

## **5.0 Reactor Coolant System and Connected Systems**

### **5.1 Summary Description**

The information in this section of the reference ABWR DCD, including all subsections and figures, as modified by the STP Nuclear Operating Company Application to Amend the Design Certification rule for the U.S. Advanced Boiling Water Reactor (ABWR), "ABWR STP Aircraft Impact Assessment (AIA) Amendment Revision 3," dated September 23, 2010 is incorporated by reference with the following departures.

STD DEP 5.4-1

Figure 5.1-3 Nuclear Boiler System P&ID (Sheet 4 of 11)

STD DEP 5.4-1 (Figure 5.1-3)

CUW piping pressure change to be consistent with Table 5.4-6 is incorporated in Figure 5.1-3 Nuclear Boiler System P&ID (Sheet 4 of 11) in Chapter 21.

STD DEP 5.4-5 (Figure 5.1-3)

STD DEP 7.3-6 (Figure 5.1-3)

Figure 5.1-3 Nuclear Boiler System P&ID (Sheet 2) is incorporated in Chapter 21.

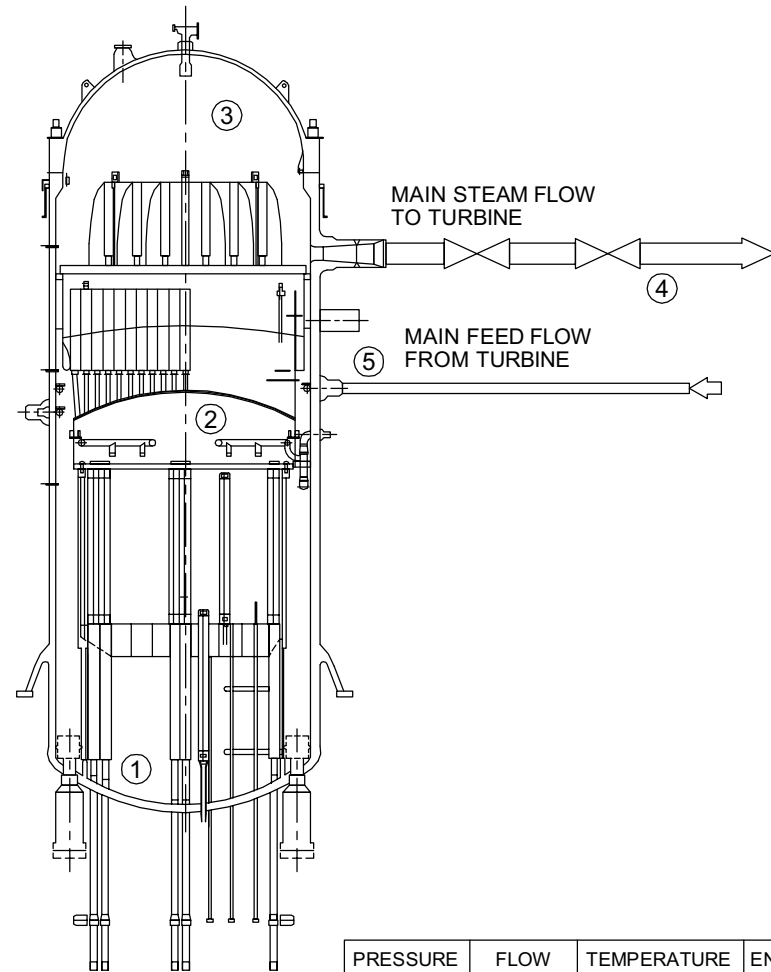
This figure is modified to reflect STD DEP 7.3-6, change in SRV Position Indication from LVDTs to limit switches.

STD DEP 7.3-11

Figure 5.1-3 Nuclear Boiler System P&D (Sheets 1-11) is incorporated in Chapter 21.

Changes are made to Sheets 2 and 4 to reflect DEP 7.3-11, Leak Detection and Isolation System Value Leakage Monitoring.

STP DEP 10.1-3 (Figure 5.1-1)



|                                                      | PRESSURE<br>( MPaA) | FLOW<br>( kg/hr)   | TEMPERATURE<br>( °C) | ENTHALPY<br>( kJ/kg) |
|------------------------------------------------------|---------------------|--------------------|----------------------|----------------------|
| 1 CORE INLET                                         | 7.4                 | $52.2 \times 10^6$ | 278                  | 1227                 |
| 2 CORE OUTLET                                        | 7.2                 | $52.2 \times 10^6$ | 288                  | 1500                 |
| 3 SEPARATOR OUTLET<br>( STEAM DOME)                  | 7.2                 | $7.65 \times 10^6$ | 287                  | 2769                 |
| 4 STEAMLINE<br>( 2ND ISOLATION VALVE)                | 6.9                 | $7.65 \times 10^6$ | 285                  | 2769                 |
| 5 FEEDWATER INLET ( INCLUDES<br>CLEANUP RETURN FLOW) | 7.3                 | $7.78 \times 10^6$ | 216                  | 926                  |

Figure 5.1-1 Rated Operating Conditions of the ABWR