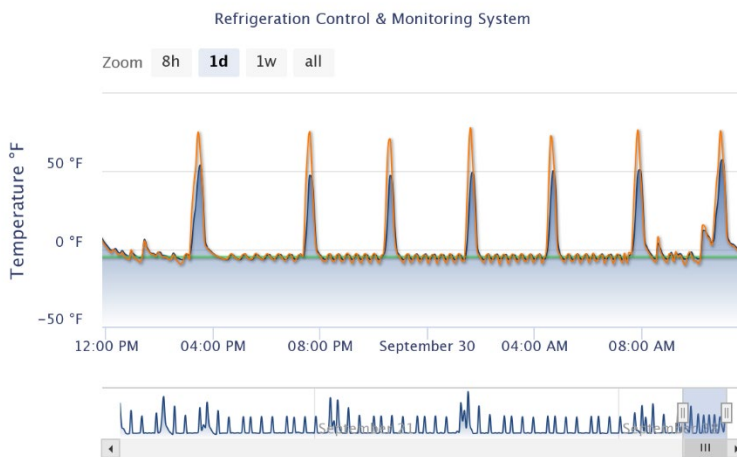
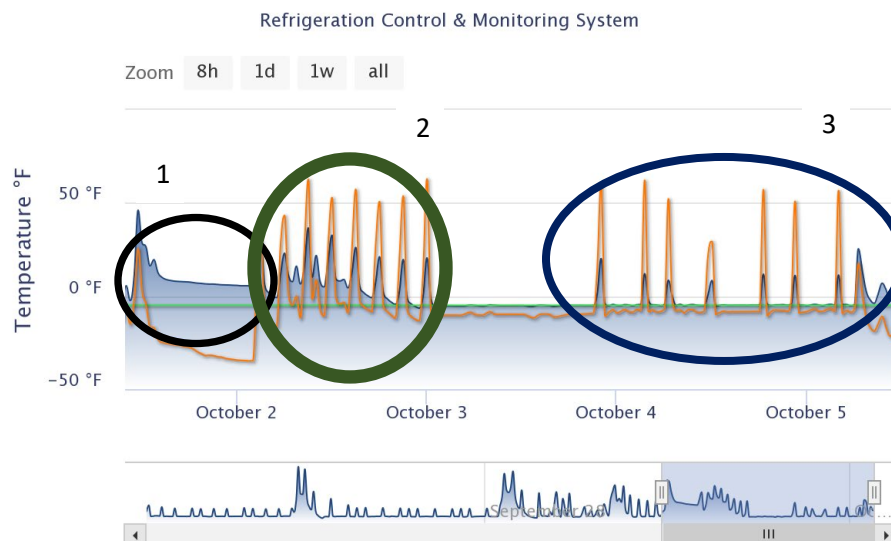


Refrigeration Technologies offers two different types of Defrost for the Walk-in Freezer systems. The Standard Operational Defrost is based on a typical mechanical time clock operation where you can set the system to defrost at specific time intervals. If the system operates as a stand-alone system, the defrost cycle is every 6 hours. When connected to our User Interface it allows for 4 separate time frames that each have five 1-hour increments plus a disabled selection. This allows the client to set specific times for defrost if they choose to do so. The other option is Smart-Defrost. This selection allows the software to make calculations based upon readings from the Sensors to determine if the evaporator coil is starting to accumulate ice build-up. When you initiate Smart-Defrost the system will activate Defrost three times with minimal time in between defrosts. This helps ensure that the Evaporator coil is completely clear of all ice build-up. The second cooling cycle after defrosting has completed measures the time frame to bring the space temperature back down to the set-point plus the hysteresis. Then each time the system goes into the cooling cycle the system calculates the time it takes to reach the set-point plus the hysteresis. Once the cooling cycles start exceeding a 10 percent drop in efficiency the system will initiate a defrost. There are minimum durations between defrosts that can be set-up in the User Interface, this helps prevent multiple defrost during times when the Walk-ins are being heavily utilized. There is a Maximum duration between defrosts, so that we make sure the evaporator coil is staying clean.

Standard Defrost – Every 4 hours.



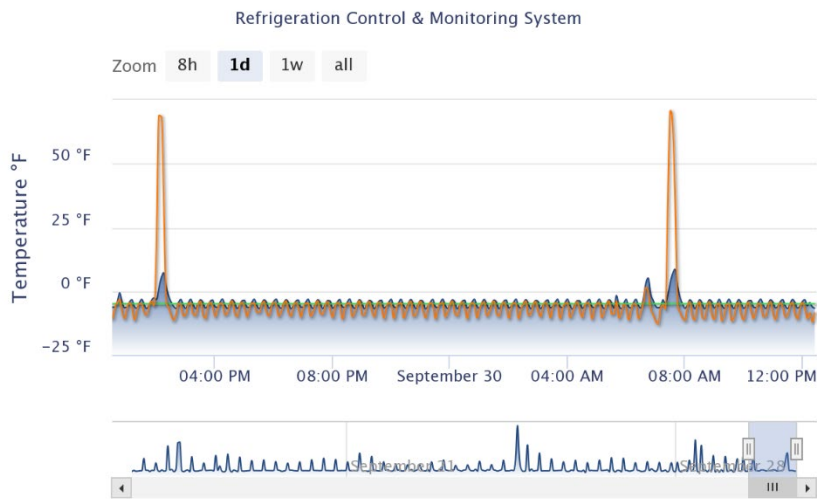
Smart Defrost



Location 1 – shows that Ice has built up on the evaporator coil because of the freezer door was left open for an extended period.

Location 2 – shows the system doing Multiple defrosts to bring the system's efficiency back down below the 10% cooling efficiency.

Location 3 – shows the system defrosting based upon the calculated efficiency of the cooling cycle.



When your Walk-in Freezer doesn't have extended periods of warm air being introduced into the unit, your defrost cycle could look something like this.