

Figure 4a2.1-1 – Irradiation Unit Cell Schematic

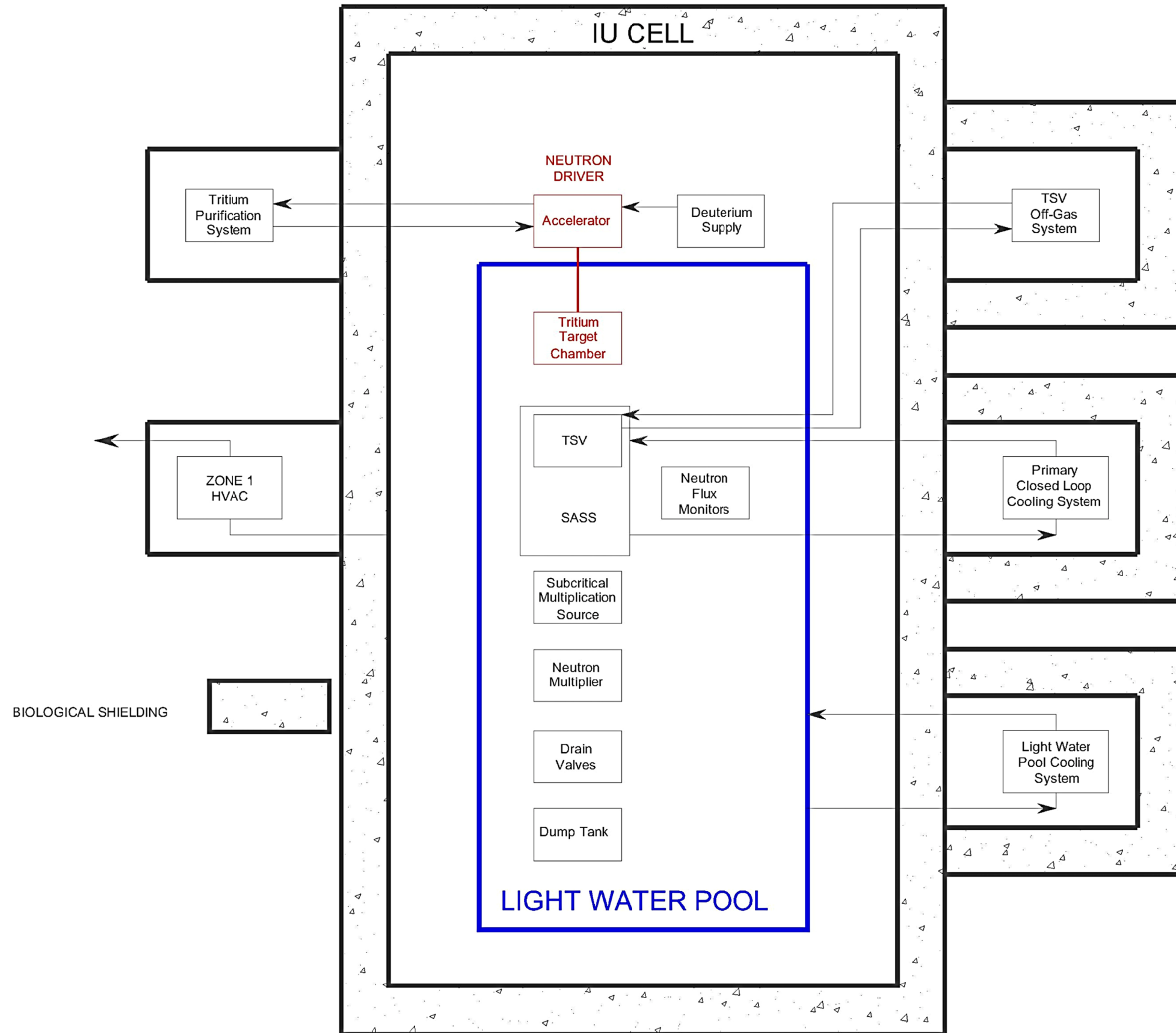


Figure 4a2.1-2 – Subcritical Assembly

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)
Security-Related Information – Withhold under 10 CFR 2.390

Figure 4a2.2-1 – Target Solution Process Hold Tank Elevations

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)
Security-Related Information – Withhold under 10 CFR 2.390

Figure 4a2.2-2 – TSV Interface during IU Operations

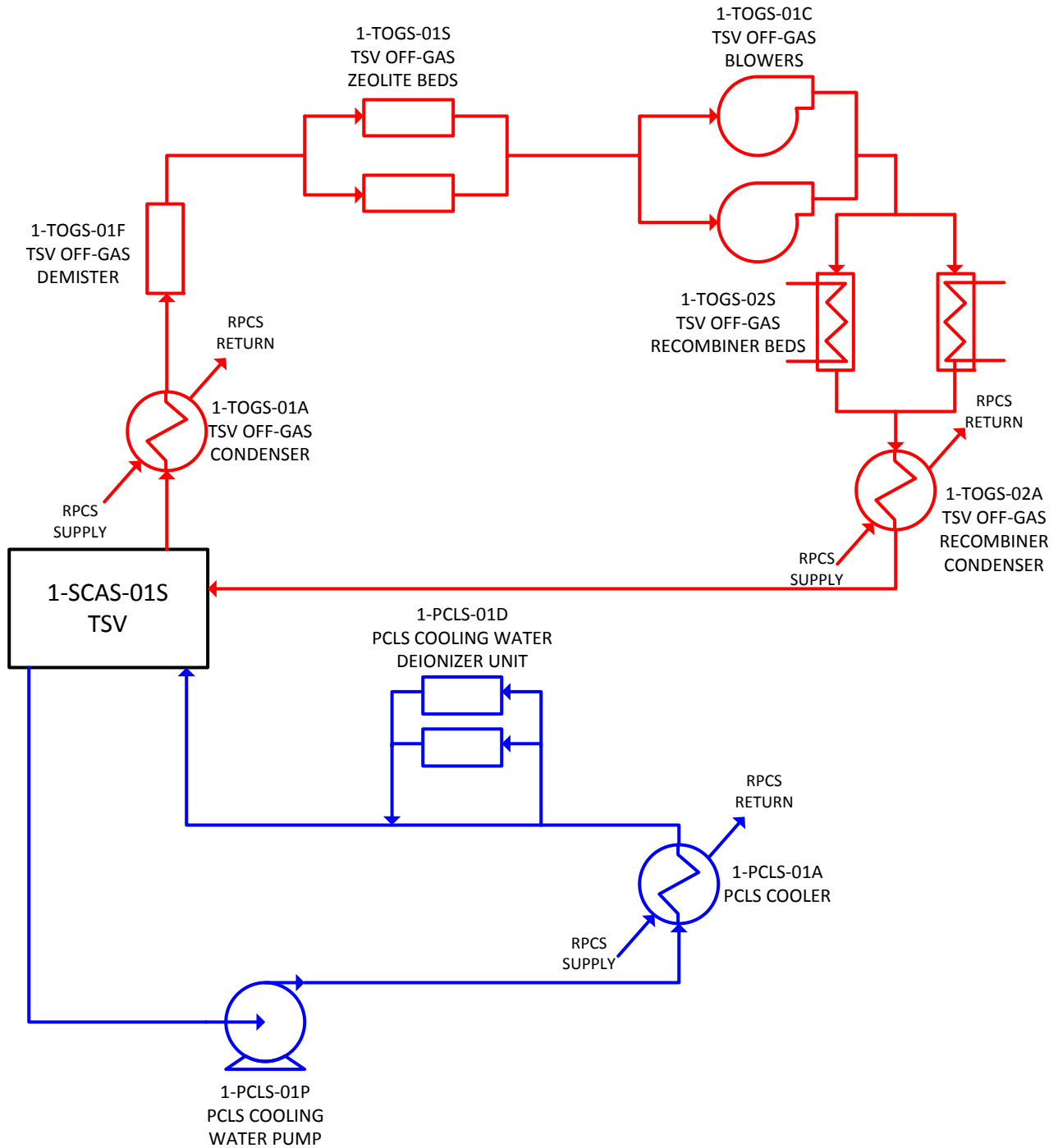


Figure 4a2.3-1 – Neutron Driver Assembly System Subsystems

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)

Figure 4a2.3-2 – Solid Model of 300 kV Direct Injection Accelerator

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)

Figure 4a2.3-3 – Schematic of the Differential Pumping System as Built at PNL

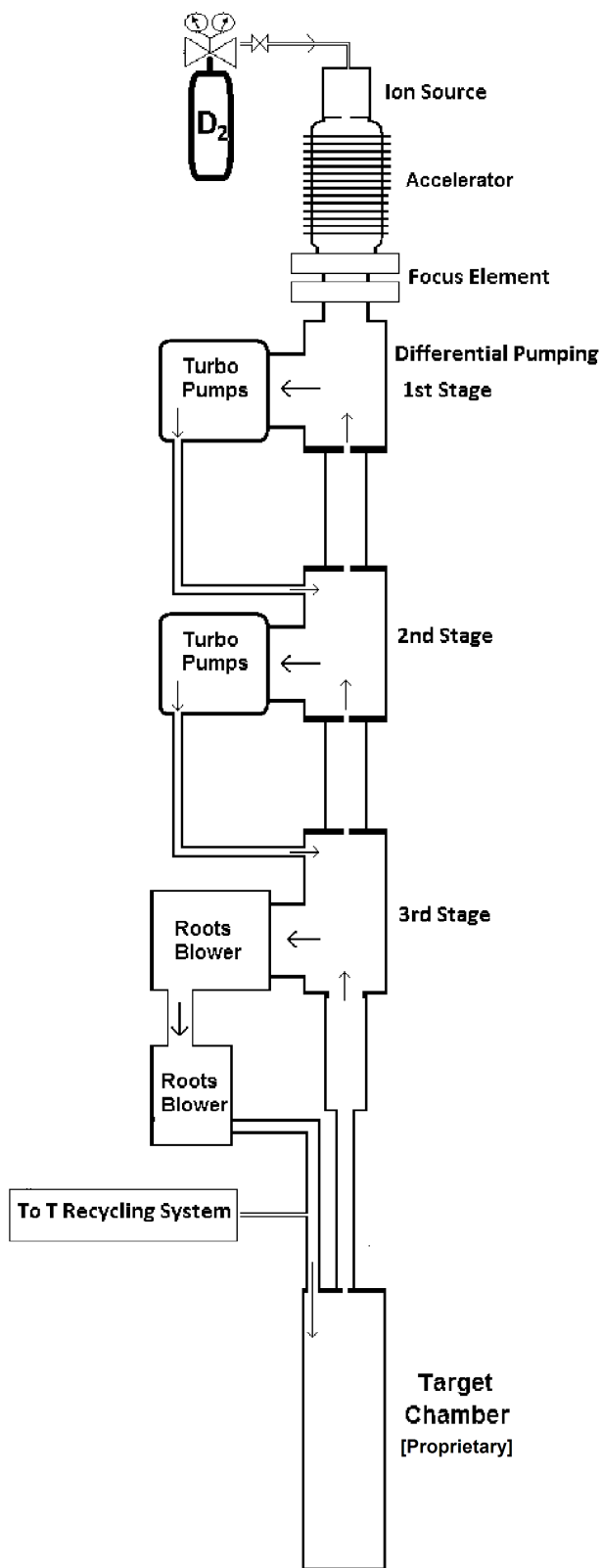


Figure 4a2.4-1 – Irradiation Unit Decay Heat Curve

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)

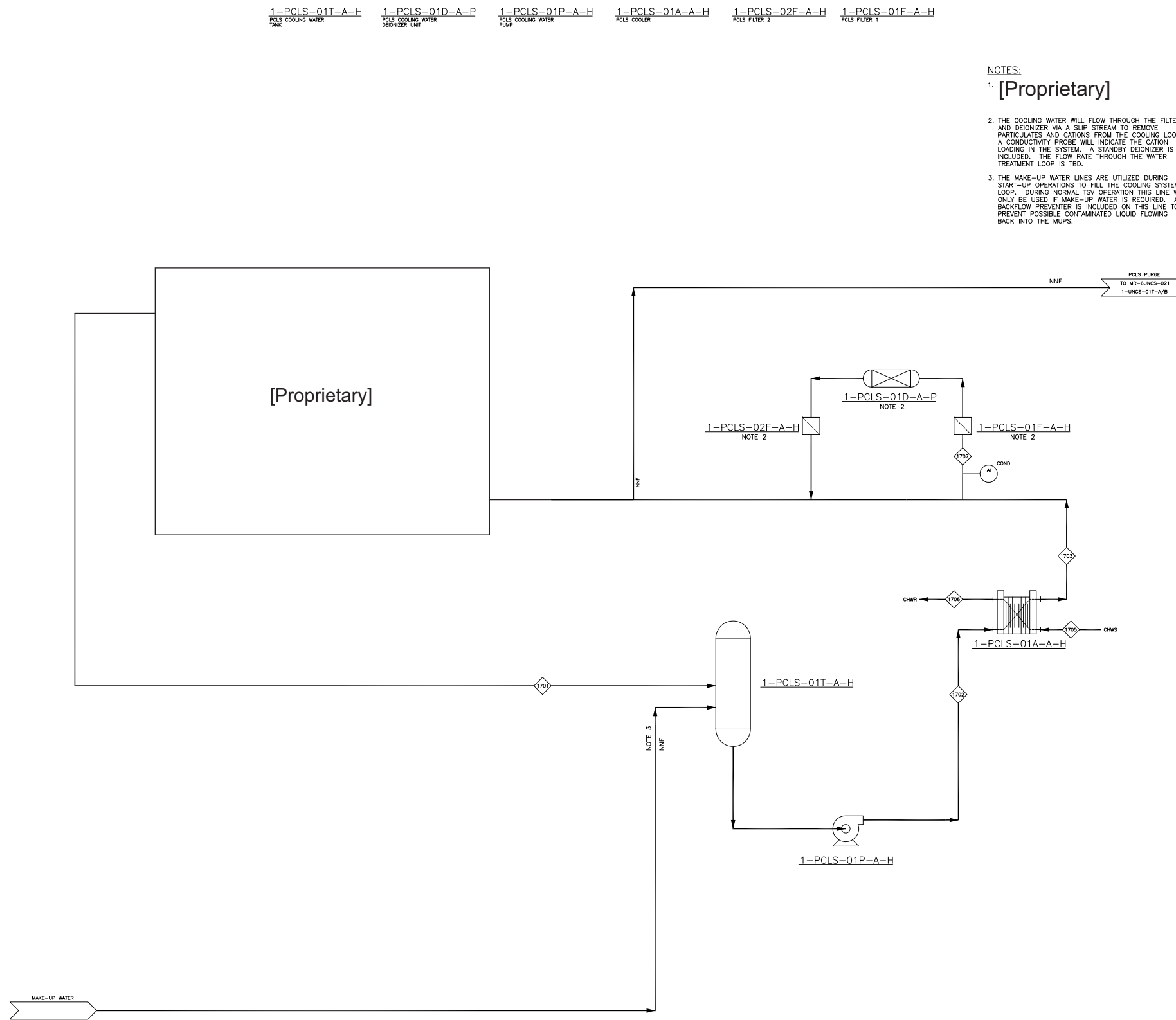
Figure 4a2.7-1 – PCLS Stream Table

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)

Figure 4a2.7-2 – LWPS Stream Table

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)

Figure 4a2.7-3 – PCLS Process Flow Diagram



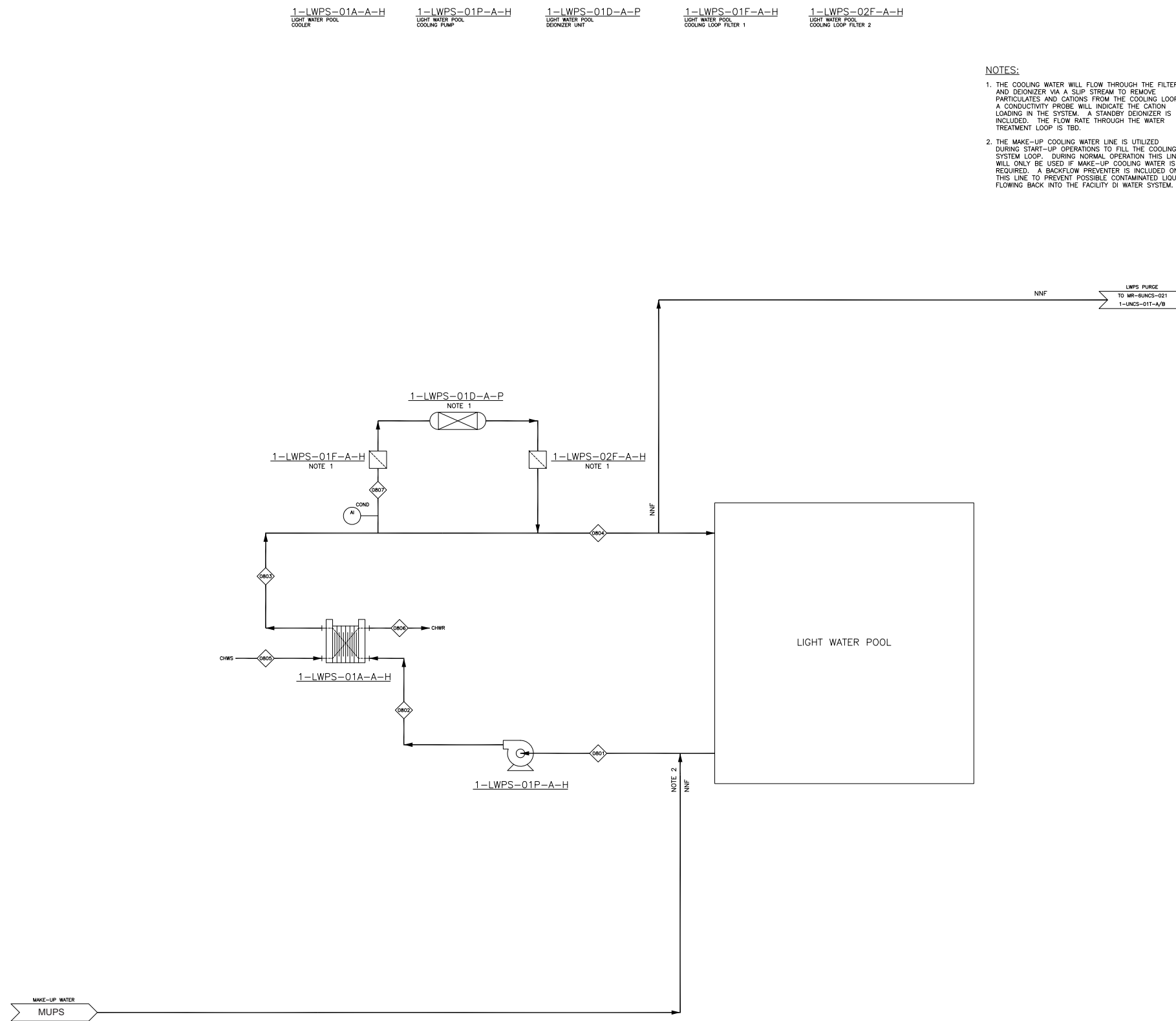
NOTES:

1. [Proprietary]

2. THE COOLING WATER WILL FLOW THROUGH THE FILTERS AND DEIONIZER VIA A SLIP STREAM TO REMOVE PARTICULATES AND CATIONS FROM THE COOLING LOOP. A CONDUCTIVITY PROBE WILL INDICATE THE CATION LOADING IN THE SYSTEM. A STANDBY DEIONIZER IS INCLUDED. THE FLOW RATE THROUGH THE WATER TREATMENT LOOP IS TBD.

3. THE MAKE-UP WATER LINES ARE UTILIZED DURING START-UP OPERATIONS TO FILL THE COOLING SYSTEM LOOP. DURING NORMAL TSV OPERATION THIS LINE WILL ONLY BE USED IF MAKE-UP WATER IS REQUIRED. A BACKFLOW PREVENTER IS INCLUDED ON THIS LINE TO PREVENT POSSIBLE CONTAMINATED LIQUID FLOWING BACK INTO THE MUPS.

Figure 4a2.7-4 – LWPS Process Flow Diagram

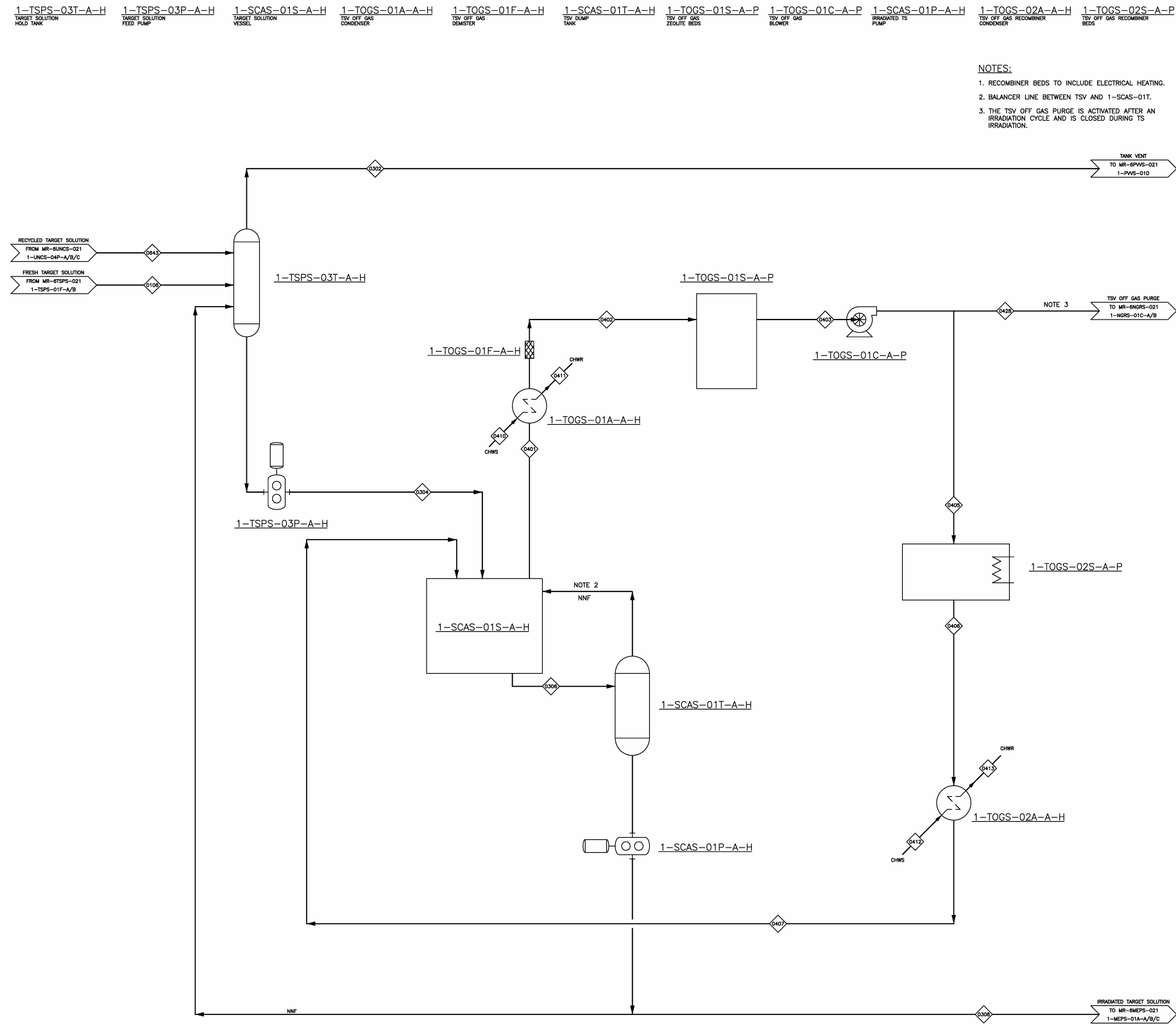


NOTES:

1. THE COOLING WATER WILL FLOW THROUGH THE FILTERS AND DEIONIZER VIA A SLIP STREAM TO REMOVE PARTICULATES AND CATIONS FROM THE COOLING LOOP. A CONDUCTIVITY PROBE WILL INDICATE THE CATION LOADING IN THE SYSTEM. A STANDBY DEIONIZER IS INCLUDED. THE FLOW RATE THROUGH THE WATER TREATMENT LOOP IS TBD.
2. THE MAKE-UP COOLING WATER LINE IS UTILIZED DURING START-UP OPERATIONS TO FILL THE COOLING SYSTEM LOOP. DURING NORMAL OPERATION THIS LINE WILL ONLY BE USED IF MAKE-UP COOLING WATER IS REQUIRED. A BACKFLOW PREVENTER IS INCLUDED ON THIS LINE TO PREVENT POSSIBLE CONTAMINATED LIQUID FLOWING BACK INTO THE FACILITY DI WATER SYSTEM.

DRAWING SCALE
NTS

Figure 4a2.8-1 – TOGS Process Flow Diagram



- NOTES:
1. RECOMBINER BEDS TO INCLUDE ELECTRICAL HEATING.
 2. BALANCER LINE BETWEEN TSV AND 1-SCAS-01T.
 3. THE TSV OFF GAS PURGE IS ACTIVATED AFTER AN IRRADIATION CYCLE AND IS CLOSED DURING TS IRRADIATION.

DRAWING SCALE

Figure 4a2.8-2 – TOGS Layout Sketch

Proprietary Information – Withhold from public disclosure under 10 CFR 2.390(a)(4)
Security-Related Information – Withhold under 10 CFR 2.390