

**CBECC-Com Input Data Model changes from 2013 ver. 3d (3995, April 2016) to 2016.2.0 (4300, July 2016):**

The compliance engine includes a backward compatibility mechanism that automatically addresses most data model changes, where property names or enumeration strings are revised or removed as the data model evolves. This mechanism also includes logic to write messages to project logs when backward compatibility for certain properties is expected to impact compliance analysis of a previous vs. current version of the tool. Additions to the data model or changes that require user input to determine the appropriate translation of properties/enumerations from previous to a current tool version are not something that the compliance engine facilitates.

Proj	Project		
<b>REMOVED</b>			
ExcptCondCompleteBldg	ExceptionalConditionCompleteBuilding	- now determined by ruleset based on model inputs	
	default: 0		
	1: "Yes"		
	2: "No"		
ExcptCondWtrHtrSizing	ExceptionalConditionWaterHeaterSizing	- now determined by ruleset based on model inputs	
	default: 0		
	1: "Yes"		
	2: "No"		
<b>ADDED</b>			
SimVarsFen	SimulationVariablesFenestration	Integer	- Optional input
<b>CHANGED</b>			
CompType	ComplianceType	Enumeration	- Compulsory input
	default: 1 => New Complete	New Default	
	<del>9: "ExistingAddition"</del>	Option REMOVED	
	9: "ExistingAlteration"	ID switched from 10 to 9	
	10: "ExistingAdditionAndAlteration"	ID switched from 11 to 10	
	11: "AdditionComplete"	New Option	
	12: "AdditionEnvelope"	New Option	
	13: "AdditionEnvelopeAndLighting"	New Option	
	14: "AdditionEnvelopeAndPartialLighting"	New Option	
	15: "AdditionEnvelopeAndMechanical"	New Option	
	16: "AdditionMechanical"	New Option	
	17: "AdditionMechanicalAndLighting"	New Option	
	18: "AdditionMechanicalAndPartialLighting"	New Option	
EscalSpdCtrlMandComp	EscalatorSpeedControlMandatoryCompliance	Enumeration	- Defaulted input
	Renamed - was EscSpdCtrlMandComp		

ConsAssm	ConstructAssembly		
<b>CHANGED</b>			
SlabInsOrientation	SlabInsulationOrientation	Enumeration	- Optional input
	11: "HorizontalAndVertical"	New Option	
SlabInsThrmLR	SlabInsulationThermalResistance	Enumeration	- Optional input
	When: ConsAssm:SlabInsOrientation = "HorizontalAndVertical"	List of New Options	
	default: 0		



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0: "- specify -"
2: "DefaultPerformance"
3: "COGEquations"
When: FenCons:AssmContext = 3
and: FenCons:FenType = "Skylight"
default: 1
0: "- specify -"
1: "NFRCRated"
2: "DefaultPerformance"
3: "COGEquations"
    
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UFactor                      UFactor                      Float      Units: Btu/h-°F-ft2      Conditionally Required  
Revised Range Checks:      Error if not: 0 <= Value <= 2.5,      Warning if not: Value <= 2.3

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**SpcFuncDefaults      SpaceFunctionDefaults**

REMOVED

HotWtrHtgRt                      HotWaterHeatingRate                      Float      -      Optional input

CHANGED

ResDHWSysRef                      ResidentialDHWSysReference                      ObjectRef      -      Optional input  
    ResDHWSys

was previously:      RecircDHWSysRef / RecirculationDHWSysReference      assigning object of type:      RecircDHWSys

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**Spc                      Space**

REMOVED

Status                      Status                      Enumeration  
 OccNumSim                      OccupancyNumberSimulated                      Float  
 HotWtrHtgRt                      HotWaterHeatingRate                      Float  
 ResLivingUnitCnt                      ResidentialLivingUnitCount                      Integer

ADDED

FxdSeat                      FixedSeating                      Integer      -      Defaulted input  
 OccNumFxdSeat                      OccupantNumberFixedSeating                      Float      -      Defaulted input  
 IsAtriumGT55Ft                      IsAtriumGreaterThan55Feet                      Integer      -      Defaulted input  
 HotelMotelGuestRmCnt                      HotelMotelGuestRoomCount                      Integer      -      CondRequired input  
 DwellingUnitTypeCnt                      DwellingUnitTypeCount                      Integer      #Vals: 6      -      CondRequired  
 DwellingUnitTypeArea                      DwellingUnitTypeArea                      Float      #Vals: 6      -      CondRequired

CHANGED

ResDHWSysRef                      ResidentialDHWSysReference                      ObjectRef      -      CondRequired input  
    ResDHWSys

was previously:      RecircDHWSysRef / RecirculationDHWSysReference      assigning object of type:      RecircDHWSys

ResWtrHtgRt                      ResidentialWaterHeatingRate                      Float      -      Optional input

was previously:      RecircHotWtrHtgRt / RecirculationHotWaterHeatingRate

IntLtgSys	InteriorLightingSystem			
<b>REMOVED</b>	Status	Status	Enumeration	
<b>ADDED</b>	LumStatus	LuminaireStatus default: -1 1: "New" 2: "Altered" 3: "Existing" 4: "Future"	Enumeration	#Vals: 5 - Defaulted input
<b>CHANGED</b>	PAFCredType	PowerAdjustmentFactorCreditType default: -1 1: "- none specified -" 2: "DaylightDimmingPlusOff" 3: "OccupantSensingControls-1to125SF" 4: "OccupantSensingControls-126to250SF" 5: "OccupantSensingControls-251to500SF" 6: "DemandResponsiveControl" 7: "InstitutionalTuning" <del>2: "PartialOnOccupantSensingControl"</del> <del>6: "ManualDimming"</del> <del>7: "MultisceneProgrammableControls"</del> <del>9: "CombinedManualDimmingPlusPartialOnOccupantSensingControl"</del>	Enumeration	- Defaulted input  <b>New Option</b>    <b>New Option</b>  <b>Option REMOVED</b> <b>Option REMOVED</b> <b>Option REMOVED</b> <b>Option REMOVED</b>
<b>skylt</b>	<b>Skylight</b>			
<b>CHANGED</b>	Status	Status default: -1 1: "New" 2: "Altered" 3: "Existing"	Enumeration	- Required input  <b>New Option</b>
<b>Thrm1zn</b>	<b>ThermalZone</b>			
<b>ADDED</b>	OperableWinHaveInterlock	OperableWindowsHaveInterlock	Integer	- CondRequired input
	OperableWinInterlock	OperableWindowInterlock	Integer	- CondRequired input

AirSys	AirSystem			
<b>CHANGED</b>	Type	Type	Enumeration	- Compulsory input
		default: -1		
		0: "- specify -"		
		1: "PVAV"		
		2: "VAV"		
		3: "SZAC"		
		4: "SZHP"		
		5: "SZVAVAC"		
		6: "SZVAVHP"		
		7: "HV"		
		8: "Exhaust"		
		9: "SPVAC"	New Option	
		10: "SPVHP"	New Option	
SubType	SubType		Enumeration	- Defaulted input
	When: AirSys:Type = "SPVAC"		New List based on new Type above	
	default: 1			
	1: "Packaged3Phase"			
	3: "Packaged1Phase"			
	When: AirSys:Type = "SPVHP"		New List based on new Type above	
	default: 1			
	1: "Packaged3Phase"			
	3: "Packaged1Phase"			

ZnSys	ZoneSystem			
<b>REMOVED</b>	OptStart	OptimumStart	Integer	- Optional input
<b>CHANGED</b>	Type	Type	Enumeration	- Compulsory input
		default: -1		
		0: "- specify -"		
		1: "SZAC"		
		2: "SZHP"		
		3: "FPFC"		
		4: "WSHP"		
		5: "PTAC"		
		6: "PTHP"		
		7: "Baseboard"		
		8: "Exhaust"		
		9: "SPVAC"	New Option	
		10: "SPVHP"	New Option	
SubType	SubType		Enumeration	- Defaulted input
	When: AirSys:Type = "SPVAC"		New List based on new Type above	
	default: 1			
	1: "Packaged3Phase"			
	3: "Packaged1Phase"			
	When: AirSys:Type = "SPVHP"		New List based on new Type above	
	default: 1			

- 1: "Packaged3Phase"
- 3: "Packaged1Phase"

**AirSeg                      AirSegment**

**CHANGED**

Type	Type	Enumeration	- Compulsory input
	default: 0		
	0: "- specify -"		
	1: "Supply"		
	2: "Return"		
	3: "Relief"		
	4: "Exhaust"		
	5: "OutdoorAir"	<b>New Option</b>	
	6: "Connector"	<b>New Option</b>	

**OACtrl                      OutsideAirControl**

**ADDED**

HtRcvryRef	HeatRecoveryReference	ObjectRef	- Optional input
	HtRcvry		

**HtRcvry                      HeatRecovery                      **NEW OBJECT TYPE****

**ADDED**

HasHXByypass	HasHeatExchangerBypass	Enumeration	- Defaulted input
	default: -1		
	1: "Yes"		
	2: "No"		
Type	Type	Enumeration	- Defaulted input
	default: 1		
	1: "Plate"		
	2: "Wheel"		
RcvryType	RecoveryType	Enumeration	- Defaulted input
	default: 1		
	1: "Total"		
	2: "SensibleOnly"		
	3: "LatentOnly"		
SupFlowRtd	SupplyFlowRated	Float	- Defaulted input
HtgSensEff100	HeatingSensibleEffectiveness100	Float	- Defaulted input
HtgSensEff75	HeatingSensibleEffectiveness75	Float	- Defaulted input
HtgTotEff100	HeatingTotalEffectiveness100	Float	- Defaulted input
HtgTotEff75	HeatingTotalEffectiveness75	Float	- Defaulted input
HtgLatEff100	HeatingLatentEffectiveness100	Float	- Defaulted input
HtgLatEff75	HeatingLatentEffectiveness75	Float	- Defaulted input
ClgSensEff100	CoolingSensibleEffectiveness100	Float	- Defaulted input
ClgSensEff75	CoolingSensibleEffectiveness75	Float	- Defaulted input
ClgTotEff100	CoolingTotalEffectiveness100	Float	- Defaulted input
ClgTotEff75	CoolingTotalEffectiveness75	Float	- Defaulted input

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ClgLatEff100	CoolingLatentEffectiveness100	Float	- Defaulted input
ClgLatEff75	CoolingLatentEffectiveness75	Float	- Defaulted input
TempCtrl	TemperatureControl default: -1 1: "None" 2: "Fixed" 3: "Scheduled"	Enumeration	- Defaulted input
FixedSupTemp	FixedSupplyTemperature	Float	- Defaulted input
TempSetptSchRef	TemperatureSetpointScheduleReference Sch (Sch:Type = "Temperature")	ObjectRef	- CondRequired input
DefrostCtrl	DefrostControl default: -1 1: "None" 2: "ExhaustAirRecirculation" 3: "ExhaustOnly" 4: "MinimumExhaustTemperature"	Enumeration	- Defaulted input
DefrostCtrlTemp	DefrostControlTemperature	Float	- Defaulted input
EconoLockout	EconomizerLockout default: -1 1: "Yes" 2: "No"	Enumeration	- Defaulted input
AuxPwr	AuxiliaryPower	Float	- Defaulted input

**FluidSys                      FluidSystem**

<b>ADDED</b>		<b>(new plant staging inputs)</b>			
LdRngLim	LoadRangeLimit		Integer	#Vals: 4	- Optional input
EqpList1Name	EquipmentList1Name Chlr Blr		ObjectRef	#Vals: 10	- Optional input
EqpList2Name	EquipmentList2Name Chlr Blr		ObjectRef	#Vals: 10	- Optional input
EqpList3Name	EquipmentList3Name Chlr Blr		ObjectRef	#Vals: 10	- Optional input
EqpList4Name	EquipmentList4Name Chlr Blr		ObjectRef	#Vals: 10	- Optional input

**FluidSeg                      FluidSegment**

<b>REMOVED</b>					
ParentFluidSysRef	ParentFluidSystemReference FluidSys		ObjectRef		- Optional input

WtrHtr	WaterHeater			
<b>CHANGED</b>				
EF	EF		Float	- CondRequired input
<b>ResDHWSys</b>	<b>ResidentialDHWSystem</b>	<b>Was previously: RecircDHWSys / RecirculationDHWSystem</b>		
<b>ADDED</b>				
PumpBHP	PumpBrakeHorsepower		Float	- CondRequired input
LpPipeInsThkns	LoopPipeInsulationThickness		Float	- Required input
SuppStorTankVol	SupplementalStorageTankVolume		Float	- Optional input
<b>REMOVED</b>				
LivingUnitCnt	LivingUnitCount		Integer	- Optional input
UseDefaultLps	UseDefaultLoops		Integer	- Optional input
PipeType	PipeType		Float	#Vals: 6 - Optional input
PipeLen	PipeLength		Float	#Vals: 6 - Optional input
PipeDia	PipeDiameter		Float	#Vals: 6 - Optional input
PipeExtraIns	PipeExtraInsulation		Integer	- Optional input
<b>CHANGED</b>				
Type	Type		Enumeration	- Required input
	When: ResDHWSys:CentralSys = 1		Separate List specific to Central Systems	
	default: 3840			
	0: "- specify -"			
	3840: "Standard"			
	4096: "Pipe Insulation, All Lines"			
	8392704: "(HERS req'd) Pipe Insulation, All Lines"			
	else:			
	default: 3840			
	0: "- specify -"			
	3840: "Standard"			
	4096: "Pipe Insulation, All Lines"			
	4608: "Parallel Piping"			
	4992: "Recirculation, Non-Demand Control"			
	5248: "Recirculation, Demand Control Push Button"			
	5504: "Recirculation, Demand Control Occupancy/Motion"			
	8392704: "(HERS req'd) Pipe Insulation, All Lines"			
	8393216: "(HERS req'd) Parallel Piping"			
	8393856: "(HERS req'd) Recirculation, Demand Control Push Button"			
	8394112: "(HERS req'd) Recirculation, Demand Control Occupancy/Motion"			
	8394240: "(HERS req'd) Point of Use"			
	8394496: "(HERS req'd) Compact Distribution System"			
	<del>4352: "Insulated and Protected Pipe Below Grade"</del>			Option REMOVED
	<del>8393600: "(HERS req'd) Recirculation, Non-Demand Control"</del>			Option REMOVED
DistType	DistributionType		Enumeration	- CondRequired input
	default: 0			
	0: "No loops or central system pump"			Renamed, was: "- None -"
	5056: "No Control (continuous pumping)"			Renamed, was: "No Control"
	6336: "Demand Control (Standard Design for new construction)"			Renamed, was: "Demand Control"



	6592: "Temperature modulation"		
	6848: "Temperature modulation and monitoring"		
BaseResWtrHtrRef	BaselineResidentialWaterHeaterReference	ObjectRef	- Optional input
	ResWtrHtr		
	<b>Was previously: BaseRecircWtrHtrRef / BaselineRecirculationWaterHeaterReference assigning: RecircWtrHtr</b>		
PipeLctn	PipeLocation	Enumeration	- CondRequired input
	default: 0		
	0: "Conditioned"		
	1: "Semi-Conditioned"	<b>New Option</b>	
	2: "Unconditioned"		
	3: "Underground"		
LpCnt	LoopCount	Integer	- <b>CondRequired</b> input

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**ResWtrHtr      ResidentialWaterHeater      Was previously: RecircWtrHtr / RecirculationWaterHeater**

**ADDED**

HtPumpWtrHtrNEEA	HeatPumpWaterHeaterNEEA	Integer	- Optional input
AirSrcHtPumpType	AirSourceHeatPumpType	Enumeration	- Optional input
	default: 0		
	0: "- select HPWH type -"		
	11: "AO Smith PHPT 60"		
	12: "AO Smith PHPT 80"		
	13: "AO Smith HPTU 50"		
	14: "AO Smith HPTU 66"		
	15: "AO Smith HPTU 80"		
	19: "GE2014 50"		
	23: "GE2014 80"		
	21: "Rheem HB 50"		
	22: "Stiebel 220E"		
TankZn	TankZone	Enumeration	- Optional input
	default: 3		
	0: "Conditioned"		
	1: "Unconditioned"		
	2: "Outside or in Exterior Closet"		
InpRatingElec	InputRatingElectric	Integer	- Optional input
ElecMiniTank	ElectricMiniTank	Integer	- Optional input
ElecMiniTankPwr	ElectricMiniTankPower	Float	- Optional input

**CHANGED**

TankCat	TankCategory	Enumeration	- Optional input
	When: ResWtrHtr:ElementType = "Electric Resistance"	<b>Now Separate Lists based on ElementType</b>	
	default: 3		
	2: "Instantaneous"		
	3: "Storage"		
	When: ResWtrHtr:ElementType = "Heat Pump"		
	default: 3		
	3: "Storage"		
	else:		
	default: 3		
	0: "Boiler"		
	1: "Indirect"		
	2: "Instantaneous"		

TankType	3: "Storage"	Enumeration	- Optional input
	default: 6		
	0: "Boiler"		
	1: "Indirect"		
	2: "Large Instantaneous"		
	3: "Large Storage"		
	5: "Small Instantaneous"		
	6: "Small Storage"		
	<del>2: "Large Tankless"</del>	Option REMOVED	
	<del>5: "Small Tankless"</del>	Option REMOVED	