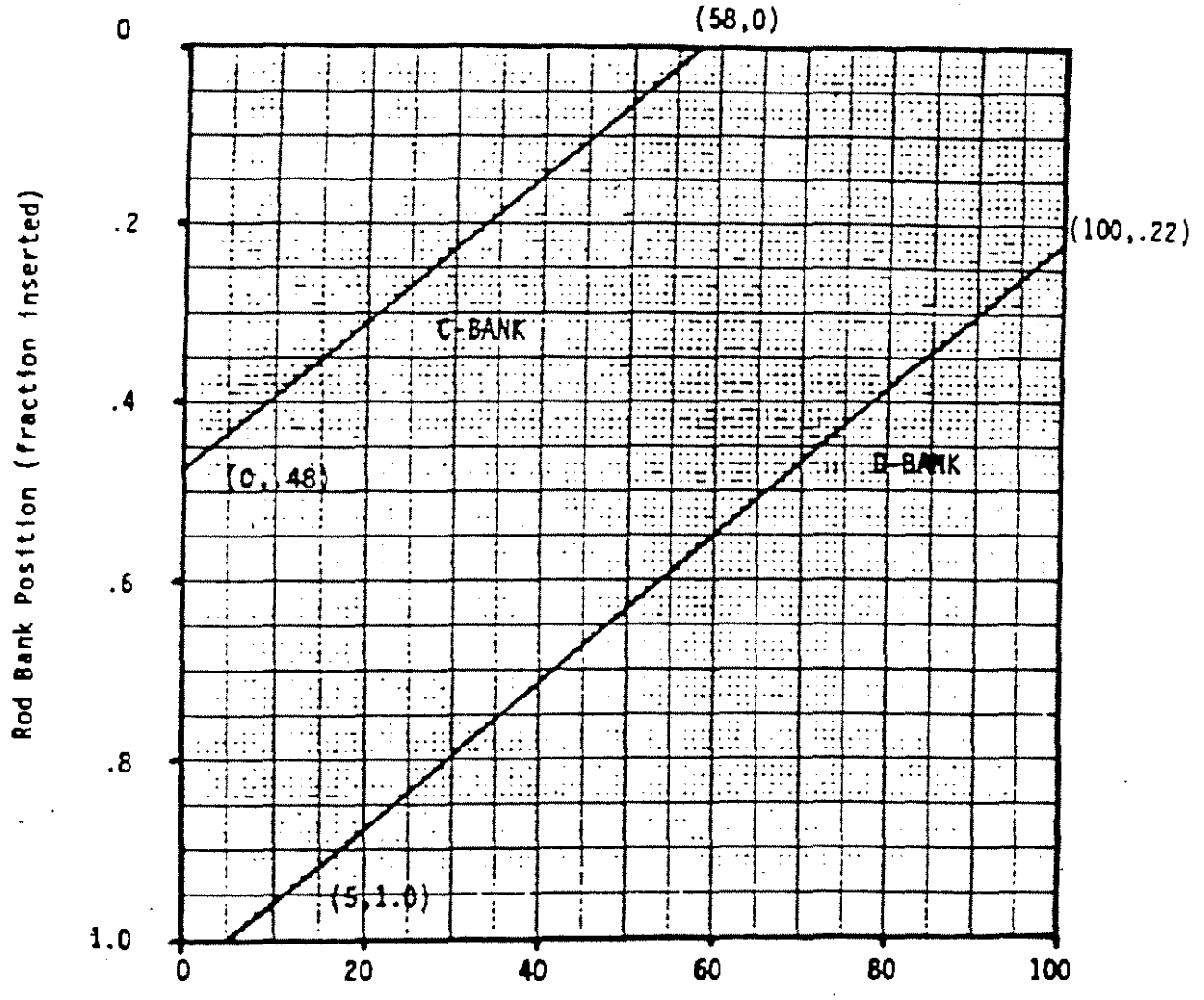
INDIAN POINT 3 FSAR UPDATE
SPENT FUEL PIT REGION 1 TYPE DEFINITION
REV. 1 DEC 1997 FIGURE NO. 3.2-37A



INDIAN POINT 3	FSAR UPDATE
MAXIMUM DENSITY SPENT FUEL PIT (SFP) RACKS REGIONS AND INDEXING	
REV. 0, JULY 1990	FIGURE NO. 3.2-37B



INDIAN POINT 3 FSAR UPDATE
REGION 2 BURNUP REQUIREMENTS FOR FUEL ASSEMBLY STORAGE IN SPENT FUEL PIT
REV. 0 DEC 1997 FIGURE NO. 3.2-37C



NOTE: Banks A and B are fully withdrawn at zero power

INDIAN POINT 3 FSAR UPDATE	
INSERTION LIMITS 100 STEP OVERLAP FOUR LOOP OPERATION (CYCLE 1)	
REV. 1, JULY 1990	FIGURE NO. 3.2-38