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# Removing or Disabling your Demand Control System

All known Demand Control Systems since the late 70's were designed with the same fundamental architecture. Current Transformers as the input and Normally Closed relays for the outputs. The key related to this paper is the normally closed relays.

If you decide that you no longer want or need to use the Demand Control System, you have two choices on how to proceed. You can either disable it or remove it.

**Disabling a Demand Control System**

Disabling a demand control system (DCS) is easy, simply turn off the breaker that controls the power supply to the demand control system. Normally this is a 15 Amp Single-pole breaker dedicated to the power supply for the demand control system. There should not be other loads on this same breaker. Most demand control systems used normally closed relays so once the power supply is removed or turned off, all controlled circuits default to the "on" state. That is to say that the demand control system will not have any effect on the operation of the loads and as such, all loads should operate normally. The benefit of doing this option is that if you ever decide that you want to use the DCS again, all you have to do is turn on the DCS' power supply breaker. Verify that the DCS is off by noting that the LEDs displays or panel lights on the unit are now off. Be aware that there is still current running through the relays, but there will be no switching action.

**Removal of a Demand Control System**

If you decide that you want to remove the Demand Control System, there are several steps that need to be completed. This involves the **danger of electric shock** so only qualified personnel who understand what they are doing should attempt to remove the demand control system. This is a general description of the process of removing the DCS and may vary slightly from brand to brand.

1.) Remove all power from unit

To avoid the possibility of electric shock, TURN OFF all breakers for all loads connected to the DCS as well as the power supply to the unit.

2.) Remove Power Supply to Unit

Remove the 120VAC Power Supply from the DCS.

Find the 15Amp 120VAC breaker in your breaker panel that supplies power to the unit. Turn breaker off. Remove the wires from the breaker and neutral bus. Pull wires out of breaker panel and into the DCS enclosure. Disconnect these wires from power supply transformer and discard wires.

3.) Disconnect Line Voltage Loads

Ensure that all load breakers are off. This is normally the Water Heater, Dryer, AC Units and Heat circuits or any other load connected to the DCS. Remove the 2 wires from each relay's contacts. One of these wires will come directly from one side of the 240VAC breaker. Disconnect this wire and discard. The other wire will go into the breaker panel from the DCS and come to a wire nut. Remove the wire nut and discard this second wire coming from the relay in the DCS. Connect this remaining wire to the vacant screw terminal of the breaker where you just removed the first wire. This wire was originally connected to the breaker before the DCS was installed. You are re-attaching this wire to the breaker such that it goes directly to the load now instead of through the switch loop of the relay for this controlled DCS circuit.

Repeat this procedure for the rest of the controlled loads.

4.) Disconnect Low Voltage Loads

Ensure that the breakers for the HVAC units' connected to the system are off. This is normally the AC Units controlled by the DCS through a low voltage control circuit. Depending on the brand of controller that you are removing, these circuits might be switched through the power relays or may be controlled by dedicated low voltage relays on the DCS board. In the case of Energy Sentry products, these dedicated relays are in the upper right-hand corner of the controller board, normally on outputs 2 and 3. Remove the two wires from each relay's contact and for the time being wire nut them together. Find the other end of this pair of wires, generally in the condensing unit or air handler. Disconnect these two wires from the point that they were connected, and wire nut the two original wires back together. This removes the switch loop to the DCS for this unit and puts the control circuit back to its original condition.

Repeat this procedure for the rest of the low voltage controlled loads.

5.) Remove Current Transformers (USE EXTREME CAUTION)

If possible, remove the current transformers from the incoming main feeders in the breaker panel. This may require a power outage. Most current transformers are "solid" and look like a donut. DO NOT attempt to remove current transformers without the power being turned off.

In the event that you cannot or do not want to remove the current transformers, cut the current transformer's leads to a short length (~6-12") and short each current transformer's wires together with a wire nut. Do not leave the wires from each current transformer disconnected (open circuited).

If your DCS has split core current transformers that open up, simply remove them from the main feeder cables.

6.) Remove the Control/Display Station

Most of the early demand control systems had a remote Control/Display station. This C/D unit was connected to the relay unit by means of a low voltage cable which usually had between 4 and 15 conductors. Disconnect this cable on both ends. Normally it is difficult to remove the cable so both ends are cut off or left inside the wall.

Remove the Control/Display Station from the wall. Disconnect all wires. Patch or repair drywall as necessary.

7.) Remove Relay Enclosure

Most customers desire to remove the relay enclosure from the wall. Once all wires that run between the Breaker panel and the DCS are removed, remove any conduit, an offset nipple or whatever electrical hardware was used to connect the two. Install required electrical "push pennys" or covers to cover the hole(s) in the breaker panel. Remove the enclosure from the wall and discard. Patch or repair wallboard or drywall as necessary.

NOTE: it is highly recommended that a duly qualified and licensed electrician do the removal work.