



8. REFERENCE DRAWING 115D6013 SH. 1, 2 AND 3 FOR INSTRUMENT RACK 25-52.
9. ALL VALVES ARE IN THE CONTROL ROD DRIVE (CRD) SYSTEM UNLESS DESIGNATED OTHERWISE.
10. THE START UP POSITION ASSUMES CRD-F-A IN SERVICE AND CRD-F-B IN STANDBY.
11. DEVICES 3-134, 3-135, 3-136 AND 3-137 ARE INTERNAL TO THE HCU MANIFOLD CRD-HCU-M (XX-XX).
12. DEVICE SHOWN THUS  $\uparrow$  (XXX) DENOTES INSTRUMENT LINE SNUBBER.
13. CONFIGURATION IS EITHER 2 ASCO VALVES OR 1 AVCO VALVE.

- NOTES**
- 1) UNLESS OTHERWISE INDICATED ALL PRESSURE AND/OR FLOW INSTRUMENT ROOT LINES SHALL BE 3/4" V 2B X EXCEPT AS NOTED; IN STAINLESS STEEL SYSTEMS 3/4" V 276 X.
- 2) FOR SIZE #NO. OF INSTRUMENT VALVE: DOWNSTREAM OF ROOT VALVES, SEE E-69-11 SPECIFICATION SKETCHES 5K-02069 FOR INSTRUMENTS DOWNSTREAM OF CRD PUMPS.
- 3) ITEMS MARKED WITH A PREFIX OF "S" ARE FINISHED BY DISTRICT.
- 4) VALVE NOS IN ( ) CORRESPOND TO NOS REFERENCED ON THE DWS.
- 5) ITEMS MARKED WITH A PREFIX OF "E" ARE HIGH POINT VENTS & LOW POINT DRAINS, NOT SHOWN, TO BE SUPPLIED BY CONTRACTOR AND RUN TO NEAREST EQUIPMENT. DRD-1.
- 6) ALL VALVE NUMBERS IN PARENTHESES ( ) ARE NUMBERS TO BE USED IN OPERATING PROCEDURES. THESE NUMBERS ARE ASSIGNED BY NPPD AND WILL NOT BE SHOWN ON PIPING DRAWINGS.

- NOTES (cont.)**
13. INSTRUMENT, SAMPLE, TEST, DRAIN AND VENT LINES ARE NOT ALWAYS THE SAME CLASS AS THE MAIN LINE AND THESE BOUNDARIES ARE TOO NUMEROUS TO IDENTIFY IN THIS MANNER (SEE ISI PROGRAM BOUNDARY DESCRIPTIONS FOR DETAILS).
14. THE REDUNDANT SEALS AND RESTRICTIVE FLOW AREAS THAT ARE INHERENT TO THE CRD'S PROVIDE THE REQUIRED REDUNDANT REACTOR COOLANT PRESSURE BOUNDARY ISOLATION.
15. VALVES 25CV & 26CV ARE ESSENTIAL, CLASS IS. (REFERENCE DC 89-285) AND THE CHECK VALVE ASSEMBLY IS RESTRAINED TO SEISMIC CLASS IS CRITERIA.
16. SIGHT GLASS ASSEMBLY MOUNTED ON EACH INSTRUMENT VOLUME, AND ONLY CONNECTED DURING TESTING.

REVISIONS TO THIS DRAWING  
REQUIRES A REVISION TO THE  
CORRESPONDING ISOKEY.

**AS BUILT**  
454003632  
STATUS: Release  
STATUS DATE: 10/25/2022  
DS APPROVED: CAJ/HS  
VER: AG REV: 65 SIZE: F

SIGNIFICANT NUMBER				DRAWN DATE	
NO.	DESCRIPTION	ORDER DFT	DATE	ENGR	GROUP
02/81	DR-2013-0508 (FROM VERSION AB)	6004460	02/10/13	TRK/KUR	1
07/09	DR-2013-0508 (FROM VERSION AC)	6004460	07/17/09	TRK/KUR	2
07/09	DR-2013-0508 (FROM VERSION AD)	6004460	07/17/09	TRK/KUR	3
07/09	DR-2013-0508 (FROM VERSION AE)	6004460	07/17/09	TRK/KUR	4
07/09	DR-2013-0508 (FROM VERSION AF)	6004460	07/17/09	TRK/KUR	5
07/09	DR-2013-0508 (FROM VERSION AG)	6004460	07/17/09	TRK/KUR	6

  

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**FLOW DIAGRAM  
CONTROL ROD DRIVE  
HYDRAULIC SYSTEM  
COOPER NUCLEAR STATION**

**BURNS & ROE**  
2039