ELEXON

CP Consultation Responses

CP1586 ‘Defining the Requirements for Minimum Burden and CT ratios’

This CP Consultation was issued on 13 November 2023 as part of the November 2023 CPC Batch, with responses invited by 8 December 2023.

Consultation Respondents

Respondent	No. of Parties/Non-Parties Represented	Role(s) Represented
National Grid Electricity Distribution	1	Interconnector User
Northern Powergrid	1	Distributor
Scottish Power (Dataserve)	1	Supplier Agent
Siemens	1	Supplier Agent
Stark	1	Supplier Agent

Summary of Consultation Responses

Respondent	Agree?	Impacted ?	Costs?	Impl. Date?
National Grid Electricity Distribution	✓	✓	✖	✓
Northern Powergrid	✖	✓	✓	-
Scottish Power (Dataserve)	✓	✖	✖	✓
Siemens	✖	✓	✓	✓
Stark	✓	✓	✓	✓

Question 1: Do you agree with the CP1586 proposed solution?

Summary

Yes	No	Neutral/No Comment	Other
3	2	0	0

Responses

Respondent	Response	Rationale
National Grid Electricity Distribution	Yes	NGED agree that accurate metering is essential and the proposed changes help to ensure this going forward.
Northern Powergrid	No	Not entirely. Whilst we understand the rationale and principle behind this change proposal to try and more closely match the CT ratio with the expected load of the circuit it is measuring for settlement purposes, it will not eliminate the risks of inaccuracies at low levels of load as it cannot be guaranteed that the load will not fall below 1% of the rated current. The change may reduce the risk, but not eliminate it. For example, an unused building at HV with only lighting on will likely be less than 1% of load. Therefore, the aim of the change should be to try and minimize the occasions where the percentage of rated measuring current is outside of the 1% to 120% range.
Scottish Power (Dataserve)	Yes	None Given
Siemens	No	It is possible to have systems that meet the accuracy requirements of the COPs without being burdened to the 25% limit in the COP. Providing the meter operator has verified that the CT is within the required accuracy limits at the working burden, and can produce documentation to verify this, it is an unnecessary construction cost to include significant multi-core to create the mandated burden. (This cost could include significant quantities of cabling for multiple circuits). While verifying the accuracy class, the meter operator must also ensure the CT remains safe under fault conditions at the rated burden. We therefore suggest that the 25% limit should only be mandated where other verification methods cannot be used.

Stark	Yes	We agree that the proposed solution could provide the additional clarity and guidance deemed to be missing that could help ensure that compliance with established standards can be maintained, and so benefitting accuracy and reliability of energy Settlement.

Question 2: Do you agree that the draft redlining delivers the CP1586 proposed solution?

Summary

Yes	No	Neutral/No Comment	Other
4	1	0	0

Responses

A summary of the specific responses on the draft redlining can be found at the end of this document.

Respondent	Response	Rationale
National Grid Electricity Distribution	Yes	While the redlining try's to cover the requirement for accurate measurement, and NGED uses 0.2S equipment as required certain high export low import supplies can still lead to potential inaccuracies i.e. A 33kV connection of 50MVA needs 2000/1200/1 CTs to measure the 874A. if the import is 300kVA (5A) the CT has to operate in its absolute lowest level and if the value is below this I don't think it will actually register even if it is a class S as this value is well below the 1% ratio error of BSEN61869-2 for a 0.2S CT.
Northern Powergrid	No	These comments refer to CoP5 but equally apply to other CoPs. In section 5.1.1 (Current Transformers) it can't say "ensure, under all running conditions, that the Rated Measuring Current (expressed as a percentage) does not fall below 1% or exceed 120%" as this can't be ensured as stated in Q1. This same section also refers to the addition of burden, but it doesn't specify which party is responsible. As the Registrant is responsible for the overall accuracy of the metering system then it should be they who are required to ensure the burden is within limits – not least as the burden also includes the meter.
Scottish Power (Dataserve)	Yes	None Given
Siemens	Yes	We don't agree with the proposed solution, but the redlining does deliver it.

Stark	Yes	None Given

Question 3: Will CP1586 impact your organisation?

Summary

High	Medium	Low	None
1	0	3	1

Responses

Respondent	Response	Rationale
National Grid Electricity Distribution	Low	NGED already implement the requirement for 'S' class measurement devices, so the impact is low. Though with more high export sites the risk of inaccuracies is greater.
Northern Powergrid	High	For reasons of standardization, for LV CT fused supplies, we use a fixed 500/5 CT ratio integrated Industrial Service Unit (ISU) or Heavy Duty Cut Out (HDCO) for all loads – typically between circa 55 to 276kVA. We may have to review our policy to consider any changes to the CoPs. If that results in a change to product we install it will have a major impact to design, installation and procurement specifications.
Scottish Power (Dataserve)	None	None
Siemens	Low	This doesn't impact us directly but does impact our customers.
Stark	Low	This will require some additional resource by MOA to evaluate any potential process changes that will be required prior to implementation to facilitate changes to relevant COPs.

Question 4: Will your organisation incur any costs in implementing CP1586?

Summary

High	Medium	Low	None
1	0	2	2

Responses

Respondent	Response	Rationale
National Grid Electricity Distribution	None	None Given
Northern Powergrid	High	If we change our policy to reflect any changes to the CoPs then then costs could be incurred if a re-design / specification is required. This would likely not only be a one-off cost but could also be on-going (e.g. storage, logistics) if the units installed are not standard across the piece. However, dependant on the outcome of this change, and the subsequent implementation date a derogation may be required to avoid stranded asset costs.
Scottish Power (Dataserve)	None	None Given
Siemens	Low	This doesn't impact us directly but add a significant cost to our customers.
Stark	Yes	None Given

Question 5: Do you agree with the proposed implementation approach for CP1586?

Summary

Yes	No	Neutral/No Comment	Other
4	1	0	0

Responses

Respondent	Response	Rationale
National Grid Electricity Distribution	Yes	Yes NGED are okay with the implementation timescales as we already meet the requirements
Northern Powergrid	No	For the reasons explained in previous questions, if this change did result in a policy change the implementation of 29 February 2024 is not workable as a function of the preparatory work and changes required to implement such a change.
Scottish Power (Dataserve)	Yes	None Given
Siemens	Yes	None Given
Stark	Yes	None Given

Question 6: Do you believe CoP10 should be incorporated into the scope of CP1586 for Metering Systems using Current Transformers?

Summary

Yes	No	Neutral/No Comment	Other
2	1	2	0

Responses

Respondent	Response	Rationale
National Grid Electricity Distribution	Yes	If the requirement is for all measuring devices to be 'S' class then yes it should apply to CoP10 as well. NGED already use 'S' class items at all voltages.
Northern Powergrid	Yes	None Given
Scottish Power (Dataserve)	None	None Given
Siemens	None	None Given
Stark	No	None Given

Question 7: Do you have any further comments on CP1586?

Summary

Yes	No
1	4

Responses

Respondent	Response	Comments
National Grid Electricity Distribution	No	None Given
Northern Powergrid	Yes	According to the consultation document the main driver for this change is because the selection of CT ratio can compromise the integrity of the energy settlement process when the load is outside of the CT accuracy limits. Whilst we acknowledge this statement, as referenced in Q1 there will always be a risk that the load may fall below 1% of rated measuring current regardless of the CT ratio selected. Due to the relatively low levels of consumption at 1% of load, the risk to settlement is limited. Counter that with the arguably bigger risk to energy settlement of mismatch of CT ratio to meter setting. The industry knows this is and has been an issue for decades. The more CT ratio options provided increases that risk. As a result, many DNOs elected to install a standard CT ratio at fused LV supplies to reduce this risk as most CT installations are at this level. Therefore, the statement in the consultation that the selection of a seemingly incorrect CT ratio is an oversight representing a procedural lapse, is incorrect. In the consultation, the red-lining text correctly does not specify the CT ratio for a given load. It highlights the considerations for Parties when selecting CT ratio so that they can make an informed decision considering the overall risks to settlement.
Scottish Power (Dataserve)	No	None Given
Siemens	No	None Given
Stark	No	None Given