

**CBECC-Com Input Data Model changes from version 3c (760, June 2015) to 3d (3995, April 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>	SiteFuelType	SiteFuelType		
<b>ADDED</b>	GasType	GasType default: -1 1: "NaturalGas" 2: "Propane"	Enumeration	- Required input
	NatGasAvail	NaturalGasAvailable	Integer	- Required input
	OccFrac	OccupantFraction	Float	- Defaulted input
	VentStd	VentilationStandard default: -1 1: "T24-2013"	Enumeration	- Defaulted input
	VentMult	VentilationMultiplier	Float	- Defaulted input
	CompReportStd	ComplianceReportStandard	Integer	- Optional input
	CommKitchenMandComp	CommercialKitchenMandatoryCompliance default: 2 1: "Yes" 2: "NA"	Enumeration	- Defaulted input
	ComputerRoomMandComp	ComputerRoomMandatoryCompliance default: 2 1: "Yes" 2: "NA"	Enumeration	- Defaulted input
	LabExhaustMandComp	LaboratoryExhaustMandatoryCompliance default: 2 1: "Yes" 2: "NA"	Enumeration	- Defaulted input
	ElevLtgVentMandComp	ElevatorLightingVentilationMandatoryCompliance default: 2 1: "Yes" 2: "NA"	Enumeration	- Defaulted input
	EscSpdCtrlMandComp	EscalatorSpeedControlMandatoryCompliance default: 2 1: "Yes" 2: "NA"	Enumeration	- Defaulted input

*CBECC-Com Input Data Model changes from version 3c (760, June 2015) to 3d (3995, April 2016)*

NRCALti05A	NRCALti05A	Integer	- Defaulted input
NRCAPrc12F	NRCAPrc12F	Integer	- Defaulted input
NRCAPrc13F	NRCAPrc13F	Integer	- Defaulted input
InstitutionalTuningPAFRpt	InstitutionalTuningPAFReport	Integer	- Defaulted input

**ConsAssm      ConstructAssembly**

<b>ADDED</b>			
CRRCSRI	CRRCSolarReflectanceIndex	Float	- Optional input

**SpcFuncDefaults      SpaceFunctionDefaults**

<b>REMOVED</b>			
OccDens	OccupantDensity	Float	- Optional input
OccSchRef	OccupantScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input
IntLtgRegSchRef	InteriorLightingRegulatedScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input
RecptSchRef	ReceptacleScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input
GasEqpSchRef	GasEquipmentScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input
CommRfrgEqpSchRef	CommercialRefrigerationEquipmentScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input
HotWtrHtgSchRef	HotWaterHeatingScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	- Optional input

<b>ADDED</b>			
OccFrac	OccupantFraction	Float	- Defaulted input

<b>CHANGED</b>			
SpcFunc	SpaceFunction	Enumeration	- Compulsory input
	155: "Transportation Function, Concourse & Baggage"	New Option	
	156: "Transportation Function, Ticketing"	New Option	
	116: "Exercise Room"	Modified, was: "Exercise Center, Gymnasium Areas"	
	201: "Gymnasium/Sports Arena"	New Option	
	202: "Nurseries for Children - Day Care"	New Option	
	203: "Unleased Tenant Area"	New Option	
	<del>149: "Sports Arena, Indoor Playing Area"</del>	<del>Option REMOVED</del>	

InfMthd	InfiltrationMethod	Enumeration	#Vals: 4    Optional input
	1: "FlowSpace"	New Option	
	2: "FlowArea"		
	3: "FlowExteriorArea"	New Option	
	4: "FlowExteriorWallArea"		
	5: "AirChangesPerHour"	New Option	

Spc	Space			
<b>REMOVED</b>				
FlrArea	FloorArea	Float	-	Optional input
OccDens	OccupantDensity	Float	-	Defaulted input
InfMthd	InfiltrationMethod default: -1 2: "FlowArea" 4: "FlowExteriorWallArea"	Enumeration	#Vals: 4	Defaulted input
DsgnInfRt	DesignInfiltrationRate	Float	#Vals: 4	Defaulted input
InfSchRef	InfiltrationScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	#Vals: 4	Defaulted input
InfModelCoefA	InfiltrationModelCoefficientA	Float	#Vals: 4	Required input
InfModelCoefB	InfiltrationModelCoefficientB	Float	#Vals: 4	Required input
InfModelCoefC	InfiltrationModelCoefficientC	Float	#Vals: 4	Required input
InfModelCoefD	InfiltrationModelCoefficientD	Float	#Vals: 4	Required input
IntLtgRegSchRef	InteriorLightingRegulatedScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	-	Defaulted input
RecptSchRef	ReceptacleScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	-	Defaulted input
GasEqpSchRef	GasEquipmentScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	-	Defaulted input
CommRfrgEqpSchRef	CommercialRefrigerationEquipmentScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	-	Defaulted input
HotWtrHtgSchRef	HotWaterHeatingScheduleReference Sch (Sch:Type = "Fraction")	ObjectRef	-	Optional input
IntLPDPrescrip	InteriorLightingPowerDensityPrescriptive	Float	-	Optional input
HighRiseResInt	HighRiseResidentialInteger	Integer	-	Optional input
IsHotelMotelGuestRm	IsHotelMotelGuestRoom	Integer	-	Optional input
<b>ADDED</b>				
OccFrac	OccupantFraction	Float	-	Defaulted input
OccNumSim	OccupancyNumberSimulated	Float	-	Defaulted input
HotWtrHtgTot	HotWaterHeatingTotal	Float	-	Optional input
ResLivingUnitCnt	ResidentialLivingUnitCount	Integer	-	Defaulted input
CodeOtherVentPerPerson	CodeOtherVentilationPerPerson	Float	-	Defaulted input
CodeOtherVentPerArea	CodeOtherVentilationPerArea	Float	-	Defaulted input
CodeOtherVentACH	CodeOtherVentilationAirChangesPerHour	Float	-	Defaulted input
CodeOtherVentFlow	CodeOtherVentilationFlow	Float	-	Defaulted input
CodeOtherExhPerArea	CodeOtherExhaustPerArea	Float	-	Defaulted input
CodeOtherExhACH	CodeOtherExhaustAirChangesPerHour	Float	-	Defaulted input

**CHANGED**

SpcFunc	SpaceFunction	Enumeration	- Compulsory input
	155: "Transportation Function, Concourse & Baggage"	New Option	
	156: "Transportation Function, Ticketing"	New Option	
	116: "Exercise Room"	Modified, was: "Exercise Center, Gymnasium Areas"	
	201: "Gymnasium/Sports Arena"	New Option	
	202: "Nurseries for Children - Day Care"	New Option	
	203: "Unleased Tenant Area"	New Option	
	<del>149: "Sports Arena, Indoor Playing Area"</del>	<del>Option REMOVED</del>	

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**IntLtgSys InteriorLightingSystem**

**CHANGED**

AllowType	AllowanceType	Enumeration	- Conditional Based on Spc:IntLtgSpecMthd
	When: IntLtgSys:IntLtgSpecMthd = "AreaCategoryMethod"		
	and: IntLtgSys:ParentSpcFunc = "Parking Garage Building, Parking Area"		New Options
	default: 0		
	0: "- none specified -"		
	10: "ParkingGarageATMLighting"		
	When: IntLtgSys:ParentSpcFunc = "Transportation Function, Concourse & Baggage"		New Options
	default: 0		
	0: "- none specified -"		
	11: "TailoredWallDisplayAllowance"		
	12: "TailoredFloorDisplayAllowance"		
	13: "TailoredTaskAllowance"		
	14: "TailoredOrnamentalAndSpecialEffectAllowance"		
	15: "TailoredVeryValuableDisplayCaseAllowance"		
	When: IntLtgSys:ParentSpcFunc = "Transportation Function, Ticketing"		New Options
	default: 0		
	0: "- none specified -"		
	11: "TailoredWallDisplayAllowance"		
	12: "TailoredFloorDisplayAllowance"		
	13: "TailoredTaskAllowance"		
	14: "TailoredOrnamentalAndSpecialEffectAllowance"		
	15: "TailoredVeryValuableDisplayCaseAllowance"		

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**Thrm1Zn ThermalZone**

**ADDED**

PriAirCondgSysPriority	PrimaryAirConditioningSystemPriority	Integer	- Defaulted input
VentSysPriority	VentilationSystemPriority	Integer	- Defaulted input
VentStd	VentilationStandard	Enumeration	- Defaulted input
	default: 1		
	1: "T24-2013"		

**CHANGED**

VentSrc	VentilationSource	Enumeration	- Required input
	default: 0		
	1: "None"		
	2: "Forced"		
	3: "Natural"	New Option	

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AirSys	AirSystem		
<b>ADDED</b>			
FanCtrl	FanControl default: -1 1: "Continuous" 2: "Cycling"	Enumeration	- Defaulted input
OptStart	OptimumStart	Integer	- Optional input
HtgFixedSupTemp	HeatingFixedSupplyTemperature	Float	- Defaulted input
HtgSetptSchRef	HeatingSetpointScheduleReference Sch (Sch:Type = "Temperature")	ObjectRef	- CondRequired input
HERSDuctTested	HERSDuctTested	Integer	- Defaulted input
<b>CHANGED</b>			
Status	Status When: AirSys:Type = "PVAV" default: 1 1: "New" / 2: "Existing" / 3: "Altered" When: AirSys:Type = "VAV" default: 1 1: "New" / 2: "Existing" / 3: "Altered" else: default: 1 1: "New" 2: "Existing"	Enumeration	- Defaulted input
SubType	SubType When: AirSys:Type = "HV" default: 5 5: "NA" When: AirSys:Type = "Exhaust" default: 5 5: "NA" else: default: 1 1: "Packaged3Phase" 2: "Split3Phase" 3: "Packaged1Phase" 4: "Split1Phase" 5: "CRAC" 6: "CRAH" 7: "NA"	Enumeration	- Defaulted input
			'Altered' no longer an option except for PVAV & VAV system types
			Not applicable to HV system type
			Not applicable to Exhaust system type
			New Option
ClgCtrl	CoolingControl When: AirSys:Type = . . . < various options from previous version based on AirSys:Type > 8: "FixedDualSetpoint" 9: "ScheduledDualSetpoint"	Enumeration	- Defaulted input
			New Option (for each AirSys:Type)
			New Option (for each AirSys:Type)

DuctLctn	DuctLocation	Enumeration	- Required input
	default: 1		
	0: <del>"specify"</del>	Option REMOVED	
	1: "Conditioned"		
	2: "Unconditioned"		
	3: "Other"	New Option	
	4: "None"	Option was 'NA'	

**ZnSys                      ZoneSystem**

<b>ADDED</b>	OptStart	OptimumStart	Integer	- Optional input
	HERSDuctTested	HERSDuctTested	Integer	- Defaulted input

<b>CHANGED</b>	SubType	SubType	Enumeration	- Defaulted input
	When: ZnSys:Type = "Baseboard"	default: 5	5: "NA"	Not applicable to HV system type
	When: ZnSys:Type = "Exhaust"	default: 5	5: "NA"	Not applicable to Exhaust system type
	else:	default: 4	1: "Packaged3Phase"	
			2: "Split3Phase"	
			3: "Packaged1Phase"	
			4: "Split1Phase"	
			5: "NA"	New Option

DuctLctn	DuctLocation	Enumeration	- Required input
	default: 1		
	0: <del>"specify"</del>	Option REMOVED	
	1: "Conditioned"		
	2: "Unconditioned"		
	3: "Other"	New Option	
	4: "None"	Option was 'NA'	

**CoilClg                      CoilCooling**

<b>ADDED</b>	DXIEER	DXIEER	Float	- CondRequired input
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<b>CoilHtg</b>	<b>CoilHeating</b>			
<b>CHANGED</b>				
FuelSrc	FuelSource	Enumeration	-	Defaulted input
	When: CoilHtg:Type = < each fuel-fired option >			
	default: 2			
	0: "- specify -"			
	2: "NaturalGas"	->	"Gas"	
	3: "Oil"	->	"Oil (no longer valid)"	<b>fuel selection now via Proj:GasType</b>

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<b>FluidSys</b>	<b>FluidSystem</b>			
<b>ADDED</b>				
AvailSchRef	AvailabiltyScheduleReference Sch (Sch:Type = "OnOff")	ObjectRef	-	Optional input
Cnt	Count	Integer	-	Optional input
CentralSys	CentralSystem	Integer	-	Optional input

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<b>FluidSeg</b>	<b>FluidSegment</b>			
<b>ADDED</b>				
ParentFluidSysRef	ParentFluidSystemReference FluidSys	ObjectRef	-	Optional input

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<b>Chlr</b>	<b>Chiller</b>			
<b>CHANGED</b>				
Type	Type	Enumeration	-	Required input
	default: 4			
	1: "Centrifugal"			
	2: "Reciprocating"			
	3: "Scroll"			
	4: "Screw"			
	5: "AbsorptionSingleEffect"		<b>New Option</b>	
FuelSrc	FuelSource	Enumeration	-	Required input
	default: -1			
	1: "Electric"		<b>New Option</b>	
	2: "Indirect"		<b>New Option</b>	
PLRMin	PartLoadRatioMinimum			<b>(renamed from: PartLdRatMin)</b>
<b>ADDED</b>				
GenFluidSegInRef	GeneratorFluidSegmentInReference FluidSeg (FluidSeg:Type = "PrimarySupply")	ObjectRef	-	CondRequired input
GenFluidSegOutRef	GeneratorFluidSegmentOutReference FluidSeg (FluidSeg:Type = "PrimaryReturn")	ObjectRef	-	CondRequired input
AuxPwr	AuxiliaryPower	Float	-	Defaulted input

EntGenTempDsgn	EnteringGeneratorTemperatureDesign	Float	- Defaulted input
DsgnGenFluidDelt	DesignGeneratorFluidDeltaTemperature	Float	- Defaulted input
GenFluidFlowCap	GeneratorFluidFlowCapacity	Float	- Defaulted input

HX	HeatExchanger	(child of FluidSys)	NEW OBJECT TYPE	
<b>ADDED</b>	Status	Status	Enumeration	- Defaulted input
		default: 1 1: "New" 2: "Existing"		
	Type	Type	Enumeration	- Defaulted input
		default: -1 1: "CounterFlow"		
	EconoIntegration	EconomizerIntegration	Enumeration	- Defaulted input
		default: -1 1: "Integrated" 2: "NonIntegrated"		
	CHWFluidSegInRef	ChilledWaterFluidSegmentInReference	ObjectRef	- CondRequired input
	CHWFluidSegOutRef	ChilledWaterFluidSegmentOutReference	ObjectRef	- CondRequired input
	CWFluidSegInRef	FluidSeg (FluidSeg:Type = "PrimarySupply") CondenserWaterFluidSegmentInReference	ObjectRef	- Required input
	CWFluidSegOutRef	FluidSeg (FluidSeg:Type = "PrimaryReturn") CondenserWaterFluidSegmentOutReference	ObjectRef	- Required input
	CHWEntTempDsgn	ChilledWaterEnteringTemperatureDesign	Float	- Required input
	CHWLvgTempDsgn	ChilledWaterLeavingTemperatureDesign	Float	- Required input
	CWEntTempDsgn	CondenserWaterEnteringTemperatureDesign	Float	- Required input
	CWLvgTempDsgn	CondenserWaterLeavingTemperatureDesign	Float	- Required input
	CapRtd	CapacityRated	Float	- Required input

Blr	Boiler			
<b>CHANGED</b>	FuelSrc	FuelSource	Enumeration	- Defaulted input
		default: 0 1: "Gas" 3: "Oil"      -> "Oil (no longer valid)" 3: "Electric"		fuel selection now via Proj:GasType

WtrHtr	WaterHeater			
<b>ADDED</b>	FluidSysCnt	FluidSystemCount	Integer	- Optional input
<b>CHANGED</b>	FuelSrc	FuelSource	Enumeration	- Required input



	default: 0 0: "- specify -" 1: "Electricity" 2: <del>"FuelOil#1"</del> 3: "NaturalGas"      -> 4: <del>"PropaneGas"</del>	Option REMOVED 2: "Gas" Option REMOVED		
OffCycleFuelSrc	OffCycleFuelSource		Enumeration	- Optional input
	default: 0 0: "- specify -" 1: "Electricity" 2: <del>"FuelOil#1"</del> 3: "NaturalGas"      -> 4: <del>"PropaneGas"</del>	Option REMOVED 2: "Gas" Option REMOVED		
OnCycleFuelSrc	OnCycleFuelSource		Enumeration	- Optional input
	default: 0 0: "- specify -" 1: "Electricity" 2: <del>"FuelOil#1"</del> 3: "NaturalGas"      -> 4: <del>"PropaneGas"</del>	Option REMOVED 2: "Gas" Option REMOVED		

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**RecircDHWSys      RecirculationDHWSystem**

**REMOVED**

WtrHtrCnt	WaterHeaterCount		Integer	- Optional input
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**RecircWtrHtr      RecirculationWaterHeater**

**CHANGED**

ElementType	ElementType default: 0 0: "Electric Resistance" 1: "Natural Gas"      -> 2: <del>"Propane"</del> 3: "Heat Pump" 4: <del>"Oil"</del>	"Gas"	Enumeration	- Optional input
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