IPSA LTDS CIM Factfinder

Clarifications on the Formal Consultation of the Form of the LTDS
OFGEM

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1 Outline

The newer form of the Long-Term Development Statement (LTDS) has been released for the benefit of DNOs, developers and platform providers by OFGEM. In this statement there is exceptional information on the details of the Common Information Model (CIM) topology and language layout, from the old format via Excel. Specifically, this document also outlines several deviations from Common Grid Model Exchange Specifications (CGMES, administered by European ENTSO-e) to the British-required standards for the CIM under the LTDS exchange (from hereon, referred to as GB-CIM). This document presents several clarifications that are required by members of the IPSA Team at TNEI to explicitly understand reasons for the changes that are made and perspectives that have influenced these changes. This may allow us a clearer view of how to provide the GB-CIM modifications.

2 Required Clarifications

2.1 Busbars and the BusbarGroup

The objective here will be the mapping of *BusbarSection (BBS)* to *BusbarGroup (BBG)* to hold the fault and relevant capacity data. Is there a reason this fault/capacity information has been mapped to the new object BBG via BBS? In some cases, this may provide a confusing situation. The BBSs can all be conductors connected to *ConnectivityNodes*, but as soon as those BBSs are collected by the same group the fault information can no longer be attributed to individual busbars since the group holds all that information. This makes sense for specific conductors in a substation or something that the BBG will equivalence a busbar, but if your topologies have equivalents redacted across the network, does this mean every node will have a BBS and a BBG? This seems expensive. Some clarification on this decision would be helpful.

2.1.1 Boundary Busbars

A new class called *BoundaryPoint* is included in LTDS this replaces the need for EQBD profiles but requires us to know where to make them. This has two options: the first option is where we simply create one on the busbar connected to the equivalent injection radials, alternatively the second

option is to include a busbar type in IPSA called "boundary" which indicates it should have a *BoundaryPoint* this would allow more elaborate boundaries to be created. Some further clarification on why the *BoundaryPoints* are included when we negotiated sidestepping EQBD like data is also worth knowing a bit more about as well.

2.2   Line Containment and Circuit

Disconnectors can be added to lines now, as they currently have an *EquipmentContainer*, LTDS required the addition of a *cim:Equipment:AdditionalEquipmentContainer*. This in principle is fine, but this also seems to extend to *ConductingEquipment* in general. Does this mean that the *Line* is now an equivalent branch container also? In short, we need more detail on this object and the way it has been developed within GB-CIM.

2.2.1

2.3   Circuit/Operational Limits

Every *ACLineSegment* (ACLS) needs at least one *OperationalLimitSet* (OLS); between N OLSs they need to cover the entire calendar year as well. Each OLS must connect to a *CurrentLimit* (CL), and this is all very well explained. Is there a restriction on how DNOs must present season by season or is it just for a full year? Some more rigid clarification on this would be helpful as well.

2.4   Generation

In reactive capability curves, the data required involves a *ReactiveCapabilityCurve* CIM object tied to a *CurveData* subset that involves X and Y data pertinent to the curve. However; this data is typically quite vast with details on the basic D-curve and the primer modifications. Most software that supports RCCs allow for basic P vs. Q variations as the generator changes through load flow iterations. Is LTDS expecting a dense/complete representation? If there must be a curve compulsorily (as stated in Annex 1-2 with focus on non-inverter-based generator), how do the DNOs find and represent that data if that is omitted/not necessarily available? These are all questions that just require a small clarification.

3   Conclusion

As outlined above, there are some small technical issues that we feel only OFGEM can clarify. This may involve some small conversations but, the schema outlined is detailed enough to accommodate. We may need to revisit these issues pertaining to the other CIM profiles: notably SC, GL, and the new SYSCAP profile. Any further questions or clarifications will be given in detail going forward.