The following are the responses to the requests from NRC at the conference meeting between HF Controls and NRC on 5/26/09 from 1:00pm ~ 1:30pm EST:

1. Diagnostics and Self-Test Capabilities Supplementary Information
   Section 2.3 of DS001-000-06 "System Component Design Specification" Rev. A describes the majority of diagnostics and self-test capabilities of HFC-6000. The following table provides the summary and supplementary information which is not listed in the document:

Topic	Summary from DS001-000-06	Supplementary Information

Power Up Initialization Diagnostic Software	• Firmware
	  ○ Checksum Validation
	• RAM/DPM
	  ○ Address and data line tests
	  ○ Memory test
	• Configuration
	  ○ Each processor reporting expected configuration
	• Application
	  ○ CRC16 validation for Apps
	  ○ I/O Table validation by ICL processor
	• Startup Validation
	  ○ All processors must complete initialization successfully
	Reporting Method: LED Failure code and no further operation
		• I/O Card Initializations
		  ○ Firmware Checksum Test
		  ○ Memory Test
		Reporting Method: Watchdog LED remains off and no operation

On-Line Diagnostic Software for Controller Component	• Mailbox Checking
	  • Sanity checks for each subordinate processor
	Reporting Method: Failover & error report from new primary
	
	• ICL Communication Validation:
	  • CRC16 message test
	  • Response timeout
	  • Secondary loop back error
	  • I/O diagnostic
	Reporting Method: Error report for Alarm
	
	• C-Link Communication Validation
	  • Hardware CRC32 testing
		• Task Stack & TCB Validation
		  ○ CRC16 tests of memory areas with validation at the task reactivation
		  ○ Specific data and address line testing
		Reporting Method: Failover & error report from new primary

	• Sequence error • Cabling error Reporting Method: Error report for Alarm • Maintenance Failover Enable: Primary and secondary validation tests Reporting method: Any errors will cause the MF enable to become false	

On-line Diagnostic Software for Memory Component	• Validate RAM within OS tasks scan cycle
	  o RAM test
	  o CRC16 test of application code
	Reporting Method: Failover & error report from new primary
	
	• Validate all memory chips within 500MS
	  o DPM signature test
	  o Checksum test of drop data
	  o Address and data line checking
	Reporting Method: Drop failure and maintenance failover disabled and error alarm
	
	• Validate public RAM with OS tasks scan cycle
	  o Checksum test of drop data
	  o Address and data line testing
	Reporting method: Loss of maintenance failover and error alarm
	
	• Validate public memory between system processor and peripheral processor
	  o Validate DDB table & IO Scan Tables
	Reporting method: System Alarm
	
	• Validate NIC buffer ring memory and private memory
	  o DDB data validation
	Reporting Method: System Alarm
		• Interrupt Vector Validation
		  o CRC16 on the vector table
		Reporting Method: Failover and error from new primary

	• Validate PROM, Flash & RAM (Secondary) o Checksum test of firmware o CRC16 test of firmware o CRC16 test of apps o Memory test Reporting Method: Loss of maintenance failover and error alarm	

2. RS101 EMI Testing for HFC-6000

   HF Controls completed RS101 EMI testing for HFC-6000 for the Shin Kori Unit 1 project at Wylie Laboratory on July 3, 2007. The test was performed in accordance with the procedure outlined in MIL-STD-461E. No anomalies were reported.

3. BTP 7-14 planning documents mapping to HFC documents

   Since ERD111 was intended to develop a generic control system rather than a specific safety system, primary emphasis was placed on planning for development of the hardware platform and its system-level software (OS). The application program (TSAP) was limited is scope to provide just enough functional operation to demonstrate the reliability of the hardware platform and its system software.

   According to BTP 7-14, 12 software planning documents are required for the review. These documents can be standalone or combined in some other documents. The following table shows a mapping between the required documents and HFC-6000 documents:

Required Documents	HFC-6000 Documents
1. Software Management Plan (SMP)	VV0401 Product/Project Development Plan
2. Software Development Plan (SDP)	VV0401 Product Project Software Development Plan
3. Software Quality Assurance Plan (SQAP)	PQP_2003-05 Project Quality Plan
4. Software Integration Plan (SIntP)	TN0401 Master Test Plan TP0401 Integration Test Plan
5. Software Installation Plan (SInstP)	TP0401 Integration Test Plan TP0408 TSAP Test Plan TP0408B TSAP Test Plan Detailed software installation will be addressed for a real application development program.
6. Software Maintenance Plan (SMaintP)	VV0401 Project Development Plan

7. Software Training Plan (STrngP)	VV0401 Project Development Plan
8. Software Operation Plan (SOP)	VV0401 Project Development Plan
9. Software Safety Plan (SSP)	PP004-000-01 Software Safety Plan
10. Software Verification and Validation Plan (SVVP)	QPP 3.1 Design Control QPP 3.2 Software Lifecycle and Verification & Validation Program
11. Software Configuration Management Plan (SCMP)	QPP 3.1 Design Control WI-ENG-003 Configuration Management
12. Software Test Plan (STP)	TN0401 Master Test Plan *Note: TN0401 was generated in accordance with EPRI TR-107330.* *At the time ERD111 was performed, HICB BTP-14 was at rev. 4 and STP was not one of the required planning documents.*