An overview of the basics of the RDF schema (RDFS) for a CIM based profile

**‘Ordinary’ class**

**class definition**

<rdf:Description rdf:about="#*class name*">

<rdfs:label xml:lang="en">*class name*</rdfs:label>

<rdfs:subClassOf rdf:resource="#*parent class name*"/> *(appears if class inherits from a parent class in profile)*

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*class notes*</rdfs:comment>

<cims:belongsToCategory rdf:resource="http://ofgem.gov.uk/ns/CIM/LTDS/Equipment#Package\_LTDSEquipmentProfile"/> <-will vary with profile being defined

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#concrete"/> *(appears if class is concrete)*

<rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class"/>

</rdf:Description>

**attribute definition** [note that attributes are defined only on the class in which they appear in the canonical UML, not on child classes]

<rdf:Description rdf:about="#*class name*.*attribute name*">

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#attribute"/>

<rdfs:label xml:lang="en">*attribute name*</rdfs:label>

<rdfs:domain rdf:resource="#*class name*"/>

<cims:dataType rdf:resource="#*primitive class name*"/> *(appears if datatype is primitive)*

*-or-*

<cims:dataType rdf:resource="#*CIMDatatype class name*"/> *(appears if datatype is CIMDatatype)*

*-or-*

<rdfs:range rdf:resource=”#*enumerated class name*”/> *(appears if datatype is enumerated)*

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:1..1"/> *(appears if attribute is required)*

*-or-*

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:0..1"/> *(appears if attribute is optional)*

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*attribute notes*</rdfs:comment>

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

**association definition pairs** [note that associations are defined only between the classes they associate in the canonical UML, not on child classes]

for an association between class1 and class2 (where class1 is the source of the association and class2 is the target)

<rdf:Description rdf:about="#*class1 name*.*class2 end role name (the target end role name)*">

<rdfs:label xml:lang="en">*class2 end role name (the target end role name)*</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string"> *class2 end role (the target end role name) description*</rdfs:comment>

<rdfs:domain rdf:resource=”#*class1 name (source)*"/>

<rdfs:range rdf:resource="#*class2 name (target)*"/>

<cims:inverseRoleName rdf:resource="#*class2 name*.*class1 end role name (the source end role name)*"/> *(a pointer to the ‘other direction’ association definition)*

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:*lower multiplicity bound of class2 end*..*upper multiplicity bound of class2 end*"/>

<cims:AssociationUsed>Yes</cims:AssociationUsed> *(this association end is used/exchanged in the instance data)*

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

<rdf:Description rdf:about="#*class2 name*.*class1 end role name (the source end role name)*">

<rdfs:label xml:lang="en">*class1 end role name (the source end role name* )</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string"> *class1 end role description (the source end role name* )</rdfs:comment>

<rdfs:domain rdf:resource="#*class2 name (target)*"/>

<rdfs:range rdf:resource="#*class1 name (source)*"/>

<cims:inverseRoleName rdf:resource="#*class1 name*.*class2 end role name (the target end role name)*"/>

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:*lower multiplicity bound of class1 end*..*upper multiplicity bound of class1 end*"/>

<cims:AssociationUsed>No</cims:AssociationUsed> *(this association end is NOT used/exchanged in the instance data)*

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

**Primitive datatype class**

**class definition**

<rdf:Description rdf:about="#*primitive class name*">

<rdfs:label xml:lang="en">*primitive class name*</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*primitive class notes*</rdfs:comment>

<cims:stereotype>Primitive</cims:stereotype>

<cims:belongsToCategory rdf:resource="http://ofgem.gov.uk/ns/CIM/LTDS/Equipment#Package\_LTDSEquipmentProfile"/> <-will vary with profile being defined

<rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class"/>

</rdf:Description>

**CIMDatatype class**

**class definition**

<rdf:Description rdf:about="#*CIMDatatype class name*">

<rdfs:label xml:lang="en">*CIMDatatype class name*</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*CIMDatatype class notes*</rdfs:comment>

<cims:stereotype>CIMDatatype</cims:stereotype>

<cims:belongsToCategory rdf:resource="http://ofgem.gov.uk/ns/CIM/LTDS/Equipment#Package\_LTDSEquipmentProfile"/> <-will vary with profile being defined

<rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class"/>

</rdf:Description>

**attribute definition set**

<rdf:Description rdf:about="#*CIMDatatype class name*.multiplier">

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#attribute"/>

<rdfs:label xml:lang="en">multiplier</rdfs:label>

<rdfs:domain rdf:resource="#*CIMDatatype class name*"/>

<rdfs:range rdf:resource="#UnitMultiplier"/>

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:0..1"/>

<cims:isFixed rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*CIMDatatype multiplier attribute name*</cims:isFixed>

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

<rdf:Description rdf:about="#*CIMDatatype class name*.unit">

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#attribute"/>

<rdfs:label xml:lang="en">unit</rdfs:label>

<rdfs:domain rdf:resource="#*CIMDatatype class name*"/>

<rdfs:range rdf:resource="#UnitSymbol"/>

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:0..1"/>

<cims:isFixed rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*CIMDatatype unit attribute name*</cims:isFixed>

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

<rdf:Description rdf:about="#*CIMDatatype class name*.value">

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#attribute"/>

<rdfs:label xml:lang="en">value</rdfs:label>

<rdfs:domain rdf:resource="#*CIMDatatype class name*"/>

<cims:dataType rdf:resource="#*appropriate primitive class name*"/>

<cims:multiplicity rdf:resource="http://iec.ch/TC57/1999/rdf-schema-extensions-19990926#M:0..1"/>

<rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/>

</rdf:Description>

**Enumeration datatype class**

**class definition**

<rdf:Description rdf:about="#*enumeration class name*">

<rdfs:label xml:lang="en">*enumeration class name*</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*enumeration class notes*</rdfs:comment>

<cims:belongsToCategory rdf:resource="http://ofgem.gov.uk/ns/CIM/LTDS/Equipment#Package\_LTDSEquipmentProfile"/> <-will vary with profile being defined

<cims:stereotype rdf:resource="http://iec.ch/TC57/NonStandard/UML#enumeration"/>

<rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class"/>

</rdf:Description>

**attribute definition**

<rdf:Description rdf:about="#*enumeration class name*.*attribute name*">

<rdfs:label xml:lang="en">*attribute name*</rdfs:label>

<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string">*attribute notes*</rdfs:comment>

<cims:stereotype>enum</cims:stereotype>

<rdf:type rdf:resource="#*enumeration class name*"/>

</rdf:Description>