

Functional Performance Test

(Project)

System: **Heating Water System**

<i>Functional Performance Test</i>	<i>P</i>	<i>F</i>	<i>Remarks</i>
FPT Test Prerequisites			
Point to Point checks completed			
Point calibration completed			
Record System Information Before Testing			
System in Auto			
Record OA-T			_____ °F
Record HW System Enable Setpoint			_____ °F
Record HWS-T			_____ °F
Record HWR-T			_____ °F
Record Active HWS-T Setpoint			_____ °F
Record Pump(s) Operation			HWP-1 _____ / HWP-2 _____
Record Pump(s) Speed			HWP-1 _____ %/ HWP-2 _____ %
Record System Differential Pressure from BAS			_____ PSI
Record System Differential Pressure Setpoint			_____ PSI
Record Operation of BLR-1			BLR-1 _____
Record Operation of BLR-2			BLR-2 _____
Record Operation of BLR-3			BLR-3 _____
Power Fail Restart			
Disable power to the BAS panel			
Disable power to the BMS panel			
Disable power to the HW Pump VFD(s)			
Verify pump rotation as speed decreases			
Restore power to BMS panel			
Restore power to the HW Pump VFD(s)			
Restore power to the BAS panel			
Record Pump(s) Operation			HWP-1 _____ / HWP-2 _____
Record Pump(s) Speed			HWP-1 _____ %/ HWP-2 _____ %
Record Operation of BLR-1			BLR-1 _____
Record Operation of BLR-2			BLR-2 _____
Record Operation of BLR-3			BLR-3 _____

“This Functional Performance Test document represents FCG's standard test protocol, basic functional test, and FCG's best understanding of the designed sequence of operation. This document DOES NOT define design intent, supersede contract documents, or direct means and methods.”

Functional Performance Test

(Project)

System: **Heating Water System**

<i>Functional Performance Test</i>	<i>P</i>	<i>F</i>	<i>Remarks</i>
Pump Rotation and Alarms			
Record Pump Runtime (hours) t BAS			HWP-1 _____ / HWP-2 _____
Record Pump Runtime (hours) setpoint			_____ Hours
Record Lead Pump			HWP-1 _____ / HWP-2 _____
If Needed, Rotate Lead / Lag so HWP-1 is Lead			
HWP-1 is Enabled			
HWP-1 status is on at BAS			
Disable the VFD for HWP-1			
Record time delay for Alarm			
Verify alarm at BAS			
HWP-2 is Enabled			
HWP-2 status is on at BAS			
Disable the VFD for HWP-2			
Record time delay for Alarm			
Verify Alarm at BAS			
Restore the VFD(s) for HWP-1 & 2			
Reset the BAS Alarm			
Rotate Lead / Lag so HWP-2 is Lead			
HWP-2 is Enabled			
HWP-2 status is on at BAS			
Disable the VFD for HWP-2			
Record time delay for Alarm			
Verify Alarm at BAS			
HWP-1 is Enabled			
HWP-1 status is on at BAS			
Disable the VFD for HWP-1			
Record time delay for Alarm			
Verify Alarm at BAS			
Reset the BAS alarm			
Restore Lead / Lag Pump Rotation			
Boiler Staging and Alarms			
Verify Boiler Staging via BMS			
Disable BLR-1, 2, 3			
Verify BMS Alarm at BAS			

“This Functional Performance Test document represents FCG's standard test protocol, basic functional test, and FCG's best understanding of the designed sequence of operation. This document DOES NOT define design intent, supersede contract documents, or direct means and methods.”

Functional Performance Test

(Project)

System: **Heating Water System**

<i>Functional Performance Test</i>	<i>P</i>	<i>F</i>	<i>Remarks</i>
Boiler Staging and Alarms (Continued)			
Restore BLR-1, 2, 3			
Boilers stage to maintain active setpoint			
Record the BMS HWS-T Stpt at 60°F OA-T			_____ °F
Record the BMS HWS-T Stpt at 0°F OA-T			_____ °F
Release any Overrides			
Reset any Alarms			
Heating Water System Enable			
Simulate an OA-T of 65°F			
Verify the BAS disables the BMS			
HWP-1 is disabled			
HWP-1 status is off at BAS			
HWP-2 is disabled			
HWP-2 status is off at BAS			
Simulate an OA-T of 55°F			
Lead HWP is enabled			
HWP status at BAS			HWP-1 _____ / HWP-2 _____
BMS is enabled			HWP-1 _____ / HWP-2 _____
Boilers stage to maintain active setpoint			
Release any Overrides			
Reset any Alarms			

Number	Date	Remark
1		Record participants and date
2		
3		
4		
5		
6		
7		
8		
9		
10		

“This Functional Performance Test document represents FCG's standard test protocol, basic functional test, and FCG's best understanding of the designed sequence of operation. This document DOES NOT define design intent, supersede contract documents, or direct means and methods.”