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6 September 2022

Dear Graeme,

### **Consultation on an SF6 Medium Sized Investment Project from National Grid Electricity Transmission**

Thank you for the opportunity to respond to the above consultation which we do so on behalf of National Grid Electricity Transmission (NGET). This letter provides the summary of our response, and the full detail is included in Appendix 1, by way of answer to each question posed in the consultation.

We are comfortable with the approved finding at the 5 substation sites (Barking, Monk Fryston, Seabank, Sellindge and West Ham) where SF6 replacement or refurbishment intervention works have been identified.

We do not agree with the proposed reduction in costs that Ofgem has set out in the SF6 Consultation against the Current Transformers and Gas Circuit Breakers. We have laid out below the 2 areas where Ofgem are minded-to reduce the funding and provided additional information as to why we do not agree with the treatment of the costs.

#### **1) Current Transformers (CTs)**

Current transformers (CTs) do not fall within the NARM methodology because they are non-lead assets and therefore within the T2 deal, a PCD (for PCB and SF6 drivers) was awarded to fund replacement of a specific list of current transformers. This PCD is funding a different set of SF6 CT assets for which we confirm there is no overlap with those requested in the SF6 MSIP submission. Further details can be found in the detailed responses section of this document.

#### **2) Gas Circuit Breakers (GCBs)**

The works proposed to be undertaken on the GCB assets are repair works. Ofgem have proposed that the GCB works be funded under the NARM mechanism for which, under the definition of NARM, repair works cannot be funded, because repairs are not assumed to improve the monetised risk of an asset. Therefore, the proposed repair works for the GCBs continue to require additional funding under the SF6 MSIP.

Yours sincerely,

[By email] Patrick Hynes - New Infrastructure Regulation Manager, National Grid

## Detailed Responses

**Consultation Question 1: Do you agree with our ‘minded to’ view on the suitability of the needs case proposed by NGET?**

Yes, we agree that NGET’s investment needs case supports the requirements for the UK’s Net Zero targets.

**Consultation Question 2: Do you agree with our assessment of the range of options to meet the needs case?**

Yes, we agree that the NGET optioneering process has assessed and proposed the best interventions for these SF6 assets at this time.

**Consultation Question 3: Do you agree with our minded-to view of the solution proposed by NGET?**

Yes, we agree that the optioneering process has assessed and progressed the best interventions for these assets and therefore NGET has proposed the best solutions for this time.

**Consultation Question 4: Do you agree with our cost assessment of NGET’s proposed SF6 Asset Intervention project?**

We agree with the allowed funding of the 5 proposed intervention sites (Barking, Monk Fryston, Seabank, Sellindge and West Ham). We do not agree with the proposed treatment of the CTs and GCBs. Further details of this can be found below.

### 1. Current Transformers

#### Ofgem’s Position

5.9 We do not consider there to be sufficient justification provided for why the existing Instrument Transformer PCD cannot be used to fund most of the ■■■ proposed current transformer interventions, nor why this would not be in the interest of consumers. We acknowledge that the Instrument Transformer PCD target cap means that the full current transformer asset interventions cannot be achieved and we are therefore proposing for funding for these additional assets to be achieved through MSIP. In order to determine the correct proportion and funding between the Instrument Transformer PCD and MSIP, we would expect NGET to provide clarity on its intentions for the use (with a full breakdown by asset) of the volume driver under the Instrument Transformer PCD, along with the remaining assets to be funded under MSIP. We are proposing to finalise the proportion of costs under both PCD’s as part of our response to the consultation, pending additional information and evidence provided by NGET above.

#### Queries made on ‘Teams’ call dated Wednesday 24<sup>th</sup> August:

1. Please confirm why NGET cannot use the ‘family’ driver category within the existing Instrument Transformer (IT) PCD Special Condition 3.22.

## Response

Current transformers (CTs) do not fall within the NARM methodology because they are non-lead assets and therefore within the T2 deal, a PCD (for PCB, Family, DGA and SF6 drivers) was awarded to fund replacement of a specific list of current transformers. Ofgem have stated that they believe the assets requested under this SF6 MSIP could be funded via this CT PCD.

The Instrument Transformer PCD, which includes CTs, VTs and CVTs, is made up of defined asset volumes in each of four defined driver categories: DGA, SF6, PCB and Family. The breakdown of the ■■■ assets within the PCD is summarised in the following Table. The full list of the ■■■ SF6 current transformers (DGA and SF6) is in appendix 5.

<i>Target Volume</i>	<i>DGA (driver 1)</i>	<i>PCB (driver 2)</i>	<i>SF6 (driver 3)</i>	<i>Family</i>
<i>All other units &lt;=132kV</i>				
<i>132kV CT, 275 &amp; 400kV VT</i>				
<i>275kV CT</i>				
<i>400kV CT &amp; 132kV HAM CVT</i>				

SF6 and DGA categories consist of named assets explicitly listed in the Licence with no flexibility to change these assets.

The assets covered under the PCB driver are not explicitly named, however the asset list and the conditions for replacing assets under the PCB driver are clearly linked to persistent organic pollution legislation and have no relationship with SF6. The presence of PCB and SF6 within an individual CT is mutually exclusive.

To answer query #1 - whilst the Family driver assets are not explicitly named, family assets identified in the T2 submission are still planned for intervention because of their condition scores. Appendices 2-5 in this document outline the IT PCD licence condition and the listed assets that were named within the intervention criteria.

Between the ■■■ SF6 assets within the agreed CT PCD list and the SF6 MSIP list, there are a small number of asset IDs that overlap, but however, not individual assets.

Some of the documentation in the submissions (the SF6 CT EJR for example) was at functional position (or asset ID level) level rather than at asset phase level. The asset ID is made up of 3 components, one for each phase. This may be why it appeared that we were working on the same asset under two funding mechanisms, whereas for the asset IDs that appear in both lists, the different phases are being worked on under different funding mechanisms. Given this interaction, we have within this response, illustrated the two lists side by side, at a phase and asset ID level for accessibility and to show which assets are intended for which funding methodology, and confirm there is no overlap. Therefore, the MSIP is still required over and above the CT PCD.

There are 4 asset IDs that overlap the two funding mechanisms, where the intervention on one of the 3 phases is already being funded by the existing CT PCD. The below images show that the phase highlighted in blue is covered by the CT PCD, and the other phases are covered by the additional SF6 MSIP reopener. These plant items are:

- 1) LCAK2S1CT4 – Red Phase
- 2) NURS128CT – Red Phase
- 3) OCKH138CT – Red Phase
- 4) WIBA2L2CT – Yellow Phase

To note: The asset NURS118CT, is incorrectly listed in the SF6 EJR and does not appear in the detailed SF6 MSIP EJR that was submitted for the January 2022 funding request.

Plant Number Up 2	Plant Number Up 1	Plant Number FP	Equipment Number FP	Equipment Description 1 FP	Equipment Description 2 FP	Asset Group Description	Install Modifier	Equipment Number PI	Fitment Date (including correct)	Equipment Group Ideal	Asset Group Description	SF6 Inventory (kg)	T2 FT PCD	T2 SF6 Response
LACK2	LACK2S1	LACK2S1CT4	000000026512	BUS SECTION 1 CT ADJ S14	LACKENBY 275KV S/S	275KV CURRENT TRANSFORMER	B	000000424173	01/03/1962	P2CR03	REYROLLE SF6 CT	31.8	Not funded	Included
LACK2	LACK2S1	LACK2S1CT4	000000026512	BUS SECTION 1 CT ADJ S14	LACKENBY 275KV S/S	275KV CURRENT TRANSFORMER	R	000000385014	01/03/1962	P2CR03	REYROLLE SF6 CT	31.8	Funded	Not included
LACK2	LACK2S1	LACK2S1CT4	000000026512	BUS SECTION 1 CT ADJ S14	LACKENBY 275KV S/S	275KV CURRENT TRANSFORMER	Y	000000424180	01/03/1962	P2CR03	REYROLLE SF6 CT	31.8	Not funded	Included
NURS1	NURS128	NURS128CT	000000024042	SGT2 CT	NURSING 132KV S/S	132KV CURRENT TRANSFORMER	B	000000423230	01/03/1970	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Not funded	Included
NURS1	NURS128	NURS128CT	000000024042	SGT2 CT	NURSING 132KV S/S	132KV CURRENT TRANSFORMER	R	000000404435	01/03/1970	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Funded	Not included
NURS1	NURS128	NURS128CT	000000024042	SGT2 CT	NURSING 132KV S/S	132KV CURRENT TRANSFORMER	Y	000000423231	01/03/1970	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Not funded	Included
OCHK1	OCHK138	OCHK138CT	000000056280	SGT3 CT	OCKER HILL 132KV S/S	132KV CURRENT TRANSFORMER	B	000000424834	01/03/1973	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Not funded	Included
OCHK1	OCHK138	OCHK138CT	000000056280	SGT3 CT	OCKER HILL 132KV S/S	132KV CURRENT TRANSFORMER	R	000000385113	01/03/1973	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Funded	Not included
OCHK1	OCHK138	OCHK138CT	000000056280	SGT3 CT	OCKER HILL 132KV S/S	132KV CURRENT TRANSFORMER	Y	000000424835	01/03/1973	PICE12	GEC FMGL 4000A SF6 132KV POST CT	11.4	Not funded	Included
WIBA2	WIBA2L2	WIBA2L2CT	000000013081	TEMPLEBOROUGH CT	WINCOBANK 275KV S/S	275KV CURRENT TRANSFORMER	B	000000424374	01/03/1978	P2CR03	REYROLLE SF6 CT	31.8	Not funded	Included
WIBA2	WIBA2L2	WIBA2L2CT	000000013087	TEMPLEBOROUGH CT	WINCOBANK 275KV S/S	275KV CURRENT TRANSFORMER	R	000000385251	01/03/1978	P2CR03	REYROLLE SF6 CT	31.8	Not funded	Included
WIBA2	WIBA2L2	WIBA2L2CT	000000013087	TEMPLEBOROUGH CT	WINCOBANK 275KV S/S	275KV CURRENT TRANSFORMER	Y	000000424375	01/03/1978	P2CR03	REYROLLE SF6 CT	31.8	Funded	Not included

There have been changes to the [redacted] instrument transformers within the T2 deal, submitted within RRP22, including additional instrument transformers taking the total number to [redacted]. This is because, RRP22 included several removals and additions, including some of the instrument transformers in the family. Allowances will not be adjusted because the mechanistic PCD is down-side only.

Further details on the two funding lists can be seen in the spreadsheet attachment, named 'SF6 Funding Mechanism Reconciliation.xlsx'.

## 1. Gas Circuit Breakers (GCBs)

### Ofgem's Consultation Position

5.8. On the basis of the information provided to date, we are not convinced that there is sufficient justification for the funding of [redacted] gas circuit breakers through the MSIP mechanism. Our initial view is that the NARM would be a more suitable mechanism as this already allows for additional funding if the licensee can justify delivery of an additional monetised risk. Submission of these assets through NARM would also remove any potential risk of double-counting allowances between the NARM and MSIP. We are therefore proposing for an adjustment to the allowance for the removal of funding for gas circuit breaker repair.

### Queries made on 'Teams' call dated Wednesday 24<sup>th</sup> August:

2. Please confirm why NGET cannot deliver more SF6 GCB works in addition to the existing baseline funding, using TIM to deliver the additional funding for the works.
3. Please confirm whether NGET believes that SF6 repair works have an impact on the monetised risk for a GCB

## Response

There is no risk of 'double-counting allowances between the NARM and MSIP' because:

1. NARM allowances are based on named individual assets in the NARW and therefore lead asset interventions delivered for any other reasons are excluded from the calculation.
2. Each asset can only have a single Licence term associated with it in RRP, so it cannot be seen as two 'outputs' and trigger two different allowance mechanisms.

In response to call query #2 above - Within our T2 submission, ■ SF6 GCBs were identified as leaking to such an extent that they were a priority for repair works in the T2 period. These GCBs are listed in Appendix 1 below and have T2 baseline funding. Ofgem suggested that - as the 'baseline GCB' repairs are not specifically tied to a PCD - we could undertake the new set of MSIP GCB repairs in addition to the baseline, overdelivering (and hence overspending) the baseline allowances. Ofgem suggest that the MSIP works would then be funded through the Totex Incentive Mechanism (TIM). This is not correct and this option is not acceptable to us because, if the overspend passes through TIM, NGET would in effect only receive 67% of the funding required to complete the work. This work is subject to the MSIP reopener framework because if the spending is deemed efficient, it is agreed to deliver consumer benefit and therefore should be adequately funded. TIM is an incentive mechanism and so should not be used as a primary mechanism for part funding efficiently incurred costs. If Ofgem were to insist this were our only funding source, we would not be able to undertake the additional SF6 works proposed on behalf of the consumer.

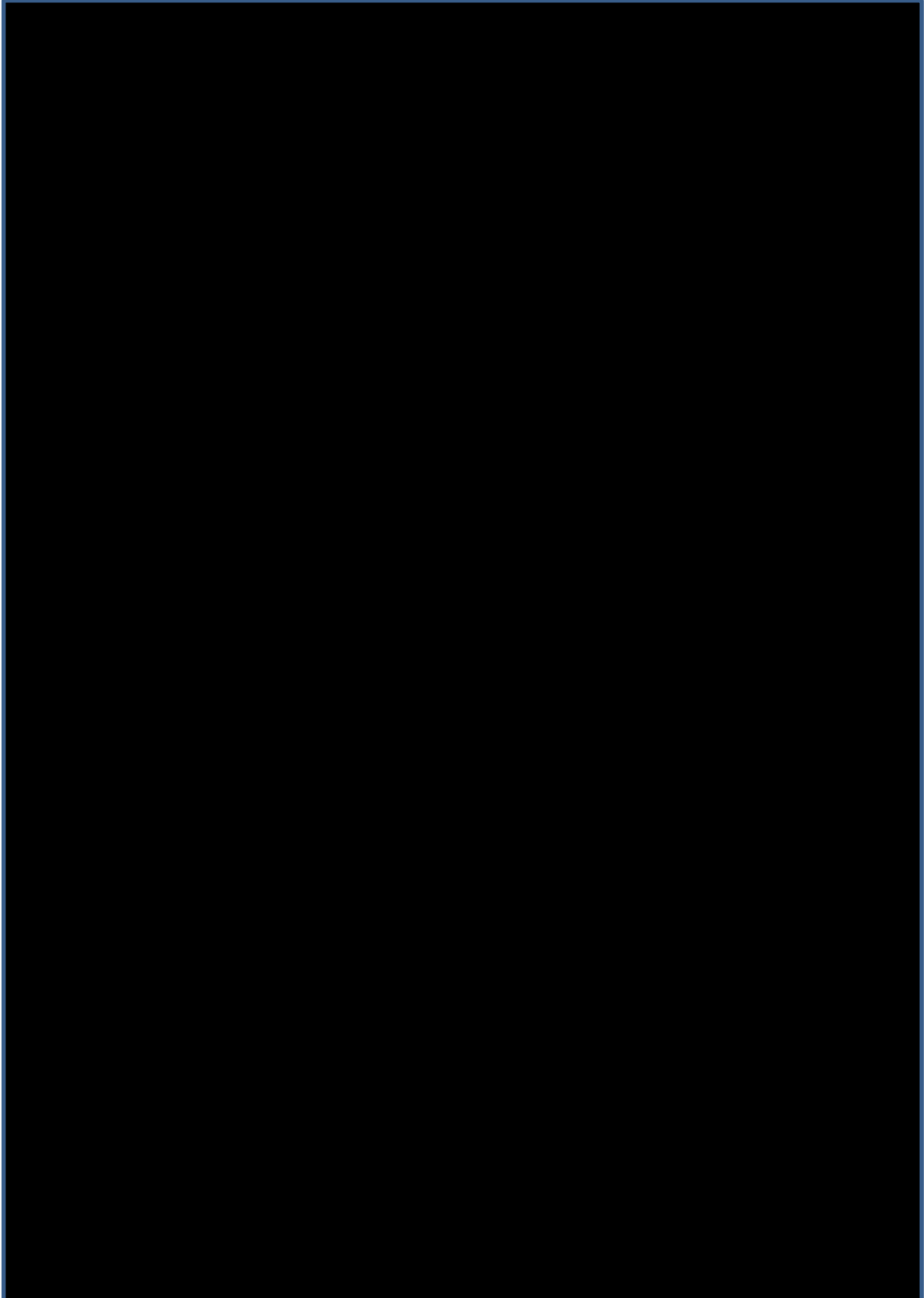
(For the avoidance of doubt, substitution of MSIP GCBs for baseline GCBs would also be unacceptable. The baseline GCBs have been prioritised because they are leaking more than the assets we are now requesting through this reopener. Therefore, if we substitute the MSIP GCBs - which are not yet leaking significantly - for the baseline GCBs, the net effect of the MSIP reopener will be greater leakage of SF6 than was to be achieved pre-reopener, i.e., a step backwards.)

In response to query #3 above – all the works requested under the GCB £5.12m intervention costs relate to SF6 GCB repairs. As stated in '[RIIO-2 Regulatory Instructions and Guidance \(RIGs\) for Network Asset Risk Metric \(NARM\) Tables – for Electricity Transmission, Gas Transmission, and Gas Distribution \(Version 1.0\)](#)', repairs do not affect the monetised risk of an asset and therefore cannot trigger funding under NARM. The relevant definition is: 'Maintenance & Repair - Any activity required or assumed to be necessary to achieve the expected life of an asset. Maintenance & Repair activities, if carried out as assumed to be necessary, do not impact the Monetised Risk of an asset.'

Ofgem were suggesting that these particular 'repairs' could perhaps be classed as 'refurbishment' and then could theoretically impact the Monetised Risk of an asset. The MSIP GCBs have been selected for pre-emptive repairs to reduce future leaks, rather than reactive repairs to address existing leaks. While Total Risk does evaluate the progression of risk relating to failure modes that are reset by scheduled maintenance tasks, it has no concept of this particular pre-emptive intervention. In this case, half of the assets in question report a zero score for the SF6 factor of EOL scoring because each has not yet leaked enough to trigger a higher score. The EOL score pre- and post-'refurbishment' would therefore be equal and, in turn, the long-term risk benefit relating to these interventions would also be zero. The repair therefore has no impact on monetised risk and therefore cannot be funded mechanistically under NARM.

Therefore, Ofgem's assertion there is another route to funding via existing mechanisms is incorrect.

## Appendix 1 – 80 GBSs listed for intervention during the T2 submission



## Appendix 2 – Licence condition for Special condition 3.22 – Instrument Transformer

### Special Condition 3.22 Instrument Transformer Price Control Deliverable (InTt)

#### Introduction

- 3.22.1 The purpose of this condition is to calculate the term InTt (the Instrument Transformer Price Control Deliverable term). This contributes to the calculation of the Totex Allowance.
- 3.22.2 This condition specifies the allowances for the Price Control Deliverable and the reduction in allowances if the licensee does not deliver the target volume of Instrument Transformer Individual replacement or decommissioning, and Instrument Transformer Family replacement or decommissioning.

#### Part A: Formula for calculating the Instrument Transformer Price Control Deliverable term (InTt)

- 3.22.3 The value of  $InT_t$  is calculated in accordance with the following formula:

$$InT_t = (InTF + InTI) \frac{InTA_t}{\sum_t InTA_t} \quad \text{where:}$$

$InTA_t$  means annual allowances in Appendix 1; and

$\sum_t InTA_t$  means the total instrument transformer allowance for the Price Control Period

$InTF$  is the revised Instrument Transformer Family term and is derived in accordance with paragraph 3.22.5;

$InTI$  is the revised Instrument Transformer Individual term and is derived in accordance with paragraph 3.22.6; and

#### Part B: What is the licensee funded to deliver?

- 3.22.4 The licensee is funded to deliver by 31 March 2026:
- (a) Instrument Transformer Family replacements and decommissioning as specified in Appendix 1;
  - (b) a maximum number of Instrument Transformer Individual replacements and decommissioning as specified in the NGET Redacted Information Document; and

Note: Consolidated conditions are not formal Public Register documents and should not be relied on.  
National Grid Electricity Transmission plc (company number 2366977): Special Conditions Consolidated – 1 April 2022

- (c) in relation to 'DGA' and 'SF6' Instrument Transformer Individual replacement and decommissioning, the specific assets specified in the NGET Redacted Information Document.

## Appendix 3 – Instrument Transformer allowance specified in Appendix 1 of the NGET Special Licence Conditions document relating to Special Condition 3.22

### Appendix 1

#### Instrument Transformer Replacement PCD allowance (£m)

Regulatory Year					
2021/22	2022/23	2023/24	2024/25	2025/26	Total

Note: Consolidated conditions are not formal Public Register documents and should not be relied on.  
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InTA<sub>t</sub>

## Appendix 4 – Maximum number of IT individual replacements and decommissioning relating to Special Condition 3.22 – specified in the NGET redacted information document

The total allowed number of units under the special condition 3.22 Instrument Transformer PCD below amounts to [REDACTED]. In the DGA and SF6 category there are [REDACTED] assets. These assets are listed in Appendix 5 below and were originally in the redacted information document.

### Special Condition 3.22 Instrument Transformer Price Control Deliverable (InTt)

Allowed maximum volume and Unit Cost for Instrument Transformer Replacement Price Control Deliverable:

n	Unit cost (£ 18/19) InTU <sub>n</sub>	Target assets, InTV <sub>n</sub>	Target Volume, InTV <sub>n,d</sub> DGA (driver 1)	Target Volume, InTV <sub>n,d</sub> PCB (driver 2)	Target Volume, InTV <sub>n,d</sub> SF6 (driver 3)
1	[REDACTED]				
2					
3					
4					



## Appendix 5 – DGA / SF6 assets for intervention under PCD in Special Condition 3.22 in NGET Redacted Document 3 Feb 2021

