(36) SEE GAI DWG. No C-302-669 FOR CONT.

(37) COMPLETED AS BUILT DOCUMENTATION AS OF 3-18-82.

(28) RC PUMP INSTRUMENTATION NOS. AS FOLLOWS:
RC-P1A/A - 1
RC-P1B/A - 2
RC-P1B/B - 3
RC-P1A/B - 4

(29) ANNUNCIATOR INPUTS COMMON TO EACH PUMP CAN BE GROUPED INTO ONE ALARM BY CUSTOMER.

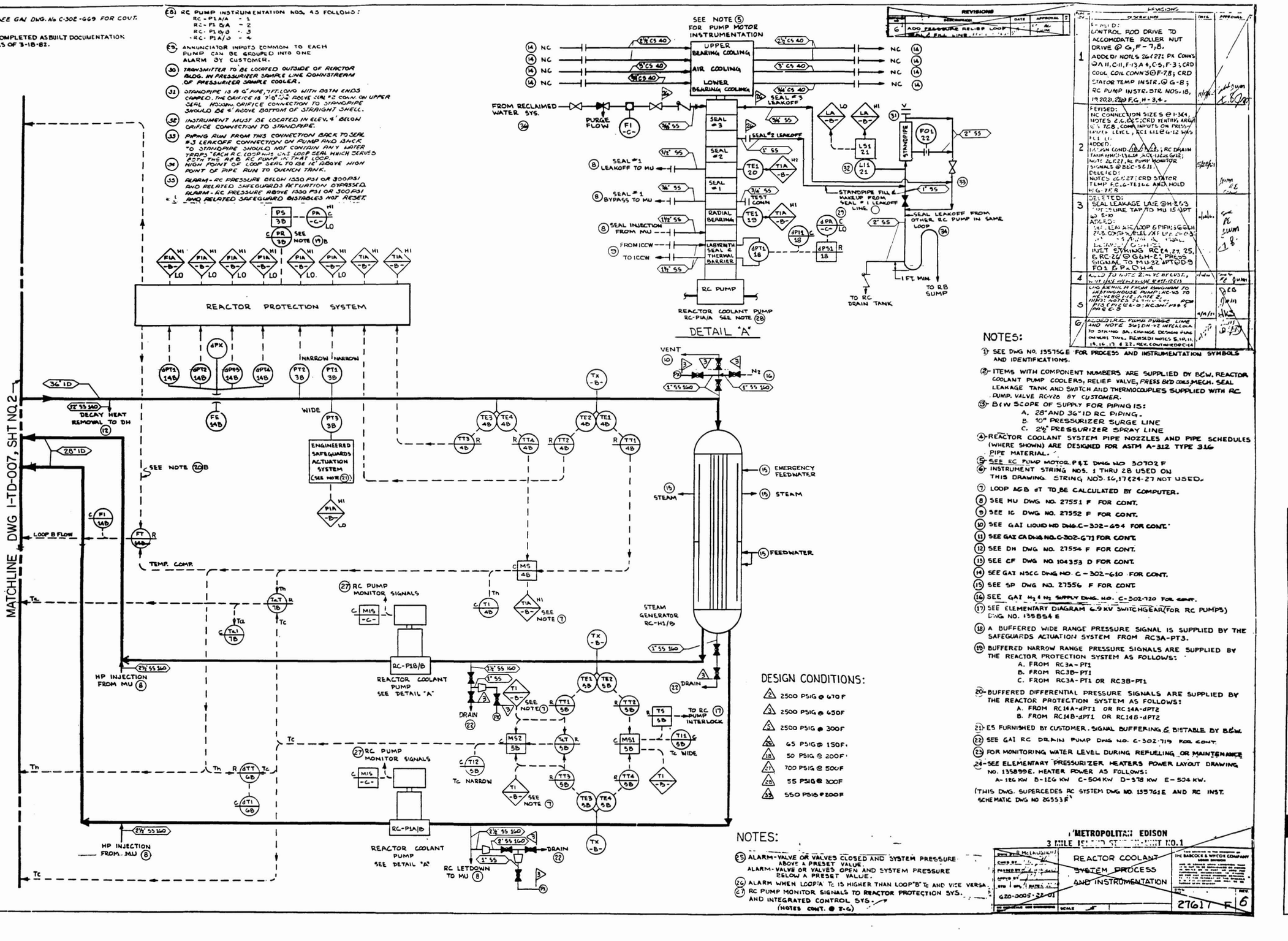
(30) TRANSMITTER TO BE LOCATED OUTSIDE OF REACTOR BLDG. IN PRESSURIZER SAMPLE LINE DOWNSTREAM OF PRESSURIZER SAMPLE COOLER.

(32) STANDPIPE IS 8" PIPE, 7FT. LONG WITH BOTH ENDS CAPPED. THE ORIFICE IS 1'-0" ± ABOVE SEAL #2 CONN. ON UPPER SEAL HOUSING. ORIFICE CONNECTION TO STANDPIPE SHOULD BE 4" ABOVE BOTTOM OF STRAIGHT SHELL.

(32) INSTRUMENT MUST BE LOCATED IN ELEV. 4' BELOW ORIFICE CONNECTION TO STANDPIPE.

(33) PIPING RUN FROM THIS CONNECTION BACK TO SEAL #3 LEAKOFF CONNECTION ON PUMP AND BACK TO STANDPIPE SHOULD NOT CONTAIN ANY WATER TRAPS. EACH RC LOOP HAS ONE LOOP SEAL WHICH SERVES BOTH THE #4 & RC PUMP IN THAT LOOP. HIGH POINT OF LOOP SEAL TO BE 12" ABOVE HIGH POINT OF PIPE RUN TO QUENCH TANK.

(33) ALARM - RC PRESSURE BELOW 1330 PSI OR 300 PSI AND RELATED SAFEGUARDS ACTUATION BYPASSED.
ALARM - RC PRESSURE ABOVE 1330 PSI OR 300 PSI AND RELATED SAFEGUARD BISTABLES NOT RESET.



NOTES:

(1) SEE DWG NO. 135756E FOR PROCESS AND INSTRUMENTATION SYMBOLS AND IDENTIFICATIONS.

(2) ITEMS WITH COMPONENT NUMBERS ARE SUPPLIED BY B&W. REACTOR COOLANT PUMP COOLERS, RELIEF VALVE, PRESS B&D CODE, MECH. SEAL LEAKAGE TANK AND SWITCH AND THERMOCOUPLES SUPPLIED WITH RC PUMP. VALVE RC-V28 BY CUSTOMER.

(3) B&W SCOPE OF SUPPLY FOR PIPING IS:
A. 28" AND 36" ID RC PIPING.
B. 10" PRESSURIZER SURGE LINE
C. 2½" PRESSURIZER SPRAY LINE

(4) REACTOR COOLANT SYSTEM PIPE NOZZLES AND PIPE SCHEDULES (WHERE SHOWN) ARE DESIGNED FOR ASTM A-312 TYPE 316 PIPE MATERIAL.

(5) SEE RC PUMP MOTOR P&I DWG NO 30702 F

(6) INSTRUMENT STRING NOS. 1 THRU 28 USED ON THIS DRAWING. STRING NOS. 16, 17 & 24-27 NOT USED.

(7) LOOP AGB dT TO BE CALCULATED BY COMPUTER.

(8) SEE MU DWG NO. 27551 F FOR CONT.

(9) SEE IC DWG NO. 27552 F FOR CONT.

(10) SEE GAI LIQUID ND DWG. C-302-694 FOR CONT.

(11) SEE GAI CA DWG NO. C-302-671 FOR CONT.

(12) SEE DH DWG NO. 27554 F FOR CONT.

(13) SEE CF DWG NO. 104353 D FOR CONT.

(14) SEE GAI NSCC DWG NO. C-302-610 FOR CONT.

(15) SEE SP DWG NO. 27556 F FOR CONT.

(16) SEE GAI N_2 & N_2 SUPPLY DWG. NO. C-302-720 FOR CONT.

(17) SEE ELEMENTARY DIAGRAM 6.9 KV SWITCHGEAR (FOR RC PUMPS) DWG NO. 135854 E

(18) A BUFFERED WIDE RANGE PRESSURE SIGNAL IS SUPPLIED BY THE SAFEGUARDS ACTUATION SYSTEM FROM RC3A-PT3.

(19) BUFFERED NARROW RANGE PRESSURE SIGNALS ARE SUPPLIED BY THE REACTOR PROTECTION SYSTEM AS FOLLOWS:
A. FROM RC3A-PT1
B. FROM RC3B-PT1
C. FROM RC3A-PT1 OR RC3B-PT1

(20) BUFFERED DIFFERENTIAL PRESSURE SIGNALS ARE SUPPLIED BY THE REACTOR PROTECTION SYSTEM AS FOLLOWS:
A. FROM RC14A-dPT1 OR RC14A-dPT2
B. FROM RC14B-dPT1 OR RC14B-dPT2

(21) ES FURNISHED BY CUSTOMER. SIGNAL BUFFERING & BISTABLE BY B&W.

(22) SEE GAI RC DRAIN PUMP DWG NO. C-302-719 FOR CONT.

(23) FOR MONITORING WATER LEVEL DURING REFUELING OR MAINTENANCE

(24) SEE ELEMENTARY PRESSURIZER HEATERS POWER LAYOUT DRAWING NO. 135899E. HEATER POWER AS FOLLOWS:
A-126 KW B-126 KW C-504 KW D-378 KW E-504 KW.

(THIS DWG. SUPERCEDES RC SYSTEM DWG NO. 135761E AND RC INST. SCHEMATIC DWG NO 26553 F)

DESIGN CONDITIONS:

(2) 2500 PSIG @ 670 F
(3) 2500 PSIG @ 650 F
(5) 2500 PSIG @ 300 F
(26) 65 PSIG @ 150 F
(18) 50 PSIG @ 200 F
(21) 700 PSIG @ 500 F
(22) 55 PSIG @ 300 F
(33) 550 PSIG @ 200 F

NOTES:

(25) ALARM - VALVE OR VALVES CLOSED AND SYSTEM PRESSURE ABOVE A PRESET VALUE.
ALARM - VALVE OR VALVES OPEN AND SYSTEM PRESSURE BELOW A PRESET VALUE.

(26) ALARM WHEN LOOP A T_C IS HIGHER THAN LOOP B T_C AND VICE VERSA

(27) RC PUMP MONITOR SIGNALS TO REACTOR PROTECTION SYS. AND INTEGRATED CONTROL SYS.

(NOTES CONT. @ F-6)

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVAL
6	ADD PRESSURE RELIEF LOOP SEAL & ESK LINES		

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVAL
1	REVISED: CONTROL ROD DRIVE TO ACCOMODATE ROLLER NUT DRIVE @ C-6, F-7,8. ADDED: NOTES 26 & 27; PX CONNS @ A-11, C-11, F-13 A & C-5, F-3; CRD COOL. COIL CONN'S @ F-7,8; CRD STATOR TEMP INSTR. @ G-8; RC PUMP INSTR. STR. NOS. 18, 19, 20, 21, 22 @ F, G, H-3, 4.	11/74	
2	REVISED: NC CONNECTION SIZES @ 1-3 & 4, NOTES 2 & 6; CRD VENTING ARRGT. @ 7 & 8, COMP. INPUTS ON PRESS/WATER LEVEL, RC1 & 11 @ G-12 WAS P & I; ADDED: 1" DRAIN COND @ F-2 & 3; RC DRAIN TANK HX-1; L3 & 4, RCC-1 & 2 @ G-12; NOTE 26 & 27, NC PUMP MONITOR SIGNALS @ B & C-5 & 11; DELETED: NOTES 20 & 27; CRD STATOR TEMP RC-G-TE1 & 2 AND HOLD W/ G-7 & 8	5/26/81	
3	DELETED: SEAL LEAKAGE LINE @ H-2 & 3 PRESSURE TAP TO MU IS ADPT @ E-10 ADDED: SEAL LEAKAGE LOOP & PIPING @ G & H-2 & 3, CONTROL LEVEL / RT LOOP @ H-3 INJECT STRING RC #4, 27, 25, & RC-26 @ G & H-2; PRESS SIGNAL TO MU-32 @ PTD-9 FOI & PX CH 4	6/16/81	
4	ADDED TO NOTE 2 "NC VC RC CONT., WHERE USED" & VALVE # RCT-120 (2)	7/81	
5	ADDED ANNUNCIATOR FROM SHEET 2 TO WESTINGHOUSE PUMP; NC-V3 TO NC-V6 PER NOTE 6. ALSO: NOTES 29, 30, 31, 32 PER FCR GE-2; NCSM: P&B 9 PAGE 5	9/9/81	
6	ADDED RC PUMP PURGE LINE AND NOTE 36; ON V2 INTERLOCK TO STATION BA, CHANGE DESIGN PSIG ON VALVE TYPE, REVISED NOTES 5, 10, 11, 14, 16, 17 & 22. REV. CONTINUED RC-14	3/18/82	

METROPOLITAN EDISON
3 MILE ISLAND STATION UNIT NO.1
REACTOR COOLANT SYSTEM PROCESS AND INSTRUMENTATION
B&W 620-0005-22-01
27617 F 6

GPU Nuclear
REACTOR COOLANT SYSTEM PROCESS & INSTRUMENTATION
I-TD-007, SH NO. 1
REV. 0
SCALE: NONE
TMI UNIT 1

TRAINING DRAWING
REV. 0 THIS DWG IS DEVELOPED FROM B & W CO. DWG. 27617 F, REV. 6 DATED 2-18-72