RC=CEL:[55,100]FORMATS.CEL AC=E7749

HIGH PRESSURE INJECTION PUMP AND MOTOR BEARING OIL DRAIN AND WINDING TEMPERATURE INSTRUMENTATION					
P58-1		P58-2			FUNCTION
TE (5)	T (6)	TE (7)	T (8)		
HP100B	465	HP100A	469	PMP THRUST BEARING MT.	
HP101B1	463	HP101A1	467	MOTOR BEARING PUMP END OT.	
HP101B2	462	HP101A2	466	MOTOR BEARING OT.	
HP102B1		HP102A1		MOTOR STATOR	
HP102B2		HP102A2		MOTOR STATOR	
HP102B3		HP102A3		MOTOR STATOR	
HP102B4		HP102A4		MOTOR STATOR	
HP102B5		HP102A5		MOTOR STATOR	
HP102B6	464	HP102A6	468	MOTOR STATOR	

LUBE OIL SYSTEM FOR H.P. INJECTION PUMPS

HIGH PRESSURE INJECTION PUMP 1-2
FOR CYCLONE SEPARATORS SEE TYP. DET. THIS DWG. (B-4)

HIGH PRESSURE INJECTION PUMP 1-1
FOR CYCLONE SEPARATORS SEE TYP. DET. THIS DWG. (B-4)

HP1 PUMP ABRASIVE (CYCLONE) SEPARATORS SEE THIS DWG. (E-8, J-8)

VALVE NUMBERS FOR PUMP 1-1 SHOWN. VALVE NUMBERS FOR PUMP 1-2 IN PARENTHESIS. SEPARATORS ARE ATTACHED TO THE PUMP CASING.

BORATED WATER STORAGE TANK 1-1
550,000 GALLONS
(SEE NOTE 22)

SAFETY FEATURES ACTUATION SYSTEM DRAWINGS 7749-E16 (TYP.)

NOTES:
1. FOR GENERAL NOTES, PIPING SYMBOLS AND P&ID INDEX SEE DRAWING M-001.
2. FOR INSTRUMENTATION SYMBOLS SEE DRAWING M-002.
3. 24" GATE VALVE TO BE LOCATED AS CLOSE AS PRACTICAL TO B.W.S.T. DISCHARGE NOZZLE.
4. ALL DRAINS, UNLESS OTHERWISE NOTED ON DIAGRAM, TO BE LOCALLY PIPED TO THE NEAREST EQUIPMENT DRAIN.
5. BLIND FLANGES, ONE(1) ON REFUELING CANAL, TWO(2) ON CONTAINMENT EMERGENCY SUMP, ARE FOR LEAK TEST PURPOSE DURING STATION SHUTDOWN. THESE LINES ARE NORMALLY OPEN. A TRASH RACK IS INSTALLED ON REFUELING CANAL FLANGE ON LINE 6"-HCC-33 DURING PLANT OPERATIONS MODE 1 THRU 4. REF. DWG. C-0933 FOR DETAILS. CLASS BREAK ON LINE 6"-HCC-33 DOES NOT INCLUDE TRASH RACK IN ASME SECTION III CLASS 3 BOUNDARY. REF. ECR 02-0512.
6. THE CONNECTIONS ⅜" ARE FOR ISOLATION VALVES LEAK TEST.
7. DELETED
8. UNLESS OTHERWISE NOTED, ALL VENT CONNECTIONS ARE ¾" AND DRAIN CONNECTIONS 1". LINE IDENT. SAME AS HEADER. ALL VENT, DRAIN, LEAK TEST & INSTRUMENT CONNECTION RATED AT 1500 POUNDS SHALL HAVE DOUBLE VALVE AS ISOLATION.
9. OWNER PIPING TO BE ENGINEERED BY BECHTEL AND SUPPLIED BY GRINNELL.
10. DELETED
11. DELETED
12. FOR TYPICAL HEAT TRACING CIRCUIT SEE P&ID M-011. FOR HEAT TRACING INSTRUMENT & DETAIL SEE THERMON DRAWING 75-258A.
13. DELETED
14. FOR VALVES REFERENCING THIS NOTE, ONLY LOCAL HANDWHEELS & LOCAL PUSHBUTTON STATIONS OF THESE MOV'S ARE LOCKED. OPERATION FROM THE MAIN CONTROL ROOM IS NOT LOCKED.
15. SEE REFERENCE DRAWINGS C-635, C-934 TO C-937 FOR DETAILS OF DECAY HEAT VALVE PIT ANNULUS DRAIN AND DECAY VALVE ENCLOSURE VENT PIPE AND DRAIN PLUGS.
16. DELETED
17. RESTRICTION ORIFICE RO5989 WILL BE USED FOR HPI PUMP TESTING. RO5989 MAY BE REPLACED WITH RO HP1 FOR MAKE-UP PUMP TESTING. (REF. FOR 86-0291)
18. RO HP1 & RO HP7 WERE ORIGINALLY SUPPLIED AS CLASS 3 ITEMS. (REF. PCAQ 88-0658) HP41 WAS SUPPLIED AS AN ASME B31.1 ITEM (REF. ECP 07-0062-001
19. THE ONLY VENT OR DRAIN LINE CAPS REQUIRED TO BE SHOWN ON PIPING AND INSTRUMENTATION DIAGRAMS ARE THOSE CONTROLLED UNDER DB-OP-00009 (FORMERLY AD1830.03). THE ACTUAL TERMINATION OF ALL OTHER VENTS OR DRAINS ARE NOT SHOWN AND INSTEAD AN OPEN ENDED PIPE IS DISPLAYED.

NOTES (CONT'D):
20. DH63 (M-033B,B-11) AND DH64 (M-033B,C-9) PROVIDES COMPLETE ISOLATION IN THE NORMAL FLOW DIRECTION ONLY. REFER TO VDWG M-212-3 FOR SPECIFIC BONNET VENTING DETAILS.
21. DH11 (M-033B,H-3) AND DH12 (M-033B,H-2) PROVIDE COMPLETE ISOLATION IN THE NORMAL FLOW DIRECTION ONLY. REFER TO VDWG M-525-28 FOR SPECIFIC BONNET VENTING DETAILS.
22. WHERE NOTED THE TANK CAPACITY IS NOMINAL. WHERE APPLICABLE, SEE DB-PF-06705 (TANK LEVEL CALIBRATION CURVES) FOR INDICATED LEVEL VS. VOLUME RELATIONSHIP. (REF: PCAQR 96-0976).

LR NOTES:
A. FOR GENERAL LICENSE RENEWAL NOTES REFER TO LR-M001-01.

LICENSE RENEWAL BOUNDARY DRAWING
LR-M033A REV. 0

SYSTEMS SHOWN ON THIS DRAWING:
03: REACTOR COOLANT
08: DECAY HEAT REMOVAL & LOW PRESSURE INJECTION
15: SPENT FUEL POOL COOLING & CLEANUP
16: CONTAINMENT SPRAY & CORE FLOODING
19: REACTOR COOLANT VENT & DRAINS
22: HIGH PRESSURE INJECTION
23: SAMPLING
24: NONSAFETY AFFECTING SAFETY

THIS DRAWING REV. 0 SUPERSEDES IN PART DWG. M-033 REV. 51. WORK THIS DWG. WITH M-033B AND M-033C.

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION (OHIO)
GAITHERSBURG, MARYLAND

DAVIS-BESSE NUCLEAR POWER STATION UNIT NO.1
THE TOLEDO EDISON COMPANY

PIPING & INSTRUMENT DIAGRAM
HIGH PRESSURE INJECTION

JOB NO.	DRAWING NO.	REV.
12501	M-033A	41

DFN=I:/PIDS/M033A.DGN DB 10-09-08

D-49