

Functional Test

Project: _____

FT-_____ **SMALL SERVICE HOT WATER CIRCULATING PUMPS CP-1; 2**

Related Tests: Gas HW Heaters

1. Participants

Party

Participation

Party filling out this form and witnessing testing _____

Date of test _____

2. Prerequisite Checklist

- a. The following have been started up and startup reports and prefunctional checklists submitted and approved ready for functional testing: CP-1; 2
- b. Boilers 1; 2 have successfully completed functional testing.
- c. All control system functions for this and all interlocking systems are programmed and operable per contract documents, including final setpoints, schedules, debugging, loop tuning and sensor calibrations complete.

Controls Contractor Signature or Verbal

Date

- d. All A/E punchlist items for this equipment corrected.
- e. Safeties and operating ranges reviewed.
- f. Test requirements and sequences of operation attached.
- g. Schedules and setpoints attached.
- h. Have all energy savings control strategies, setpoints and schedules been incorporated that this equipment and control system are capable of? If not, list recommendations below.
- i. **BAS Program Review.** Review the BAS software control program(s) for this equipment. Parameters, setpoints and logic sequences appear to follow the specified written sequences.
- j. Record of All Values for Current Setpoints (SP), Control Parameters, Limits, Delays, Lockouts, Schedules, Etc. Changed to Accommodate Testing:

Parameter	Pre-Test Values	Returned to Pre-Test Values <input checked="" type="checkbox"/>
CP-1; 2 schedule		

Parameter	Pre-Test Values	Returned to Pre-Test Values <input checked="" type="checkbox"/>

- 3. **Sensor Calibration Checks.** Check the sensors listed below for calibration and adequate location. This is a sampling check of calibrations done during prefunctional checklisting. Test the packaged controls and BAS readings. ---NONE---

Notes:

4. Device Calibration Checks.

---NONE---

5. Verification of Misc. Prefunctional Checks.

Misc. site checks of the prefunctional checklist and startup reports completed successfully. Pass? Y / N _____
___ Unit mounted securely.

6. Functional Testing Record

Proced. No. & Spec. Seq. ID ¹	Req ID No. ²	Test Procedure ³ (including special conditions)	Expected and Actual Response ⁴ [Write ACTUAL response in brackets or circle]	Pass Y/N & Note #
1		<u>Pump speed.</u> Check the amperage of the circulating pumps.	Amperage should be less than the rated amps. Rated = _____ CP-1[_____] CP-2[_____]	
2		Change the schedule so the pumps should be OFF.	Pumps turn OFF.	
3		Schedule the pumps to be ON. Return schedule to normal.	Pumps start. Schedule returned to normal	
4	--	Return all changed control parameters and conditions to their pre-test values⁵	Check off in Section 2 above when completed	

Record Foot Notes

- ¹Sequences of operation specified in Contract Documents (attached).
- ²Mode or function ID being tested, per testing requirements section of the project Specifications.
- ³Step-by-step procedures for manual testing, trend logging or data-logger monitoring.
- ⁴Include tolerances for a passing condition.
- ⁵Record any permanently changed parameter values and submit to Owner.

-- END OF TEST --

Notes: