



# Residual Heat Removal System

## Chapter 5.1



# Learning Objectives

1. State the purposes of the Residual Heat Removal (RHR) System.
2. Describe the RHR system flow path including suction supplies, discharge points and major components during decay heat removal.
3. Describe the normal, at-power line-up of the RHR system.

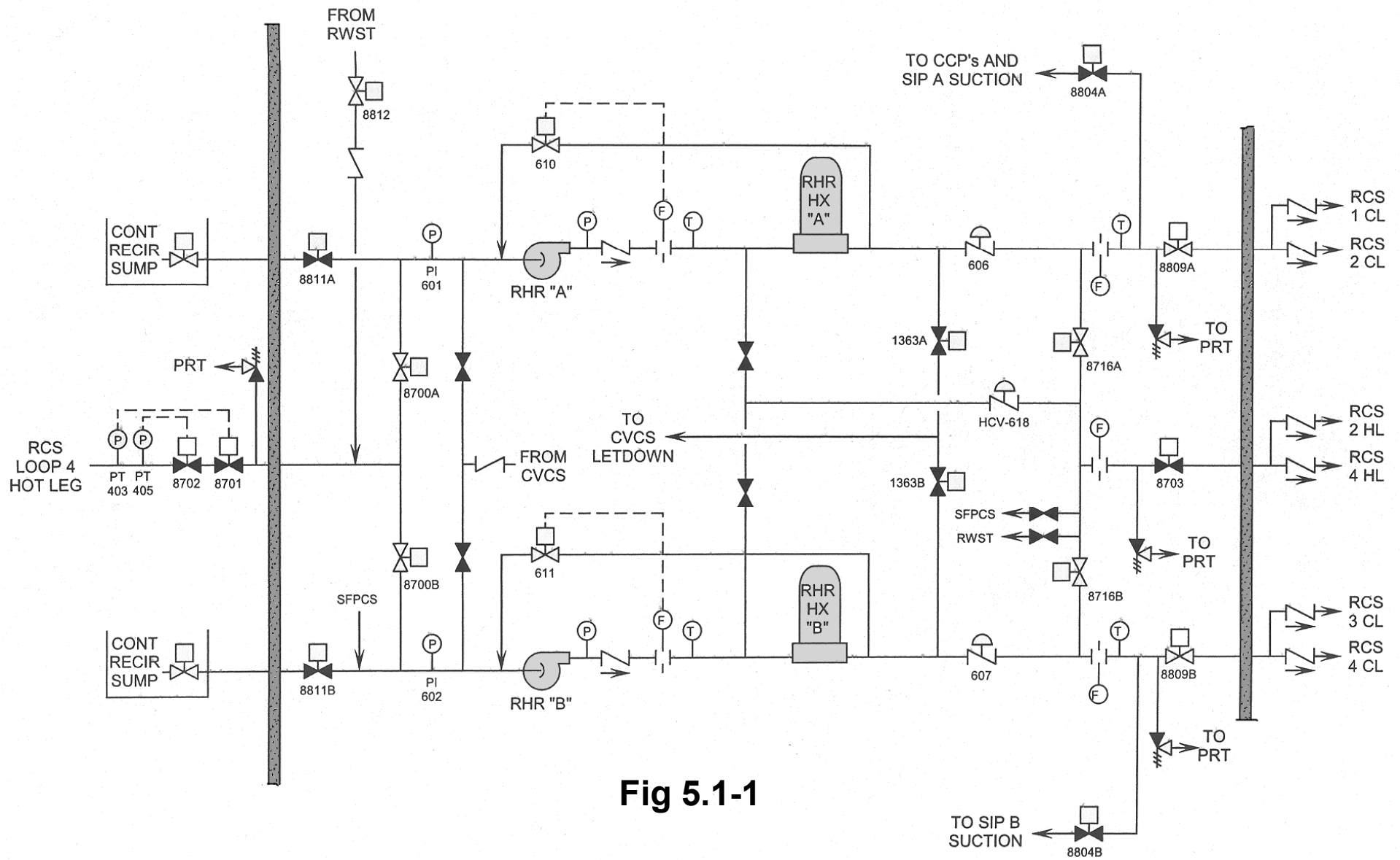
# Learning Objectives

4. Explain why Reactor Coolant System (RCS) pressure and temperature limits are placed on the initiation of RHR cooldown.
5. Explain how the RHR system is protected against over pressurization.
6. Explain how an intersystem LOCA is initiated in the residual heat removal system and what affect it can have on long-term core cooling.

# RHR System Purposes

1. Removes decay heat from the core and reduces the temperature of the RCS during the second phase of plant cooldown.
2. Serves as the low pressure injection portion of the Emergency Core Cooling System (ECCS), following a loss of coolant accident.
3. Transfers refueling water between the refueling water storage tank and the refueling cavity before and after refueling.

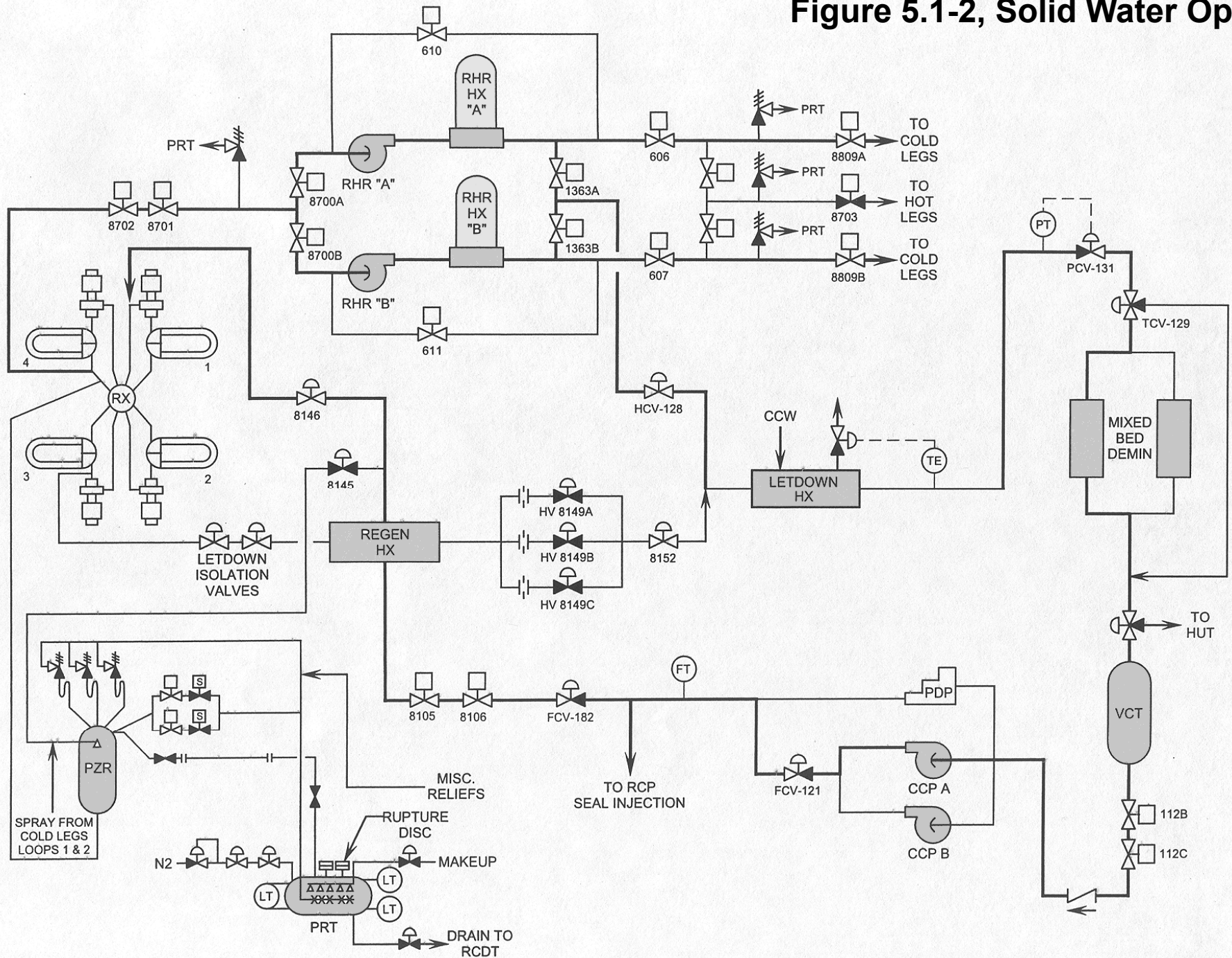




**Fig 5.1-1**



**Figure 5.1-2, Solid Water Ops**



# Intersystem LOCA

- Safety concern since coolant is being lost outside Containment.
- Coolant would not be available for Containment sump recirculation.
- The intersystem LOCA is a small contributor to core damage frequencies at Westinghouse PWRs

