

# **Title 24 2013 Compliance Software:**

## **CBECC-Com**

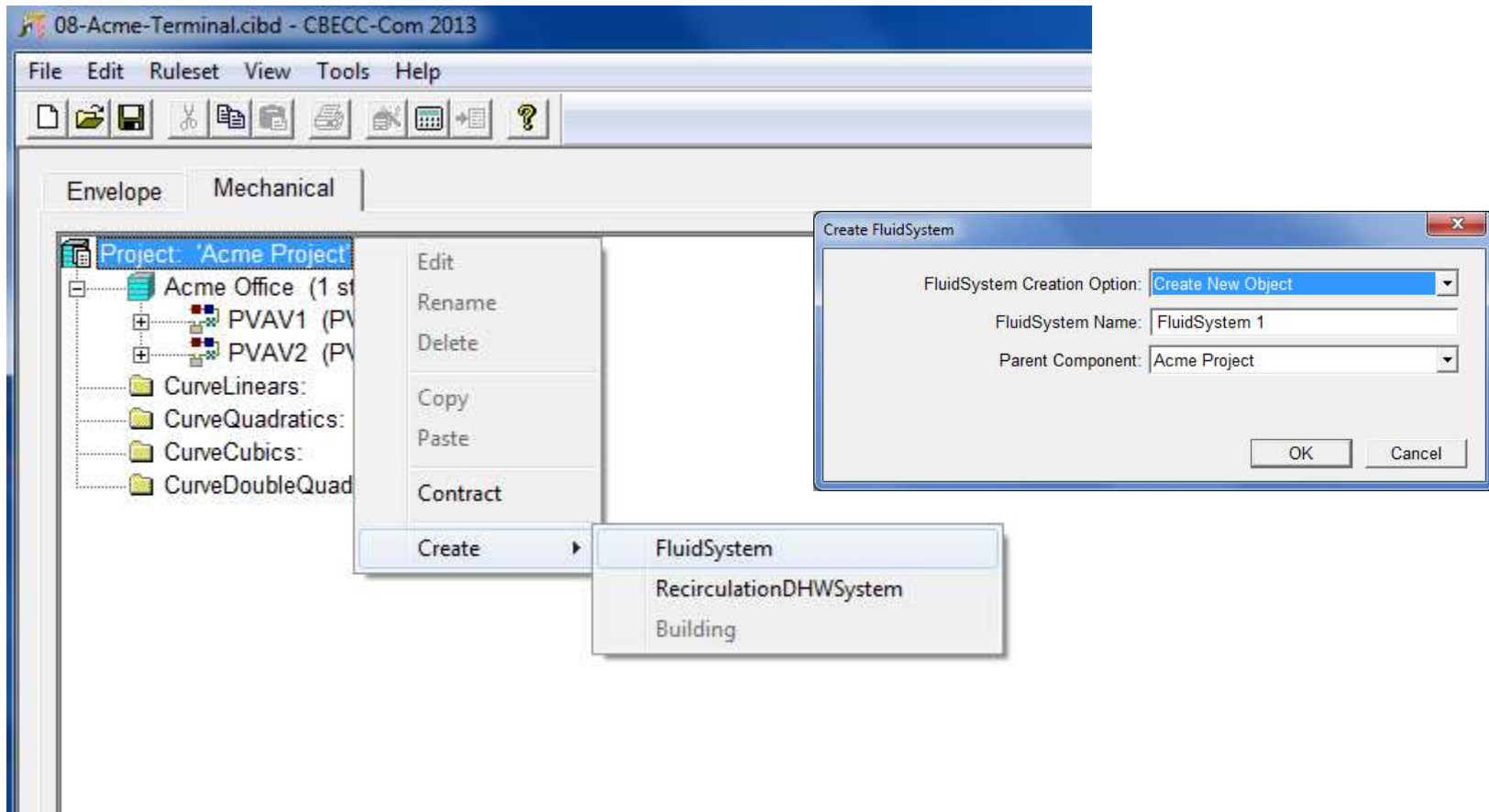
**“California Building Energy Code Compliance  
for Commercial Buildings”**

**Defining Domestic Hot Water Systems**

- Objective: **Create DHW System**
- 1. Create Fluid System
- 2. Create Fluid Segments
- 3. Create Water Heater
- 4. Assign to Spaces

# Training Module 10: Create Fluid System

- ❖ Right-click on Project Name (Acme Project) then select **Create > FluidSystem**
- ❖ A new dialog box opens – fill in the FluidSystem Name and then click OK



# Training Module 10: Create Fluid System

## ❖ Typical view of the Fluid System Data Screen

Building Model Data

Fluid System Data

Currently Active Fluid System:

Name:  Availability Schedule:

Type:  Control System Type:

Status:

Description:

Annual Solar Fraction:  frac

Cooling Heating

Total Capacity:  Btu/h  Btu/h

Design Supply Temp:  °F

Design Delta T:  °F

Loop Temperature Control

Temperature Control:

Fixed Supply Temp:  °F

Setpoint Temp Sch:

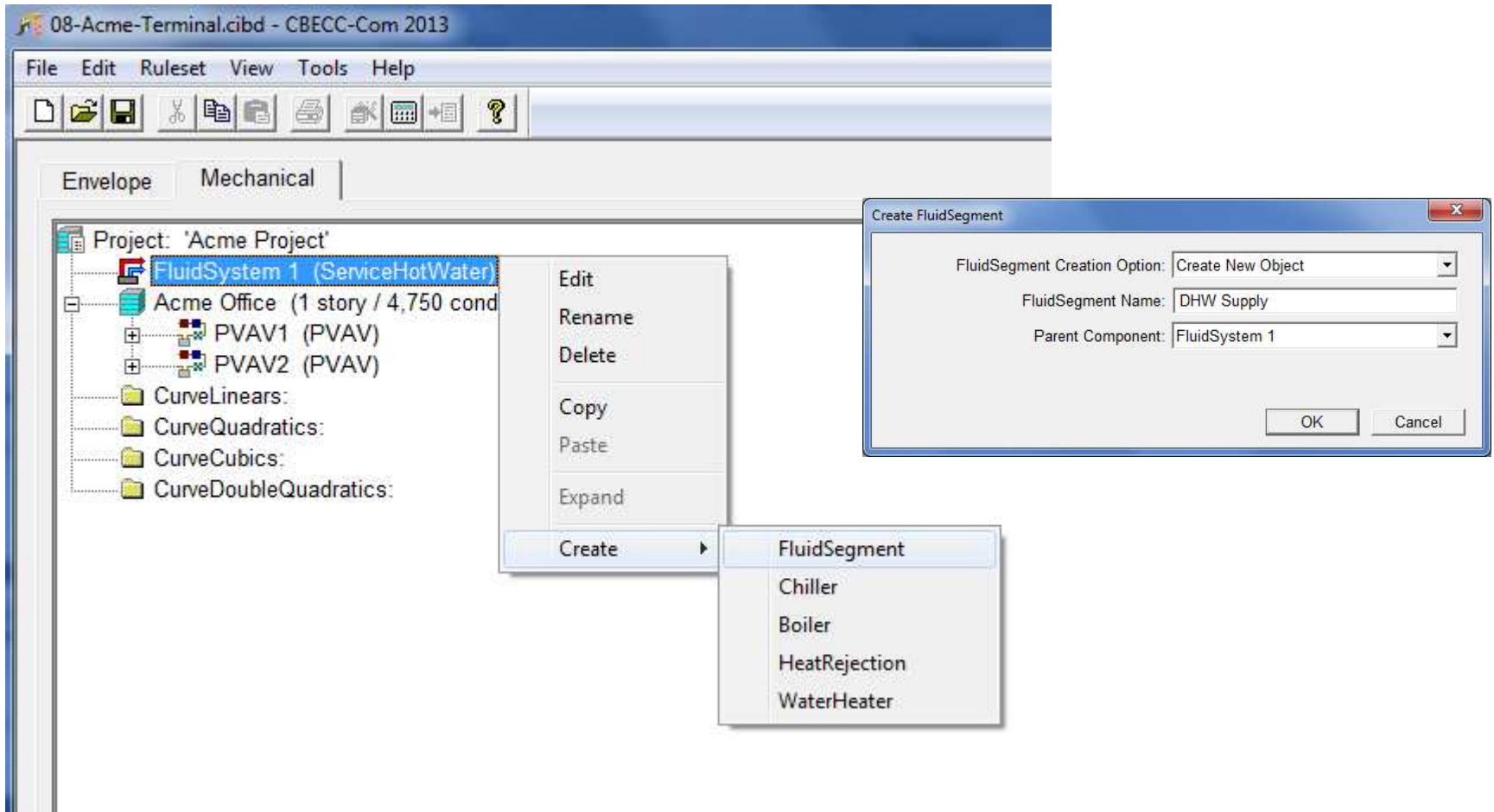
Reset Supply High:  °F @ Outdoor Temp:  °F

Reset Supply Low:  °F @ Outdoor Temp:  °F

OK

# Training Module 10: Create Fluid Segments

- ❖ Right-click on FluidSystem Name (FluidSystem 1) then select Create > FluidSegment
- ❖ A new dialog box opens – fill in the FluidSegment Name (DHW Supply) and then click OK



# Training Module 10: Create Fluid Segments

## ❖ Typical view of the Fluid Segment Data Screen – DHW Supply

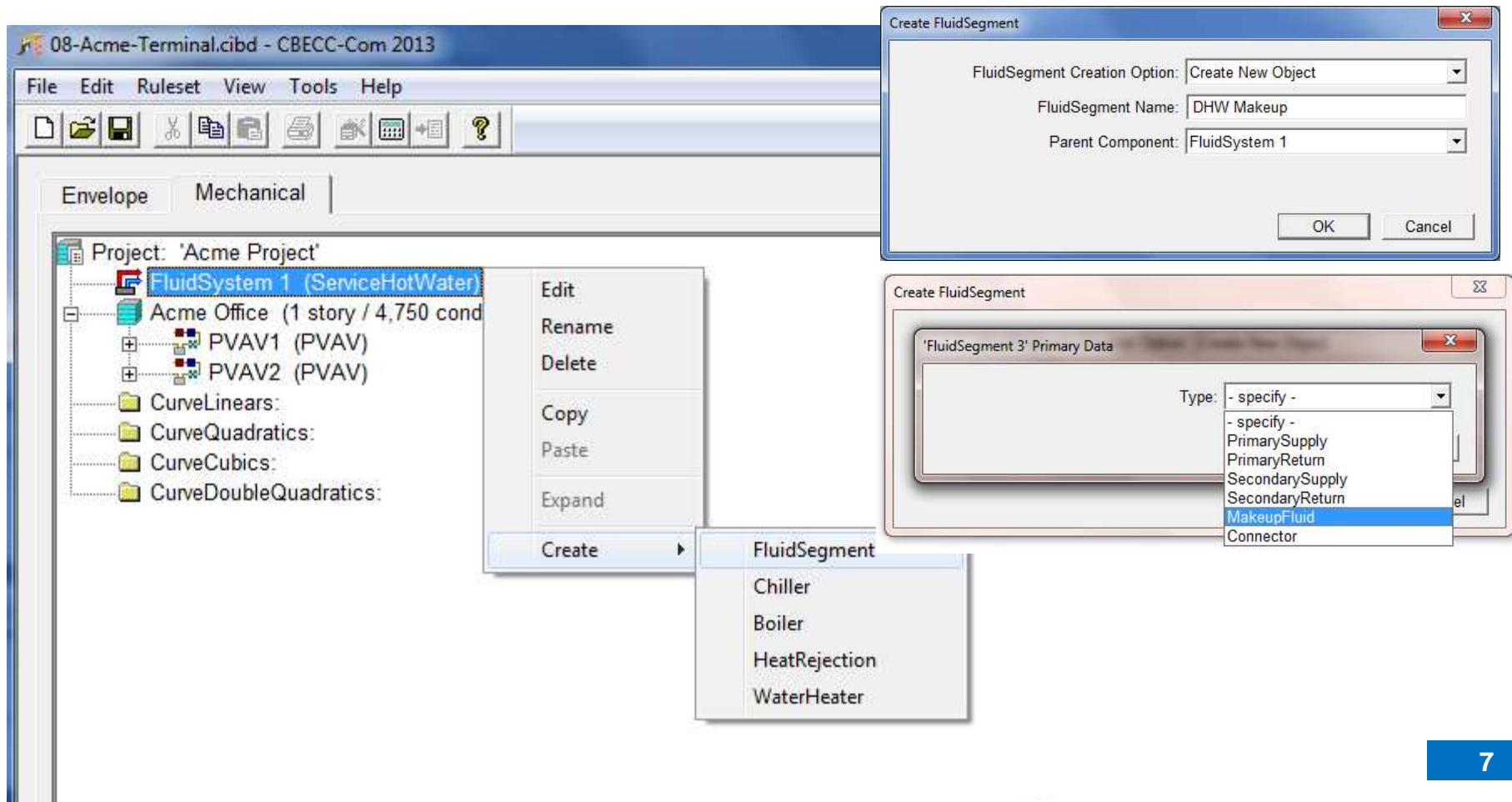
The screenshot shows a software dialog box titled "Building Model Data". Inside the dialog, there is a section labeled "Fluid Segment Data". Below this section, there are three dropdown menus:

- "Currently Active Fluid Segment:" with the value "DHW Supply".
- "Name:" with the value "DHW Supply".
- "Type:" with the value "PrimarySupply".
- "Primary FluidSeg:" with the value "- none -".

An "OK" button is located at the bottom right of the dialog box.

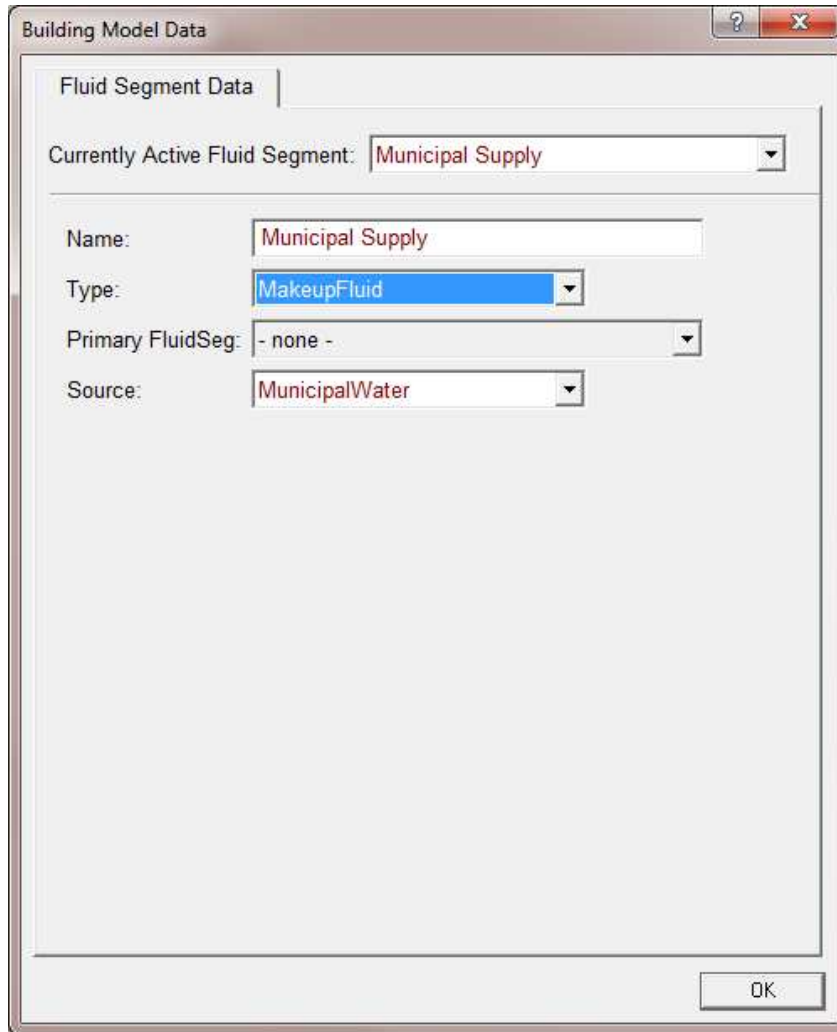
# Training Module 10: Create Fluid Segments

- ❖ Right-click on FluidSystem Name (FluidSystem 1) then select Create > FluidSegment
- ❖ A new dialog box opens – fill in the FluidSegment Name (DHW Makeup) and then click OK.
- ❖ Select MakeupFluid form the options in the next dialog box and click OK.



# Training Module 10: Create Fluid Segments

## ❖ Typical view of the Fluid Segment Data Screen – DHW Makeup



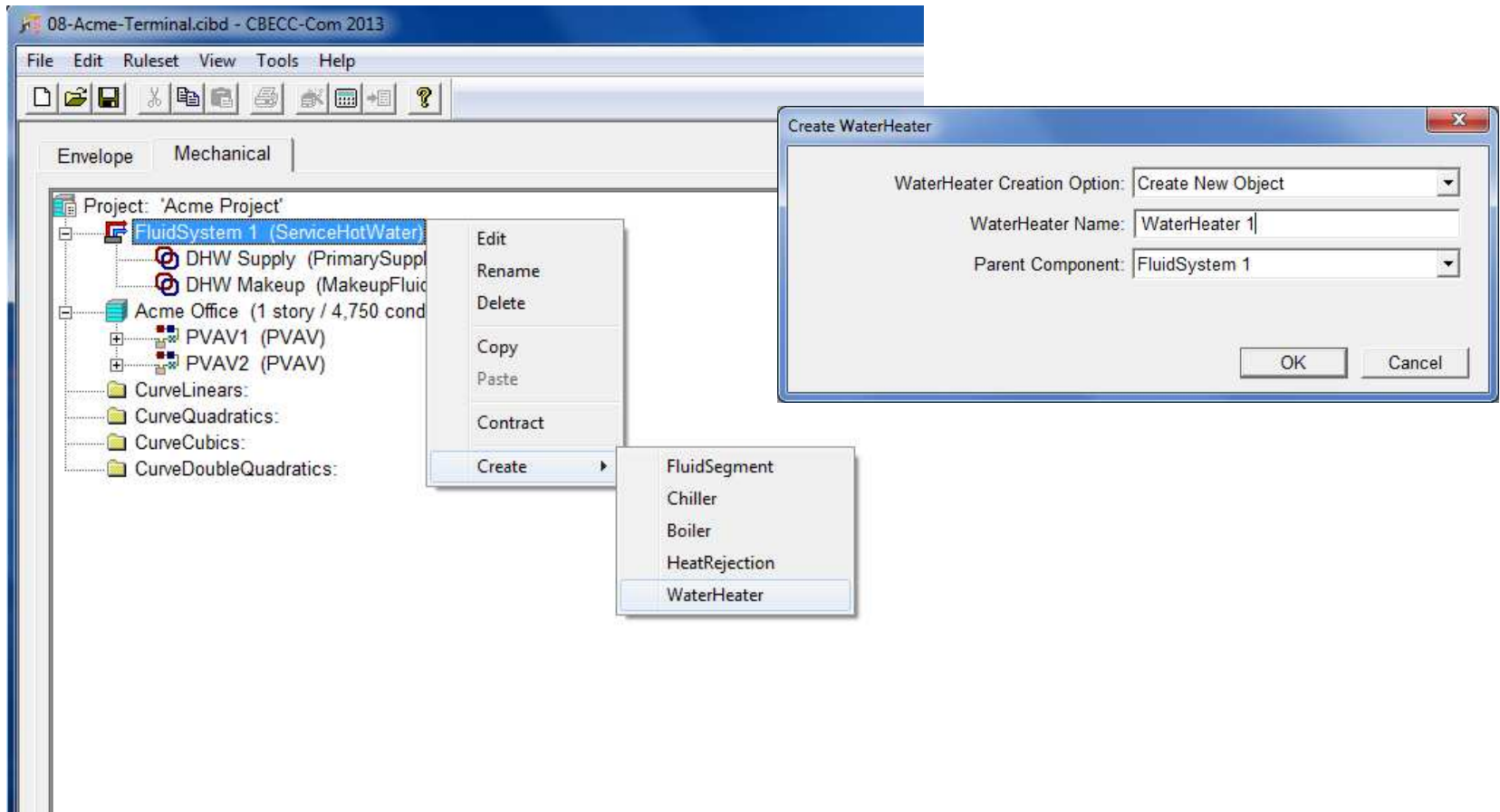
The screenshot shows a dialog box titled "Building Model Data" with a "Fluid Segment Data" tab. The "Currently Active Fluid Segment" is set to "Municipal Supply". The "Name" field is "Municipal Supply", the "Type" is "MakeupFluid", the "Primary FluidSeg" is "- none -", and the "Source" is "MunicipalWater". An "OK" button is at the bottom right.

Field	Value
Currently Active Fluid Segment	Municipal Supply
Name	Municipal Supply
Type	MakeupFluid
Primary FluidSeg	- none -
Source	MunicipalWater



# Training Module 10: Create Water Heater

- ❖ Right-click on FluidSystem Name (FluidSystem 1) then select Create > WaterHeater
- ❖ A new dialog box opens – fill in the WaterHeater Name (WaterHeater1) and then click OK



# Training Module 10: Create Water Heater

## ❖ Typical view of the Water Heater Data Screen

Building Model Data

Water Heater Data

Currently Active Water Heater: WaterHeater

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Water Heater Name: WaterHeater Status: New

Count: 1

Type: Storage

Fuel Source: NaturalGas  Electrical Ignition

Storage Capacity: 20 gal

Rated Capacity: 10,000 Btu/h Fluid Segment Outlet: DHW Supply

Thermal Efficiency: \*  Fluid Segment Makeup: Municipal Supply

Standby Loss Fraction: \*\*  Frac

Energy Factor: \*\*\* 0.643 Draft Fan Power: 0.000 Watts

Recovery Efficiency: \*\*\*\* 0.780 Part Load Curve Ref: - none -

\* Required when Type = Storage and Rated Capacity > 75 kBtu/h or Type = Instant and Rated Capacity > 200 kBtu/h.  
 \*\* Required when Thermal Efficiency is specified and Type = Storage.  
 \*\*\* Required when Type = Storage and Rated Capacity <= 75 kBtu/h or Type = Instant and Rated Capacity <= 200 kBtu/h.  
 \*\*\*\* Required when Energy Factor is specified.

OK

## HOT WATER HEATER SCHEDULE

Storage Capacity (gal)	Rated Capacity (Btu/h)	Energy Factor	Tank Off Cycle Loss <u>Coef</u>
20	10,000	0.643	10

# Training Module 10: Assign DHW to Spaces

- ❖ Double-click on Space Name(Conference) then assign DHW as shown below

The screenshot shows the 'Building Model Data' dialog box with the 'Space Data' tab selected. The 'Currently Active Space' is set to 'Conference'. The 'Space Name' is 'Conference', 'Multiplier' is 1, and 'Space Status' is 'New'. 'Conditioning Type' is 'DirectlyConditioned', 'FIR-to-Clg Ht' is 12.0 ft, and 'Envelope' is 'New'. 'Thermal Zone Ref' is 'Conference Zn', 'Space Area' is 480.0 ft<sup>2</sup>, and 'Lighting' is 'New'. 'Supply Plenum Space' and 'Return Plenum Space' are both '- none -'. 'Volume' is 5,760 ft<sup>3</sup> and 'Overall' is 'New'. 'Occupancy Class' is 'Nonresidential' and 'Function Defaults' is '- none -'. 'Function' is 'Convention, Conference, Multipurpose and Meeting Center Areas' and 'Schedule Group' is 'Assembly'. 'Occupancy' is 67.00 people/1,000 ft<sup>2</sup>, 'Sensible' is 245.0 Btu/h-person, and 'Latent' is 155.0 Btu/h-person. 'Hot Water Use' is 0.09 gal/h-person. 'SHW FluidSeg Ref.' is 'DHW Supply'. 'DHW RecircSys Ref.' is '- none -'. 'Electric Use' includes 'Ltg. Specification' as 'AreaCategoryMethod', 'IntLPDReg\*' as 0.00 Watts/ft<sup>2</sup>, 'NonReg. Lighting' as 0.00 W/ft<sup>2</sup>, and 'Plug Loads' as 1.00 W/ft<sup>2</sup>. 'Fraction to Space' is 0.00. 'Schedule Name\*' is '- none -'. A tooltip is visible over the 'DHW Supply' dropdown menu, listing options: '- none -', '- create/import PrimarySupply FluidSegment (and apply only here) -', '- create/import SecondarySupply FluidSegment (and apply only here) -', and 'DHW Supply' (which is highlighted). A note at the bottom states '\* Schedules will be defaulted for compliance analysis'. The 'OK' button is at the bottom right.