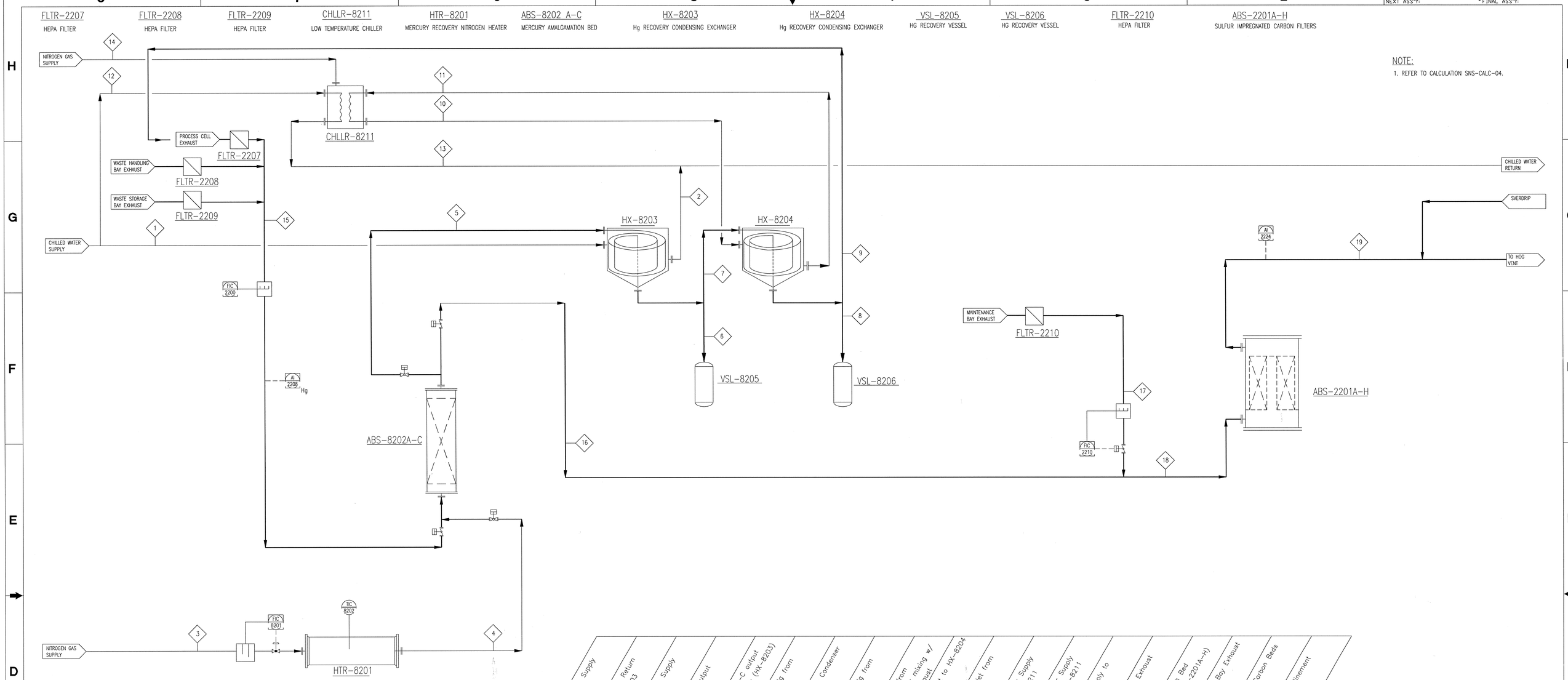

Stream #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Component	Units	Chilled Water Supply to HX-8203	Chilled Water Return from HX-8203	Nitrogen Gas Supply	HTR-8201 Output	ABS-8202 A-C output to condenser (HX-8203)	Condensed Hg from HX-8203	Input Gas to Condenser (HX-8204)	Condensed Hg from HX-8204	Output Gas from HX-8204 for mixing w/ Hot Cell Exhaust	Syltherm inlet to HX-8204	Syltherm outlet from HX-8204	Chilled Water Supply to CHLLR-8211	Chilled Water Supply from CHLLR-8211	Nitrogen Supply to CHLLR-8211	Process Cell Exhaust	Amalgamation Bed Output (ABS-2201A-H)	Maintenance Bay Exhaust	Exhaust to Carbon Beds	Primary Confinement Exhaust
Design																				
Mercury	lb/hr					6.3E-04	5.6E-04	7.3E-05	7.3E-05	5.0E-07						6.3E-04	1.1E-06	TRACE	1.1E-06	<1.1E-06
Process Nitrogen	lb/hr			326	326	326		326		326						326	326		326	326
Chilled Water	lb/hr	5880	5880																	
Cell Atmosphere	lb/hr															1348	1348	12136	13485	13485
Liquid Nitrogen	lb/hr																			
Total Mass Flow Rate	lb/hr	5880	5880	326	326	326	5.6E-04	326	7.3E-05	326	4669	4669	2003	2003		1675	1675	12136	13811	13811
Flow Rate	gpm	11.8	11.8								10	10	4	4						
Flow Rate	ft^3/min			11.6	148	148		70		61					.04	296	296	2700	2996	2996
Flow Rate @ standard conditions	ft^3/min			75	75	75		75		75						300	300	2700	3000	3000
Temperature	°F	55	63	70	750	750	75	75	−30	−30	−30	−25	55	59	70	95	95	70	70	70
Pressure	psia	65.0	60.0	95.0	17.0	17.0	16.0	16.0	14.7	14.7	15.0	15.0	65.0	60.0	15.0	14.7	14.7	14.7	14.7	14.7
Operational																				
Mercury	lb/hr					6.3E-04	5.6E-04	7.3E-05	7.3E-05	5.0E-07						6.3E-04	1.1E-06	TRACE	1.1E-06	<1.1E-06
Gaseous Nitrogen	lb/hr			326	326	326		326								326	326		326	326
Chilled Water	lb/hr	5880	5880																	
Cell Atmosphere	lb/hr															1348	1348	12136	13485	13485
Liquid Nitrogen	lb/hr																			
Total Mass Flow Rate	lb/hr	5880	5880	326	326	326	5.6E-04	326	7.3E-05	326	4669	4669	2003	2003		1675	1675	12136	13811	13811
Flow Rate	gpm	11.8	11.8								10	10	4	4						
Flow Rate	ft^3/min			12	148	148		70		61					.04	296	296	2700	2996	2996
Flow Rate @ standard conditions	ft^3/min			75	75	75		75		75						300	300	2700	3000	3000
Temperature	°F	55	63	70	750	750	75	75	−30	−30	−30	−25	55	59	70	95	95	70	70	70
Pressure	psia	65.0	60.0	95.0	17.0	17.0	16.0	16.0	14.7	14.7	15.0	15.0	65.0	60.0	15.0	14.7	14.7	14.7	14.7	14.7
Energy Balance																				
Design	BTU/hr		−47282		55295			47282		−8275		8275		8275						
Operational	BTU/hr		−47282		55295			47282		−8275		8275		8275						

NOTE: ENERGY BALANCE IS BASED ON THE CHANGE IN ENERGY FROM THE PREVIOUS STREAMS

REV	CHANGE TYPE	CHANGE CONTROL SYSTEM	CHANGE REQUEST NUMBER	DESCRIPTION	DSN	CHK	DEPT	DATE	PE	DATE	PJ	DATE	REQ	DATE	UTB	DATE	RPE	RPE NO	DATE	ST	CV	EC	EE	EM	IE	PD	SE	AR
E				ISSUED FOR REFERENCE – 10/26/01																								
D				90% TITLE II DESIGN REVIEW – 8/31/01																								
B				60% TITLE II DESIGN REVIEW –5/11/01																								

REVISION OR ISSUE PURPOSE — REVISION APPROVALS — SQUAD CHECK

RPE: FOR REFERENCE ONLY

DSN / DRW / CHK / DEPT / PE / PJ / REQ / UTB

REV. DATE — DRAWING APPROVALS

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NUMBER OF SECTION OR DETAIL — DRAWING ON WHICH SECTION OR DETAIL IS SHOWN

SECTION AND DETAIL KEY

THIS DOCUMENT CONTROLLED BY

CHANGE CONTROL SYSTEM 3

ENGINEERING PROCEDURE SNS-ENG-G001

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PROJECT NAME:

SPALLATION NEUTRON SOURCE

TARGET BUILDING
PROCESS FLOW DIAGRAM
PCE Hg REMOVAL SYSTEM - DEFERRED

1	48	49	50	PLANT	BLDG	FL	SH.	OF	TYPE	CLASS
3	J	X	X	8	8700		1	1	G	U

51	52	53	WBS	REV
NC	NA	IN	1.8.3.7	E

J2.10.38

J2.10.38

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