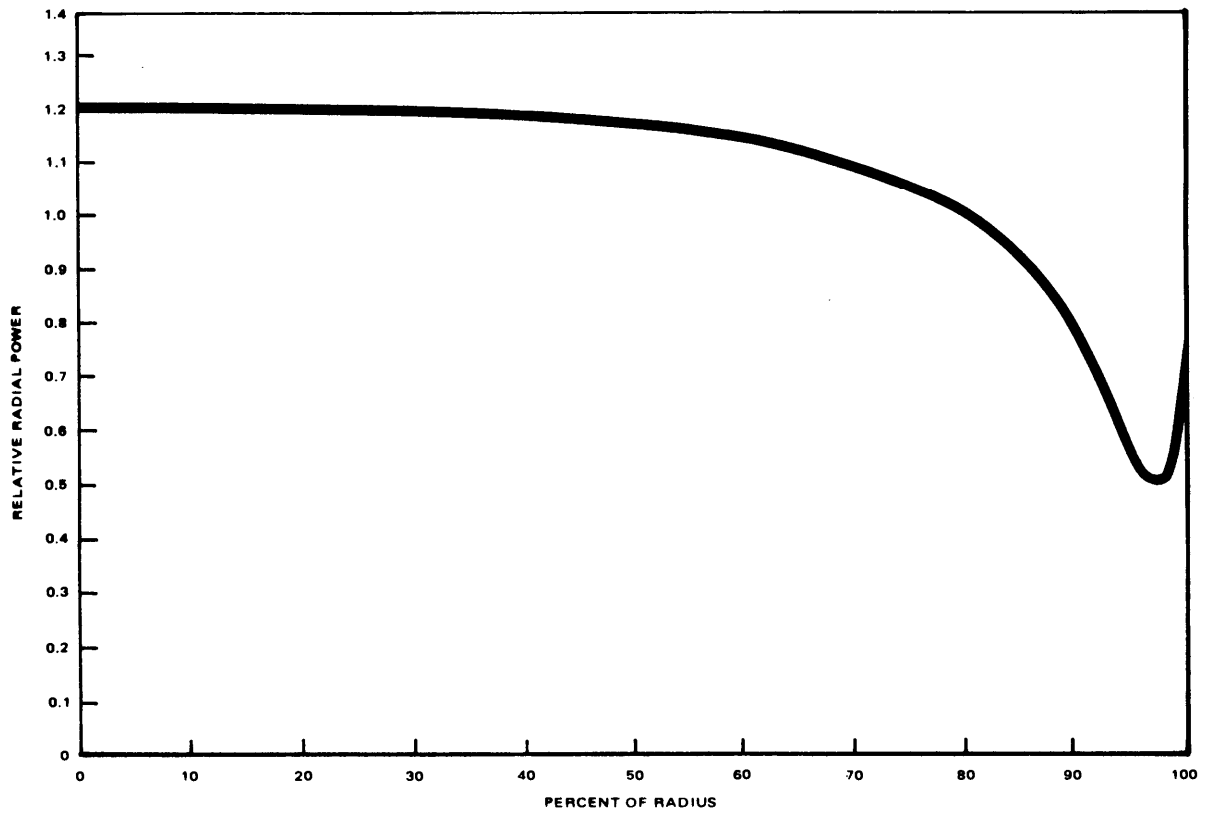


MATERIAL		RADIUS INCHES	MATERIAL	MATERIAL DENSITY
NO.	NAME			
1	REACTOR CORE	93.56	WATER	0.274g/cm ³
			UO ₂	2.642 g/cm ³
			ZIRCONIUM	0.896 g/cm ³
2	WATER	101.4	WATER	0.74 g/cm ³
3	SHROUD	103.4	304L STAINLESS STEEL	FROM ASME SA 240
4	WATER	125.5	WATER	0.74 g/cm ³
5	VESSEL	131.68	CARBON STEEL	FROM ASME 533
6	AIR		AIR	1.3 X 10 ⁻³ g/cm ³

**LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT**

**MODEL FOR ONE-DIMENSIONAL
TRANSPORT ANALYSIS OF
VESSEL FLUENCE**

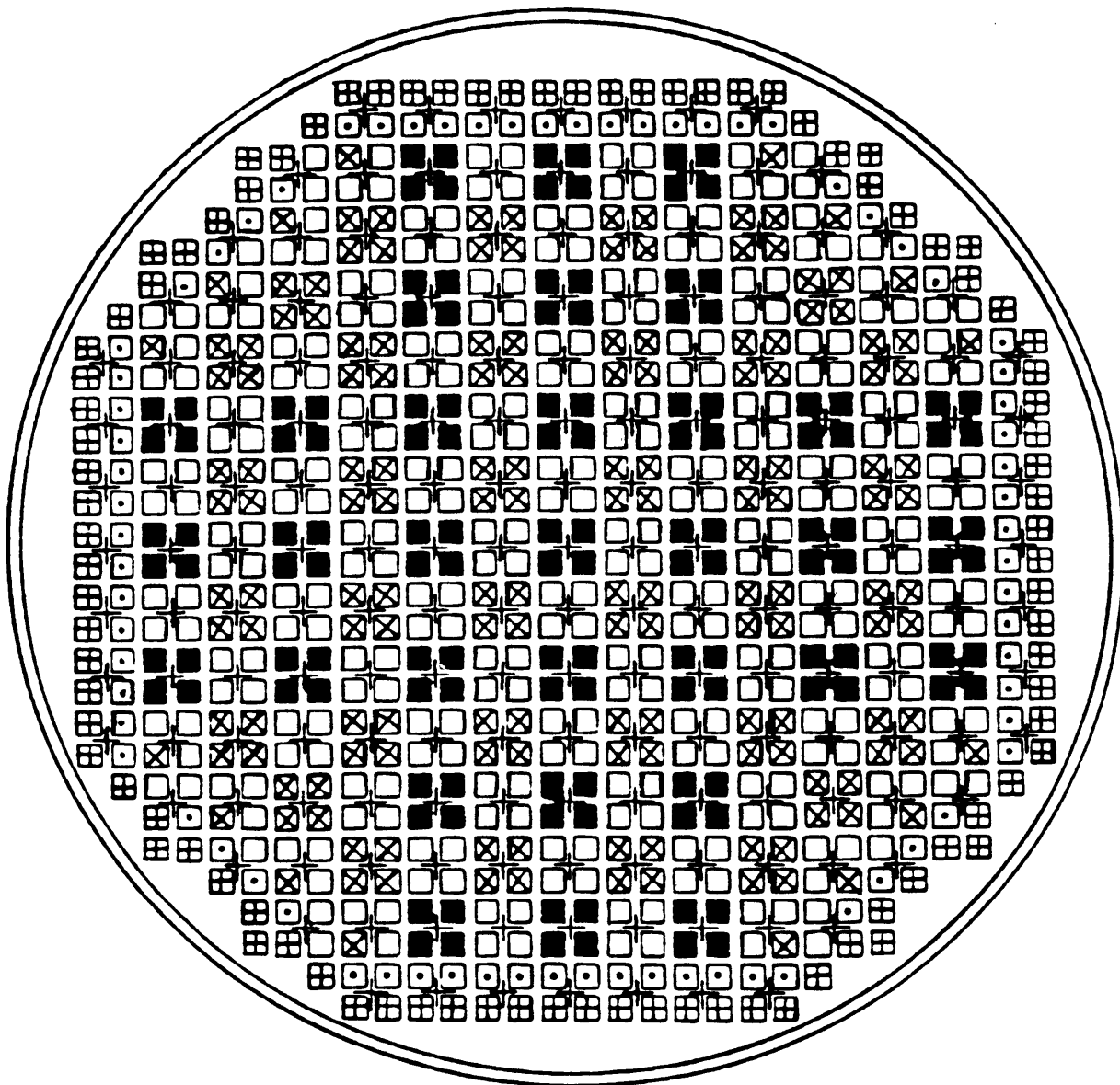
FIGURE 4.3-1



LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT

RADIAL POWER DISTRIBUTIONS
USED IN THE VESSEL FLUENCE
CALCULATION

FIGURE 4.3-2



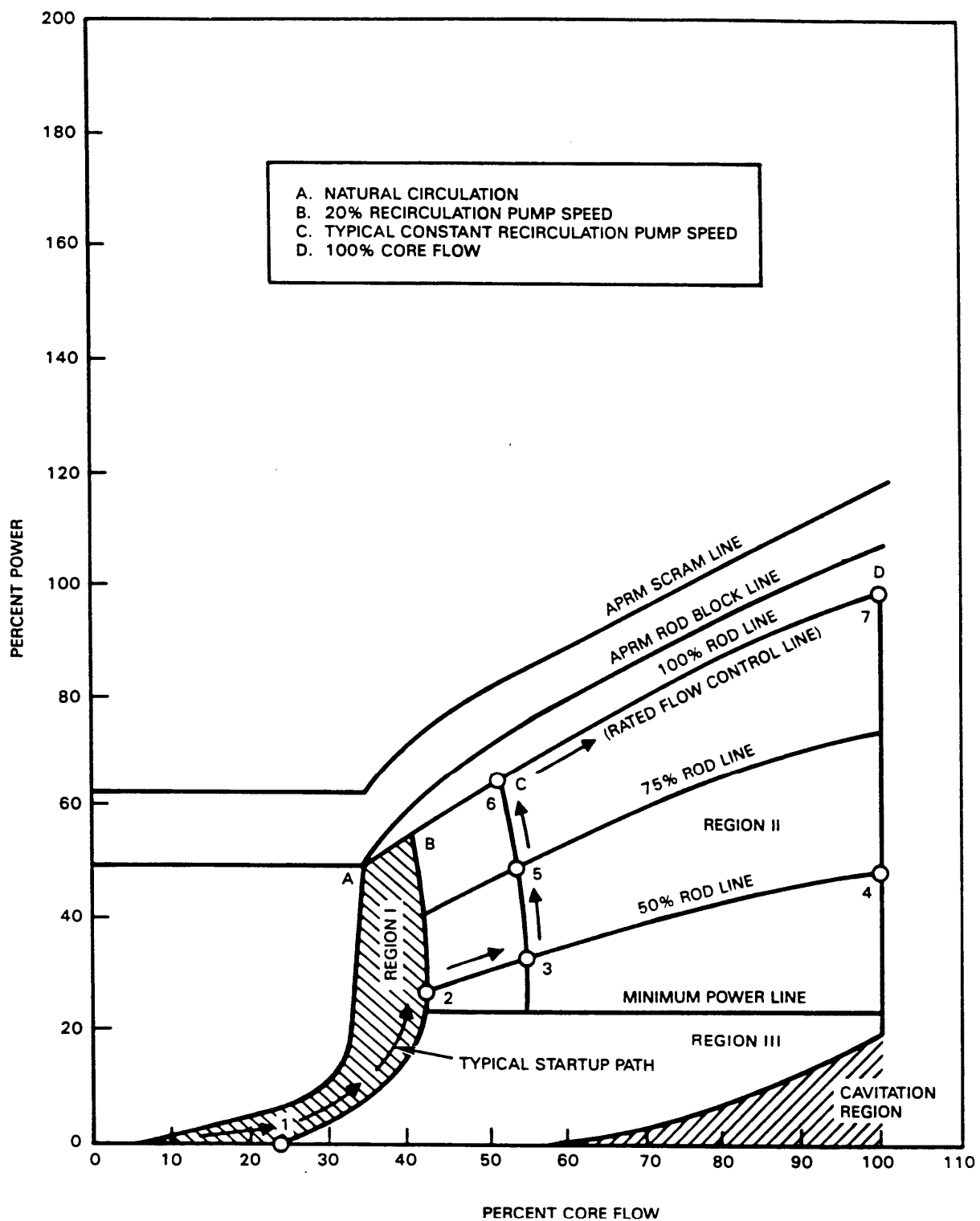
GESTAR II Nomenclature

	= 0.71 wt% U235 (92) *	P8CRB071
	= 0.94 wt% U235 (132)	P8CRB094
	= 1.63 wt% U235 (160)	P8CRB163
	= 2.48 wt% U235 (308)	P8CRB248
	= 2.78 wt% U235 (72)	P8CRB278
* = number of bundles		

LIMERICK GENERATING STATION
UNITS 1 AND 2
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REFERENCE LOADING PATTERN

FIGURE 4.3-3

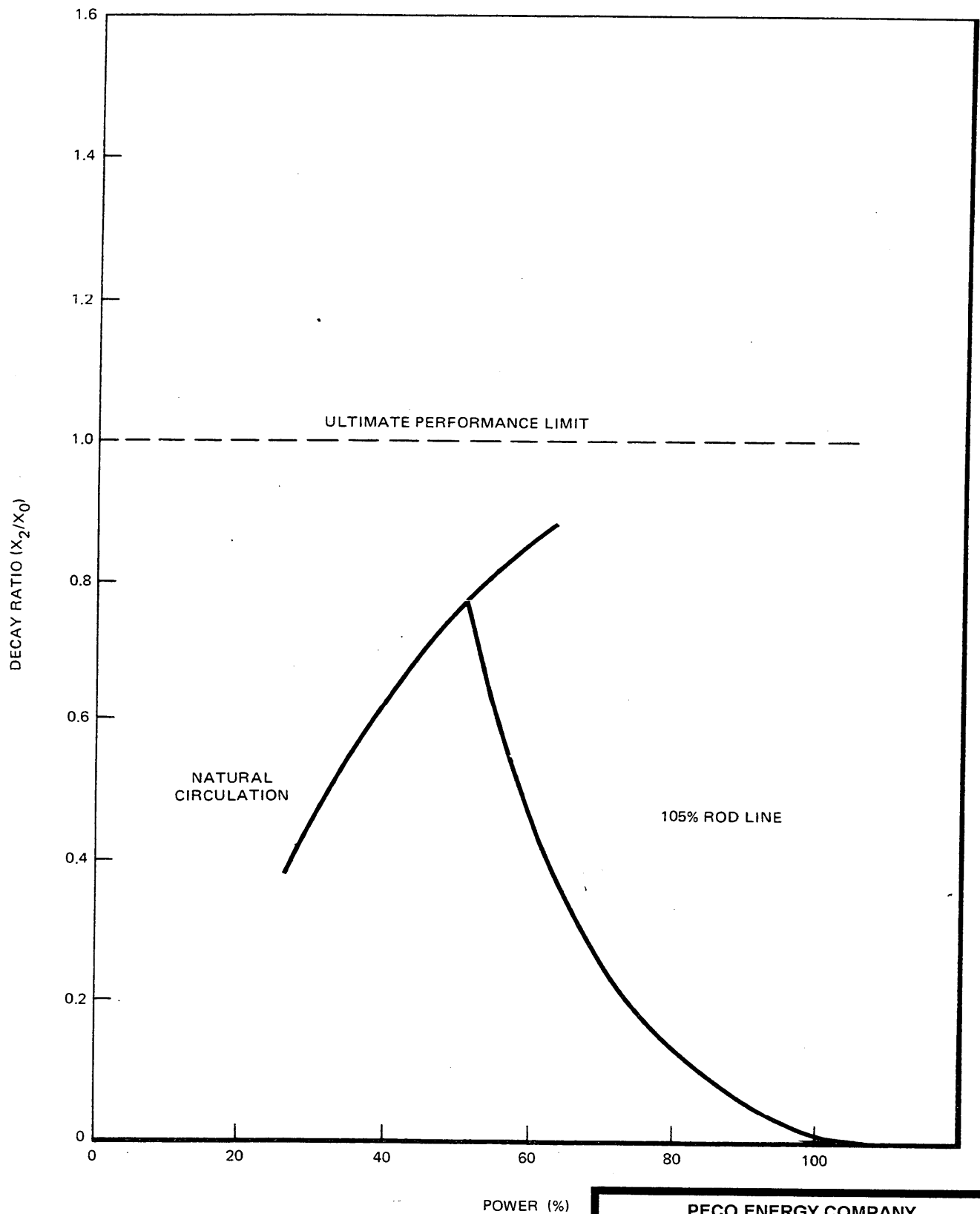


**LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT**

**TYPICAL
POWER-FLOW OPERATING MAP**

FIGURE 4.4-1

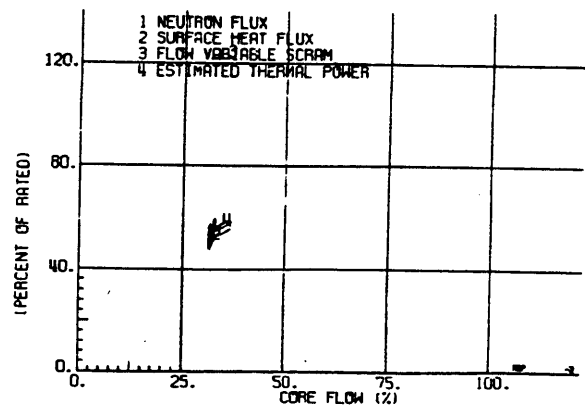
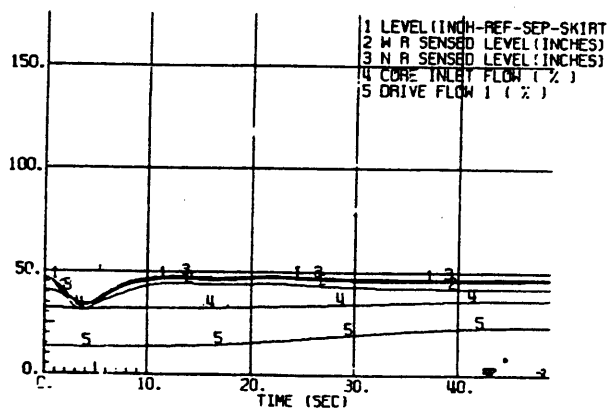
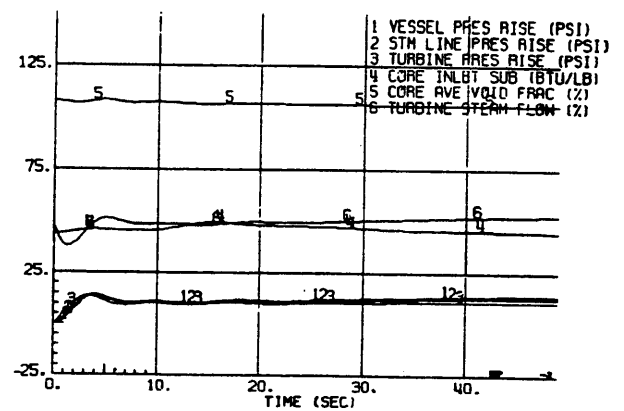
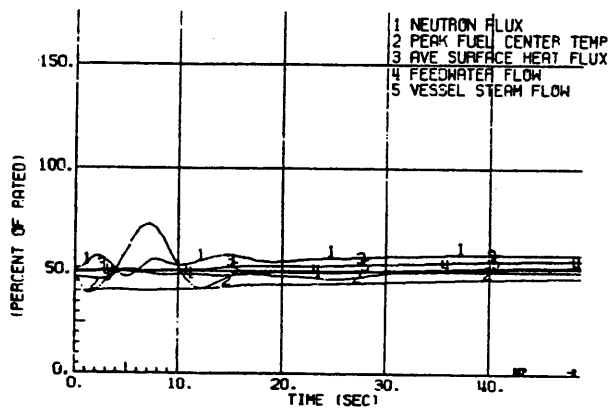
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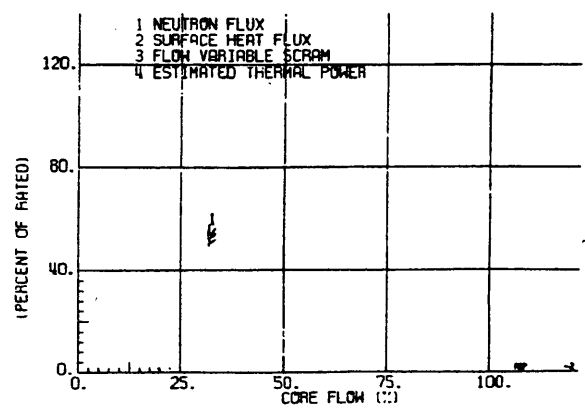
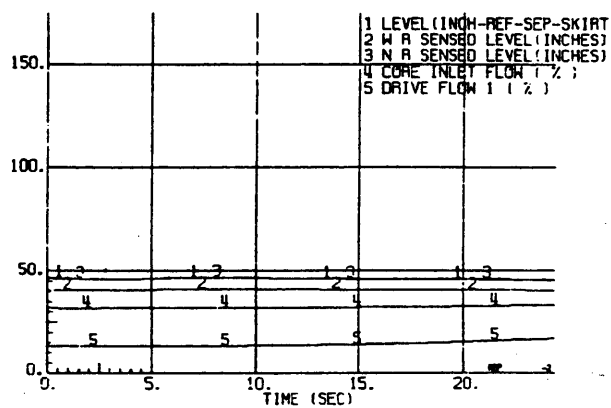
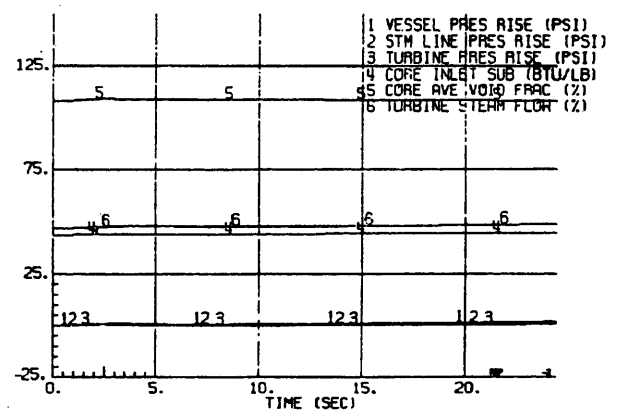
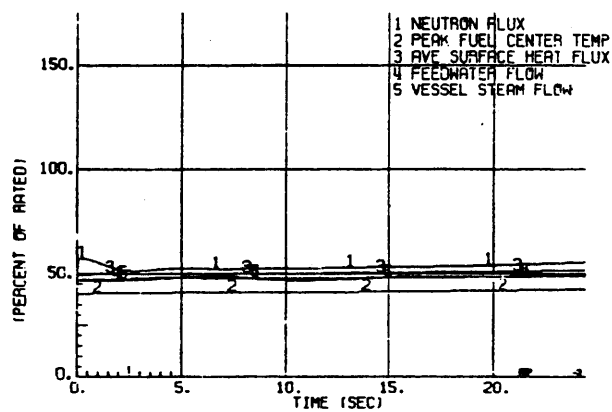
TOTAL CORE STABILITY
CYCLE - 1 STABILITY ANALYSIS

FIGURE 4.4-2 Rev. 10 10/00



LIMERICK GENERATING STATION
UNITS 1 & 2
UPDATED FINAL SAFETY ANALYSIS REPORT

10 PSI PRESSURE REGULATOR
SETPOINT STEP AT 51.5% RATED
POWER (NATURAL CIRCULATION)
CYCLE - 1 STABILITY ANALYSIS

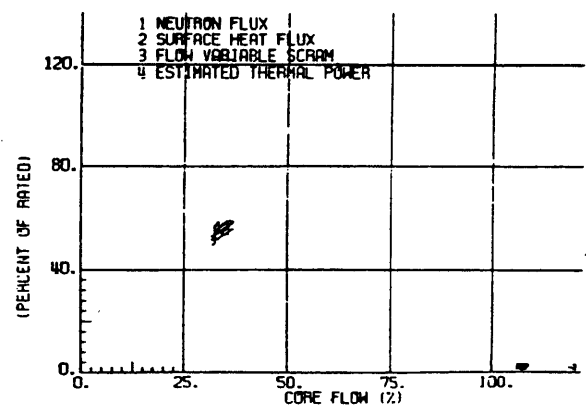
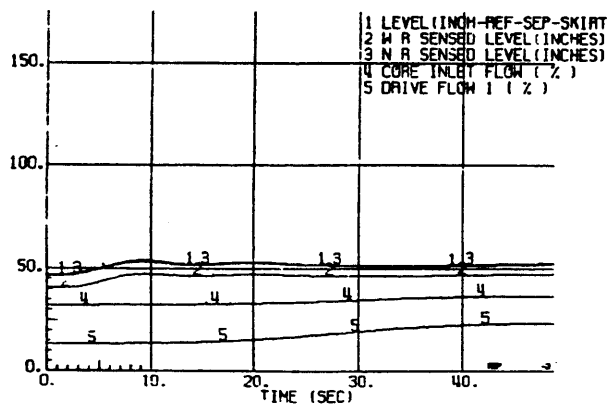
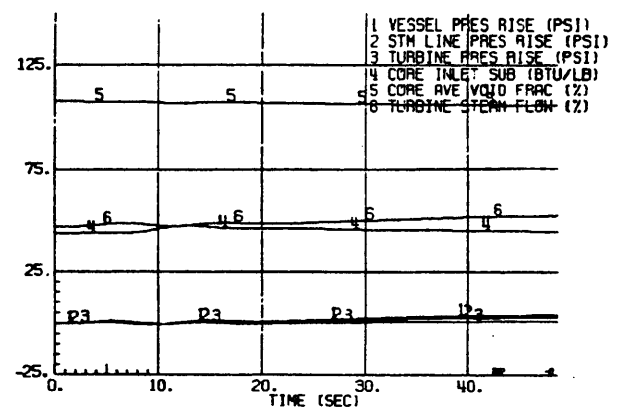
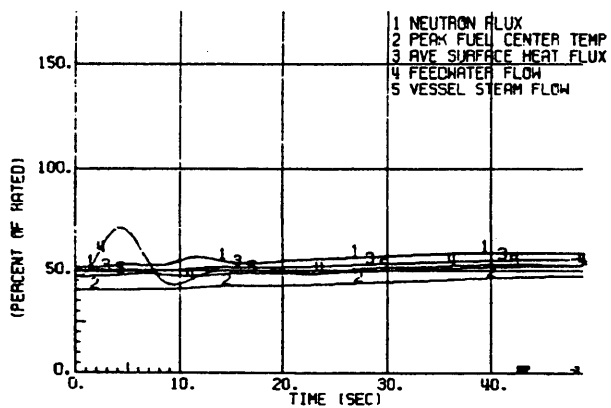


LIMERICK GENERATING STATION
UNITS 1 & 2
UPDATED FINAL SAFETY ANALYSIS REPORT

10 CENT ROD REACTIVITY STEP
51.5% RATED POWER
(NATURAL CIRCULATION)
CYCLE - 1 STABILITY ANALYSIS

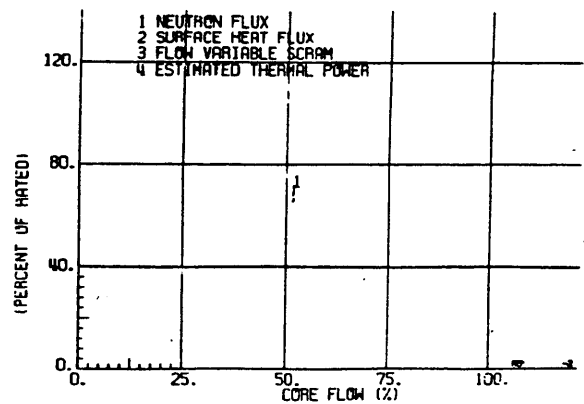
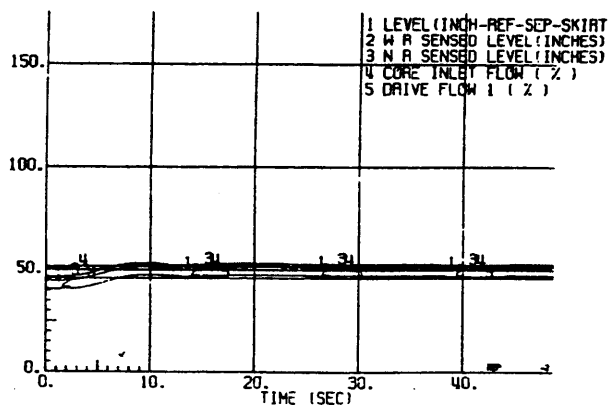
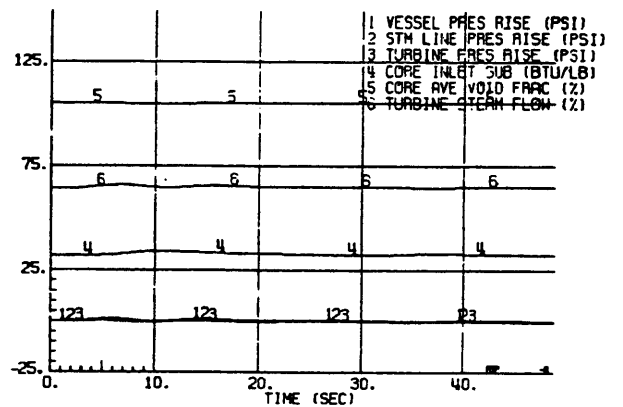
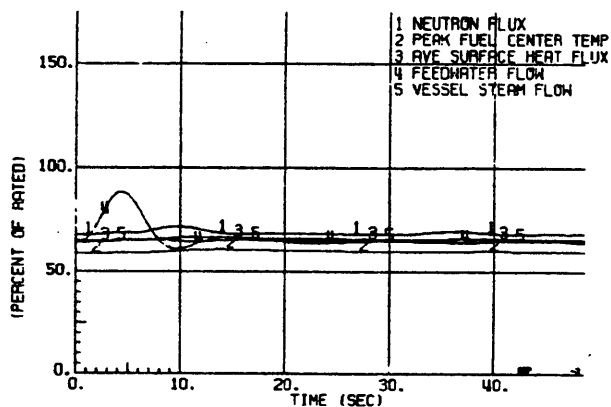
FIGURE 4.4-4

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LIMERICK GENERATING STATION
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6 INCH WATER LEVEL SETPOINT
STEP AT 51.5% RATED POWER
(NATURAL CIRCULATION)
CYCLE - 1 STABILITY ANALYSIS



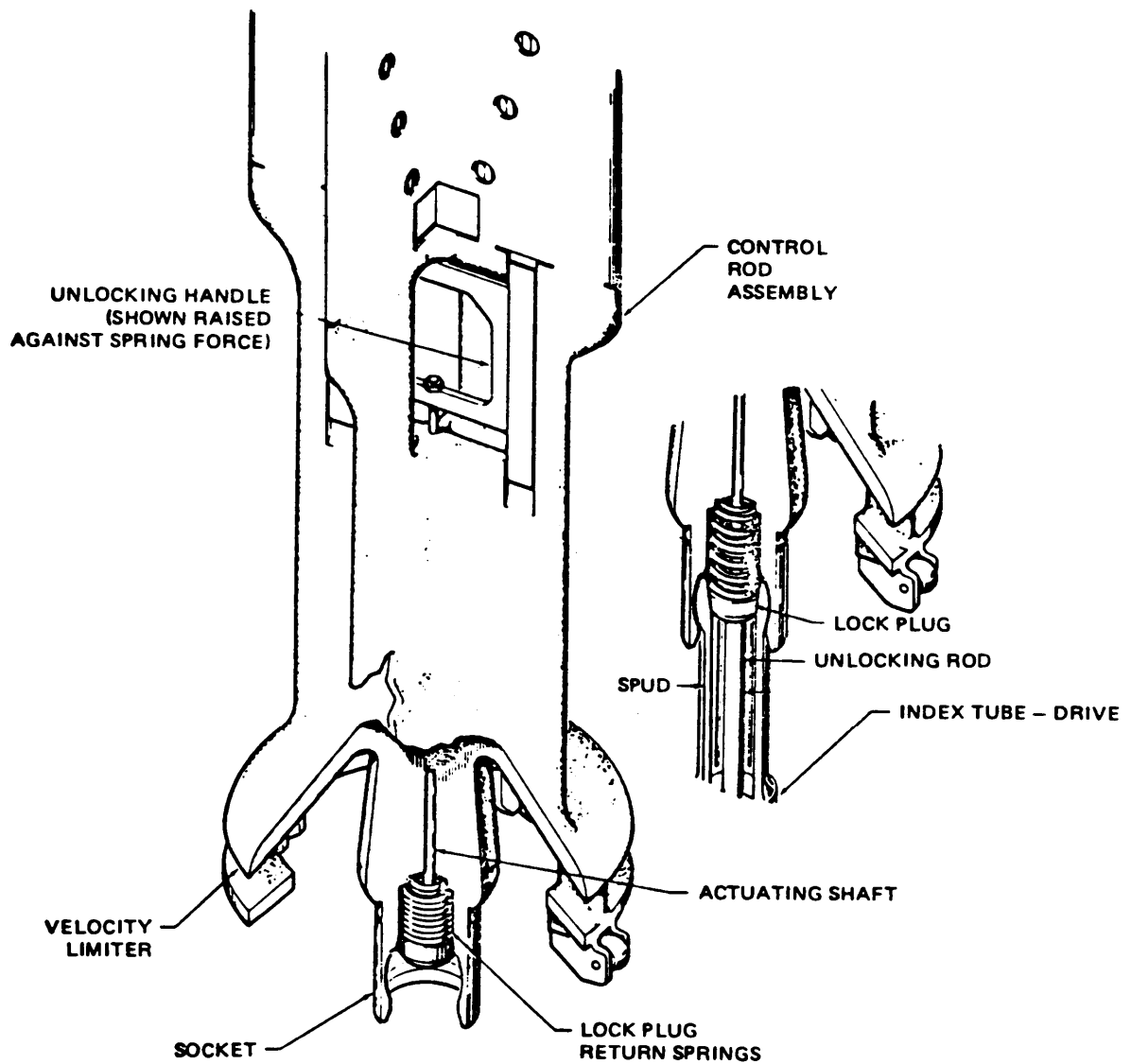
LIMERICK GENERATING STATION
UNITS 1 & 2
UPDATED FINAL SAFETY ANALYSIS REPORT

6 INCH WATER LEVEL SETPOINT
STEP AT 68% RATED POWER
AND 51.5% RATED FLOW
CYCLE - 1 STABILITY ANALYSIS

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Figure 4.4-7

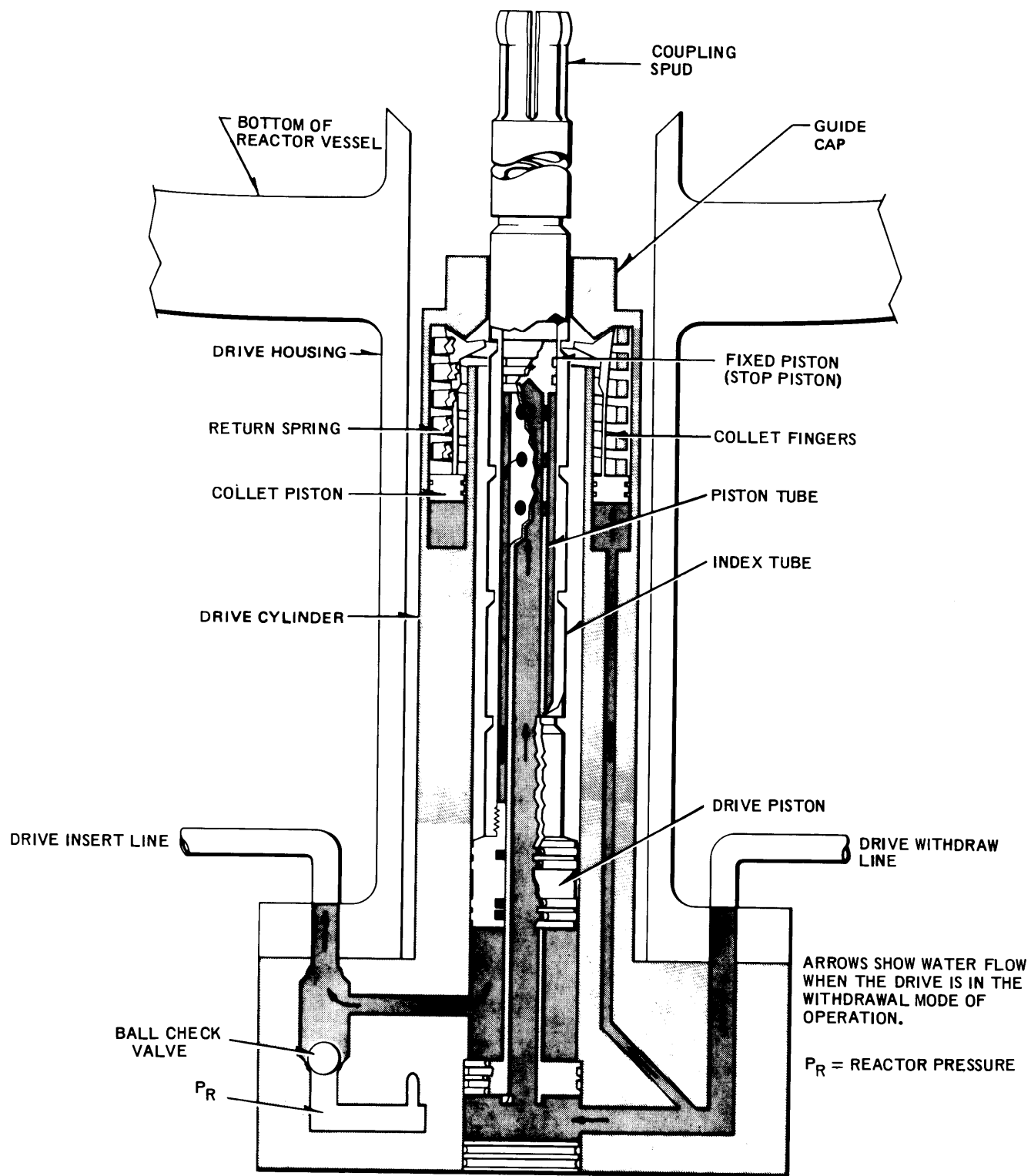
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LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT

CONTROL ROD TO CONTROL
ROD DRIVE COUPLING

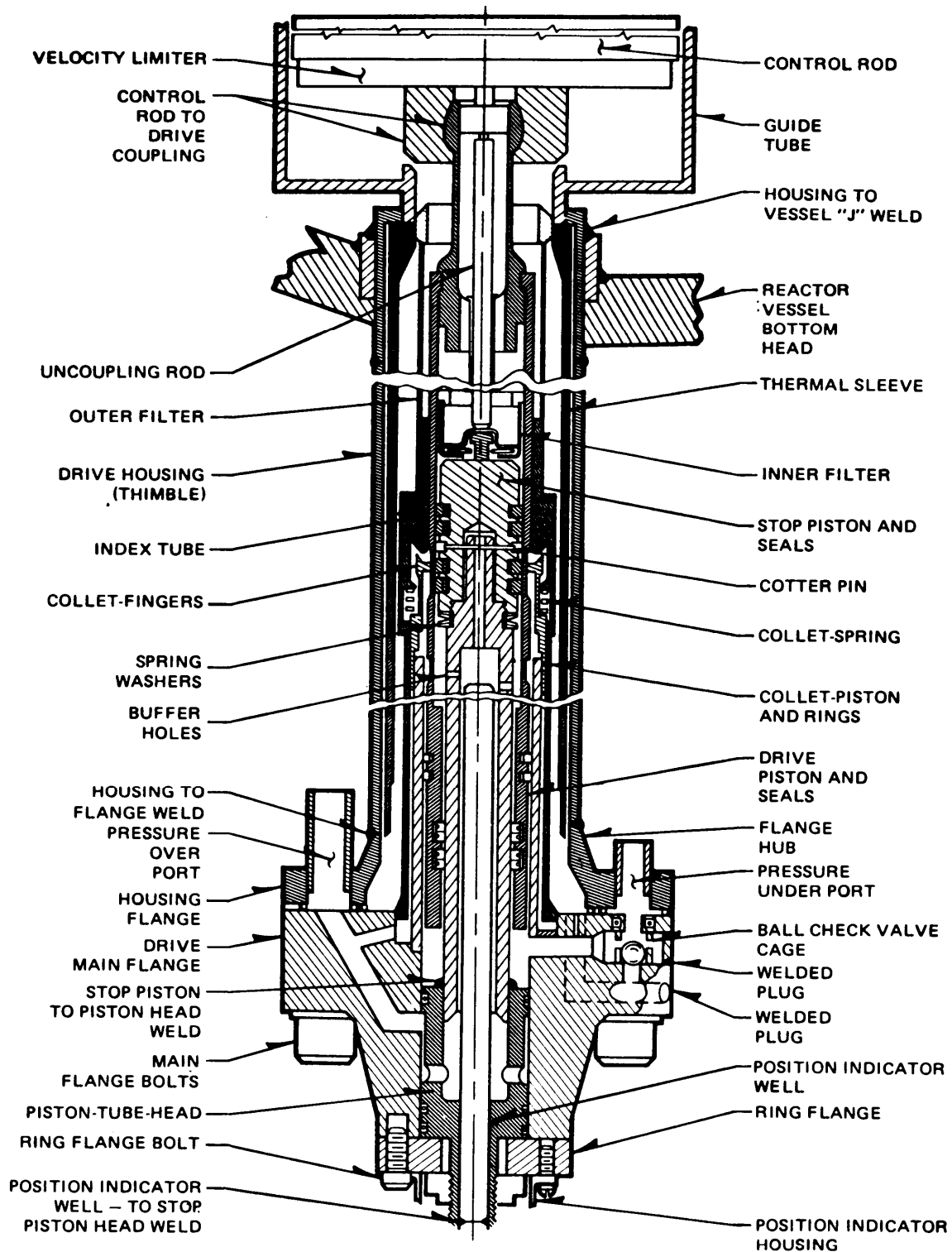
FIGURE 4.6-1



LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT

CONTROL ROD DRIVE UNIT

FIGURE 4.6-2



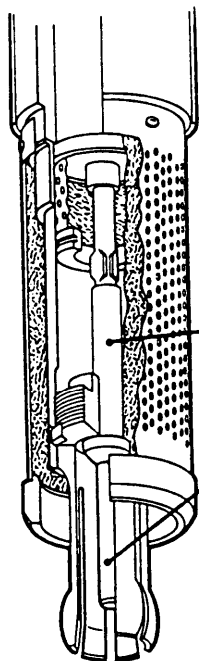
LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT

CONTROL ROD DRIVE SCHEMATIC
BWR/4 & 5

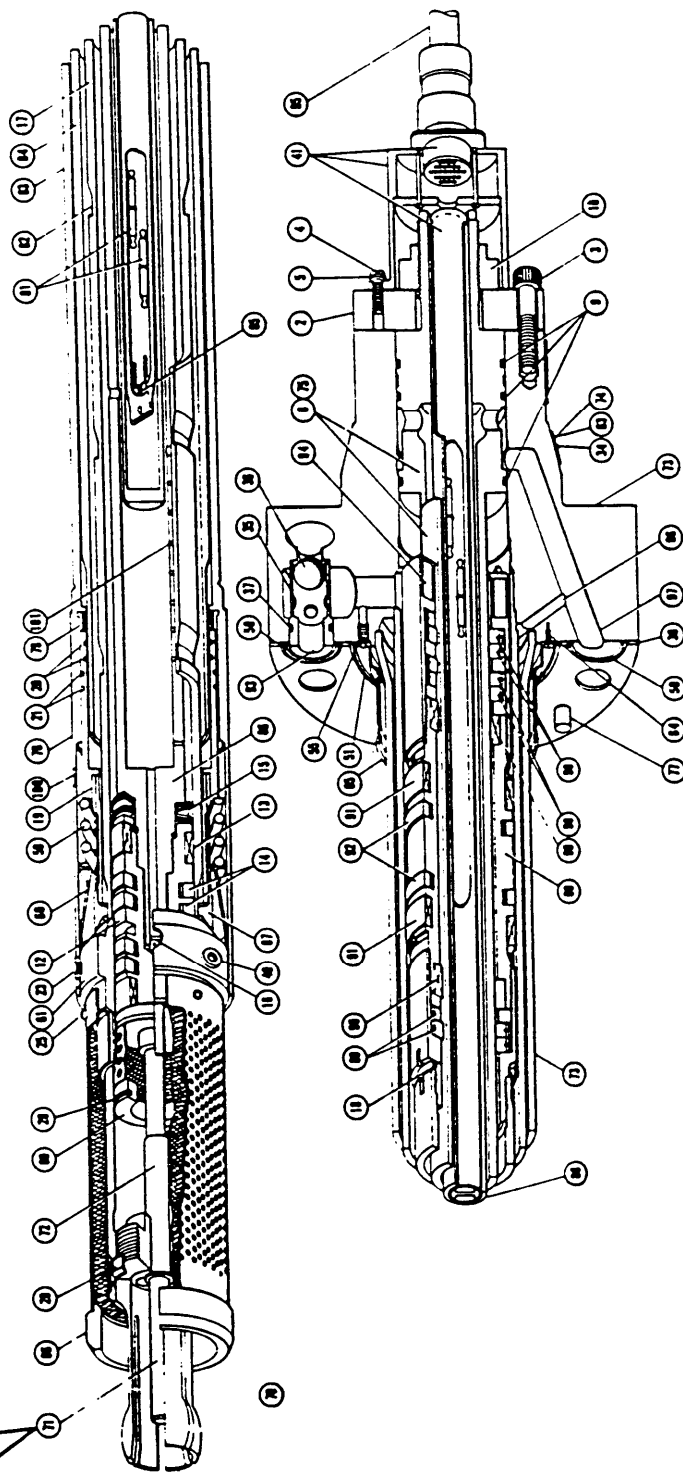
FIGURE 4.6-3

- 2 RING FLANGE
- 3 SOCKET HEAD CAP SCREW (RING FLANGE MOUNTING)
- 4 FILLISTER HEAD SCREW (POSITION INDICATOR PROBE MOUNTING)
- 5 LOCKWASHER (FOR PART 4)
- 6 PISTON TUBE
- 7 O-RING (PISTON TUBE)
- 8 NUT (PISTON TUBE)
- 9 STOP PISTON
- 10 SPLIT BUSHING (STOP PISTON)
- 11 SEAL RING (STOP PISTON)
- 12 SPRING WASHERS
- 13 COUPLER PIN (STOP PISTON)
- 14 INDEX TUBE
- 15 BAND
- 16 COLLET AND PISTON
- 17 SEAL RING (COLLET PISTON - INTERNAL)
- 18 SEAL RING (COLLET PISTON - EXTERNAL)
- 19 FILLISTER HEAD SCREW (GUIDE CAP PLUG MOUNTING)
- 20 DRILLED FILLISTER HEAD SCREW (OUTER FILTER MOUNTING)
- 21 SEAL RING (INNER FILTER)
- 22 BAND
- 23 DRIVE SCREW (NAMEPLATE MOUNTING)
- 24 BALL RETAINER
- 25 BALL (CHECK VALVE)
- 26 O-RING (BALL RETAINER)
- 27 O-RING SPACER
- 28 POSITION INDICATOR PROBE
- 29 PLUG (GUIDE CAP)
- 30 O-RING (INSERT AND WITHDRAW PORTS)
- 31 O-RING (SPD FLANGE FACE)
- 32 SET SCREW (PLUG COOLING WATER ORIFICE)
- 33 SCREW (GUIDE SPACER MOUNTING) (NOT SHOWN)
- 34 COLLET SPRING
- 35 BARREL
- 36 GUIDE CAP
- 37 NAMEPLATE
- 38 FLAT HEAD SCREW (STRAINER MOUNTING)
- 39 STRAINER
- 40 OUTER FILTER
- 41 DRIVE PISTON
- 42 SPUD
- 43 UNCOUPLING ROD (TUBE AND UNCOUPLING ROD ARE ONE PIECE IN ALTERNATE DETAIL A)
- 44 TUBE (TUBE AND UNCOUPLING ROD ARE ONE PIECE IN ALTERNATE DETAIL A)
- 45 CYLINDER TUBE AND FLANGE
- 46 DOWN ALIGNMENT PIN
- 47 COLLET HOUSING (PORTION OF OUTER TUBE)
- 48 SPACER (PART OF CYLINDER TUBE AND FLANGE)
- 49 INNER FILTER
- 50 POSITION INDICATOR SWITCHES
- 51 INDEX TUBE NOTCH
- 52 OUTER TUBE (PART OF CYLINDER TUBE AND FLANGE)
- 53 INNER CYLINDER (PART OF CYLINDER TUBE AND FLANGE)
- 54 THERMOCOUPLE (PART OF POSITION INDICATOR PROBE)
- 55 STUD (PORTION OF PISTON TUBE)
- 56 COLLET FINGER (PART OF COLLET AND PISTON)
- 57 INDICATOR TUBE (PART OF PISTON TUBE)
- 58 INNER SEALS (DRIVE PISTON - BUFFER SEALS)
- 59 INTERNAL BUSHING (DRIVE PISTON)
- 60 EXTERNAL BUSHING (DRIVE PISTON)
- 61 OUTER SEALS (DRIVE PISTON)
- 62 INSERT PORT INSERT AND SCRAM INLET/WITHDRAW OUTLET
- 63 RING (MAGNET PART OF DRIVE PISTON)
- 64 CABLE (POSITION INDICATOR)
- 65 PORT TO COLLET PISTON WITHDRAW PRESSURE TO COLLET PISTON
- 66 WITHDRAW PORT WITHDRAW INLET/INSERT OUTLET AND
- 67 SCRAM DISCHARGE
- 68 INNER SEALS (DRIVE PISTON - DRIVE DOWN SEALS)
- 69 INNER SEALS (DRIVE PISTON - DRIVE UP SEALS)
- 70 WATER PORTS IN COLLET HOUSING
- 71 BUFFER ORIFICES IN PISTON TUBE (TYPICAL)

DETAIL A (ALTERNATE)



SINGLE PIECE UNCOUPLING ROD (ITEM # 71)
WITHOUT SEPARATE TUBE



LIMERICK GENERATING STATION
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CONTROL ROD DRIVE

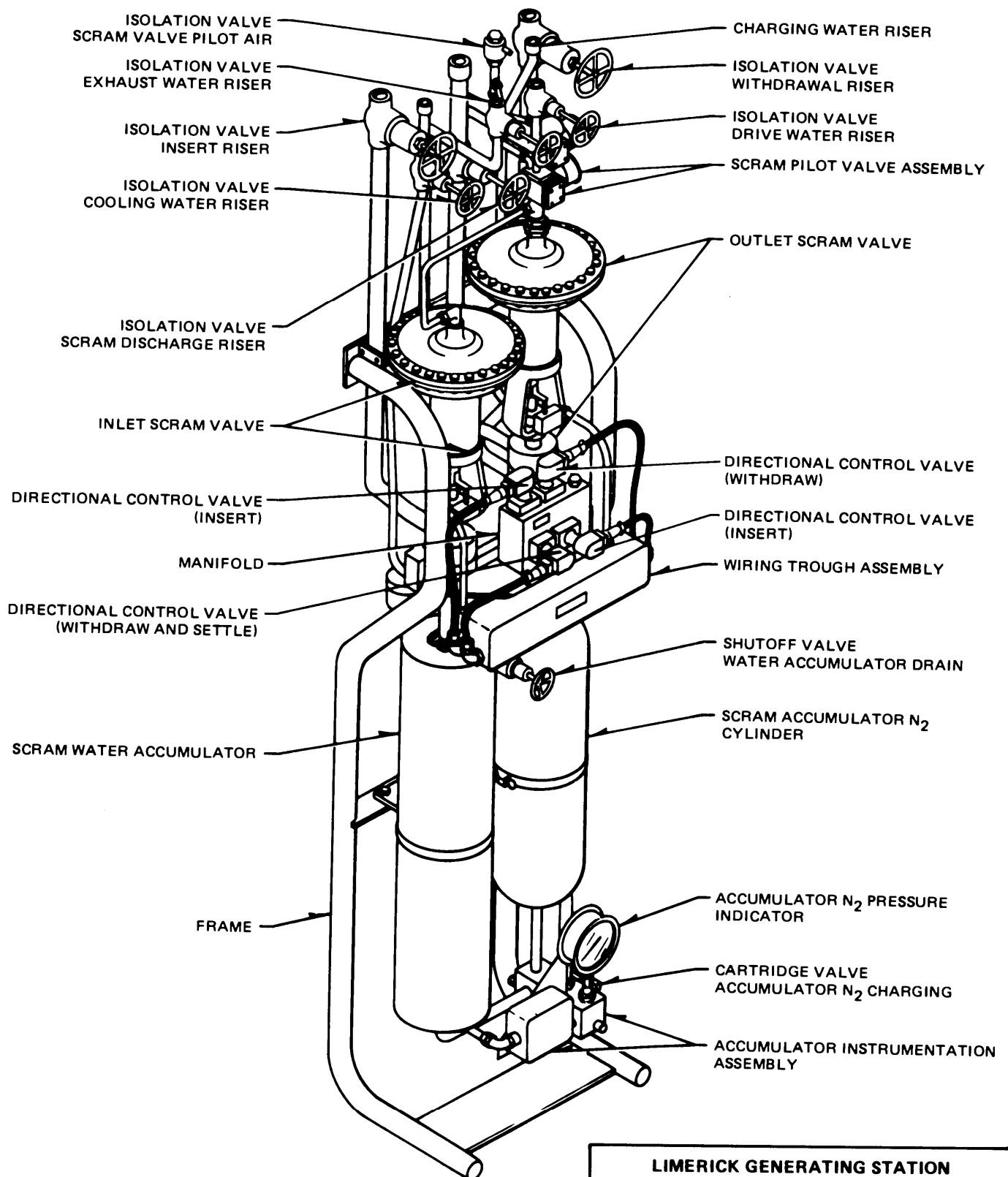
FIGURE 4.6-4

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Figures 4.6-5 through 4.6-7

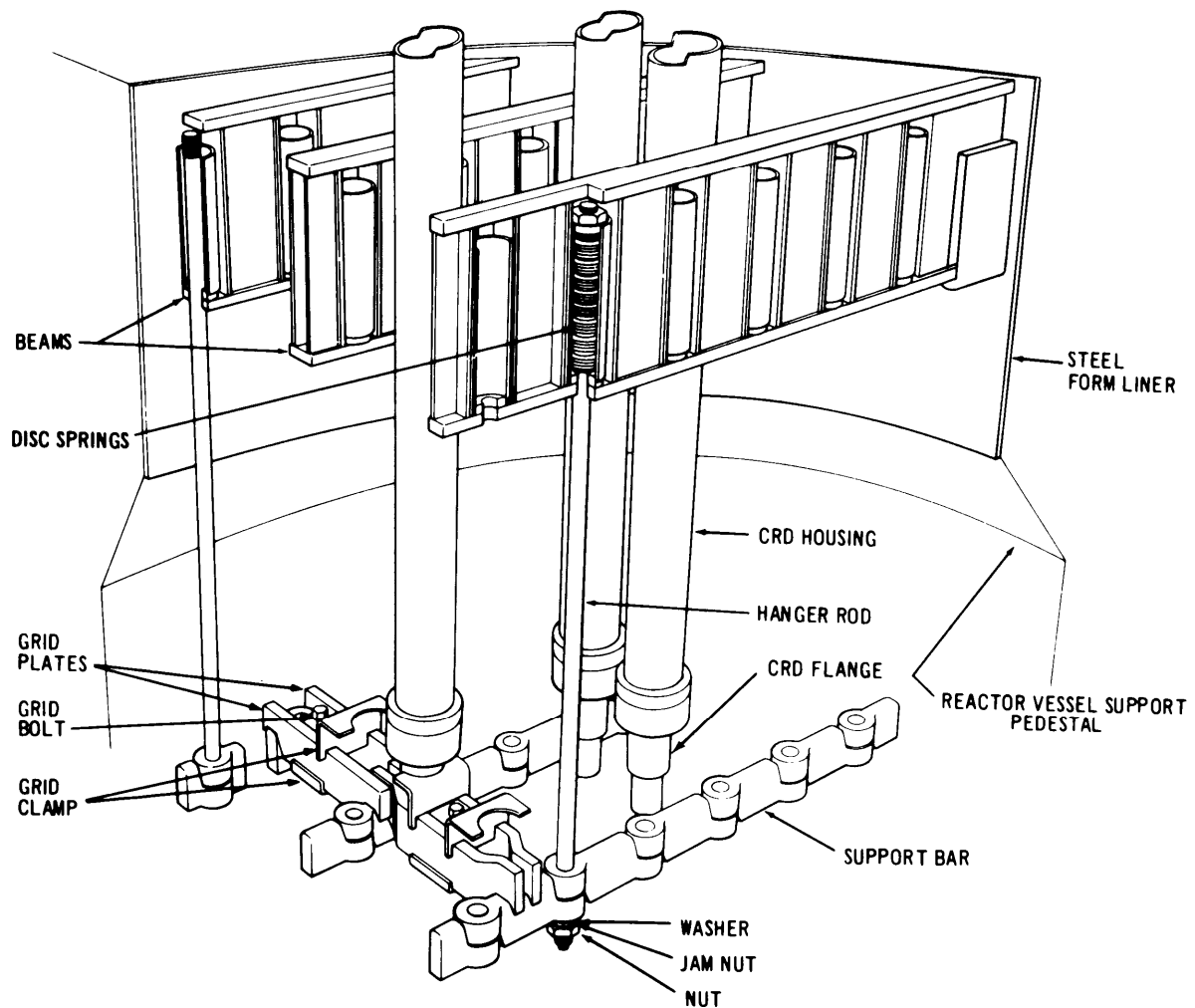
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LIMERICK GENERATING STATION
UNITS 1 AND 2
UPDATED FINAL SAFETY ANALYSIS REPORT

CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT

FIGURE 4.6-8



LIMERICK GENERATING STATION
UNITS 1 AND 2
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CONTROL ROD DRIVE HOUSING
SUPPORT

FIGURE 4.6-9