

US-APWR DCWG ITAAC WORKSHOP – MHI RESPONSE TO HOMEWORK ASSIGNMENT (07/19/07)

Assumptions:

1. Followed SRP 14.3 Branch Oriented Format Used
2. Used Fluid System
3. Individual System ITAAC Are With Individual Systems
4. The Tier 2 Figure is Used In Tier 1
5. The Long Term Core Cooling Safety Function Is Assumed to Take Suction On The IRWST and Pump to The Core Using The RNS Pumps

Design Commitment	Inspections, Tests, or Analyses	Acceptance Criteria
1. The functional arrangement of the System is as described in the Design Description of this Section and as shown on Figure [The Figure Copied From Tier 2 – Re: Assumption 4].	1. Inspections of the as-built system will be performed.	1. The as-built System conforms with the functional arrangement as described in the Design Description of this Section and as shown in Figure [The Figure Copied From Tier 2 – Re: Assumption 4].
2. The ASME Code components of the System retain their pressure boundary integrity under internal pressures that will be experienced during service. {Also came from the Piping Systems and Components Section}	2. A hydrostatic test will be conducted on those code components of the System required to be hydrostatically tested by the ASME code.	2. The results of the hydrostatic test of the ASME Code components of the System conform with the requirements in the ASME Code, Section III.
3a. The RNS pumps have sufficient NPSH [Re: Assumption 5].	3. Inspections, tests, and analyses will be performed based upon the as-built system. The analysis will consider the effects of: <ul style="list-style-type: none"> - pressure losses for pump inlet piping and components, - suction from the IRWST with water level at the minimum value [Re: Assumption 5], - XX% blockage of pump suction strainers, - design basis fluid temperature(XXX°C), - containment at atmospheric pressure - vendor test results of required NPSH 	3a. The available NPSH exceeds the NPSH required.

3b. The IRWST has sufficient capacity.	3b. The IRWST capacity will be determined.	3b. The IRWST capacity exceeds the minimum required volume of XXX gallons (liters).
4. RNS division power ITAACS are located in Electrical Systems Section [Re: Assumption 1]		
5. Both mechanical divisions of the RNS are physically separated.	5. Inspection of the as-built RNS will be performed.	5. Each mechanical division of the RNS is physically separated from other mechanical divisions of the RNS by structural and/or fire barriers.
6. Control Room alarms, displays, and controls for the RNS are identified in Table XX .	6. Inspections will be performed on the Control Room alarms, displays, and controls for the RNS.	6. Alarms, displays, and controls exist or can be retrieved in the Control Room as identified in Table XX .
7. Remote Shutdown System (RSS) displays and/or controls for the RNS are identified in Table YY .	7. Inspections will be performed on the RSS displays and/or controls for the RNS.	7. Displays and/or controls exist on the RSS for the RNS as identified in Table YY .
8. Power-operated valves designated in Table ZZ as having an active safety-related function open, close, or both open and also close under differential pressure, fluid flow, and temperature conditions	8. Tests of installed valves designated in Table ZZ will be performed for opening, closing, or both opening and also closing under system preoperational differential pressure, fluid flow, and temperature conditions.	8. Upon receipt of the actuating signal, each installed valve designated in Table ZZ opens, closes, or both opens and also closes, depending upon the valve's intended function.
10. Check valves designated in Table ZZ as having an active safety-related function open, close, or both open and also close under system pressure, fluid flow, and temperature conditions.	10. Tests of installed valves designated in Table ZZ will be performed for opening, closing, or both opening and also closing, will be conducted under system preoperational pressure, fluid flow, and temperature conditions.	10. Based on the direction of the differential pressure across the valve, each installed CV designated in Table ZZ opens, closes, or both opens and also closes, depending upon the valve's intended function.
11. RNS Containment Isolation ITAACS are located in the Containment Isolation Section [Re: Assumption 1]		
12. RNS pressure boundary ITAACS are located in the Piping Systems and Components Section [Re: Assumption 1]		
We think that an ITAAC(s) will be required for PRA and severe accident insights.		

13. RNS is capable of full flow on-line testing of the RNS pumps	Perform flow testing of the RNS pumps lined up as if on-line.	Full flow of the RNS pumps.
14. RNS special cases for seismic qualification ITAACS are located in the Structural and Systems Engineering Section [Re: Assumption 1]		