Public

Workgroup Consultation Response Proforma

CMP432: Improve "Locational Onshore Security Factor" for TNUoS Wider Tariffs

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses to cusc.team@nationalenergyso.com by **5pm** on 07 March 2025. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

If you have any queries on the content of this consultation, please contact: cusc.team@nationalenergyso.com

Respondent details	Please enter your details	
Respondent name:	Simon Lord	
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Which best describes your organisation?	☐Consumer body ☐Demand ☐Distribution Network Operator ☒Generator ☐Industry body ☐Interconnector	☐Storage ☐Supplier ☐System Operator ☐Transmission Owner ☐Virtual Lead Party ☐Other

I wish my response to be:

(Please mark the relevant box)

☒ **Non-Confidential** *(this will be shared with industry and the Panel for further consideration)*

☐ **Confidential** (this *will be disclosed to the Authority in full but, unless specified, will not be shared with the Workgroup, Panel or the industry for further consideration)*

For reference the Applicable CUSC (charging) Objectives are:

a) *That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;*

b) *That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C11 requirements of a connect and manage connection);*

c) *That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses and the ISOP business*;*

d) *Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency **; and*

e) *Promoting efficiency in the implementation and administration of the system charging methodology.*

** See Electricity System Operator Licence*

***The Electricity Regulation referred to in objective (d) is Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) as it has effect immediately before IP completion day as read with the modifications set out in the SI 2020/1006.*

Please express your views in the right-hand side of the table below, including your rationale.

<table>
<tr><th colspan="3">Standard Workgroup Consultation questions</th></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Do you believe that the Original Proposal and better facilitates the Applicable Objectives?</td><td>Mark the Objectives which you believe the Original solution better facilitates:</td></tr>
<tr><td>Original ☐A ☐B ☐C ☐D ☐E</td></tr>
<tr><td>We have not yet come to a considered view on this proposal. When looked at in isolation the proposal has some merit but we believe the change can only be looked at in combination with the expansion factor. To come to a view on how the two work in combination additional clarity is required around
1) Confirmation that the SECOFF model calculates the existing factor in an appropriate way.</td></tr>
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		2) What level of security is being build into new and upgraded network and the effect this has on the existing level of redundance/security. 3) how the HVDC expansion factors are determined and the applicability to applying the security factor to these specific circuits for parallel HVDC and mesh HVDC.
2	Do you support the proposed implementation approach?	☐Yes ☐No
		No view
3	Do you have any other comments?	Please see comments below the working group specific questions.
4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	☐Yes (the request form can be found in the Workgroup Consultation Section) ☒No
		We will not be proposing any alternatives
5	Do you agree with the Workgroup's assessment that the modification does not impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the Code?	Yes

Specific Workgroup Consultation questions		
6	Do you think there are any other approaches to reflecting the cost of	Please see comments below the working group specific questions. Click or tap here to enter text.

	security or is there a value other than 1 or 1.76 that is more appropriate. If you have any supporting evidence, please provide this?	
7	Do you believe price signals should reflect average existing cost, incremental cost, a combination of the 2, or something else?	The SF is a multiplier to the expansion constant as such both should be fundamentally calculated on the same basis. If this were not to be the case the SF would be an addition and not a multiplier.
8	Do you have a view on whether the SECULF model is appropriate? Is enough information available to market participants?	More detail is required as it appears the SECULF model looks at the existing network and confirms the existing security is acceptable by removing critical circuits and measuring the resulting MW km of the whole system . It may not in fact be looking at the level of security (addition wires and cost) that in fact exist on the network.

There are several approached to resolving the suggested defect that would result in an improvement to the combination of expansion factor and security factor (multiplier) . A brief description of each and the accompanying rational are set out below. We would encourage the working group to consider if any of these would provide a viable alternative solution and if that solution could be considered in scope.

1) Proposal/Original

The current expansion factor is based on the cost of a representative number of circuits based on historic 10 year data. CMP 375/315 builds on this to include different ways to enhance circuit capability. These modifications currently sit with the Authority for determination. The existing T&T model uses the SECULF model to estimate the level of security on the network at a point in time relative to an unsecured network with this being run once per price control. The current proposal looks at the incremental (short run) cost of security whilst leaving the expansion factor based on the 10 year average. We would expect the two to be consistent in time scales.

Anecdotal evidence is available that shows that once the system is secured for loss of a parallel circuits additional security is not required for future circuits if all circuits are of equal size and parallel existing circuits. Examples of this can be found with parallel HVDC links where in some examples boundary capability is increased by capacity close to the link. We have also come across examples where the TO is building 3 half rated circuits as opposed to two full rated circuits with an implied security factor of 1.5. Some level of security is being built as new circuits are constructed and proposals for meshed offshore HVDV networks

include a level of redundancy. As such, we do not think the security factor of 1.0 is appropriate but neither do we consider the currant value of 1.76 represents the 10 year average security being constructed. The SECULF model probably simply confirms that the network has enough redundancy and compares the intact system against faulted system for a critical outages. The 1.76 value probably represent the total installed network (since the 1960's) compared with the minimum system if all components were 100% reliable. Ideally the SECULF would produce a 10 year average factor representing the level of security being built. It could be a factor or an adder.

In general we would expect a decline in the value of the security factor based on the significant number of parallel circuits being built and the significant increase in TEC relative to demand. For example, if the average level of security being built on the network today was 1.2 on average for every circuit constructed and at the beginning of the ten year period it was 1.76 then, all other things being equal, the security multiplier should be 1.5 and the security factor should approach 1.2 in the long run. The SECULF model is not showing the expected decline which is a cause for concern.

2) **Full incremental, Zone specific**

One way to solve the current issue would be to move both the expansion constant and the security multiplier to a full short run marginal approach. An example of this could be for zones 1-6 where the marginal cost could be based on the Western Boot Strap HVDC for both the expansion constant and the security factor. This would result in a 4.6 x increase in the expansion factor from £18.4/MWkm to around £85/MWkm (the link is 4.6 x the cost of OHL) and the marginal additional security would be 1.0 as no additional security is provided.

Different expansion factors would be needed across each boundary. The zonal sharing factors methodology could be used to set zonal expansion factors. The is mathematically complex but would allow expansion/security to be different in different zones and would be more cost reflective but potentially more onerous on the TOs in terms of data collection and understanding for the user.

3) **HVDC no additional security**

An alternate approach would be to consider parallel HVDC circuits separately to the wider network and set the security factor for these to 1.0. The argument is that the onshore network provides the security for the HVDC parallel circuits so setting the security factor to 1.0 for these parallel circuits would be cost reflective.

4) **HVDC same as OHL for expansion constant**

A more complete solution would be to consider that HVDC should be treated with the same cost base as OHL, effectively dropping the expansion constant for the Western Boot Strap (for example) from 4.6 to 1.0. The rational for this is based around the planning system in that if it was possible to build onshore this would have been the first choice but HVDC offshore was the next cheapest option so it would be inappropriate to include this as an investment signal. If this option was the chosen then consideration would need to be given the treatment of onshore cable circuits where similar considerations apply.

Summary

It may be that a hybrid approach of some of these in combination may be a way forward possibly setting the offshore parallel HVDC security factor to 1 combined with a reduction of the exiting security factor to 1.5, (with the 1.5 being based on anecdotal/ principle evidence that it should be reducing over time and the SECULF model is not showing this) .

This approach may be a better outcome than simple leaving the security factor at 1.76. In parallel with this a fundamental review of the SECULF model and approach is needed.