Errata Sheet for
ANSI/ASHRAE/NEMA Standard 201-2016,
Facility Smart Grid Information Model Errata

January 17, 2018

This document lists all known errata to ANSI/ASHRAE/NEMA 201-2016 as of the specified date. The first printing is identified on the outside back cover of the standard as “Product code: 86627 5/16”. Text with a ~~strikethrough~~ indicates a deletion. Text in *italics* indicates an addition. The Enterprise Architect Project files and XML artifacts referenced in Annex A of the standard (http://data.ashrae.org/standard201/fsgim2016model.zip) have been updated to reflect the changes in this errata sheet.

1) Figure 6.2 classEnumerations and Table 6.11 UnitSymbolKind Enumerated Values

   The enumeration "wPerM2" should be "WPerM2"

2) Clause 5.2.2 Object Identification Diagram
   Clause 5.6.4.2 InheritanceFromWXXM Diagram
   Clause 5.7.6.6.3.1.3 AbstractObject
   Clause 7.3.3.2.21.1 AbstractFeature Conformance Block Diagram
   Clause 7.3.3.2.21.3 WXXM Conformance Block Diagram

   "AbstractObject (Class") should be "AbstractObject (Abstract Class)"

   In addition, the word “AbstractObject” is now italicized in the following diagrams indicating that this is an abstract class:

   Figure 5.3 Object Identification
   Figure 5.31 InheritanceFromWXXM
   Figure 7.33 AbstractFeature Conformance Block
   Figure 7.35 WXXM Conformance Block

3) Figure 5.33 Phenomena and Table 5.349 Class Attributes

   Delete the attribute "centre" because it is redundant with the association "center" described in Table 5.350

Attribute Name	**Description**	**Attribute Type**	**Multiplicity**
centralPressure	Central pressure of cyclone.	Pressure See Clause 5.7.6.6.2.1.7.	[1]
maxSurfaceWindSpeed	Maximum surface wind.	WindSpeed	[1]

		See Clause 5.7.6.6.2.8.10.	
~~centre~~	~~The centre position of the cyclone.~~	~~DirectPosition See Clause 5.7.6.6.4.4.3.~~	~~[0..1]~~

4) Several elements imported from the WXXM weather model are included in the FSGIM but never referenced and need to be removed. The elements to be removed are:

Clause 5.7.6.6.1.4 Elements Defined in the AVWX_Measures Model
Clause 5.7.6.6.1.4.1 QPressure <<FeatureType>> (Class)
Clause 5.7.6.6.1.1.5 SeaState (Enumeration)
Clause 5.7.6.6.1.2.2 ContaminationExtent (Enumeration)
Clause 5.7.6.6.1.9.3 NextAdvisoryText (Enumeration)
Clause 5.7.6.6.2.4 Elements Defined in the WX_Coverage Model
Clause 5.7.6.6.2.4.1 AbstractCoverage <<FeatureType>> (Class)
Clause 5.7.6.6.2.4.2 AreaCoverage <<FeatureType>> (Class)
Clause 5.7.6.6.2.4.3 DiscreteCoverage <<FeatureType>> (Class)
Clause 5.7.6.6.4.6.16 Elements Defined in the Extent Information Model
Clause 5.7.6.6.4.6.17 EX_Extent <<DataType>> (Class)
Clause 5.7.6.6.5.2 Elements Defined in the OM2_Sampling Model
Clause 5.7.6.6.5.2.1 Elements Defined in the samplingBase Model
Clause 5.7.6.6.5.2.2 SamplingFeature <<FeatureType>> (Abstract Class)

This change also causes the class symbol for QPressure to be removed from Figure 5.34 Measurements and from Clause 5.6.4.5 Measurements Diagram.

5) WX_Observation::Observation, WX_Forecast::Forecast, and WX_Base::AbstractWxFeature all have attributes named "validTime" that have a type of UTCDateTime. All three of these attributes explicitly state that they represent time periods. This means that they should be represented in the FSGIM with the datatype UTCDateTimeIntervals instead of UTCDateTime. The changes effect:

Figure 5.31 - WX_Base::AbstractWxFeature
Figure 5.31 - WX_Forecast::Forecast
Figure 5.31 - WX_Observation::Observation
Figure 5.32 - WX_Base::AbstractWxFeature
Figure 7.34 – WX_Base::AbstractWxFeature
Figure 7.35 – WX_Observation::Observation
Figure 7.35 – WX_Forecast::Forecast

Table 5.371 Class Attributes

Attribute Name	Description	Attribute Type	Multiplicity
…			
validTime	Time period over which the feature is considered valid. Most commonly used in conjunction with forecasts. Valid time is logically separate from a forecast time in that it describes a time period within which a forecast is in effect. So a forecast that describes 'Snow predicted between 6 and 10 PM this evening' may have a valid time that starts at the current time, while the forecast period itself runs from 6 to 10.	~~UTCDateTime See Clause 6.6.1.11~~ *UTCDateTimeInterval See Clause 6.6.1.4*	[1]

Table 5.402 Class Attributes

Attribute Name	Description	Attribute Type	Multiplicity
…			
validTime	Time period over which forecast result is valid (can incorporate "expiration time").	~~UTCDateTime See Clause 6.6.1.11~~ *UTCDateTimeInterval See Clause 6.6.1.4*	[1]

Table 5.406 Class Attributes

Attribute Name	Description	Attribute Type	Multiplicity
validTime	Time period over which forecast result is valid (can incorporate "expiration time").	~~UTCDateTime See Clause 6.6.1.11~~ *UTCDateTimeInterval See Clause 6.6.1.4*	[1]

Figure 7.34 - WX_Base::AbstractWxFeature
Figure 7.35 - WX_Observation::Observation, and
Figure 7.35 - WX_Forecast::Forecast

6) Figure 5.37 EnergyRouter Aggregations and Figure 7.30 Grid Transfer Switch Conformance Block – The "name" attribute of the GridTransferSwitchAggregationRuleSet is currently set to "BidirectionalCombinerAggregationRuleset."

It should be set to "GridTransferSwitchAggregationRuleset."instead.

Figure 5.37 EnergyRouter Aggregations and Figure 7.32 Unidirectional Combiner Conformance Block – The "name" attribute of the

UnidirectionalCombinerAggregationRuleSet is currently set to "BidirectionalCombinerAggregationRuleset."

It should be set to "UnidirectionalCombinerAggregationRuleset."instead.

7) The standard Aggregations, Collections, and Rulesets have required values for the name, nameType, and nameTypeAuthority attributes. These are shown in the diagrams, but they are not shown in the text of the standard. They should be shown in the text portion of the standard as well so that they are not missed by users of the standard. The changes are:

Clause 5.6.7.11.2. AllResourcesInEMDomain (Class)

The AllResourcesInEMDomain collection describes the set of all of the loads, generators, meters, and EMs that are directly managed by the energy manager. Contributions of loads, generators, meters, and EMs that are indirect subordinates of a given energy manager are proxied by the standard aggregations that are contained in the direct subordinate energy managers.

name=AllResourcesInEMDomain
nametype =Standard Collections
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Collection (See Clause 5.6.7.11.3.)

5.6.7.11.6.1. AdjustedFullDRDemandAggregation (Class)

…

For example, in a production line this could be the demand of the production line when it was providing the largest acceptable demand reduction in response to a DR request. For an HVAC system, this could be the demand that still meets code requirements and acceptable comfort conditions assuming a certain set of weather conditions and occupancy levels.

name=AdjustedFullDRDemandAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.2. AdjustedFullDRDemandRuleSet (Class)

…

Calculate final result:

- Sum "full DR adjusted demand from loads" and "full DR adjusted demand from energy managers."

name=AdjustedFullDRDemandRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.3. AdjustedFullDRSupplyAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate demand of electrical generators and electrical storage devices, with the largest acceptable demand response, directly or indirectly managed by the associated EM averaged over the identified time interval.

name=AdjustedFullDRSupplyAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.4. AdjustedFullDRSupplyRuleSet (Class)

…

Calculate final result:

- Sum "full DR adjusted supply from generators" and "full DR adjusted supply from energy managers."

name=AdjustedFullDRSupplyRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.5. AdjustedNoDRDemandAggregation (Class)

…

For example, in a production line this could be the expected average demand of the production line assuming that the production line was operating at a certain capacity. For an HVAC system, this could be the expected average demand assuming a certain set of weather conditions and occupancy levels.

name=AdjustedNoDRDemandAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.6. AdjustedNoDRDemandRuleSet (Class)

…

Calculate final result:

- Sum "no DR adjusted demand from loads" and "no DR adjusted demand from energy managers."

name=AdjustedNoDRDemandRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.7. AdjustedNoDRSupplyAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate supply of electrical generators and electrical storage devices, without demand response, directly or indirectly managed by the associated EM averaged over the identified time interval.

name=AdjustedNoDRSupplyAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.8. AdjustedNoDRSupplyRuleSet (Class)

…

Calculate final result:

- Sum "no DR adjusted supply from generators" and "no DR adjusted supply from energy managers."

name=AdjustedNoDRSupplyRuleset
nametype =Standard Rulesets

nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.9. DemandAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate demand of loads directly or indirectly managed by the associated EM averaged over the identified time interval.

name=DemandAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.10. DemandRuleSet (Class)

…

Calculate final result:

- Sum "metered demand", "demand from unmetered loads", and "demand from energy managers."

name=DemandRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.11. ElectricalEnergyStoredAggregation (Class)

For historical or forecast aggregations, this is the energy stored in electrical storage directly or indirectly managed by the associated EM during the identified time interval. For a partially completed (filling) demand interval, this is the energy stored in electrical storage directly or indirectly managed by the associated EM since the beginning of the interval.

name=ElectricalEnergyStoredAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.12. ElectricalEnergyStoredRuleSet (Class)

….

Calculate final result:

- Sum "stored electrical energy from storage devices" and "stored electrical energy from energy managers."

name=ElectricalEnergyStoredRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.13. EmissionsGeneratedAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate emissions generated by electrical generators and electrical storage devices directly or indirectly managed by the associated EM during the identified time interval.

name=EmissionsGeneratedAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.14. EmissionsGenerationRateAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate rate of emissions generation of electrical generators and electrical storage devices directly or indirectly managed by the associated EM averaged over the indentified time interval.

name=EmissionsGeneratedRateAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.15. EmissionsGenerationRateRuleSet (Class)

…

Calculate final result:

- Sum "metered emissions rate" and "emissions rate from energy managers."

name=EmissionsGeneratedRateRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.16. EmissionsGeneratedRuleSet (Class)

…

Calculate final result:

- Sum "metered emissions" and "emissions from energy managers."

name=EmissionsGeneratedRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.17. EnergyConsumedAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate energy consumed by loads directly or indirectly managed by the associated EM during the identified time interval.

name=EnergyConsumedAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.18. EnergyConsumedRuleSet (Class)

…

Calculate final result:

- Sum "metered consumption", "consumption from unmetered loads", and "consumption from unmetered energy managers."

name=EnergyConsumedRuleset

nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.19. EnergySuppliedAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate energy supplied by electrical generators and electrical storage devices directly or indirectly managed by the associated EM during the identified time interval.

name=EnergySuppliedAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.20. EnergySuppliedRuleSet (Class)

…

Calculate final result:

- Sum "metered supplied energy", "supplied energy from unmetered generators and electrical storage devices", and "supplied energy from unmetered energy managers."

name=EnergySuppliedRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.21. NetDemandAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate net demand of loads, electrical generators, and electrical storage devices directly or indirectly managed by the associated EM averaged over the identified time interval.

name=NetDemandAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.22. NetDemandRuleSet (Class)

…

Calculate final result:

- Sum "metered net demand", "net demand from unmetered loads", "net demand from unmetered generators and electrical storage devices," and "net demand from unmetered energy managers."

name=NetDemandRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.23. NetEnergyConsumedAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate net energy consumed by loads, electrical generators, and electrical storage devices directly or indirectly managed by the associated EM during the identified time interval.

name=NetEnergyConsumedAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.24. NetEnergyConsumedRuleSet (Class)

…

Calculate final result:

- Sum "metered net energy consumed", "net energy consumed from unmetered loads", "net energy consumed from unmetered generators and electrical storage devices," and "net energy consumed from unmetered energy managers."

name=NetEnergyConsumedRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.25. SupplyAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate supply of electrical generators and electrical storage devices directly or indirectly managed by the associated EM averaged over the identified time interval.

name=SupplyAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.26. SupplyRuleSet (Class)

…
Calculate final result:

- Sum "metered supply", "supply from unmetered generators and electrical storage devices", and "supply from energy managers."

name=SupplyRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.11.6.27. ThermalEnergyStoredAggregation (Class)

…

The exact manner in which a forecast aggregation is determined is a local matter. It shall represent the expected aggregate thermal energy stored by thermal storage devices directly or indirectly managed by the associated EM during the identified time interval.

name=ThermalEnergyStoredAggregation
nametype =Standard Aggregations
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: Aggregation (See Clause 5.6.7.11.1.)

5.6.7.11.6.28. ThermalEnergyStoredRuleSet (Class)

…

Calculate final result:

- Sum "stored thermal energy from storage devices" and "stored thermal energy from energy managers."

name=ThermalEnergyStoredRuleset
nametype =Standard Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.14.2. BidirectionalCombinerAggregationRuleSet (Class)

…

3. sum the Aggregation.aggregateQuanitity for the Circuit connected to BidirectionalCombiner.connection[1] and the Aggregation.aggregateQuanitity for the Circuit connected to BidirectionalCombiner.connection[2], to yield the resulting contributions of the BidirectionalCombiner to the Aggregation for the Circuit connected to BidirectionalCombiner.connection[0].

name=BidirectionalCombinerAggregationRuleset
nametype =EnergyRouter Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.14.5. GridTransferSwitchAggregationRuleSet (Class)

…

2. AggregationProperties.hasElectricalGenerators set to False, and AggregationProperties.hasLoads set to False as the contribution of the GridTransferSwitch to the AggregationProperties for the Circuit connected to GridTransferSwitch.connection[1].

name=GridTransferSwitchAggregationRuleset
nametype =EnergyRouter Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.14.8. TransferSwitchAggregationRuleSet (Class)

…

- Use the resulting aggregateQuantity, hasLoads flag, and hasElectricalGenerators flag for the resulting contributions of the TransferSwitch to the Aggregation and AggregationProperties for the Circuit connected to TransferSwitch.connection[0].

name=TransferSwitchAggregationRuleset
nametype =EnergyRouter Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

5.6.7.14.10. UnidirectionalCombinerAggregationRuleSet (Class)

…

3. sum the Aggregation.aggregateQuanitity for the Circuit connected to UnidirectionalCombiner.connection[1] and the Aggregation.aggregateQuanitity for the Circuit connected to UnidirectionalCombiner.connection[2], to yield the resulting contributions of the UnidirectionalCombiner to the Aggregation for the Circuit connected to UnidirectionalCombiner.connection[0].

name=UnidirectionalCombinerAggregationRuleset
nametype =EnergyRouter Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.6.1. PowerApparentQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the aggregate absolute real power uncertainty and the aggregate absolute reactive power uncertainty.

name=PowerApparentQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.6.3. PowerMeasurementRuleSet (Class)

- In order to calculate the sum or difference of an Aggregation of PowerMeasurementSets, calculate the sum or difference of its PowerRealQuantity, PowerReactiveQuantity, and PowerApparentQuantity parts according to the rules for each of those classes.

name=PowerMeasurementRuleset

nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.6.5. PowerReactiveQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=PowerReactiveQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.6.6. PowerRealQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=PowerRealQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.6.7. PowerThermalQuantityRuleSet (Class)

- The aggregation of thermal power measurements is calculated by converting the individual PowerThermalQuantities so that they have a consistent PowerThermalType.itemUnits (W or BtuPerh) and then calculating their arithmetic sum.
- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=PowerThermalQuantityRuleset
nametype =Measurement Rulesets

nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.7.2. EnergyApparentQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the aggregate absolute real energy uncertainty and the aggregate absolute reactive energy uncertainty.

name=EnergyApparentQuantityMeasurementRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

Clause 6.6.4.7.3 EnergyMeasurementRulset (Class)

- In order to calculate the sum or difference of an Aggregation of EnergyMeasurementSets, calculate the sum or difference of its EnergyRealQuantity, EnergyReactiveQuantity, and EnergyApparentQuantity parts according to the rules for each of those classes.

name=EnergyMeasurementRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.7.4. EnergyReactiveQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=EnergyReactiveQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

6.6.4.7.5. EnergyRealQuantityRuleSet (Class)

…

- The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=EnergyRealQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

8) The ThermalEnergyMeasurementRuleset Class was misnamed. It should be EnergyThermalQuantityRuleset for consistency with other energy quantities. This results in multiple changes.

a) In Figure 6.10 and Figure 7.8 the name of the class ThermalEnergyMeasurementRuleSet should be EnergyThermalQuantityRuleSet.

b) In Clauses 6.4.4.3. Aggregation of Energy Measurements Diagram, 6.6.4.7.15. EnergyThermalQuantity (Class), and 7.3.2.6. Thermal Energy Measurements Conformance Block Diagram:
Change "ThermalEnergyMeasurementRuleset" to "EnergyThermalQuantityRuleset."

c) Change Clause 6.6.4.7.1 as follows:

6.6.4.7.1.~~ThermalEnergyMeasurementRuleSet~~*EnergyThermalQuantityRuleset* (Class)
The aggregation of thermal energy measurements is calculated by normalizing the units of measurement, then calculating their arithmetic sum.

The aggregate absolute uncertainty is calculated as the square root of the sum of the squares of the individual uncertainties.

name=EnergyThermalQuantityRuleset
nametype =Measurement Rulesets
nameTypeAuthority=ASHRAE 201 Standard

Parent Class: RuleSet (See Clause 5.6.7.11.5.)

9) Spelling, grammatical errors, and character limitations in the constraints for UTCDateTimeInterval make the constraints unclear.

6.6.1.4. UTCDateTimeInterval «Compound» (Class)

Interval of date and time.

Constraint: An interval planned for the future need only have those attributes that have been determined. For ~~example~~ *example,* one might know the duration of a future production run as well as projected characteristics of its energy use, but not ~~have~~ yet ~~scheduled it precisel~~ *know the start time.*

Constraint: At least one at *and* at most two of the attributes start, end, and duration must be specified.

Constraint: When the start and end ~~attriubtes~~ *attributes* are defined, the start attribute must precede the end attribute in time.