

RIIO-ED2 Decarbonisation and the Environment Working Group: session 4



RIIO-ED team
12 March 2020

Purpose of today's meeting is to:

- To consider the appropriate arrangements for PCBs and SF6 in ED2
- Review the stress-tested scenarios and the implications for the ED2 arrangements

Timings	Agenda item
10:00 – 10:15	Introduction/Aims of session
10:15 – 11:15	1. SF6 Actions <ul style="list-style-type: none"> a. Update of key messages included in the ENA's response to the EU consultation (SSEN) b. SF6 arrangements: What options should be considered for ED2? (ENWL)
11:15 - 12:00	2. PCBs: What options should be considered for ED2 arrangements? (SPEN)
12:00 – 12:30	Lunch
12:30 – 14:00	3. Stress-test scenarios to determine if existing arrangements are appropriate (all) <ul style="list-style-type: none"> a. Discussion on the decarbonisation scenarios developed ahead of the group b. Implications for the need for decarbonisation incentive [as raised in NPg's material]
14:00 - finish	4. Actions and next steps

WG session	Date	Time	Location
1. Introductory session	9 December 2019	10am-4pm	Ofgem London offices (Room 1.11)
2. Group priorities and policy options: Decarbonising the networks (losses & BCF)	28 January 2020	10am-4pm	Ofgem Glasgow offices (Rooms 1 and 2)
3. Policy options: Reducing environmental impact	19 February 2020	10am-4pm	Ofgem Glasgow offices (Rooms 1 and 2)
5. Evidence and analysis: Reducing env. Impact and decarbonising the networks	12 March 2020	10am-4pm	Teleconference
6. Evidence and analysis: Reduce environmental impact	2 April 2020	10am-4pm	Ofgem London offices (Room 1.19)
6. Policy options: transition to low carbon energy system	23 April 2020	10am-4pm	Ofgem London offices (Room 1.13)
7. Evidence and analysis: Transition to low carbon energy system	21 May 2020	10am-4pm	Ofgem London offices (Room 1.17)

Item 1: SF6 arrangements – update on the key messages in ENA consultation response

Item 2: SF6 arrangements: What options should be considered for ED2?
(ENWL)



ACTION

SF6 – What options should be considered for ED2?

- 1) Financial or
- 2) reputation incentive, or
- 3) funding and reopener in the event of wider legislative changes.

- What are the pros and cons of these options?



- Of the total mass of SF6 installed in switchgear (c1,300 tonnes) 15% (circa 195 tonnes) is installed in distribution switchgear, whilst 89% of emissions are attributed to transmission voltage switchgear.
- Although it only accounts for a small percentage of the total mass installed, distribution switchgear accounts for around 97% of the total population of the c230k SF6 switchgear units in service at all voltages. Of these units in service 11kV Ring main units (RMUs) account for 70% of the total population of distribution SF6 switchgear installed.
- Therefore, whilst losses attributed to SF6 switchgear are significantly lower at distribution - 926 kg for 18/19 (taken from RIGS) (average of 0.32% of bank) this does not mean that action at distribution level cannot have an impact on our environment.
- SF₆ emissions are already included within company Business Carbon Footprint (BCF) reporting hence arguably do not need further separating out. Any discussion on incentives should consider BCF as a whole.
- The potential of changes to legislation has driven the more recent conversations, however stakeholders tell us they want DNOs to go further, and drive the change, rather than legislation forcing a change.
- Ofgem state “we consider that **DNOs should be preparing themselves for the possibility of increased external obligations and reporting on SF6 emissions, such as the proposed amendments to the F Gas Regulations 2009** and Greenhouse Gas Emissions Regulations 2013 being developed by government.”



- Alternative technology readiness
- Price differential of alternatives
- Space requirement for alternatives
- Carbon/environmental impact of alternatives
- Volume and range of operational environments
- Deliverability of volumes/disruption to customers



Continue to install SF6 switchgear

- May not be a palatable option for stakeholders or companies in the medium/long term
- Companies may already be developing or have implemented policy changes to avoid this outcome
- Manufacturers may stop providing SF6 switchgear

Install all new switchgear with non SF6 alternative

- At the end of its life
- When a new asset is installed (ie brand new asset, not replacement)

Take a voltage led/situational approach to whether SF6 or alternative is used

- Eg all 132kv uses alternative, or all indoor switchgear uses alternative

Proactively replace SF6 switchgear before the end of its planned asset life

- Could be targeted at known problematic switchgear types
- Level of ambition may be limited by Ofgem economic assessments
- Level of ambition may be limited by financial, technical, space, or delivery challenges

Increase mitigating measures to manage and reduce leakage

- Should be an activity which DNOs are continually addressing and seeking improvements

Do these
behaviour
options
change by
voltage level
and why?



Working assumption for the purposes of the action (note this is not a formal prediction or a working assumption within the ENA SF6 working group at this time):

- Legislation will likely enforce no new SF6 installed beyond a fixed date (within ED2)
- Full retrospective replacement less likely, but a possibility (and poses a significant risk)

Funding and reopener in the event of wider legislative changes:

- Funding for the ongoing replacement of SF6 switchgear will be required (as it is now)
- Unit cost differentiation will need to be a consideration and cost assessment will be affected
- If legislation mandates no new SF6 installations, ex-ante allowances, reflective of unit cost differentiation will allow companies to comply
- Outright ban on all equipment with retrospective action needed will require a reopener (this will likely be known/strongly indicated by the end of 2020 but formally put into legislation until 2023) NB this reopener may not need to be specific for SF6, could be broader to reflect other environmental requirements

Reputation incentive:

- To manage SF6 leakage, ensure mitigating actions are driven and focused on
- To ensure companies are proactively considering and progressing alternative options and companies technical policies are regularly reviewed
- Reported as now through BCF reporting, Environment Report and Ofgem Annual Report.

Financial incentive:

- To drive a higher level of ambition than would otherwise exist (speed up pace of replacement or company imposed target end date). Eg proactive SF6 equipment replacement ahead of asset health or load related drivers.
- Baseline would need to be set, with clear measurable outputs
- Would need to be backed by stakeholder support and willingness to pay (if not mandated)
- Consideration of interaction with other policy areas, including TIM – what priorities should be incentivised on environmental impact



The regulatory mechanism needs to be appropriate to the issue

	Pros	Cons
Funding	<ul style="list-style-type: none"> Provides DNOs with necessary funding to complete BAU asset replacement activity Allowances can be set with unit cost differential in mind TIM will drive companies to strive for efficiencies 	<ul style="list-style-type: none"> No incentive to deliver increased volumes/go at a faster pace No incentive to change technical solution if unit costs are not cognisant of cost differential of alternatives
Reputational	<ul style="list-style-type: none"> Provides stakeholders with transparency on DNO performance Ensures DNOs place appropriate focus on the area Provides Ofgem with clear and consistent metrics 	<ul style="list-style-type: none"> Will need to have the right measures to drive/change behaviour
Financial	<ul style="list-style-type: none"> Drives focus to deliver against targets Ensures alignment with a longer-term target in line with Net Zero 	<ul style="list-style-type: none"> Risk of mis-alignment to customer perceived value/other environmental aspects Need to establish appropriate incentive/cost recovery mechanism

Item 3: PCBs: What options should be considered for ED2 arrangements?
(SPEN)

DEWG RIIO-ED2 PCB Arrangements

12th March 2020



Internal Only

Background

In response to legislative changes in 2019, network operators will have until 2025 to identify and remove PCB contaminated equipment from use.

The EU Commission have updated regulation as follows:

“~~Shall endeavour to~~ identify and remove from use equipment containing >0.005% PCB and volumes >0.05 litres by 2025”.

The potential implications of this change are significant for additional required network investment to replace PCB contaminated equipment by 2025...

Discussion Point: DNOs are working with the ENA to develop and agree a mature PCB management Strategy with relevant Environment Agency bodies to give high levels of confidence for the identification and timely removal of PCB contaminated equipment.

Internal Only

Scale of the Challenge

What are your views on the level of DNO activity required to achieve compliance with this updated environmental legislation? Do you envisage any new or significant challenges to attain compliance?

- Respondent DNOs are supportive of the ENA PCB Strategy (currently draft).
- The strategy includes EA/DEFRA endorsed statistical analysis to identify PCB contaminated/clear asset cohorts, which in turn will inform DNO activity.
- Volumes are likely to be significant but a sufficiently accurate volume of work required will not be available until early 2021.
- **Discussion Point:** The level of required activity will be significant and will have delivery e.g. supply chain limitations, land access, and resource availability.

Internal Only

ED2 PCB Funding

Do you support a unit-cost and volume / volume driver methodology for DNO allowances to remove PCB contaminated equipment? Do you have alternative views?

- Respondent DNOs agree that if sufficient volume data is available up-front then ex-ante allowances can be set. There should be clear distinction between PMTx & GMTx.
- **Discussion Point:** If volumes remain uncertain at business plan submission then could a volume driver with initial ex-ante and true-up be applied.
- **Discussion Point:** Unit costs can be used with volume data to derive allowances, these should be efficient but recognise challenges with the programmes – e.g. median, average etc.

Internal Only

PCB Special Considerations & Uncertainty

Do you consider any special consideration should be given to DNO forecast volumes or unit cost allowances (if this approach is adopted)?

- Respondents indicated that unit costs should account for differences in plant items and delivery pressures.

Do you support the application of a 'PCB', or wider 'Environmental reopener' within RII0-ED2 to respond to unforeseen environmental legislation changes which may occur in-period? Do you have views for an alternative?

- Respondents considered that an uncertainty reopener is unlikely to be required specifically for PCBs but a wider environmental reopener could be useful.
- **Discussion Point:** Could a well developed Environmental Reopener reduce customer and company risk for delivery of activities resulting from unforeseen legislation?

Internal Only

PCB Additional Arrangements

Do you have any further views on ensuring appropriate arrangements are made for PCBs in RIIO-ED2?

- RIIO-ED2 should recognise outputs from the ENA to establish an industry position agreed with DEFRA & Environment Agency (Ofgem & BEIS have also attended).
- The potential scale/uncertainty of activity justifies an additional Business Plan Data Table to account for costs and volumes.
- Cost Assessment for legislative investment programme should ensure work is efficient but not penalise the volume of activity within Totex Modelling.
- In addition to removal, compliance will include other costs e.g. testing/inspection etc. which must also be account for.
- Guidance is required on arrangements for 'logging-up' in RIIO-ED1.

Internal Only

PCB Summary

- The outputs of the ENA PCB Strategy should be considered within RIIO-ED2.
- The GB PCB programme is likely to be significant with substantial delivery pressures.
- Volume certainty must be considered when setting allowances/methodology.
- An ‘Environmental Legislation’ reopener may reduce risk to this & other issues.
- PCB arrangements should be included within the Costs Assessment WG.
- Guidance is required on arrangements for ‘logging-up’ in RIIO-ED1.

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Item 4: Stress-test scenarios