## Enable Condenser Water Temperature Reset

### Description

This energy efficiency measure (EEM) controls chilled-water loop, hot-water loop, and condenser loop pumps such that when there is no load on the plant, the pumps shut off.

### Modeler Description

This EEM changes the pump control type for all chilled-water loop, hot-water loop, and condenser loop pumps (both primary and secondary) to “Intermittent”. This measure does not check for any AvailabilityManagerAssignmentList objects, or otherwise use custom logic to force the pumps off when there is no load on the plant. Thus, based on the types of availability managers that are used in the model, it is technically possible for the pumps to operate when there is no load.

### Use Case Types

Retrofit, New Construction

### Arguments

No arguments

### Initial Condition Message

The initial model contained at least one chilled-water loop, hot-water loop, or condenser loop pump set to operate continuously; this measure is applicable.

### Final Condition Message

The following pumps were set to operate intermittently: {Pump #1 Name}, {Pump #2 Name}, etc.

### Not Applicable Messages

* No continuously operating chilled-water loop, hot-water loop, or condenser loop pumps were found. EEM not applied.

### Warning Messages

### Information Messages

### Error Messages

### Code Outline

* Check to see if any WaterUse:Connections objects exist in the model. If so, identify the associated PlantLoop object and set it aside. Pumps attached to this loop will NOT be modified.
* Identify all remaining PlantLoop objects in the model. For each of these, check to see if the associated pump objects (Pump:ConstantSpeed or Pump:VariableSpeed) have their Pump Control Type field set to “Continuous”.
  + If so, change this to “Intermittent”. Also, if the Pump Flow Rate Schedule Name field contains a schedule name, delete it.
  + If no pump objects are found with their Pump Control Type field set to “Continuous,” issue an N/A message.

### Tests

**This measure applies to:**

1. Large Office
2. Primary School
3. Secondary School
4. Large Hotel
5. Hospital

**This measure does not apply to:**

1. Small Office
2. Medium Office
3. Stand-Alone Retail
4. Strip Mall
5. Supermarket
6. Quick Service Restaurant
7. Full Service Restaurant
8. Small Hotel
9. Outpatient Healthcare
10. Warehouse
11. Midrise Apartment

**Test results:**