



- NOTES:
1. ATMOSPHERIC PRESSURE OF 14.7 PSIA WAS USED IN CALCULATIONS.
 2. WATER FLOWS ARE SHOWN IN GPM, STEAM FLOWS IN 1000 LB/HR.
 3. THE MAXIMUM POOL WATER TEMPERATURE FOR CONTINUOUS SYSTEM OPERATION WILL NOT EXCEED 140°F, HOWEVER, DUE TO POTENTIAL SHORT TERM OPERATION AT HIGHER TEMPERATURES, PIPING EXPANSION SHALL BE BASED ON 170°F.
 4. THE UNRECOVERED FLOW NOZZLE PRESSURE DROP OF 4.5 PSI IS A FIXED LOSS BETWEEN LOCATIONS (3) AND (4).
 5. THE LINE OIL COOLER PRESSURE DROP OF 5.0 PSI IS A FIXED LOSS BETWEEN LOCATIONS (13) AND (14).
 6. THE CONTROLLING MODES FOR LINE SIZING AND ARRANGEMENT ARE:
 SUCTION FROM COND. STORAGE MODE A
 SUCTION FROM SUPPRESSION POOL MODE C
 PUMP DISCHARGE MODE C
 STEAM SUPPLY MODE A & B
 TURBINE EXHAUST MODE A, C & D
 TEST LINE MODE E
 COOLING SYSTEM MODE A
 7. OTHER MODES OF OPERATION EXIST WHICH DO NOT EFFECT LINE SIZE OR OPERATING CONDITIONS. AMONG THESE ARE THE FOLLOWING:
 A. SUCTION FROM EMERGENCY CONDENSATE STORAGE SUPPRESSION POOL AT LOW PRESSURE, REACTOR AT LOW PRESSURE.
 B. SUCTION FROM SUPPRESSION POOL, SUPPRESSION POOL AT HIGH PRESSURE, REACTOR AT HIGH OR LOW PRESSURE.
 C. ANY INTERMEDIATE REACTOR PRESSURE OR SUPPRESSION POOL PRESSURE.
 D. SUCTION FROM RHR HEAT EXCHANGERS, REACTOR AT HIGH OR LOW PRESSURE.
 8. PUMP MINIMUM FLOW REQUIREMENTS MAY OCCUR DURING ANY OPERATING MODE. FLOW REQUIREMENT IS 50 GPM MINIMUM.
 9. MAXIMUM PROCESS TEMPERATURES ARE SHOWN.
 10. THIS DRAWING REFLECTS THE AS-BUILT CONFIGURATION PER BURNS & ROE RCIC P&ID, DRAWING NO. Z043, REV 14.
- NOTE:
RHR STEAM CONDENSING IS NO LONGER AN OPERATIONAL MODE.

MODE A SUCTION FROM CONDENSATE STORAGE, REACTOR AT HIGH PRESSURE, SUPPRESSION POOL AT HIGH PRESS.

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FLOW - SEE NOTE 2	400	416	400	—	—	0	—	16.4	16.25	16.25	16	16	16	0.23	—	0.01	16*	—	0	
PRESSURE - PSIA	14.7	*	114.0	18	—	113.5	*	19.8	7.5	*	4.5	*	9.8	*	*	*	*	*	*	*
TEMPERATURE °F	100	100	100	100	140	—	—	56.0	SAT	SAT	218	100	100	100	298	120	120	120	100	—

MODE B SUCTION FROM CONDENSATE STORAGE, REACTOR AT LOW PRESSURE, SUPPRESSION POOL AT HIGH PRESS.

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FLOW - SEE NOTE 2	400	416	400	—	—	0	—	6	5.85	5.85	16	16	16	0.23	—	0.01	16*	—	0	
PRESSURE - PSIA	14.7	*	170	18	—	16.5	*	19.8	7.5	*	4.5	*	9.8	*	*	*	*	*	*	*
TEMPERATURE °F	100	100	100	100	140	—	—	36.6	SAT	SAT	218	100	100	100	298	120	120	120	100	—

MODE C SUCTION FROM SUPPRESSION POOL, REACTOR AT HIGH PRESSURE, SUPPRESSION POOL AT LOW PRESS.

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FLOW - SEE NOTE 2	400	416	400	—	—	400	—	15.5	15.35	15.35	16	16	16	0.23	—	0.01	16*	—	0	
PRESSURE - PSIA	*	*	114.0	14.7	17.7	17.3	113.5	*	16.6	7.5	*	4.5	*	9.8	*	*	*	*	*	*
TEMPERATURE °F	140	140	140	140	140	140	56.0	SAT	SAT	218	140	140	140	298	160	160	160	140	—	—

MODE D SUCTION FROM SUPPRESSION POOL, REACTOR AT LOW PRESSURE, SUPPRESSION POOL AT LOW PRESS.

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FLOW - SEE NOTE 2	400	416	400	—	—	400	—	5.5	5.35	5.35	16	16	16	0.23	—	0.01	16*	—	0	
PRESSURE - PSIA	*	*	170	14.7	17.7	17.3	16.5	*	16.6	7.5	*	4.5	*	9.8	*	*	*	*	*	*
TEMPERATURE °F	140	140	140	140	140	140	36.6	SAT	SAT	218	140	140	140	298	160	160	160	140	—	—

MODE E TEST MODE: SUCTION FROM CONDENSATE STORAGE, REACTOR AT HIGH PRESSURE, SUPPRESSION POOL AT LOW PRESS.

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FLOW - SEE NOTE 2	400	416	0	—	—	0	—	13.7	13.55	13.55	16	16	16	0.23	—	0.01	16*	—	400	
PRESSURE - PSIA	14.7	*	—	14.7	—	—	10.00	*	16.6	7.5	*	4.5	*	9.8	*	*	*	*	*	*
TEMPERATURE °F	100	100	100	—	—	—	54.3	SAT	SAT	218	100	100	100	298	120	120	120	100	100	—

* THE PRESSURE AT THIS LOCATION DEPENDS ON PIPING ARRANGEMENT AND MAY BE VARIED WITHIN THE FOLLOWING LIMITS.

- ② MINIMUM NPSH AT PUMP SUCTION = 20 FEET
- ③ MAXIMUM PRESSURE RISE ACROSS PUMP: 2800 FEET FOR MODES A & C, 525 FEET FOR MODES B & D
- ④ MAXIMUM PRESSURE DROP BETWEEN LOCATION (8) AND (9) = 15 PSI
- ⑩ MAXIMUM PRESSURE ALLOWED = 64.7 PSIA
- ⑪ MAXIMUM PRESSURE ALLOWED = 75 PSIA
- ⑬ SUFFICIENT VACUUM TO PREVENT TURBINE SHAFT-OUT-LEAKAGE, TO BE SPECIFIED ON TURBINE VENDOR DRAWINGS.
- ⑰ MAXIMUM PRESSURE AVAILABLE = 25 PSIA
- ⑱ MAXIMUM PRESSURE AVAILABLE = 50 PSIA
- ⑲ SUFFICIENT PRESSURE TO RETURN TO SUPPRESSION POOL
- ⑳ SUFFICIENT PRESSURE TO RETURN TO COND. STORAGE.

THIS DWG SUPERCEDES DWG 729E 719BA REV 0.
FOR COOPER CHGS ARE DENOTED BY ENCIRCLEMENT PER ECA 90715-2 (DF)
7-29-69 G.W. HULLMER

INFORMATION ONLY

FOR PREVIOUS REVISIONS, SEE SUPERSEDED CARDS.

NO.	DESCRIPTION	DATE	ENG.
18/230R-2014-012			

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STATUS: Release FIO
STATUS DATE: 06/05/2015
DS APPROVED: RAREIRO
VER: AB REV. 03 SIZE: F