

LIMITING CONDITION FOR OPERATIOND. HPCI Subsystem

1. The HPCI Subsystem shall be OPERABLE whenever there is irradiated fuel in the reactor vessel, reactor pressure is greater than 150 psig, and prior to reactor startup from a COLD CONDITION, except as specified in 3.5.D.2 and 3.5.D.3 below.

SURVEILLANCE REQUIREMENTD. HPCI Subsystem

1. HPCI Subsystem testing shall be performed as follows:

<u>Item</u>	<u>Frequency</u>
a. Simulated Automatic Actuation Test	Annual
b. Pump Operability	Once/month
c. Motor Operated Valve Operability	Once/month
d. At rated reactor pressure demonstrate ability to deliver rated flow at a discharge pressure greater than or equal to that pressure required to accomplish vessel injection if vessel pressure were as high as 1040 psig.	Once/3 months
e. At reactor pressure of 150 + 10 psig demonstrate ability to deliver rated flow at a discharge pressure greater than or equal to that pressure required to accomplish vessel injection.	Once/operating cycle

The HPCI pump shall deliver at least 3000 gpm for a system head corresponding to a reactor pressure of 1040 to 150 psig.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT										
<p>2. From and after the date that the HPCI Subsystem is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding seven days unless such subsystem is sooner made OPERABLE, providing that during such seven days all active components of the ADS subsystem, the RCIC system, the LPCI subsystem and both core spray subsystems are OPERABLE.</p> <p>3. If the requirements of 3.5.D cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a COLD SHUTDOWN Condition within 24 hours.</p>	<p>2. When it is determined that the HPCI Subsystem is inoperable, the RCIC, the LPCI subsystem, both core spray subsystems, and the ADS subsystem actuation logic shall be demonstrated to be OPERABLE IMMEDIATELY. The RCIC system and ADS subsystem logic shall be demonstrated to be OPERABLE daily thereafter.</p>										
<p>E. <u>Reactor Core Isolation Cooling (RCIC) Subsystem</u></p>	<p>E. <u>Reactor Core Isolation Cooling (RCIC) Subsystem</u></p>										
<p>1. The RCIC Subsystem shall be OPERABLE whenever there is irradiated fuel in the reactor vessel, the reactor pressure is greater than 150 psig, and prior to reactor startup from a COLD CONDITION, except as specified in 3.5.E.2 below.</p>	<p>1. RCIC Subsystem testing shall be performed as follows:</p> <table> <tr> <th data-bbox="893 1149 974 1191"><u>Item</u></th><th data-bbox="1169 1149 1315 1191"><u>Frequency</u></th></tr> <tr> <td data-bbox="812 1212 1136 1351">a. Simulated Automatic Actuation Test (and restart)</td><td data-bbox="1169 1212 1266 1255">Annual</td></tr> <tr> <td data-bbox="812 1372 1071 1447">b. Pump Operability</td><td data-bbox="1169 1372 1331 1415">Once/month</td></tr> <tr> <td data-bbox="812 1468 1136 1574">c. Motor Operated Valve Operability</td><td data-bbox="1169 1468 1331 1510">Once/month</td></tr> <tr> <td data-bbox="812 1596 1136 1936">d. At rated reactor pressure demonstrate ability to deliver rated flow at a discharge pressure greater</td><td data-bbox="1169 1596 1380 1638">Once/3 months</td></tr> </table>	<u>Item</u>	<u>Frequency</u>	a. Simulated Automatic Actuation Test (and restart)	Annual	b. Pump Operability	Once/month	c. Motor Operated Valve Operability	Once/month	d. At rated reactor pressure demonstrate ability to deliver rated flow at a discharge pressure greater	Once/3 months
<u>Item</u>	<u>Frequency</u>										
a. Simulated Automatic Actuation Test (and restart)	Annual										
b. Pump Operability	Once/month										
c. Motor Operated Valve Operability	Once/month										
d. At rated reactor pressure demonstrate ability to deliver rated flow at a discharge pressure greater	Once/3 months										

## 2.0 REVISED TECHNICAL SPECIFICATION DEFINITIONS

The current technical specifications are based on an operating cycle of approximately one year in length. As a result, certain definitions in the technical specifications require modification to reflect the use of 18-month operating cycles with a 25 percent allowance for operational uncertainties. The definitions which require change are: "operating cycle," "refueling outage," and "surveillance frequency." In addition, a new definition, "annual," should be added to the technical specifications to describe surveillance tests which will continue to be performed every 12 months. The proposed revised definitions are provided below.

Operating Cycle: For the purpose of designating surveillance test frequencies, the duration of an operating cycle shall not exceed 18 months. Surveillance tests designated "once per operating cycle" shall be conducted at least once per operating cycle except that surveillance tests performed during an outage which commences before expiration of the operating cycle may be considered timely.

Refueling Outage: Refueling outage is the period of time between the shutdown of the unit prior to a refueling and the startup of the unit after that refueling. For surveillance test purposes, tests are to be performed at least once during a refueling outage as indicated in these technical specifications. In cases where the surveillance test frequency is required to be performed more than once during a refueling outage (e.g., once per week during refueling), the surveillance test shall not be performed less frequently than required by these technical specifications.

Annual: Occurring every 12 months. For the purpose of designating surveillance test frequencies, annual surveillance tests are to be conducted at least once per 12 months.

Surveillance Frequency: Each Surveillance Requirement shall be performed within the specified time interval with:

- a. A maximum allowable extension not to exceed 25% of the surveillance interval, but
- b. The combined time interval for any 3 consecutive surveillance intervals shall not exceed 3.25 times the specified surveillance interval.

Table 3-1

## DAEC TECHNICAL SPECIFICATION (TS) IMPROVEMENT PROGRAM

ANNUAL SURVEILLANCE TEST INTERVALS  
(continued)

	<u>TS Pg #</u>	<u>Tech Spec #</u>	<u>Item</u>	<u>Proposed TS Frequency</u>	<u>Current TS Frequency</u>
11)	3.2-26	Table 4.2-B Item 13	4KV Emergency Bus Degraded Voltage Functional Test/ <u>Calibration</u>	Annual	1/0.C.
12)	3.2-26	Table 4.2-B Item 13	4KV Emergency Bus Under-voltage Relay Instrument <u>Functional Test/Calibration</u>	Annual	1/0.C.
13)	3.2-26	Table 4.2-B Item 4,13	4KV Emergency Bus Sequential Loading Relay Instrument <u>Functional Test/Calibration</u>	Annual	1/0.C.
14)	3.2-26	Table 4.2-B Item 13	4KV Emergency Bus Under-voltage Instrument Calibration	Annual	1/0.C.
15)	3.2-26	Table 4.2-B Item 13	ECCS Bus Power Relay Drop Out Voltage Measurement	Annual	1/0.C.
16)	3.2-26	Table 4.2-B Item 14	Instrument AC and Battery Bus Undervoltage Relay Calibration	Annual	1/0.C.
17)	3.2-27 and 3.2-26	Table 4.2-B Item 1,8  Item 4	Core Spray Trip System Logic Functional Test and Timer Calibration	Annual	1/0.C.
18)	3.2-27 and 3.2-26	Table 4.2-B Item 2,8  Item 4	LPCI Trip System Logic Functional Test and Timer Calibration	Annual	1/0.C.
19)	3.2-27	Table 4.2-B Item 3,8	Containment Spray Cooling Logic System Functional Test	Annual	1/0.C.
20)	3.2-27 and 3.5-6	Table 4.2-B Item 4,8  4.5.D.1.a	HPCI Actuation Logic System Functional Test	Annual	1/0.C.

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Surv Test No. <u>428012</u>		<u>Surveillance Test Procedure Title</u>		Recommended TS Freq <u>1/0.C.</u>		<u>Plant Status</u>	
Tech Spec No. <u>4.5.F.1</u>		ADS Trip System Logic Functional		Current TS Freq <u>1/0.C.</u>		Shutdown required	
Tech Spec Pg. <u>3.2-27 &amp; 3.5-9</u>		Test and (Timer) Calibration		Current STP Freq <u>Semi-Annual/Refuel</u>		Not related to refuel	
Observed DRS & LERS	Accident Type	Failure Probability	Consequences	New Accident	Safety Margin		
<p>DR 060978 - 78140</p> <p>ADS 'A' Trip System Timer found inoperable. 'A' timer replaced and tested satisfactorily.</p> <p>DR 030184 - 84091</p> <p>Test switch in AB position ADS timers did not start. Cause: faulty HS-4462</p>	15.6 Decrease in Reactor Coolant	<p>No Increase</p> <p>Random failures. Redundant channel available. Diverse system (HPCI) available. Timer calibration and functional test semi-annually.</p>	No Increase	None	No Decrease		
TEST PURPOSE:				CONCLUSION:			
<p>Logic test to confirm that test signals for (a) Rx Low Level or (b) High Drywell Pressure and (c) LPCI/Core Spray will initiate ADS. Timers are set at 120 seconds to allow HPCI or RCIC to be the primary response.</p>				<p>Extend Test Interval</p> <p>No Unreviewed Safety Questions Exist</p>			

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Surv Test No. <u>42D005</u>	<u>Surveillance Test Procedure Title</u>		Recommended TS Freq <u>1/O.C.</u>	<u>Plant Status</u>	
Tech Spec No. <u>Table 4.2-D &amp; 4.7.B.1d</u>	Standby Gas Treatment System Actuation & Reactor Building Isolation		Current TS Freq <u>Refuel</u>	Shutdown required	
Tech Spec Pg. <u>3.2-29 &amp; 3.7-15</u>	Logic System Functional Test		Current STP Freq <u>Refuel</u>	Related to refuel	

  

Observed DRs & LERs	Accident Type	Failure Probability	Consequences	New Accident	Safety Margin
<p>DR 122378 - 78205</p> <p>SBGT HS-5718A, MOV-5716A, MOV-5728A, disabled or broken. CV-5703A &amp; 5719A did not open. CV-4307 did not open IV-EF-3A.</p> <p>DR 021680 - 80029</p> <p>IV-RF-1A, IV-RF-1B and MO-5727B fans tagged out for D/W work. Unable to get indication; MO-5727B has open light and does not go out when valve is closed. Reset limit switches.</p> <p>DR 040482 - 82090</p> <p>CV-5703A would not open.</p>	15.7 Radio-active Release	<p>No Increase</p> <p>Redundant train is available. Logic is tested semi-annually.</p>	No Increase	None	No Decrease
TEST PURPOSE:			CONCLUSION:		
Testing verifies that SBGT 'A' and/or 'B' will start and run, thus assuring filtered releases from the Rx building.			<p>Extend Test Interval</p> <p>No Unreviewed Safety Questions Exist</p>		

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Surv Test No. <u>42H006</u>		<u>Surveillance Test Procedure Title</u>		Recommended TS Freq <u>1/0.C.</u>		<u>Plant Status</u>	
Tech Spec No. <u>Table 4.2-H</u>		Safety & Relief Valve Position Indicator <u>Calibration</u>		Current TS Freq <u>1/0.C.</u>		Shutdown required	
Tech Spec Pg. <u>3.2-34a</u>				Current STP Freq <u>1/0.C.</u>		Not related to refuel	
Observed DRs & LERs	Accident Type	Failure Probability	Consequences	New Accident	Safety Margin		
DR 052782 - 82158 Pressure switch PS-4404A Inop. Switch did not actuate above 25 + 6.75 psig. Reset for 25 + 6.75/-2.25 psig.	15.6 NSSS Inventory Decrease	This is an indication of an open valve. Redundant and diverse indication is available.	No Increase	None	No Decrease		
TEST PURPOSE:				CONCLUSION:			
Calibration of the ADS valve pressure switch which receives a signal from drywell pressure sensors.				Extend Test Interval  No Unreviewed Safety Questions Exist			



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Surv Test No. <u>45D001</u>	<u>Surveillance Test Procedure Title</u>		Recommended TS Freq <u>1/0.C.</u>	<u>Plant Status</u>	
Tech Spec No. <u>4.5.D.1e</u>	HPCI System Monthly/ <u>Cycle</u> Operability Tests		Current TS Freq <u>1/0.C.</u>	Shutdown required	
Tech Spec Pg. <u>3.5-6</u>			Current STP Freq <u>1/0.C.</u>	Not related to refuel	
Observed DRs & LERs  LER 122076 - T6089  HPCI turbine tripped on fast start with high flow indication. Other ECCS operable. High flow PDIS setpoints were corrected and HPCI system test satisfactorily.	Accident Type  15.6 NSSS Inventory Decrease	Failure Probability  No Increase  Procedural error - one occurrence only	Consequences  No Increase	New Accident  None	Safety Margin  No Decrease
TEST PURPOSE:  During startup from cold shutdown, demonstrate the ability of the HPCI to deliver 3000 gpm at 150 psig.				CONCLUSION:  Extend Test Interval  No Unreviewed Safety Questions Exist	

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Surv Test No. <u>47F001</u>	<u>Surveillance Test Procedure Title</u>		Recommended TS Freq <u>1/0.C.</u>	<u>Plant Status</u>	
Tech Spec No. <u>4.7.F.1</u>	Condenser (Mechanical) Vacuum Pump Functional Test		Current TS Freq <u>1/0.C.</u>	Shutdown required	
Tech Spec Pg. <u>3.7-19b</u>			Current STP Freq <u>1/0.C.</u>	Not related to refuel	
Observed DRs & LERs None	Accident Type 15.7 Radio- active Releases	Failure Probability No Increase No failures observed	Consequences No Increase	New Accident None	Safety Margin No Decrease
TEST PURPOSE:  Test verifies automatic isolation of the mechanical vacuum pump. Isolation essentially stops releases through the Off-Gas Treatment System.				CONCLUSION:  Extend Test Interval  No Unreviewed Safety Questions Exist	

ATTACHMENT 2

RTS-189 REQUEST FOR ADDITIONAL INFORMATION

OPERATING DATA FOR SURVEILLANCE EXTENSION FROM  
ONCE/OPERATING CYCLE TO ONCE/OPERATING CYCLE

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<u>Item</u>	<u>Years of Operation</u>	<u>Surveillance Frequency</u>	<u>No. of Failures</u>	<u>Shortest/Average Interval Between Failures</u>	<u>Remarks</u>
Pg 3.1-12, Table 4.1-2, Turbine Control Valve Oil Pressure Trip	10	1/operating cycle (every refueling)	2	72 months/90 months	See pg A-5 of report
Pg 3.2-34, Table 4.2-G, RPT Breaker Functional Check and Response Time Test	10	1/operating cycle (every refueling)	0	No failures	See pg A-14 of report
Pg 3.7-19, Surveillance Requirement 4.7.D.1.d, Instrument Excess Flow Check Valve Test	10	1/operating cycle (every refueling)	3	12 months/60 months	See pg A-35 of report
Pg 3.7-19a, Surveillance Requirement 4.7.E.1.a & 4.7.E.1.e, MSIV-LCS Simulated Actuation and Blower Capacity Tests	10	1/operating cycle (every refueling)	9	4 months/20 months	See pgs A-36 & A-37 of report
Pgs 3.8-2 & 3.8-12 (Bases), Surveillance Requirement 4.8.A.1.b, Standby Diesel Generator Test	10	1/operating cycle (every refueling)	2	73 months/90 months	See pg A-38 of report
Pg 3.8-3, Surveillance Requirement 4.8.A.2.c, Battery Discharge Tests	10	1/operating cycle (every refueling)	3	Same day/60 months	See pg A-39 of report

OPERATING DATA FOR SURVEILLANCE EXTENSION FROM  
ONCE/OPERATING CYCLE TO ONCE/OPERATING CYCLE

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<u>Item</u>	<u>Years of Operation</u>	<u>Surveillance Frequency</u>	<u>No. of Failures</u>	<u>Shortest/Average Interval Between Failures</u>	<u>Remarks</u>
Pg 3.6-5, Surveillance Requirement 4.6.D.1, Reactor Safety Valve Check	10	1/operating cycle (every refueling)	3	12 months/60 months	See pgs A-23 & 24 of report
Pg 3.6-5, Surveillance Requirement 4.6.D.1, Reactor Relief Valve Check	10	1/operating cycle (every refueling)	6	6 days/30 months	See pgs A-25 & 26 of report
Pg 3.6-6, Surveillance Requirement 4.6.D.3, ADS System Relief Valve Test	10	1/operating cycle (every refueling)	0	No failures	See pg A-28 of report
Pg 3.7-11, Surveillance Requirement 4.7.A.4.c, Drywell-Suppression Chamber Vacuum Breaker Inspection	10	1/operating cycle (every refueling)	1	96 months/180 months	See pg A-30 of report
Pg 3.7-18, Surveillance Requirement 4.7.D.1.a, PCIS Valve Simulated Automatic Initiation and Closure Time Test	10	1/operating cycle (every refueling)	7	9 months/26 months	See pg A-33 of report