

## **PART II - PRIMARY SYSTEMS INFORMATION**

### **2. DIRECT DIGITAL CONTROL SYSTEM**

#### **1. Operation**

##### **b. START-UP AND SHUTDOWN PROCEDURES:**

The Workstation Computer, the Global Controller and the DDC Panels shall be activated by a power switch located on each unit. The Global Controller shall be referred to here-in-after as DDC panels. See Page 2-2-1a1 and 2 for locations of these units. The power switches on these units should normally be left in the “on” position at all times, unless service is being provided on the unit. A time clock in each DDC panel and the Workstation Computer will automatically start and stop the systems on its programmed schedule. When the system is activated, it shall communicate with all DDC panels. When the system clock is in the Occupied Mode and the manual override switches located on each DDC panel are in the “AUTO” position, the entire HVAC system shall start in accordance with the System Start-up and Shutdown procedures indicated below.

##### **SYSTEM START-UP AND SHUTDOWN PROCEDURES:**

- (1) Start-Up for systems controlled through the DDC System: When all power switches on the DDC Panels and the Workstation Computer are in the “on” position, startup of the HVAC Systems shall be initiated by time clocks in each DDC Panel and in the Workstation Computer. Start-up of the HVAC Systems will be automatically initiated through the DDC System time clocks and will not require direct supervision. The DDC system shall communicate with all DDC panels and the Workstation Computer allowing the Workstation Computer Operator to visually observe graphics, set-points and operating points of each selected system. Alarms for abnormal operation of various equipment of the DDC or HVAC Systems will have a priority basis, regardless of where the computer operator has placed the workstation computer mode of operation. See Page 2-2-1c1 through Page 2-2-1c5 for HVAC Normal Operating Instructions. If work is required on a particular DDC Panel the HVAC System manual override switches may be placed in the “Hand” position so that the HVAC system/s on that DDC Panel may be operated in a manual mode of operation until the work on the DDC Panel/System is completed. When the work has been completed then the manual override switches shall be returned to the “Auto” position.
- (2) Shutdown for Systems Controlled Through the DDC System: The normal shutdown procedure of HVAC systems shall be initiated automatically

through the DDC Control System time clocks and will not require direct supervision. The DDC Systems may be shut down at the Workstation Computer, or at each DDC panel at its respective power switch. This shutdown may be required to service individual DDC System components. Shutdown of the Workstation Computer does not isolate the individual DDC Panels. These panels must be shutdown at their own respective power switch. More than one HVAC system may be located on each DDC Panel. Each HVAC System has a remote control switch located on its respective DDC panel. If a single HVAC System requires shutdown on a DDC Panel containing more than one HVAC System then that particular HVAC System remote control switch may be placed in the "off" position. The "off" position for that particular HVAC System will de-energize the electrical control power for that system, and other HVAC Systems on that particular DDC Panel may continue to function in its normal manner. See Page 2-2-1a1 and 2 for DDC Panels and respective equipment that the panel serves.