

SYMPTOM	CHECKS AND POTENTIAL SOLUTIONS
DDC System Down/Failure	<p><u>Step 1:</u> Check the “ON/OFF” switches on the Workstation Computer (WSC) in the Facility Manager’s office. These switches should remain in the “ON” position at all times. If the switches are “OFF”, turn them to “ON”. Check the DDC system through this WSC and verify if the DDC communication system is energized. If the DDC system is energized, alarms should occur on the WSC from the Global Controller (GC) and DDC Control Panels (DPC), if any of these panels have been manually shut-down or if manual control switches have been turned off. If communication with the DDC system is still not available, check each breaker in the Emergency Power Panel that serves each DDC panel and reset the breaker if it is tripped. See Page 2-2-1a2 for panel locations and breaker numbers. If power is not restored, go to Step 2. If power is on and the system is energized, go to Step 3.</p> <p><u>Step 2:</u> Check the power feed to the computer and verify that it is receiving 120V. If Steps 1 and 2 have been completed, then provide temporary 120V power to the computer and replace the power wiring or breaker.</p> <p><u>Step 3:</u> When the GC, DDC Panels are energized, visual displays should be read on the face of the panel or monitor. Check breaker and unit battery and correct. If display is not visible and the power switch is in the “ON” position, there is an internal power fault within the unit. Call the Manufacturer Service Technician for factory service. If display is visible, go to Step 4.</p> <p><u>Step 4:</u> Using the keypad, step through the software program to verify that the software program is still resident. If the program is resident, then check input/output communication cable connections at the GC and DDC Panels to verify that the cables are connected securely and tighten if required. If program is not resident, go to Step 5.</p> <p><u>Step 5:</u> Reinstall the software memory program using the workstation computer or by direct connection with the DDC panels.</p>

<p>Building/Area Temperature Drops Below 65 Degrees F.</p>	<p><u>Step 1:</u> See Step 1 procedure on Sheet 3a-1.</p> <p><u>Step 2:</u> Check Outdoor Air Temperature. If outdoor air temperature is below 6.1° C (43° F), then the system may be performing as designed. If outdoor air temperature is above 6.1° C. and the DDC system has started the Hot Water Heating System Controls, proceed to Step 3.</p> <p><u>Step 3:</u> Check AHU system airflow. If air flow is at or below values, as indicated on sheet Page 2-2-1c5, proceed to Step 4 below. If there is no airflow, proceed with the following checks.</p> <ul style="list-style-type: none"> A. Check AHU heating coil control valve and verify that the valve is open and that the heating coil is hot. If the heating coil is cold, go to Step 4. B. Check electrical power supply to AHU and to AHU DDC Panel. If there is no power, reset the circuit breaker in each respective electrical panel (Page 2-2-1a2 for location). C. Check smoke detection shutdown control at the Fire Alarm Control Panel to verify that a fire alarm has not broken electrical contact to the fan motor. D. Check freeze protection shutdown control; verify that this circuit has not broken electrical contact to the fan motor. E. Check AHU return air dampers to insure they are fully open. Check AHU economizer outside air damper to insure that it is not fully open and operating freely see sheets Page 2-2-1c5 for air flows. F. Place AHU "HAND-OFF-AUTO" switch on AHU starter to "HAND" position. G. Check AHU fan motor start capacitor and fan motor to insure that they are operational and replace if required.
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<p>Building/Area Temperature Drops Below 65 Degrees F (Cont'd.)</p>	<p><u>Step 4:</u></p> <ul style="list-style-type: none"> A. Check pumps HWP-1 and HWP-2 to verify if they are running and flow occurs. If pumps are not running, check electrical power at circuit breaker (see Page 2-2-1a2 for location), and reset the circuit breaker if it has tripped. B. If the pumps do not start place the pumps HWP-1 and HWP-2 "HAND-OFF-AUTO" switches located on its respective starter to "HAND" position to manually start the pump. C. If pump does not start when the "HAND-OFF-AUTO" switch is placed in "HAND" position, then check the pump start capacitor located on pump motor and replace if found to be defective. If start capacitor is found to operate satisfactorily, then check pump motor and replace if found to be burned out. D. Check air vents on the water heating piping system at the system high points and vent air from system through the air vent valves. E. Verify that discharge water flow and temperature from the Boiler Hot Water Reset Schedule. If this water flow or temperature is below that indicated on the reset schedule, raise the water temperature through the DDC System to the maximum indicated on the Reset Schedule. F. Check ET-1 located in room 1E-02 to insure that the tank is not water logged or the bladder is broken. Check auto fill valve located near RBPB and pressure relief valve on cold water make up near the expansion tanks for proper operation (fill valve is open and relief valve is closed). Drain tank and charge with air.
<p>Humidity Level High</p>	<p><u>Step 1:</u> Check discharge air temperature set points at each AHU to verify that the discharge air temperatures are at the temperatures indicated on sheet Page 2-2-1c5. If the discharge air is not at these temperatures, reset to the indicated values.</p> <p><u>Step 2:</u> If the discharge air temperature set point is at it's indicated temperature and additional humidity control is desired or</p>

Humidity Level High (Con't)	required, insure that the chiller system is operating to provide dehumidification. If the chiller system is not in operation, the chiller system should be started through the DDC system.
Room Temperature High/Low Below Setpoint Temperature	<p>Check Step 1 procedures on Page 3a-1.</p> <p><u>Step 1:</u> If room temperature is high, check the terminal unit serving that space and verify that the air flow is at its maximum setpoint and that the terminal unit heating coil valve is closed. Check respective AHU leaving air temperature to verify that it is supplying the discharge air temperature as scheduled on Air Handling Unit Schedule on sheet Page 2-2-1c5. After the above checks have been completed and the problem has not been corrected, check for open windows or doors. Check actual room air flow and adjust if required.</p> <p><u>Step 2:</u> If room temperature is low, check the terminal unit serving that space and verify that the air flow has dropped to its minimum setpoint and that the terminal unit heating coil control valve is open. Check the terminal unit hot water coil and piping for trapped air and bleed off if required. Check the respective AHU and verify that the temperature is no lower than that indicated in Step 1 above. Check boiler system operation to verify that the system is operating properly and supplying the proper temperature of hot water. Reset hot water temperature if required. Check for open windows or doors. Check actual room air flow and adjust if required.</p>