

Guidance

ED3 Business Plan Data Table (BPDT) instructions and guidance

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This document sets out the instructions and guidance for completing Business Plan data tables and templates, required as part of the process of setting ED3.

It explains the scope of the Business Plan data tables and templates, what to consider when completing them, and where to find more information.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

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Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Contents

1. Associated documents	8
See Ofgem's SSMD webpage for:	8
2. Introduction	9
Purpose	9
3. General instructions for completing the BPDT	10
Reporting arrangements	10
BPDT structure and data entry	10
Accounting policies.....	12
Use of estimates and allocations	12
Reporting scope.....	13
Table by table narrative	13
Definitions.....	13
4. Instructions for completing admin and input worksheets	14
Cover sheet	14
Changes log	14
Data Change Log	14
Check Sheet.....	14
Navigation	14
Fixed inputs.....	14
I1 – Universal data and I2 – monthly inflation.....	14
5. Instructions for completing the financial worksheets and commentary	16
Introduction	16
I3 – BPFM inputs	17
F1 – Debt for BPFM.....	20
F2a – Financial summary (TWA).....	22
F2b – Financial summary (YE)	24
F3 – Fixed Rate Debt.....	25
F4 – Floating Rate Debt.....	25
F5 – Inflation Linked Debt	25
F6 – Debt Dataset.....	26
F7 – Data validation.....	32
F8 – Tax inputs	32
6. Instructions for completing the costs worksheets	34
Purpose of costs worksheets	34
S1 – Summary of C1s	34
S2 – C1 movements	34
C1 – Cost matrix (2016 to 2033).....	34
Overview	36
C2 – Connections	37
C2a – Connections.....	37

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

C2b – Connections.....	43
C3 – Physical Security	43
C4 – IT & Telecoms (Non-Operational)	44
C5 – Property (Non-Operational)	45
C6 – Vehicles and Transport (Non-Operational).....	46
C7 – Small Tools, Equipment, Plant and Machinery (Non-Operational)	46
C8 – Remote Location Generation (Opex)	46
C9 – Core CAI	47
C10 – Wayleaves (CAI).....	48
C11 – Vehicles and Transport (CAI).....	49
C12 – Core Business Support.....	49
C13 – IT&T (Business Support)	51
C14 – Property Management (Business Support)	52
C15a – Atypicals Inside Totex, C15b – Atypicals Excluded Totex, C15c – Atypicals Non PC	52
C16 – Smart Meters Outside Price Control	53
C17 – Legacy Metering Equipment.....	53
C18 – De Minimis	54
C19 – Other Consented Activity.....	54
C21 – Out of Area Networks	54
C22 – Pass Through.....	54
C23 – Other Non Activity Based Costs (NABC).....	55
Reporting of disposal/sale of fixed assets and scrap.....	56
C24 – Related Party Margin	56
C25 – Shetland (SSEH only)	58
C26 – Cyber Resilience.....	59
C27 – Severe Weather 1-in-20	60
7. Instructions for completing the Business Plan Data Table cost and volume worksheets.....	62
Purpose of cost and volume Business Plan Data Table worksheets	62
Overview	62
CV1 – Primary Reinforcement	63
CV1a – Primary Reinforcement	64
CV1b – Primary Reinforcement	66
CV2 – Secondary Reinforcement	67
CV2a – Secondary Reinforcement	67
CV2b – Secondary Reinforcement	69
CV2c – Off Gas Grid PCD (UKPN Only)	69
CV3 – Fault Level Reinforcement.....	70
CV3a – Fault Level Reinforcement.....	70
CV3b – Fault Level Reinforcement.....	72
CV4 – NTCC (New Transmission Capacity Charges)	72
CV4a – NTCC.....	72

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

CV4b – NTCC	74
CV5 - Diversions	74
CV7 – Asset Replacement, CV7a – Asset Replacement Network Asset Risk Metric (NARM), CV7b – Asset Replacement non NARM and CV7c – Asset Replacement Civils Driven	76
CV7 – Asset Replacement.....	76
CV7a – Asset Replacement NARM.....	78
CV7b – Asset Replacement non NARM	79
CV7c – Asset Replacement Civils Driven.....	80
CV8 – Refurbishment Non NARM Improvement and CV9 – Refurbishment NARM	80
CV8 – Refurbishment Non NARM.....	81
CV9 – Refurbishment NARM	83
CV10 – Civil Works Condition Driven	84
CV11 – Operational IT&T.....	84
CV12 – Electricity System Restoration	86
CV13 – BT21CN.....	87
CV14 – Legal and Safety	88
CV15 – QoS and North of Scotland Resilience	89
CV16 – Resilience	89
CV16a - Flood Mitigation	90
CV16b – Storm Resilience.....	91
CV16c – Extreme Heat.....	92
CV16d – Storm Arwen PCD	93
CV17 – Rising and Lateral Mains (RLMs).....	93
CV18 – Overhead Line Clearances	94
CV19 – Worst Served Customers (WSCs).....	96
CV20 – Visual Amenity.....	96
CV21 – Losses	97
CV22 – Environmental Reporting.....	98
CV23 - High Value Projects DPCR5, RIIO-ED1 and RIIO-ED2.....	99
CV24 – High Value Projects ED3	100
CV26 – Faults	101
CV28 – Occurrences Not Incentivised (ONIs)	103
CV29 – Tree Cutting.....	106
CV30 – Inspections	108
CV31 – Repair and Maintenance.....	108
CV32 – Dismantlement.....	110
CV33 – Substation Electricity	111
CV35 – Operational Training (CAI).....	111
CV36 – Network Innovation Allowance (NIA)	114
CV37 – Network Innovation Competition (NIC) & LCN fund	114
CV39 – Directly Remunerated Services (DRS).....	115
CV40 – Strategic Innovation Fund (SIF)	116
CV42 – West Coast of Cumbria	116

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

CV43 – Smart Street	116
CV44 – Voltage Management	117
8. Instructions for completing the volume worksheets	118
Overview	118
V1 – Total Asset Movements	118
V2 - Cleansing	119
V3 – Not Used	119
V4 – Other Asset Movements	119
V5 – Volume Matrix (2016 to 2033).....	119
AP1 - Age Profile.....	119
9. Instructions for completing RPEs and Ongoing efficiency worksheets	121
OERPE1 - RPEs and OE.....	121
10. Instructions for completing memo worksheets	124
Overview	124
M1 – Flood Mitigation	124
M2 – ED Worst Served Customers	125
M4 – Vulnerability Deliverables	130
M9 – Streetworks	130
M13 – Uncertainty Mechanisms	131
M14 - Drivers	132
M15 - MEAV (Modern Equivalent Asset Value)	134
M18 – Full Time Equivalents	134
M19 – DSO.....	134
M20 – LCTs (low carbon technologies).....	135
M25 – Company-Specific Factors	136
M26 – Incremental Costs	137
M29 – Data and Digitalisation.....	138
M30 – Climate Resilience	138
M31 – Capex & Opex Split	138
M32 – Voltage Management.....	139
11. Instructions for completing the NARM Tables.....	139
Background	139
General instructions and guidance.....	140
NARM1 - Risk Index Weightings	141
NARM2 – ED2 NARM Profiles.....	142
NARM3 – ED3 NARM Profiles.....	143
NARM4 – ED3 NARM Risk Movement	148
LI – Substations/ LI Substation Groups	150
Fault Level Index.....	161
Appendix 1 - Cost Allocation Scenarios Fault and Asset Replacement	165
Send us your feedback	173

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

1. Associated documents

See Ofgem's SSMD webpage¹ for:

- ED3 Sector Specific Methodology Decision Overview
- ED3 SSMD: Cost Assessment Annex
- ED3 SSMD: Finance Annex
- ED3 Business Plan Guidance

¹ [Sector specific methodology consultation: electricity distribution price control \(ED3\) | Ofgem](#)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

2. Introduction

Purpose

- 2.1 This document sets out the instructions and guidance for completing the Business Plan data tables (BPDTs) that support the submission of the electricity distribution network operators (DNOs) Business Plans. The BPDTs should be completed in accordance with these instructions and the definitions provided in this document.
- 2.2 The BPDTs comprise a set of tables (in MS Office Excel format) for reporting business plan data. They consist of a number of data entry sheets together with various summaries and are one element of the wider suite of information required to be provided to Ofgem to enable informed price control allowances to be set.
- 2.3 The BPDTs and these instructions provide a framework for the collection and provision of consistent information to avoid varying interpretations of definitions and reporting requirements. These instructions are provided to ensure consistency of information contained in the BPDTs.
- 2.4 The BPDTs should be consistent with Business Plans submitted by DNOs and provide additional information and detail in support of them. These instructions do not set out the process for when draft and final Business Plans should be submitted or provide guidance on what should be included in Business Plans.
- 2.5 These instructions do not change any definitions or obligations contained within the electricity distribution licence applicable to the DNOs. In the event of any potential or perceived conflict between the licence conditions and these instructions, the licence conditions shall take precedence.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

3. General instructions for completing the BPDT

This instruction and guidance document ('the instructions') provide a framework for the collection and provision of consistent information to support the well-justified business plans submitted by distributed network operators' (DNOs). The output from this process will be the DNOs completed business plan data tables (BPDT). Ofgem will use the information provided in the BPDT information to assist its assessment of business plan submissions for ED3.

Reporting arrangements

- 3.1 DNOs must provide the complete BPDTs in excel format.
- 3.2 DNOs must complete the BPDTs in full. If information is incomplete, the DNO should provide a clear explanation for why that is the case.
- 3.3 If DNOs have queries about the data table, or discover any errors following the completion of their BPDTs, they should raise those with Ofgem, as soon as possible, by email to ED3@ofgem.gov.uk.
- 3.4 Any resubmission of the BPDTs shall only to be made by agreement between Ofgem and the DNO and, in any such instance, the BPDTs should be resubmitted in full. Resubmission of the BPDTs must be accompanied by a letter signed by a Director of the DNO.
- 3.5 DNOs are required to risk assess their December 2026 final Business Plan submissions. More information on this is provided at section 5.1 of the latest version of Ofgem's Data Assurance Guidance (DAG)². Companies are expected to submit an irregular NetDAR alongside the main BP submissions.
- 3.6 Following the publication of our Methodology Decision in Spring 2026, Draft Business Plans will be submitted to Ofgem on 31st July 2026, with Final Business Plans to be submitted in December 2026.

BPDT structure and data entry

- 3.7 The BPDTs have been separated into the following sections:
 - General tables: The Cover, Change Log and Navigation. Fixed Data tables are included to provide constant figures to be referenced whilst populating the BPDT tables
 - Finance tables: Tables I1 to F8 collect financial information
 - Summary tables: RPEs and Ongoing Efficiency, S1, S2 and C1s provides a summary of key information including costs

² [Amendments to Data Assurance Guidance \(DAG\) submissions | Ofgem](#)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Activity tables: Tables C2 to CV44 collect cost and volume data for activities
 - Asset volume tables: Tables V1 to V5 and AP1 collect asset volume changes and annual age profile information
 - Memo tables: Tables M1 to M32 collect additional data to support deliverables, outputs and innovation
 - NARMs tables: Risk Index Weightings and NARM profiles for ED1, ED2 and ED3
 - Load Index tables: Load index data for substations and substation groups
- 3.8 Certain fields require positive entries, whereas others require negative entries. Unless specified otherwise in the individual table instructions below, the following rules apply:
- costs are to be entered as positive values
 - contributions (customer or otherwise) are to be entered as negative values
 - cost recoveries are to be entered as negative values
 - volumes to be entered as positive numbers
- 3.9 DNOs should only make entries in the indicated input fields. The excel workbook has not been locked or password protected, but DNOs must not make any changes to the formulae, headings, titles, format or structure contained in the template unless these instructions from Ofgem provide otherwise. Any such changes will inhibit Ofgem’s ability to automatically migrate the submitted data out of the BPDTs, which may result in the DNO being required to resubmit the BPDT in its original format. Instead, any issues or proposed changes identified should be communicated to Ofgem as soon as possible.
- 3.10 The BPDTs typically require the reporting of actual and forecast costs and workloads for RIIO-ED1 and RIIO-ED2, actual and forecast costs and workloads for RIIO-ED1 and RIIO-ED2 and the forecast costs and workloads for ED3 (2028/29-2032/33). For specific programmes extending beyond ED3, longer-term forecasts may be required and should be completed when indicated.
- 3.11 A financial year for the provision of information required will be a period of 12 months commencing on 1 April of each year and ending on 31 March of the following calendar year.
- 3.12 All costs should be provided in 2025-26 prices unless otherwise stated. Ofgem has provided the index to use for deflation/inflation purposes. This index, which is a yearly average composite of RPI and CPIH, can be found in the Universal Data worksheet of the BPDTs – titled Financial Year Average RPI-CPIH.
- 3.13 All costs should be exclusive of Real Price Effects (RPEs) and ongoing efficiencies.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 3.14 The DNOs are responsible for ensuring that all annual historical data (costs and workloads/volumes) is fully reconcilable to their latest published Regulatory Reporting Pack (RRP). Where disaggregated reporting categories differ between the BPDTs and the latest RRP, matching parent categories should reconcile. If historic BPDTs figures fail to reconcile to the latest RRP, a clear explanation of the misalignment should accompany the business plan submission.
- 3.15 In the worksheets the numbers will be displayed to two decimal places. The DNOs are required to provide data to a minimum of two decimal places for actual data and one decimal place for forecast values, unless otherwise indicated in the guidance. Where a reportable value is zero the cell input should be zero. Where it is not applicable to the licensee, the cell should be left blank.
- 3.16 Financial values should reconcile with audited regulatory accounts. DNOs are required to provide all actual financial data to the highest reasonable level of accuracy available from their source systems, and commensurate with the purpose for which such data is intended, taking into consideration the appropriate allocations that are necessary to complete the tables.
- 3.17 Workload and outputs should be entered in the unit of measurement set out in this guidance or in the BPDTs. Workload units and outputs should be reported at the highest reasonable level of accuracy from the source systems and commensurate with the purpose for which such data is intended taking into consideration the appropriate allocations that are necessary to complete the tables.

Accounting policies

- 3.18 All costs are to be entered on a Cash Basis (see ED3 BPDT Glossary) and exclusive of atypical items except where specifically instructed to report data. Except where Ofgem guidance requires otherwise, the BPDTs should be prepared using the same accounting policies used in the financial statements, in accordance with UK GAAP or IFRS. In the event that the approach to preparation of the BPDTs differ from that required by the Ofgem guidance (for some or all years), DNOs must include appropriate details including quantification of the difference.
- 3.19 To avoid issues with restatement, asset recognition and different statutory accounting policies across DNOs due to IFRS16 being issued partway through RIIO-ED1, all costs should continue to be reported in the BPDTs as they would have been prior to the adoption of IFRS16.

Use of estimates and allocations

- 3.20 Apportionments should be avoided wherever possible. However, where DNOs (and any affiliate or related party undertaking of the DNOs) have to do this to

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

complete the tables, this must be noted in the BPDT Commentary (BPDTC) and the basis of apportionment provided. Changes in any apportionment methodology between time periods should also be highlighted.

Reporting scope

- 3.21 The data presented in the BPDTs should relate to the activities of the DNOs whether carried out directly by the DNO or by another party on behalf of the DNO (eg related parties or third parties carrying out activities for the DNO) in accordance with requirements of SLC29.

Table by table narrative

- 3.22 Alongside the submission of the data table and the current requirement to provide an overview narrative, the company must provide a summary explanation of the information provided in each data worksheet through an additional BPDTC document.
- 3.23 DNOs must complete the BPDTC template which accompanies this guidance document. The BPDTC enables DNOs to give summary details on specific areas to aid Ofgem's understanding of the results from a number of perspectives. The BPDTC document includes further instructions on how to complete it.

Definitions

- 3.24 The definitions set out in the ED3 BPDT Glossary should be used to complete the template in a consistent way. DNOs must ensure that the definitions are clearly understood and are complied with when entering any data into the BPDTs. Where there is doubt or uncertainty, please refer to Ofgem for clarification. This is to ensure consistency and comparability of data entry across DNOs.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

4. Instructions for completing admin and input worksheets

Cover sheet

4.1 This worksheet provides a summary explanation of the BPDTs.

Changes log

4.2 The purpose of this worksheet is to report any changes made in the Business Plan Data Tables by Ofgem. No Data input is required in this worksheet.

Data Change Log

4.3 The purpose of this worksheet is for DNOs to record any changes that it has made to historical, and therefore, previously submitted, data. No Data input is required in this worksheet.

Check Sheet

4.4 This worksheet imports the results of error checks from worksheets in the BPDT that contain error checks. It allows the user to quickly see if there are any checks identifying errors and where these errors occur.

Navigation

4.5 This worksheet lists all other worksheets within the reporting pack and provides hyperlinks to each. It links to the abbreviated worksheet name with the full name used in the guidance also provided. The DNO is not required to input any data on this worksheet.

Fixed inputs

4.6 This worksheet requires the DNO to enter key data including the DNO name and the names of Related Parties.

4.7 The DNOs should enter the name of any relevant Related Party in rows 22 to 41. This will automatically link to the C1 matrices.

I1 – Universal data and I2 – monthly inflation

4.8 The purpose of these worksheets is to demonstrate the principles and calculations used to inflate from RIIO-ED2 price base (2020/21) to ED3 price base (2025/26). No DNO inputs are required in these sheets.

4.9 I1 worksheet uses monthly inflation data in I2 to calculate the RPI/CPIH splice index, from which are derived annual inflation values (row 26), the real to

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

nominal price conversion factor (row 28) and price base year conversion factor (row 30)

- 4.10 In addition to this, other interest rate data is also stored here (rows 33-42), which is used in the F1-F6 worksheets for calculating principal accretion on DNOs' debt data. The interest rate data covers: Nominal; RPI real; CPIH real; LIBOR 1 Month; LIBOR 3 Month; LIBOR 6 Month; LIBOR 12 Month; SONIA; Credit Spread Assumption for Floating Rate Debt (LIBOR); Credit Spread Assumption for Floating Rate Debt (SONIA).

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

5. Instructions for completing the financial worksheets and commentary

Introduction

- 5.1 This section sets out the instructions and guidance for completing the financial worksheets of the BPDT. These comprise of I3 – BPFM Inputs; F1 - Debt for BPFM; F2a – Financial Summary (TWA); F2b – Financial Summary (YE); F3 – Fixed Rate Debt; F4 – Floating Rate Debt; F5 – Inflation Linked Debt; F6 – Debt Dataset; F7 – Data Validation; and F8 – Tax Inputs.
- 5.2 DNOs must also complete and submit the Financial Issues Commentary alongside the financial worksheets.
- 5.3 Unless otherwise stated in this document or in the BPDT, actual financial values should be provided in £ million to a minimum of three decimal places. Financial values should reconcile with audited regulatory accounts for historical years for which audited regulatory accounts have been produced. DNOs are required to provide all actual financial data to the highest reasonable level of accuracy available from their source systems, and commensurate with the purpose for which such data is intended, taking into consideration the appropriate allocations that are necessary to complete the tables.
- 5.4 Workload and outputs should be entered in the unit of measurement set out in this guidance or in the BPDT. Workload units and outputs should be reported at the highest reasonable level of accuracy from the source systems and commensurate with the purpose for which such data is intended taking into consideration the appropriate allocations that are necessary to complete the tables.
- 5.5 All financial values should be input as positive numbers unless otherwise stated. Where a reportable value is zero or not applicable to the DNO, then a zero should be input, rather than the cell being left blank.
- 5.6 I3 – BPFM Inputs and F8 – Tax Inputs are reported in real prices ED3 price base. F1 - Debt for BPFM, F2a – Financial Summary (TWA), F2b – Financial Summary (YE), F3 – Fixed Rate Debt, F4 – Floating Rate Debt, F5 – Inflation Linked Debt, and F6 – Debt Dataset are reported in nominal prices.
- 5.7 Any definitions required to complete the financial worksheets can be found in ED3 BPDT Glossary.
- 5.8 Note: If a value is pasted from other source, make sure to use paste special (Ctrl + Alt + V) and select Skip Blank and click okay to paste any values.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**I3 – BPFM inputs**

- 5.9 The purpose of this worksheet is to provide a summary of information from the BPDT to be used as input values in the Business Plan Financial Model (BPFM).
- 5.10 The sheet is split into two sections. The first section is referred to as the mirror table, comprising the information that is required for the BPFM. The second section consists of detailed subtotal items that feed into the mirror table.
- 5.11 Most of the information in this worksheet is linked from other worksheets in the reporting pack, though there are also some DNO information inputs required within the sheet. These are described below.
- 5.12 BPFM Directly Remunerated Services (DRS) (rows 46-65). These cells do not require inputs as they draw from CV39 – DRS tab. However it's worth noting that this table flips the positive/negative signs of all DRS costs and revenues compared with how they are reported in CV39. This is due to the structure of the BPFM model – whilst DRS costs are entered into CV39 as positive, they are flipped to negative numbers for the BPFM's use. Conversely DRS revenues are entered into CV39 as negative, and are flipped to positive for the BPFM. It's also worth noting that this table shows DRS costs inclusive of indirect cost allocations.
- 5.13 Variant allowances (rows 69-118). This table, along with the variant allowances capitalisation rate and allocations tables underneath it, has been structured to accommodate DNO proposals for variant costs within RIIO-ED3. The annual total cost of variant activity is entered into the corresponding cells in columns X-AB.
- 5.14 Variant allowances: allocations (rows 69-173). Required information for variant allowances in the table above should be entered here.
- UM/PCD/Other: In cells I69- I118, enter description of the mechanism for the variant activity (this section is for information only)
 - TIM/non-TIM: In cells X124-X173, item is either subject to Totex Incentive Mechanism (True) or not subject TIM (False) (this section is for information only)
 - RPE Incl. or Excl.: In cells Y124-Y173, item is either subject to RPEs (True) or not (False) (this section is for information only)
 - cap rate allocation (1 or 2): In cells Z124-Z173, item's categorisation as belonging to one of the two capitalisation rate allocations
 - reference to BPDT commentary pack and Business plan: reference to where a description of the item can be found, including details of the estimated cost and justification for the proposed treatments in this table
- 5.15 Variant allowances: Attribution to totex subcategories (176-525) is the % split of the item across each of the totex subcategories. This information is

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- collected to allow allocation of costs to tax pools (see F8 – Tax Inputs for details on how allocation to tax pools is carried out).
- 5.16 BPFM Pension Inputs (rows 539-540). Revised allowances and any known adjustments as part of the latest Reasonableness Review (EDE) should be entered.
 - 5.17 Allowed Expenditure – Smart Meter Allowed Expenditure (row 546). Allowances for smart meter expenditure are required.
 - 5.18 BPFM Statutory Depreciation Inputs (rows 550-551). DNOs’ statutory accounts values of depreciation and capex. This information is used in financeability assessments for comparing companies’ actual data with notional values in the BPFM.
 - 5.19 Forecast actual gearing (row 690). In addition to the financial data required in tabs F1 to F6, here we require DNOs’ forecasts of actual gearing. This information is used in financeability assessments for comparing companies’ actual data with notional values in the BPFM.
 - 5.20 Tariff charge (row 695): The Unrestricted Domestic Tariff, figures are adjusted for a 3100 kWh typical domestic consumption value (not including the domestic customer rebate and assuming 365 days in a year) and entered manually by the licensee (25/26 price base)
 - 5.21 Other revenue allowances: cost multipliers (rows I716-I721). For draft business plan submissions DNOs’ assumptions of cost multipliers should be entered here. In the BPFM, these cost multipliers are combined with the costs (row 31-43) to project the associated allowances.
 - 5.22 Capitalisation rate inputs (rows 724:725). The rows are used to collect natural capitalisation rate and it should be provided for each year.
 - 5.23 Bid preparation costs (row 750). Eligible NIC bid preparation costs should be entered.
 - 5.24 Theft Recovery (rows 754-760). RIIO-ED1 and RIIO-ED2 historic and forecast values should be input in line with the subsequent paragraphs guidance. No forecast values should be entered for ED3 period. The purpose of these inputs is to report costs, volumes and revenues associated with Theft Recovery activities as set out in CRC 5F (Treatment of income from recovery in respect of Relevant Theft of Electricity) and related to the provisions of Standard Condition 49 (Electricity Distribution Losses Management Obligation and Distribution Losses Strategy) of the electricity distribution licence.
 - 5.25 Reported Income from Theft Recovery (row 748) is automatically deducted from actual controllable opex (ACO). The purpose of this is to ensure that the reported income is shared with consumers via the Totex Incentive Mechanism (TIM).

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 5.26 Theft Recovery inputs should exclude the reporting of income from services provided under Directly Remunerated Services 5, Revenue Protection Services. Revenue Protection Services should be reported under worksheet CV39 – DRS.
- 5.27 The following terms are defined in ED3 BPDT Glossary:
- Income from Theft Recovery
 - Recovery of Costs
 - Recovery of Value of Electricity Taken
 - Forecast Amount of Revenue Relating to Theft Recovery
 - Total Costs Incurred in Respect of Relevant Theft of Electricity.
- 5.28 When reporting under:
- Recovery of Value of Electricity Taken (row 747), kWh means the estimated units of electricity unaccounted for that can be attributed to the reported income from theft recovery. Lost electricity relating to a successful case may have accumulated over a number of years and the volume figure should only be reported once in the worksheet, against the year the associated income from theft recovery is reported.
 - Number of cases (row 749), 'cases' refers to the number of successful cases associated with any income from theft recovery reported in this worksheet for the Regulatory Year under report.
- 5.29 Total costs incurred in respect of relevant theft of electricity (eg labour, material costs) (row 752) is for information only and does not feed into any calculations elsewhere in this reporting pack. The costs are captured in other activities reported in this reporting pack and are therefore not captured as a separate cost item in worksheet C1. When reporting 'instances investigated', this means the total of:
- Initial investigations (those yielding no further action by the licensee) – DNOs should only report the associated volume for an initial investigation once in this worksheet in the Regulatory Year the licensee determined no further action should be taken.³
 - Successful cases associated with any income from theft recovery reported for the Regulatory Year under report.
 - Unsuccessful cases (where no income from theft recovery has been reported) – DNOs should only report the associated volumes once in this worksheet, in the Regulatory Year the case was closed.

³ An initial investigation could incur costs across multiple years, so this avoids any potential double counting of the associated volume.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**F1 – Debt for BPFM**

- 5.30 The main function of this worksheet is to derive average debt volumes for embedded and new debt types that are consistent with the definition of average debt in the BPFM interest calculations (see sheet named Finance&Tax (actual) therein). These recalculated average volumes are then used to derive the actual cost and proportion of new debt issuance by type, also for use in the BPFM.
- 5.31 In the BPFM, average net debt is defined as the average of “Opening net debt after equity issuance” and “Closing net debt before tax, interest and dividends”. In summary, the derivation of these opening and closing balances in F1 requires to deduct any equity issuance from the opening net debt volumes sourced from F2b, and deduct interest expense, dividends and net taxes (allowance minus cost) from the closing net debt volumes from F2b. The average of opening and closing debt thus obtained is consistent with the definition used in the BPFM.
- 5.32 The derivation of opening and closing volumes under the BPFM definition requires some preliminary operations:
- Allocate equity issuance as sourced from tab F2a (row 260) to debt types. This is achieved by assuming that any equity issuance reduces new debt issuance requirements, according to the same proportion in which new debt types are issued. No equity issuance is allocated to embedded debt.
 - Allocate dividends as sourced from tab F2a (row 263) to debt types, by using the proportions of embedded and new closing debt types from F2b. This is consistent with the dividend calculations in the BPFM, where dividends are derived as a percentage of closing equity.
 - Allocate debt adjustments from the yellow input cells in F2b (rows 185 to 191) to embedded and new debt types. As for dividends, this is achieved by using the proportions of closing embedded and new debt types on total closing debt from F2b. This operation allows to reconcile volumes of debt types with total closing debt under the regulatory definition.
 - Similarly, interest adjustments from the yellow input cells in F2a (rows 204 to 213 and rows 218 to 227) are allocated to interest expense by debt type according to the share of interest expense by debt type on total interest expense. Interest adjustments are entirely allocated to cash interest payments, so that the principal inflation accretion component is unaffected and as sourced from sheet F2a. This operation ensures that interest expense by debt type thus derived is consistent with total interest expense under the regulatory definition from sheet F2a.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- In theory, net taxes as defined in the BPFM (tax allowance minus tax paid) should also be allocated to embedded and new debt types. However, this would not only require to source tax allowance and tax paid from the BPFM, but also introduce a circularity issue, as tax paid in the BPFM depends on interest expense, which in turn is derived from average debt from this BPDT:

$$\begin{aligned} \text{Tax paid (BPFM)} &\leftarrow \text{Interest expense (BPFM)} \leftarrow \text{Average debt (BPDT)} \leftarrow \\ &\leftarrow \text{Tax allowance (BPFM)} - \text{Tax paid (BPFM)} \end{aligned}$$

- 5.33 In other words, in order to calculate Tax paid in the BPFM one needs to use average debt from the BPDT, which in turn is derived by deducting net taxes (sourced from the BPFM) from the BPDT closing debt. In this BPDT this predicament is resolved with the simplifying assumption that Tax allowance = Tax paid. The implication is that net taxes have no impact on debt balances and can be ignored in the workings of this sheet F1.
- 5.34 After all the preliminary operations described above are completed, debt balances as per BPFM definition can be determined for embedded and types of new debt.
- 5.35 Actual debt balance by type for BPFM modelling (including adjustments calculated below), rows 113-101. This top section of sheet F1 explicitly calculates net debt balances for embedded and new debt types, consistently with the methodology used in the BPFM net debt calculations (sheet Finance&Tax (actual) therein). For example, opening embedded debt (after equity issuance) in row 15 is calculated by deducting the allocated equity issuance (which only in this specific instance is zero) from opening embedded debt. Closing debt (before interest and dividends) in row 18 is derived by adding to opening embedded debt (after equity issuance) the operating result plus the impact of debt adjustments previously calculated. Operating result is ascertained in row 16 as the debt change in year minus embedded debt interest expense (which includes the allocated interest adjustments), allocated dividends and impact of debt adjustments (as previously discussed, net taxes can be ignored and are greyed out accordingly). This procedure is replicated for all debt types, so that the corresponding balance for total embedded and new debt is also determined (rows 88-101).
- 5.36 Average debt balance and cost of debt for use in BPFM (rows 105-126). This section uses information from the detailed debt balances to calculate average debt volumes, actual cost of debt and proportion of new debt issuance by type of debt under the BPFM definition. Ultimately, average embedded debt (row 110) is used in the BPFM to determine the new debt issuance requirement (as total average debt requirement minus average embedded debt), which in turn is allocated to types of new debt according to the proportions calculated in this

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

sheet (rows 122-126). New debt interest expense is calculated in the BPFM by using actual cost of debt also from this sheet (rows 114-118).

- 5.37 Supporting workings for derivation of actual debt balances by type (rows 128-264). The remainder of this sheet features supporting workings to determine the previously discussed allocations of equity issuance (rows 131-159), debt adjustments (rows 163-197), dividends (rows 201-207) and interest adjustments (rows 211-264) to embedded and new debt types, for use in the detailed debt balances constructed above.

F2a – Financial summary (TWA)

- 5.38 The purpose of this worksheet is to provide summary information on actual debt volumes and debt cost position of licensees as well as actual equity issuance and dividend forecasts. This will enable actual company financing positions to be used as input values into the BPFM, for the purposes of calculating financial ratios based on actual company financing structures and costs. The debt volume amounts in this worksheet are derived on a Time Weighted Average (TWA) basis, whilst all inputs and calculations are expressed in nominal prices (£m).
- 5.39 Rows 31-57 reflect embedded debt volumes and costs pre interest rate and inflation derivatives; rows 61-87 reflect the impact of interest rate and inflation derivatives on embedded debt volumes and costs. rows 91-120 use the information from the two previous sections to express embedded debt volumes and costs post interest rate and inflation derivatives (on a TWA basis).
- 5.40 The embedded debt sections in rows 31-120 are populated automatically based on the embedded debt data input into F6 – Debt Dataset and processed into sheets F3 - Fixed Rate Debt, F4 - Floating Rate Debt and F5 - Inflation Linked Debt. As a result, annual TWA embedded debt volumes and interest expense for all financial instruments inputted in F6 are aggregated and summarised in said sections of sheet F2a.
- 5.41 Volumes of new forecasted debt raised starting from year 2026/27 and related interest expenses are determined in the section in rows 123-185 (“New Debt Composition & Expense Pre and Post Derivatives (notional principal outstanding value)”). New debt volumes and interest expenses are assumed as pre and post derivatives, ie there is no distinction between debt raised in a particular format directly and that raised in that format indirectly through derivatives. This is because it is assumed a DNO may be able to forecast which format liability they would seek to raise for future years but may not be able to forecast whether this would be raised directly or through derivatives. This new debt section in rows 123-185 is based on a number of additional inputs that DNOs are required to populate.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 5.42 New debt amounts in this section should reflect the “core totex scenario”, that is, they should represent forecasted new debt emissions for financing the Business Plan expenditure submitted in this BPDT.
- 5.43 Forecasts of new volumes of debt raised are distinguished into fixed rate debt; floating rate debt (LIBOR, all assumed 6M for simplicity); floating rate debt (SONIA); RPI linked debt; and CPI/CPIH linked debt. For each type of debt DNOs should input values for new annual volumes raised in year (in rows 123, 128, 133, 138, 144) and the proportion of the issuance year these new volumes are outstanding (in rows 124, 129, 134, 139, 145). The “year proportion new debt raised is outstanding” should reflect the proportion of the year (between 0 and 1) that the new debt is outstanding (ie if assumed to be issued at the start of the year, the year part would be 1; if mid-year, the year part would be 0.5; if assumed on specific dates, this would be (end year date-issue date) / days in year). For simplicity, it is assumed new debt raised would not be repaid prior to the end of ED4.
- 5.44 Forecast Refinancing/New Debt: Opening New debt (V152). Input opening balance of new debt as of start of 2026/27 year. We have greyed out and pre-populated this cell as zero because outstanding debt at the start of 2026/27 should be included in and ascertained from the embedded debt data inserted in F6 – Debt Dataset.
- 5.45 Forecast Refinancing/New Debt: New Debt Interest Expense (row 179). Forecast interest expense arising from new debt raised. This data is included for information and comparison purposes only, as the subsequent calculations in the worksheet use Calculated New Debt Interest Expense (row 180).
- 5.46 Calculated New Debt Interest expense (row 180) is automatically calculated using the interest and inflation rates assumptions pre-populated at the top of the worksheet, rows 12-26 (“Inflation rates to be used [...]” and “Interest rates to be assumed [...]” sections).
- 5.47 Conversion to Regulatory (RIIO-2) Definitions of Net Debt, Net Interest, and Costs excluded from Regulatory (RIIO-2) Definition of Net Interest (rows 190-196, 204-213, 218-227). Where applicable, enter adjustments required to adjust the actual net debt and net interest expense values to their RIIO-2 regulatory definitions. Such adjustments should be inputted in a “Time Weighted Average” basis, consistently with the embedded and new debt volumes calculated in the previous sections of this sheets. Although row 198 refers to net debt per regulatory definition (which includes intercompany loans), where such intercompany loans are equity shareholder loans, these should be excluded. Adjusted Net Interest Expense (row 230) should exclude equity shareholder loan interest.
- 5.48 Forecast actual equity (rows 260-263). Historic actual and forecast data for equity issuance, issuance transaction costs, and dividends or shareholder loan

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

payments. Dividends paid to shareholders are inputted as negative amounts; shareholder loan payments are inputted as positive amounts.

- 5.49 Actual cost of debt and index-linked (rows 237-255). Summary indicators for actual cost of debt (pre and post-derivatives) and index linked debt (proportion of RPI and CPI/CPIH index linked debt on total debt, share of principal inflation accretion on total interest expense, pre and post-derivatives). Note that these indicators are for information purposes only and not used in the BPFM, as the relevant information for the BPFM actual modelling is derived and extracted from the F1 - Debt for BPFM sheet.

F2b – Financial summary (YE)

- 5.50 The purpose of this worksheet is to derive embedded and new debt volumes at the start and end of each year, for use in the BPFM. This is largely accomplished using the embedded debt data and calculations in sheets F6 and F3 to F5, as well as new debt information drawn from sheet F2a. In order to derive total net debt closing balances under the regulatory definition, DNOs are also required to insert adjustments to the year end (YE) amounts as needed. Accordingly, such adjustments are to be inputted on a YE basis. As in worksheet F2a, all inputs and calculations are expressed in nominal prices (£m).
- 5.51 The structure of this sheet is similar to F2a, with embedded debt calculations at the top (rows 12-142), new debt in the middle (rows 145-181) and the derivation of total regulatory closing debt, which includes DNO adjustments, at the bottom (rows 184-200).
- 5.52 rows 12-48 use sheets F3 to F5 to derive pre-derivatives embedded debt volumes at the start of the year, as well as embedded debt issuances and repayments during the course of the year and principal accretion amounts on inflation linked debt. This allows to obtain the pre-derivatives embedded debt volumes at the end of the year.
- 5.53 Rows 51-86 follow the same approach to determine the amounts of derivatives at the start of the year. Derivative issuances and repayments are then factored in to calculate the impact of derivatives on closing embedded debt balances.
- 5.54 Rows 89-125 sums pre-derivatives embedded debt amounts and derivatives to obtain post-derivatives opening embedded debt, issuance and repayments and principal accretions. This information is then combined to obtain post-derivatives embedded debt at the end of the year.
- 5.55 Rows 145-181 are used to track new debt opening balances, emissions and principal inflation accretion on inflation linked debt, thus obtaining new debt closing balances. New debt emissions and principal inflation accretion (rows 152-164) are sourced from the new debt section of sheet F2a. For simplicity,

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

CPI/CPIH linked debt from F2a is allocated in its entirety to the “CPI linked” category in F2b. This allocation is only presentational and has no impact on the relevant output for the BPFM, where CPI and CPIH linked debt are also aggregated in one single category. Consistently with sheet F2a, all new debt issuances are assumed to mature after the end of ED4 and rows 166-170 are set to zero and greyed out accordingly.

- 5.56 Row 184 provides the Closing Balance of Debt, as the sum of Closing Embedded Debt and Closing New Debt from the previous sections. In rows 185-191, DNOs are required to input any adjustment needed to obtain (total) Closing Net Debt per Regulatory Definition (row 193). Such adjustments are akin to those in rows 190-196 of sheet F2a, but in this instance they represent amounts at the end of the year (YE), as opposed to annual time weighted averages (TWA).
- 5.57 Rows 198-200 feature the resulting total net debt regulatory balances (opening, closing and simple average). DNOs are required to input in cell V198 the total Opening Net Debt per Regulatory Definition for year 2026-27. This is needed because opening embedded debt for 2027 as derived from sheets F3 to F5, does not capture any previous adjustment and therefore may not be consistent with the regulatory definition.

F3 – Fixed Rate Debt

- 5.58 The purpose of this worksheet is to select fixed rate debt instruments from the F6 – Debt Dataset and calculate annual embedded debt volumes and interest payments for each instrument. This information is subsequently aggregated and utilised in tab F2a and F2b; DNOs should not make any changes to this worksheet.

F4 – Floating Rate Debt

- 5.59 The purpose of this worksheet is to select floating rate debt instruments from the F6 – Debt Dataset and calculate annual embedded debt volumes and interest payments for each instrument. This information is subsequently aggregated and utilised in tab F2a and F2b; DNOs should not make any changes to this worksheet.

F5 – Inflation Linked Debt

- 5.60 The purpose of this worksheet is to select inflation linked debt instruments from the F6 – Debt Dataset and calculate annual embedded debt volumes and interest payments (including principal inflation accretion) for each instrument. This information is subsequently aggregated and utilised in tab F2a and F2b; DNOs should not make any changes to this worksheet.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**F6 – Debt Dataset**

- 5.61 The purpose of this worksheet is to collect, in a standardised fashion, granular information related to actual debt and derivative products. For illustrative purposes, the worksheet is pre-populated with example data, which DNOs should overwrite with actuals. DNOs should clear (not delete!) columns A to DC for any unused pre-populated rows, so that the dataset only contains their actual data.
- 5.62 Column DE (Identifier by type) generates indices used to automatically populate tabs F3 to F5 and must not be amended.
- 5.63 Columns DM to HQ contains supporting workings to verify a number of set validation criteria. If any data point is not inputted accordingly, the affected cell is automatically highlighted in red. DNOs should ensure that no cells in F6 are highlighted in red, thus indicating that essential information has been included for all instruments and data should be processed in tabs F1 to F5 as intended.
- 5.64 This worksheet should be completed taking into consideration the debt and derivatives outstanding at the time of completing sheet F2a and F2b for submission with the business plan. The worksheet should only include embedded debt (ie debt existing at the time of completion of the worksheet), and should not forecast new debt or derivatives instruments (which is to be included in F2a).
- 5.65 Where debt is of a short-term/current nature (and can therefore be replaced several times in a year), the balance outstanding at the year end must be entered. The interest rate stated must be the rate that is applicable to the tranche which is outstanding at the regulatory year end.
- 5.66 DNOs should populate only columns A to DC of the worksheet. All debt volumes amounts should be inputted in nominal prices (£m). Please also refer to row 2 of the worksheet for guidance on the data format to use in each column.
- 5.67 Please populate columns A to DC of the worksheet according to the following guidance:
- Sector: choose from the drop-down validation list
 - Licensee: choose from the drop-down validation list
 - Category: choose from the drop-down validation list
 - Rank: choose from the drop-down validation list
 - Type: choose from the drop-down validation list
 - Maturity Type: choose from the drop-down validation list
 - Core Debt / Liquidity: choose from the drop-down validation list
 - Identifier: type instrument identifier code if available
 - Pricing date: insert in date format (dd/mm/yyyy) if available

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Issue date: insert in date format (dd/mm/yyyy). This column **MUST** be populated as it is used in the calculations as the instrument issuance date
- Maturity date: insert in date format (dd/mm/yyyy). This column **MUST** be populated as it is used in the calculations as the instrument maturity date
- Early repayment date: insert in date format (dd/mm/yyyy) if applicable. If inserted, Early repayment date overrides the Maturity date in the calculations
- 1st Call Date: insert in date format (dd/mm/yyyy) if available
- Currency: choose from the drop-down validation list
- Amount Issued on Issue Date / Max loan amount: This column **MUST** be populated. If it has no value, put N/A. Insert amounts in the original currency of issuance, including amounts issued in pound sterling (GBP)
- Amount Issued on Issue Date / Max loan amount_GBP equiv: This column **MUST** be populated. If it has no value, put N/A. Populate with the GBP conversion (£m) of Amount Issued on Issue Date / Max loan amount. For instruments issued in GBP the two amounts will be the same
- Current Amount Outstanding: This column **MUST** be populated. This column **MUST** be populated. If it has no value, put N/A. Insert amounts in the original currency of issuance, including amounts issued in pound sterling (GBP)
- Current Amount Outstanding_GBP equiv: This column **MUST** be populated. If it has no value, put N/A. Populate with the GBP conversion (£m) of Current Amount Outstanding. For instruments issued in GBP the two amounts will be the same
- Amount for Use: populate with the GBP amount (£m) for use in tabs F3 to F5 to derive instrument debt volume and associated interest payments. This column **MUST** be populated
- Coupon / Margin: This column **MUST** be populated. If it has no value, put N/A
 - For non-floating instruments: The annual interest payment, expressed as a percentage of the instruments face value
 - For floating rate instruments: The fixed spread added to a reference interest rate determine the total interest payable expressed as a percentage of the instruments face value
- Issue Price: The price at which a bond or other security is originally sold to investors expressed relative to par where par is equivalent to 100. This column should be completed with the Issue Price where available. If it has no value, put N/A
- Yield to Maturity at Issue Date: insert in percentage format (%). The yield to maturity of the bond, calculated at the time of issuance. It should reflect the bond's coupon payments, issue price, face value, and tenor, and is expressed as an annual percentage rate. This column **MUST** be populated as it provides the interest rate driving the calculations in F3 to F5

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- floating_ref_rate: for Floating instruments, DNOs MUST select one of the LIBOR or SONIA options from the validation list. For Fixed and Inflation Linked instruments DNOs MUST select “N/A” from the validation list
- inflation_ref_rate: for Inflation Linked instruments, DNOs MUST use the validation list to specify if linked to RPI, CPI or CPIH. For Fixed and Floating rate instruments DNOs MUST select “N/A” from the drop-down
- Inflation_lag: for Inflation Linked instruments, DNOs MUST use the validation drop-down to specify the number of months lag (with respect to the end of year / maturity date as applicable) for the selection of the price index used for indexation of the principal amount. For Fixed and Floating rate instruments DNOs MUST select “N/A” from the drop-down
- Inflation_Base_Index: for Inflation Linked instruments, insert reference base index applied at issuance. If not available, this will be automatically determined in tab F5 from the monthly inflation dataset in I2 - Monthly Inflation, using information on issue date, inflation reference rate and monthly lag
- Commitment Fee: insert in percentage format (% issued amount) if available
- LT Issue Rating at Issue Date (S&P/Moodys/Fitch): insert rating information if available
- Current LT Issue Rating (S&P/Moodys/Fitch): insert rating information if available
- Counterparty: insert counterparty (type “Market” if not identified)
- Transaction expenses: if available, insert amount in GBP (£m)
- Description: insert additional relevant descriptive information
- If amortising, profile submitted?: for “Fixed” and “Floating” amortising instruments select “Y”. For “Inflation Linked” amortising instruments select either: “N” for the initial debt issuance; “Y” for the annual repayment amounts. Select “N/A” for all non-amortising instruments
- Note that these flags are used in sheets F3 to F5 to select between the “standard” calculations and the “bespoke” that apply to amortising instruments only, therefore it is essential that these flags are carefully and correctly assigned
- See the Supplementary guidance section below for further guidance on amortising instruments
- Split flag: For “Inflation Linked” amortising instruments that are split into a number of row entries, select “Y” for both initial emission and annual repayments
- The “Y” flag can also be attributed to other instruments that are broken down into two or more row entries (such as instruments with margin changes). Select “N/A” for all other instruments
- Note that these flags do not impact on the calculations and only have information purposes

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- IssueAmount_2016 to IssueAmount_2033: to be used for “Fixed” or “Floating” amortising instruments. Input annual issued amounts, including the initial debt emission if this occurs in the FY2016-2033 period
- IssueDate_2016 to IssueDate_2033: to be used for “Fixed” or “Floating” amortising instruments. Input dates for annual issued amounts, including the date of the initial debt emission if this occurs in the FY2016-2033 period. If issuance dates are omitted or inserted in the wrong column, the amounts from “IssueAmount_2016” to “IssueAmount_2033” will not be captured correctly in the calculation sheets
- RepayAmount_2016 to RepayAmount_2033: to be used for “Fixed” or “Floating” amortising instruments. Input annual repaid amounts, including the final repayment if this occurs in the FY2016-2033 period. Repayments are inputted as negative sums
- RepayDate_2016 to RepayDate_2033: to be used for “Fixed” or “Floating” amortising instruments. Input dates for annual repaid amounts, including the date of the final repayment if this occurs in the FY2016-2033 period. If repayment dates are omitted or inserted in the wrong column, the amounts from “RepayAmount_2016” to “RepayAmount_2033” will not be captured correctly in the calculation sheets

Supplementary guidance

Debt instruments if “licensee lender”

- 5.68 Input negative amounts in columns Q, R and S for instruments flagged as “licensee lender”. These amounts will be deducted from total debt volume accordingly. Interest payments will be also calculated as negative sums and will decrease total interest expense.
- 5.69 If “licensee lender”, an analogous sign reversion is required for annual issuance and repayment amounts for amortising instruments, in columns AJ to AV and BJ to BV.

Debt instruments with margin changes

- 5.70 If the applicable interest rate changes during the repayment period, the instrument can be modelled by splitting into three entries in the dataset:

First period instrument

- issue_date = actual date of issuance
- maturity_date = date of interest rate switch
- Amount for use = actual volume
- Rate for use = interest rate in period 1
- Split flag = “Y” (to denote entry relating to a composite instrument)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

2. Second period instrument

- issue_date = actual date of issuance
- maturity_date = actual date of maturity
- Amount for use = actual volume
- Rate for use = interest rate in period 2
- Split flag = “Y” (to denote entry relating to a composite instrument)

3. Offset for second period instrument

- issue_date = actual date of issuance
- maturity_date = date of interest rate switch
- Amount for use = - (actual volume) => if actual amount is borrowed, this value is negative (and vice versa if amount is lent)
- Rate for use = interest rate in period 2
- Split flag = “Y” (to denote entry relating to a composite instrument)

5.71 Instrument (1) models the first period (from issuance to interest rate change), the combined instruments (2) and (3) model the second period. (2) starts at issuance date, so that the principal accretion is calculated correctly when the interest rate switch occurs; however any debt volume or interest payment calculated for (2) before the switch date has to be zeroed and this is achieved by using the offsetting instrument (3).

Amortising instruments

5.72 If “Fixed” or “Floating” rate, amortising instruments are inputted as a single row entry as follows:

- Amount for use = volume at issuance date or opening balance for 2016
- issue_date = actual date of issuance
- maturity_date = actual date of maturity
- Issue/RepayAmount_2016 to Issue/RepayAmount_2033 = annual amounts for emissions and repayments. These include initial issuance and final repayment if occurring in the 2016-2033 period
- Issue/RepayDate_2016 to Issue/RepayDate_2033: insert annual dates for emissions and repayments, matching annual issuance and repayment amounts
- Amortising profile = “Y” (flag essential to trigger bespoke calculations)

5.73 If “Inflation linked”, amortising instruments are decomposed into separate row entries, one for each annual emission and repayment. These are populated as follows:

Initial issuance

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- issue_date = actual date of issuance
- maturity_date = actual date of maturity
- Amount for use = actual volume at issuance
- Rate for use = applicable interest rate
- inflation_ref_rate = applicable inflation index
- Inflation_lag = applicable inflation lag
- Inflation_Base_Index = applicable base index
- Amortising profile = “N” (to denote the initial issuance)
- Split flag = “Y” (to denote entry relating to composite instrument)
- Issue/RepayAmount_2016 to Issue/RepayAmount_2033: NOT IN USE
- Issue/RepayDate_2016 to Issue/RepayDate_2033: NOT IN USE

2. Annual issuance / repayments

- issue_date = actual date of issuance / repayment
- maturity_date = final repayment date
- Amount for use = actual volume issued / repaid (negative amount for repayment)
- Rate for use = NIL
- inflation_ref_rate = same as initial issuance (1)
- Inflation_lag = same as (1)
- Inflation_Base_Index = same as (1)
- Amortising profile = “Y” (to denote additional issuance/repayment, FYI only)
- Split flag = “Y” (to denote entry relating to composite instrument, FYI only)
- Issue/RepayAmount_2016 to Issue/RepayAmount_2033: NOT IN USE
- Issue/RepayDate_2016 to Issue/RepayDate_2033: NOT IN USE

Other requirements

5.74 Debt instruments issued in a non-GBP currency converted into an GBP equivalent instrument utilising a cross-currency swap:

- where the instrument is issued in a non-GBP currency and a cross-currency swap is utilised (meeting the criteria below), the GBP equivalent swapped rate should be provided for in the rate inputs
- the cross-currency swap should exactly reflect the underlying debt instrument and have no other economic effect or hedging intent than to convert the instrument into a GBP equivalent
- where the GBP equivalent rate is inputted in line with this guidance, the associated cross-currency swap should be excluded from direct input into the debt dataset to prevent double counting

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 5.75 Where debt instruments have been issued by the National Wealth Fund or other UK government-backed lenders for use by a licensee, then these should be included in the Debt Dataset. If the instruments were issued to a parent company or FinCo, then the instruments should be added into the Debt Dataset as if they were intercompany loans on back to back terms – even if this does not reflect the actual arrangement. This is so that the cost of debt of these instruments can be taken into account during the debt calibration process.

F7 – Data validation

- 5.76 The purpose of this worksheet is to store the definitions of the drop-down validation lists used in the F6 – Debt Dataset worksheet. DNOs should not make any changes to this worksheet.

F8 – Tax inputs

- 5.77 The purpose of this worksheet is to collect information relating to actual and forecast corporation tax information, including Capital Allowances, Tax Pool Allocations and the impact of other factors not already captured in the BPFM calculations on actual tax payable compared to the notional tax allowance.
- 5.78 Capital allowances (rows 9,30,51,61). DNOs should populate yellow input cells with data relating to applicable capital allowance rates and capex additions. Whilst the capital allowance rates for general pool, special rate pool, deferred revenue expenditure, structures and buildings allowance are pre-set and should not be changed, the rate for deferred revenue expenditure (row 51) is pre-set but may be overridden should DNOs wish to use the rate in their actual tax computations. This is not a mandatory step however, since any differences arising from the different rates are captured in the tax reconciliation process. Licensees should allocate all expenditure which qualifies for capital allowances / structures and buildings allowances to the relevant pool, and should allocate additions to full-expensing and FYA's on the assumption that these would be claimed in full by the notional company.
- 5.79 ED3 tax pools opening balance brought forward for general pool and special rate pool (row 10,31). DNOs should populate yellow input cell with the general pool opening balance brought forward and special rate pool opening balance brought forward
- 5.80 ED3 Tax Pool Allocations (rows 73-76). DNOs should populate yellow input cells with allocations of totex totals into relevant tax pools. The allocations should be applicable to both non-variant and variant costs.
- 5.81 Full Expensing inputs for the General pool addition and special rate pool additions must be inputted in rows 78 and 79.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 5.82 There is no Intangibles Pool in the worksheet, since accounting for intangibles separately would require using parameters that are unique to DNOs and not easily modelled in the PCFM. Furthermore DNOs can achieve full expensing by entering into an election under s.815 CTA 2009 to treat the intangibles as plant and machinery. The notional company would elect into the P&M regime, licensees should therefore include software intangibles in the general pool and allocate these to full expensing.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

6. Instructions for completing the costs worksheets

Purpose of costs worksheets

- 6.1 The purpose of the costs worksheets is to report expenditure information at various levels of granularity to enable ofgem to fully understand the relationship with proposed outputs. The detail in the worksheets allows benchmarking at the individual activity level as well as at the Totex level when all activities are added together.

S1 – Summary of C1s

- 6.2 This worksheet is automatically populated from the C1 matrices and allows the monitoring of the total net costs (including pension costs). It summarises:
- Pensions
 - Total gross costs
 - Total net costs before allocations
 - Total net costs after non Price Control allocation
 - Total net costs after allocations with ED3 Ongoing Efficiency

S2 – C1 movements

- 6.3 This worksheet is automatically populated from worksheet S1 – Summary of C1s to provide year on year movements in costs.

C1 – Cost matrix (2016 to 2033)

- 6.4 These worksheets (18 in total for years 2015-16 to 2032-33) allow for the monitoring of total DNO expenditure by high level activity and Cost Type and provides visibility of what costs and incomes are being included in the revenue calculation.

Total gross costs and total net cost before allocations (rows 37 to 64)

- 6.5 Total Gross Costs (row 37) and total net cost before allocations (row 40) and the associated Cost Type split (rows 8-15 and 38-39) are automatically populated from the relevant C and CV worksheets named in row 4.
- 6.6 The only input cells are for Related Party Margins. The gross costs in rows 16-35 and net costs in rows 45-64 should be split by each relevant Related Party. The Related Party name is automatically linked from the Fixed Inputs sheet.
- 6.7 row 40 provides the total net costs before reallocation of income from direct costs to indirects and the reallocation of indirect costs to activities outside the price control.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.8 The allocations as described below are necessary in order to calculate total net costs inside the price control under the correct activities in row 86.

Allocation of income relating to Closely Associated Indirects (CAIs), Business Support Costs (BSCs) and Non-Operational Capex (row 66).

- 6.9 For Connections, income (Customer Contributions and Cost Recoveries) relating to CAIs, BSCs and Non-Operational Capex is reported in the Connections activity and not under the associated indirect costs.
- 6.10 Therefore, in row 66, adjustments must be made to remove the contributions relating to CAIs, BSCs and net Non-Operational Capex from the net Connections costs within the Price Control and reallocate them to the net CAI, BSCs and Non Operational Capex expenditure. The adjustment to net Connections costs in cell C66 within the Price Control must be entered as a positive number and the adjustment to the net CAIs in cells AX66:BA66, net BSCs in cells BC66:BE66 and net Non-Operational Capex in cells AF66:AI66 must be entered as a balancing negative numbers.
- 6.11 While all of these contributions sit within the TIM, these adjustments are necessary for the correct allocation of net costs for the tax pool calculations and to allow for a more appropriate comparison between actual expenditure and baseline net cost allowances for network investment, CAIs, BSCs and Non-Operational Capex.
- 6.12 For any other activity (ie not Connections) where the income relating to CAIs, BSCs and Non-Operational Capex is reported in the relevant direct activity the same process as above for Connections should be carried out for the relevant activity areas (ie a positive number entered in the relevant activity with a balancing negative number in the indirect cells).

Indirect Activity Allocations to Connections outside Price Control (row 68-75)

- 6.13 For Connections outside the Price Control the indirect costs associated with those connections are in the CAIs, BSCs and Non-Operational Capex costs which are inside the Price Control. Therefore these costs must be allocated from the Indirects to Connections outside the Price Control. This is to ensure the correct application of the TIM and to be able to compare with the baseline net cost allowances for RIIO-ED1, these indirect costs associated with work outside the Price Control must be reallocated.
- 6.14 In rows 69 to 75, adjustments should be entered by Cost Type to reallocate relevant CAIs, BSCs and Non-Operational Capex expenditure to Connections outside the Price Control. The adjustments to CAIs (cells AX69:BC75), BSCs (cells BC69:BE75) and Non-Operational Capex (cells AF69:AI75) should be entered as negative numbers. The adjustments to Connections outside the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Price Control should be entered as balancing positive numbers (cells BX69 to BX74).

Indirect Activity Allocations to Non Distribution (excluding Connections) (rows 77-84)

- 6.15 As above, any CAIs, BSCs or Non-Operational Capex expenditure associated with other activity outside the Price Control needs to be reallocated in the same way as Connections outside the Price Control.
- 6.16 In rows 78 to 83, adjustments should be entered by Cost Type to reallocate relevant CAI, BSCs and Non-Operational Capex expenditure to other activity outside the Price Control excluding Connections. The adjustments to CAIs (cells AX78 to BA83), BSCs (cells BC78 to BE83) and Non-Operational Capex (cells AF78 to AI83) should be entered as negative numbers. The adjustments to other activities outside the Price Control should be entered as balancing positive numbers. (cells BS78:BW83, BY78:BZ83 and CB78:CC83).

Memo: Indirect Activity Allocations (rows 93-118)

- 6.17 There are two memo items in C1 to reallocate Indirect costs from the indirect activity to their associated direct activity. These are for:
- High Value Projects / Price Control Deliverables / Other (rows 94 to 100)
 - West Coast of Cumbria – Reopener (rows 102 to 109)
 - Connections Inside the Price Control (rows 111 to 118)
- 6.18 This will provide total costs (directs and indirects) for each of the above. For High Value Projects ED1 rules state that in determining if the materiality threshold has been reached these costs include directs and indirects. For Connections Inside the Price Control it is useful to understand the total costs of Connections in each year.
- 6.19 The adjustments to High Value Projects (cells AF94:AI100) and Connections Inside the Price Control (cells C112:C118) should be entered as positive numbers. The adjustment to the corresponding rows in CAIs (columns AX to BA), Business Support (columns BC to BE) and Non-Operational Capex (columns AF to AI) should be entered as balancing negative numbers.

Overview

Cost type split

- 6.20 As noted above, all C tables must be differentiated into Cost Types (except C22 – Pass Through and C23 – Other Non Activity Based Costs). The DNO must enter total gross costs by Cost Type (rows 9 to 15). This Cost Type data feeds into the worksheets C1 matrices.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.21 Some C tables only require the costs by Cost Type. Other C tables also require costs by category type. Category type costs and volumes are more disaggregated activity level costs to allow for more detailed assessment of the elements that comprise the activity in each table.
- 6.22 The check cells in row 22 will ensure that the input for total gross costs by Cost Type and total gross costs by category type reconcile.

Customer contributions and cost recoveries

- 6.23 Income for Customer Contributions (rows 18) and Cost Recoveries (row 19) should be entered as a negative number.
- 6.24 Entries against Customer Contributions should relate only to income received from customers. Regarding Connections projects, contributions relating to indirect cost incurred on a Connections project should be included under the relevant type of Connections project, rather than under the particular indirect cost category. All Margins charged on Connections projects should be included in the amount input as contributions.

Total gross costs and total net costs

- 6.25 Total gross costs (row 17) and total net costs (row 20) are automatically calculated in each C table. These costs feed into the worksheets C1 matrices.

C2 – Connections

- 6.26 There are two Connections worksheets for inputs:
- C2a – Connections
 - C2b – Connections
- 6.27 These tables are for the input of cost and volume data related to Connections and are collated in C2 - Connections.

C2a – Connections

- 6.28 This worksheet is for the input of Connections direct cost expenditure, associated customer contributions and volume data. The data reported in this table relates to Connections inside and outside the Price Control.
- 6.29 The costs and volumes reported in this sheet should reflect the low-regret investments identified through the sensitivity testing set out in Section 8 of the Business Plan Guidance. This sheet should reflect all Connections expenditure associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with expenditure for any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.30 Direct costs are costs associated with Direct Activities, ie those which involve physical contact with system assets (see ED3 BPDT Glossary for a full definition).
- 6.31 Customer contributions relate to income received in each reporting year. DNOs should follow the approach to calculating Customer contributions as used in table CC1 of the RIIO-ED2 Connections Reporting Pack.
- 6.32 For Connections inside the Price control the total gross direct costs should be split by Cost Type at the top of the worksheet (rows 13 to 20) and total income should be entered in rows 22 and 23.
- 6.33 For Connections outside the Price control the total gross direct costs should be split by Cost Type at the top of the worksheet (rows 36 to 43) and total income should be entered in rows 45 and 46.
- 6.34 For reporting of the sections following these (rows 54 onwards), costs should be reported in the relevant rows based on the type of connection being subject to the apportionment rule, and reported by the metered categories below:

Code	Metered Connection Category
	Metered DPCR4 Connection projects
LVSSA	Single service LV connection
LVSSB	Small project demand connection (LV)
LVAL	All other LV (with only LV work)
LVHV	LV end connections involving HV work
HVHV	HV end connections involving only HV work
LVEHV	LV end connections involving EHV work
HVEHV	HV end connections involving EHV work
EHVEHV	EHV end connections involving only EHV work
HV132	HV or EHV connections involving 132kV work
132kv	132kV end connections involving only 132kV work
DGLV	DG connection at LV involving LV assets only
DGHV	DG connection at any voltage where HV is the highest voltage worked on
DGEHV	DG connection at any voltage where EHV is the highest voltage worked on
DG132kV	DG connection at any voltage where 132kV is the highest voltage worked on

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.35 Connections inside and outside the Price Control comprises the following that are defined in the ED3 BPDT Glossary:

Connections Inside the price Control

- Element of Connections that is subject to the apportionment rules - Customer Funded
- Element of Connections that is subject to the apportionment rules - DUoS Funded

Connections Outside the Price Control

- Sole Use Expenditure on DG Connections projects
- Sole Use Expenditure on Metered Connections Projects
- Sole Use Expenditure on Unmetered Connections Projects

Element of Connection that is Sole Use Funded

- 6.36 This is defined as the element of a Connection that will only be used by the connecting party after completion of the work and is therefore fully funded by this party. All connection jobs/projects that involve the provision of new MPANs/points of connection must have a sole use element. Upgrading Connection Projects are the only projects that are able to have no element of connection that is sole use funded.

- 6.37 Note where a Connection Project involves any diversionary works, the costs for these works must be included.

Element of the connection that is subject to the apportionment rule

- 6.38 Where a Connection Project requires the reinforcement of existing assets or involves the installation of new assets that will not be used solely by the connecting party, the funding for these assets will be split between the new connecting party and the wider customer base through Distribution Use of System (DUoS) funding. This funding is split using the apportionment rule as detailed in DNO connection charging methodologies. These reinforcement costs are allocated between the customer and DUoS and are not discrete cost activities.

- 6.39 The portion funded by the connecting customer is referred to as the “Element of connection subject to the apportionment rule – Customer Funded”. Note that this funding refers only to the element funded by the customer under the apportionment rule, rather than the total connecting customer contribution.

- 6.40 The portion that is funded by the wider customer base through DUoS is referred to as the “Element of connection subject to the apportionment rule – DUoS Funded”.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.41 Within the table, the Connections with an Element Subject to the Apportionment Rule category has been sub-divided into three activities:
- Sole Use Connection
 - DUoS Funded
 - Customer funded
- 6.42 Under this category, Sole Use cost data relates to Connection costs outside the Price Control and DUoS and Customer Funded costs relate to Connections Inside the Price Control.
- 6.43 Gross direct costs and Customer Contributions, of the activities listed, should be entered in the associated table where relevant.
- 6.44 Total volumes that are subject to the apportionment rule – Number of MPANs connected (or POCs if MPANs are unknown) should be entered in the relevant table in rows 59 to 73. Where a Connection Project connects an independent network (categorised as “IDNO”) one point of connection must be logged, against the voltage at which the independent network is connected to the DNO network.
- 6.45 Total volumes that are subject to the apportionment rule –Projects completed should be entered in the relevant table in rows 59 to 73. Volumes should be reported in the year that a project is (or expected to be) completed.
- 6.46 The costs and volumes data in any single reporting year may not align, as work that has been done in-year on projects that are not yet completed will be reflected in the expenditure columns but not in the associated volume columns.

**Element of the connection that is not subject to the apportionment rule –
Sole Use Funded**

- 6.47 The only activity under this category is Sole Use Connections.
- 6.48 Gross direct costs and Customer Contributions for this activity listed should be entered in the relevant table.
- 6.49 Total volumes that are not subject to the apportionment rule – Number of MPANs connected (or POCs if MPANs are unknown) should be entered in the relevant table in rows 130 to 148.

Unmetered Connections

- 6.50 All unmetered connections come under Connections with no element subject to the Apportionment rule – Sole Use Connections.
- 6.51 The following fall under the Unmetered Connection categories:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Code	Unmetered Connection Category
	Unmetered DR4 Connections
UMLA	Unmetered Local Authority Connections (L.A.)
PFI	Unmetered Connections provided under Private Finance Initiative
OUMC	Other Unmetered Connections (non-L.A, or PFI)

6.52 Gross direct costs and Customer Contributions for this activity listed should be entered in the relevant table.

6.53 Cost and volume data relating to these Unmetered Connection categories are reported in rows 145 to 148.

Asset Cost and Volumes

6.54 DNOs are required to enter gross costs and volumes for asset type in rows 159-262. Any additional costs outside of the asset list must be entered in the free formatting rows 263-267 with a short description of the cost activity and a detailed explanation should be provided in the BPDT commentary document. Costs and volumes entered need to be for all connections activity, including inside and outside the price control. Only forecast costs need to be entered, while for volumes, we require historical and forecast data, which is in line with what was requested in ED2. The asset volume table here has replaced the previous V3 - Connections table and therefore volumes will flow through to V1 - Total Asset Movements in a similar way. The purpose of the check cell in row 270 is to ensure the total gross costs in row 268 reconcile with total gross costs from all project type costs in rows 152-153. Any additional non-asset costs required to reconcile these values can be entered using rows 263-267, if required and should be accompanied by a detailed explanation of these costs in the BPDT Commentary.

TANCI Reporting

6.55 Where a connection scheme releases additional net capacity, DNOs should complete the TANCI fields in C2a – Connections for inside price control connections. The TANCI data should be reported for the relevant connection activity and should be consistent with the costs, customer contributions, volumes and asset additions or disposals reported elsewhere in the worksheet.

6.56 For Connections Inside the Price Control, DNOs should report TANCI data where the DUoS-funded element of the connection scheme releases additional net capacity for wider network use. DNOs should not report TANCI points for sole-use assets where the capacity released is available only to the connecting customer.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.57 Where a connection scheme includes both sole-use and shared reinforcement assets, DNOs should report TANJI data only for the element that releases net capacity to the wider distribution network. The basis of any allocation between sole-use and shared assets should be explained in the BPDT Commentary material.

Timing of TANJI Reporting

- 6.58 TANJI should be reported in the Regulatory Year in which the associated capacity is released and becomes available on the network. Where a project is delivered over more than one Regulatory Year, TANJI should be reported in the year in which each relevant element of capacity is delivered and energised.
- 6.59 Where an intervention comprises multiple asset types, DNOs should report the TANJI data against each relevant asset type. For example, where a primary reinforcement scheme includes both transformer works and circuit works, the capacity released, Asset Normalisation Factor and resulting TANJI points should be reported separately against the relevant transformer and circuit rows.
- 6.60 Where an intervention is delivered across more than one year, DNOs should apportion the TANJI points between years on the basis of the capacity released in each year. DNOs should not report TANJI points in advance of the associated capacity becoming available to the network.

TANJI Calculation

- 6.61 The calculation for TANJI is as follows: $TANJI = \text{Net Capacity Released (MVA)} \times \text{Asset Normalisation Factor} \times \text{Asset Additions}$. Where:
- Net Capacity Released is the additional net capacity released by the intervention, measured in MVA. Net Capacity Released should reflect only capacity that is newly made available as a direct result of the intervention, and should exclude any changes in firm capacity, security standards, operational arrangements or network configuration
 - Asset Normalisation Factor is the factor used to normalise capacity released across different asset types
 - Asset Additions/Activity Volumes is the volume of the asset added to the network
- 6.62 Where the intervention relates to the installation or replacement of discrete units of network assets, net capacity released should be calculated using the increase in capacity per unit multiplied by the number of units installed. For example: $\text{Net Capacity Released} = \text{Units installed} \times \text{MVA per unit}$.
- 6.63 Where an intervention replaces an existing asset with a higher-rated asset, the MVA per unit should be calculated as the difference between the new asset

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

capacity and the old asset capacity. For example: $MVA \text{ per unit} = \text{New asset capacity (MVA)} - \text{Old asset capacity (MVA)}$.

- 6.64 The Asset Normalisation Factor is used to convert capacity released across different asset types onto a common basis. The factor reflects differences in the relative cost and capacity characteristics of different asset categories.
- 6.65 DNOs should not amend formula-driven Asset Normalisation Factor cells in the BPDT. Where Asset Normalisation Factors are pre-populated or calculated by the workbook, DNOs should use the values provided in the relevant worksheet.
- 6.66 Where a DNO considers that the standard Asset Normalisation Factor does not appropriately reflect the characteristics of a specific intervention, this should not be amended in the BPDT unless otherwise agreed with Ofgem. The DNO should instead provide an explanation in the BPDT Commentary, including the nature of the intervention, the asset type affected, and the reason why the standard factor may not be representative.
- 6.67 There is a memo table included in row 273 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C2b – Connections

- 6.68 This worksheet is for the input of Connections direct cost expenditure, associated customer contributions and volume data. The data reported in this table relates to Connections inside and outside the Price Control.
- 6.69 The costs and volumes reported in this sheet should reflect the additional costs and volumes required to meet the demand associated with the unadjusted outputs of the tRESP. The reported costs and volumes should therefore represent the investments not identified as low-regret through the sensitivity analysis described in Section 8 of the Business Plan Guidance.
- 6.70 Except for the statement above, the guidance for C2a is identical to that set out for C2b.

C3 – Physical Security

- 6.71 This worksheet provides information on expenditure and activity on physical security directly related to DECC's enhanced physical security upgrade programme (PSUP), at sites classified as Critical National Infrastructure (CNI) by BEIS. Expenditure should be reported for costs which are necessarily undertaken to meet requirements of the Secretary of State to enhance the physical security of a DNO's network, including the provision of necessary communication sites and associated infrastructure.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.72 Expenditure recorded in this worksheet includes both operational and capital expenditure.
- 6.73 Expenditure on works which may have a consequential impact on the wider resilience of CNI sites, for example interconnection of networks, but which is not directly driven by the PSUP should not be reported in this worksheet.
- 6.74 The worksheet contains two tables. In the first table, total gross costs should be recorded and split by relevant cost type.
- 6.75 In the second table expenditure should be reported by activity level split and allocated to a specific site where possible. Where costs cannot be allocated to a specific site, they must be reported as Centralised Costs. Expenditure includes costs relating to PSUP spares and escrow.
- 6.76 Schemes should be identified using their scheme identifier number rather than by name in this table. To retain the confidentiality of sites, these should not be referred to by name in either the RIIO-ED2 BPDTs or accompanying commentary.
- 6.77 The activities for which expenditure should be reported comprise the following which are defined in ED3 BPDT Glossary:
- Post-Delivery Support Agreements (PDSA)
 - PSUP Direct Labour
 - Data Communications
 - Other Operating Costs
 - Enhanced Physical Security (Capex)
- 6.78 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.
- 6.79 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 98.
- 6.80 There is a memo table included in row 101 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C4 – IT & Telecoms (Non-Operational)

- 6.81 This worksheet collects IT & Telecoms (Non-Operational) cost data.
- 6.82 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary, under the term IT & Telecoms (Non-Operational):

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Hardware and infrastructure costs
 - Application software development costs
- 6.83 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.
- 6.84 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 28.
- 6.85 At the bottom of this worksheet, there is a table included in rows 30 to 33 to capture any costs in relation to DSO Cost categories in these memo tables are as discussed above. The DSO Cost categories will be included in the M19 - DSO Memo table.
- 6.86 There is a memo table included in rows 35 to 43 to capture costs in relation to Data & Digitalisation. These costs will be included in the M29 D&D Memo table. The costs reported in this table should reconcile with investment proposals detailed in the Digitalisation Strategy and Action Plan (DSAP). Please refer to the ED3 Business Plan Guidance for further details. Costs should be reported at a total level in ED1 and ED2. In ED3 costs should be reported for the following categories which are defined in ED3 BPDT Glossary:
- Digital Infrastructure
 - Digital Processes
 - Digital Platforms
 - Digitalising Field Works
 - Network Monitoring
 - AI and Machine Learning
 - Other Data Best Practice
- 6.87 There is a memo table included in row 46 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C5 – Property (Non-Operational)

- 6.88 This worksheet collects all Non-Operational Property costs by Cost Type only. No further disaggregation is required. The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- Property (Non-Operational)
- 6.89 Further disaggregation is required by NGED to reflect additional reporting for the NGED specific evaluative PCD 'New Depots'. NGED only should report the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

annual costs incurred before and after NPCA on each of the 3 depots which comprise the PCD. Commentary on the status of the PCD is required in the Strategic Commentary for table C5, in line with the requirements in document "Price Control Deliverable Reporting Requirements and Methodology Document: Version 3", paras 6.1-6.3.

- 6.90 There is a memo table included in row 45 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C6 – Vehicles and Transport (Non-Operational)

- 6.91 This worksheet collects all Vehicles and Transport (Non-Operational Capex) costs by Cost Type only. No further disaggregation is required. The key term for this worksheet, defined in ED3 BPDT Glossary, is:

- Vehicles and Transport (Non-Operational)

- 6.92 Volumes should also be reported in rows 22 to 43 based on vehicle type and fuel type.

- 6.93 There is a memo table included in row 46 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C7 – Small Tools, Equipment, Plant and Machinery (Non-Operational)

- 6.94 This worksheet collects all Small Tools, Equipment, Plant and Machinery (Non Operational) costs by Cost Type only. No further disaggregation is required.

- 6.95 The key term for this worksheet, defined in the ED3 BPDT Glossary, is:

- Small Tools, Equipment, Plant and Machinery (Non-Operational)

- 6.96 There is a memo table included in row 23 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C8 – Remote Location Generation (Opex)

- 6.97 This worksheet collects the costs for Remote Location Generation (Opex).

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.98 Gross costs should be reported by Cost Type and by the following categories, which are defined in ED3 BPDT Glossary:
- Remote Location Generation Operating Costs: Fuel
 - Remote Location Generation Operating Costs: Operation & Maintenance
- 6.99 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.
- 6.100 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 28.
- 6.101 There is a memo table included in row 31 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C9 – Core CAI

- 6.102 This worksheet collects cost data on the aggregated total of Core CAI costs to feed the input to the C1 cost matrix. It also provides a split of these costs to provide a better understanding of the costs for cost assessment purposes.
- 6.103 The costs reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.104 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary:
- Network Design and Engineering
 - Project Management
 - Engineering Management and Clerical Support (EMCS)
 - System Mapping
 - Network Policy
 - Call Centre
 - Control Centre
 - Stores
- 6.105 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.106 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 34.
- 6.107 There is a memo table included in rows 36 to 45 to capture any costs in relation to DSO. Cost categories in the memo table are as shown in 5.84 above. These costs are included in the M19 DSO Memo table. Please refer to section 5 of the Glossary (Cost Mapping Matrix) for further details.
- 6.108 There is a memo table included in rows 48 to capture costs in relation to Data & Digitalisation. These costs will be included in the M29 D&D Memo table. The costs reported in this table should reconcile with investment proposals detailed in the Digitalisation Strategy and Action Plan (DSAP). Please refer to the ED3 Business Plan Guidance for further details. Costs should be reported at a total level in ED1 and ED2. We do not expect any costs to be reported in ED3, as ED3 Data & Digitalisation costs are expected to be captured within the following categories: Operational IT&T, IT & Telecoms (Non-Operational), or IT&T (Business Support).
- 6.109 DNOs should report costs and volumes associated with the Green Recovery Scheme in rows 51 to 59. These costs will be excluded from the TIM and not link into any other worksheet. No costs are expected to be reported in ED3.
- 6.110 There is a memo table included in rows 62-70 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C10 – Wayleaves (CAI)

- 6.111 The worksheet collects costs on the Wayleaves activity to feed the input to the C1 cost matrix. It also provides a split of Wayleaves and a line to report Substation Rents.
- 6.112 The costs reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.113 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary:
- Wayleave Payments
 - Wayleaves and Easements/Servitudes Admin Costs
 - Substation Rents

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.114 Costs reported on this table exclude Wayleaves (inc Easements/Servitudes) costs associated with network investment which should be reported on the appropriate table.
- 6.115 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.
- 6.116 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 29.
- 6.117 There is a memo table included in row 32 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C11 – Vehicles and Transport (CAI)

- 6.118 The worksheet collects costs on the Vehicles and Transport CAI activity to feed the input to the C1 cost matrix. Gross costs should be reported by Cost Type only. No further disaggregation is required.
- 6.119 The costs and volumes reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs and volumes associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.120 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- Vehicles and Transport (CAI)
- 6.121 Volumes should also be reported in rows 22 to 43 based on vehicle type and fuel type.
- 6.122 There is a memo table included in row 46 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C12 – Core Business Support

- 6.123 This worksheet collects cost data on the aggregated total of core Business Support activities to feed the input to the C1 cost matrix. It also provides a split of these costs to provide a better understanding of the costs for cost assessment purposes.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.124 The costs reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.125 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary:
- HR
 - Non-Operational Training
 - Insurance Totals
 - Fines and Penalties (other than in Street Works)
 - Finance and Regulation
 - CEO
- 6.126 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). Income should be entered as a negative in rows 18 and 19.
- 6.127 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 32.
- 6.128 There is a memo table included to capture any costs in relation to DSO. These costs will be included in the M19 DSO Memo table. Please refer to section 5 of the Glossary (Cost Mapping Matrix) for further details.
- 6.129 There is a memo table included in row 44 to capture costs in relation to Data & Digitalisation. These costs will be included in the M29 D&D Memo table. The costs reported in this table should reconcile with investment proposals detailed in the Digitalisation Strategy and Action Plan (DSAP). Please refer to the ED3 Business Plan Guidance for further details. Costs should be reported at a total level in ED1 and ED2. We do not expect any costs to be reported in ED3, as ED3 Data & Digitalisation costs are expected to be captured within the following categories: Operational IT&T, IT & Telecoms (Non-Operational), or IT&T (Business Support).
- 6.130 A memo table has also been included in rows 46 to 48 to capture costs in relation to Curtailment Penalty Payments. These capture the costs associated with curtailment penalties as well as the number of penalties.
- 6.131 There is a memo table included in rows 51-57 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**C13 – IT&T (Business Support)**

- 6.132 This worksheet collects the costs of IT&T (Business Support) costs to feed into the C1 cost matrix.
- 6.133 The costs reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.134 Gross costs should be reported by Cost Type only. No further disaggregation is required.
- 6.135 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- IT & Telecoms (Business Support)
- 6.136 There is a memo table included to capture any costs in relation to DSO. These costs will be included in the M19 DSO Memo table. Please refer to section 5 of the Glossary (Cost Mapping Matrix) for further details.
- 6.137 There is a memo table included in rows 28 to 36 to capture costs in relation to Data & Digitalisation. These costs will be included in the M29 D&D Memo table. The costs reported in this table should reconcile with investment proposals detailed in the Digitalisation Strategy and Action Plan (DSAP). Please refer to the ED3 Business Plan Guidance for further details. Costs should be reported at a total level in ED1 and ED2. In ED3 costs should be reported for the following categories which are defined in ED3 BPDT Glossary:
- Digital Infrastructure
 - Digital Processes
 - Digital Platforms
 - Digitalising Field Works
 - Network Monitoring
 - AI and Machine Learning
 - Other Data Best Practice
- 6.138 There is a memo table included in row 39 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**C14 – Property Management (Business Support)**

- 6.139 This worksheet collects costs for Property Management expenditure and related income by year to feed into the C1 cost matrix.
- 6.140 The costs reported in this sheet should reflect the low-regret investments assumption set out in Section 8 of the Business Plan Guidance. This sheet should reflect costs associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with the indirect costs associated with any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 6.141 Gross costs should be reported by Cost Type only. No further disaggregation is required.
- 6.142 Where the property is owned by a Related Party and it charges a market rent to the DNO, the difference between the market rent and external rent must be reported under the Cost Recoveries line as a negative value.
- 6.143 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- Property Management (Business Support)
- 6.144 There is a memo table included to capture any costs in relation to DSO. These costs will be included in the M19 DSO Memo table. Please refer to section 5 of the Glossary (Cost Mapping Matrix) for further details.
- 6.145 There is a memo table included in row 29 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

C15a – Atypicals Inside Totex, C15b – Atypicals Excluded Totex, C15c – Atypicals Non PC

- 6.146 These worksheets collect data on atypical events, excluding severe weather events for each Cost Type category.
- 6.147 Atypical events are those events as defined in ED3 BPDT Glossary and other one-off events that DNOs may consider falls under the definition of Atypical. DNOs should discuss with Ofgem where they may be ambiguity as to whether these are included. A clear explanation should be provided in the Strategic Commentary.
- 6.148 The key terms for this worksheet, defined in ED3 BPDT Glossary (with the prefix “Atypical”), are:
- Atypicals Non Severe Weather in Totex in Price Control

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Atypicals Non Severe Weather Excluded from Totex in Price Control
- Atypicals Non Severe Weather Outside Price Control
- Severance
- Early Retirement Deficiency Contributions (ERDCs)
- Non Severance Related Restructuring/Merger
- Rebranding
- Other (to be overwritten by DNO)

6.149 There are three different tabs:

- C15a – Atypicals Inside Totex
- C15b – Atypicals Excluded Totex
- C15c – Atypicals Non PC

C16 – Smart Meters Outside Price Control

6.150 This worksheet is designed to collect the elective smart meter data costs for all years of RIIO-ED1, RIIO-ED2 and ED3. It is also designed to collect DCC licence fee costs in the ED2 and ED3 price control period and the last two years of the RIIO-ED1 price control.

6.151 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in RIIO-ED3 BPDT Glossary:

- Elective Communication Services
- DCC Licence Fee Costs

6.152 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.

6.153 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 28.

C17 – Legacy Metering Equipment

6.154 This worksheet collects costs and revenue related to legacy metering activity.

6.155 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary:

- Basic Meter Asset Provision
- Data Services (MPAS and data transfer)

6.156 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.

6.157 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 28.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**C18 – De Minimis**

- 6.158 Costs and revenue for De Minimis business activities, by activity, are reported in this worksheet.
- 6.159 In the table “Direct costs by activity” DNOs should list each De Minimis Business activity and the direct costs and revenue associated with it. DNOs may add additional rows if additional activities need to be listed.
- 6.160 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- De Minimis Business

C19 – Other Consented Activity

- 6.161 Costs and revenue for Other Consented Activities, by activity, are reported in this worksheet.
- 6.162 In the table “Direct costs by activity” DNOs should list each Other Consented Activity and the direct costs and revenue associated with it. DNOs may add additional rows if additional activities need to be listed.
- 6.163 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- Other Consented Activity

C21 – Out of Area Networks

- 6.164 Costs and revenue for Out of Area Networks are reported in this worksheet.
- 6.165 Gross costs should be reported by Cost Type and for the following cost categories, which are defined in ED3 BPDT Glossary:
- Out of Area Networks
 - Out of Area Networks - Network Investment
 - Out of Area Networks - Network Operating Costs
 - Out of Area Networks - Use of System
- 6.166 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16) and total income should be entered in rows 18 and 19.
- 6.167 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 29.

C22 – Pass Through

- 6.168 Costs incurred on Pass-Through items provided for under CRC 2B (Calculation of Allowed Pass-Through Items) are reported in this worksheet. This information is necessary to calculate Allowed Distribution Network Revenue.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

6.169 Costs must be reported for the following Pass-Through cost categories, which are defined in ED3 BPDT Glossary:

- Licence Fee Payments
- Prescribed Rates Payments
- Pass-Through Transmission Connection Point Charges Incurred
- Smart Meter Communication Licensee Costs
- Smart Meter Information Technology Costs
- Ring Fence Costs incurred
- Supplier of Last Resort Net Costs
- Eligible Use of System Bad Debt Costs Incurred
- Recovered Bad Debt
- Valid Bad Debt claim
- Pensions Established Deficit Repair Payments
- Connections Reform Costs^{4 5}
- Shetland Variable Energy Costs
- Shetland Extension Variable Energy Costs
- Shetland New Energy Solution Residual costs

6.170 No Cost Type split is required.

6.171 In the table “By category” DNOs should report costs for each Pass-Through item listed above, except Shetland Variable Energy Costs, Supplier of Last Resort Net Costs and Eligible Use of System Bad Debt costs incurred. These should be reported under the subcategory tables “Components of the Shetland variable energy costs”, “Components of Supplier of Last Resort” and “Components of Eligible UoS Bad Debt costs incurred” respectively from rows 45 to 58. Only SSEH is required to report costs for the subcategories of Shetland Variable Energy Costs.

C23 – Other Non Activity Based Costs (NABC)

6.172 This worksheet collects data on Non Activity Based Costs and should be reported by each category listed within the sheet. No Cost Type split is required.

6.173 Key terms for this this worksheet, defined in ED3 BPDT Glossary (under the prefix “NABC”), are:

- GS Compensation Payments
- Ex-Gratia Compensation Payments

⁴ Connections Reform costs should be reported in accordance with the Connection Reform Costs Governance Document: [Modifications to electricity distribution licence Special Conditions to enable TMO4+ connections reform | Ofgem](#)

⁵ No such costs should be reported in Pass-through unless they are in excess of the Connections Reform Costs Materiality Threshold and are incurred as specified in the Connections Reform Governance Document.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Connections Guaranteed Standards of Performance Compensation Payments
- Ex-Gratia Compensation Payments (Connections)
- Distributed Generation Standards Direction issued under Standard Condition 15A
- Ex-Gratia Compensation Payments (Distributed Generation Standards Direction issued under Standard Condition 15A)
- Any Other Ex-Gratia/Goodwill Compensation Payments
- DG Network Unavailability Rebate Payments
- Bad Debt Expense Other (net of recoveries)
- Profit/Loss on sale of Fixed Assets and Scrap
- Contingent Pension Asset Costs
- Carbon Reduction Commitment Scheme

Reporting of disposal/sale of fixed assets and scrap

- 6.174 In rows 40-60, DNOs are required to include details of the profit/loss made on the sale of fixed assets and scrap and the disposal proceeds realised. The profit/loss feeds through to row 35 and is therefore included in the total of Non Activity Based Costs, feeding through to the C1 cost matrix. This aids reconciliation to the Regulatory Accounts. The disposal proceeds made feed through to table I3 – BPFM Inputs, as they are required to be netted off Totex.
- 6.175 In accordance with the instructions in paragraphs 2.7, all income/proceeds must be reported as a negative number.

C24 – Related Party Margin

- 6.176 The purpose of the table is to show the size of services provided to the DNO, other group companies and external parties by each related party. It will enable Ofgem to identify potential related cross subsidy issues within related party charging.
- 6.177 The table will be used to help identify recharges that flow through more than one related party before reaching the DNO and provide the percentage of external revenue so that margins can be identified and removed, where appropriate, for comparison to the ED2 allowances and to calculate revenue. If External Income accounts for 75% or more of the Related Party (RP) income than the margin will be allowable, if not it will be removed.
- 6.178 If external data is not provided, then the revenue RP margin adjustment will automatically exclude the entire margin for that related party.
- 6.179 The table allows DNOs to report data for up to twenty related parties that transact with the DNO. Where the DNO transacts with more than twenty related parties the tables in the worksheet must be completed for those related

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

parties that have the highest turnover from the DNO. Other related parties must be reported in the commentary to this worksheet with the details required in this worksheet.

- 6.180 Within the associated commentary, DNOs must provide a detailed explanation of the margins included in recharges from group affiliates and Related Undertakings that do not directly trade with the DNO to each of the listed Related Parties. Where it is felt that excessive margins are being passed to DUoS customers through this process, an appropriate revenue adjustment will be made. DNOs must:
- Ensure that an affiliated captive insurer is separately disclosed.
 - Input in columns E to V the turnover data for the related party as charged to each DNO in the group, other related parties and external customers. Input as positive numbers. Also input in columns E to V the margin – a positive reflects that the Related Party is making a profit, while a negative indicates a loss.
- 6.181 The Related Party Margin impacting on the DNO directly in column E to V (for 2016-2033 reporting years) will be automatically populated from the relevant year's analysis per Related Party, from row 48 and below.
- 6.182 Using this Total Margin per Related Party block, in columns AA to AM for 2016, and then ongoing for future years, there is a further split of this margin by BPFM Cost Type, namely:
- Load Related Capex
 - Non Load Related Capex – Asset Replacement
 - Non Load Related Capex – Other
 - Faults
 - Tree Cutting
 - 100% Revenue Pool
 - Controllable Opex
- 6.183 This will allow the necessary adjustments to be made to Tax Pools and annual Totex spend against allowances where the margin of a Related Party has been disallowed.
- 6.184 There are automatic inputs from each years' C1 Table into columns headed:
- Non Totex
 - Outside Price Control
 - Total RP Margin
- 6.185 These inputs calculate 'Totex – Within price Control' automatically.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 6.186 Values in the manual input column ‘RP Margin included in indirects allocated outside of Totex PC activities’ (ie AI for 2024) should be entered as positive values. The Total input here should equal:
- Related Party Margin allocated to Connections outside of Price Control
 - PLUS Related Party Margin Allocated to Non-Distribution
 - LESS ‘Other costs within Price Control’ element of above
 - But including ‘Atypicals Non Severe Weather (RAV) element of above

C25 – Shetland (SSEH only)

- 6.187 This worksheet collects data on Shetland Uncertain Energy Cost, Shetland Extension Fixed Energy Cost and Shetland Enduring Solution Energy; and should be reported by each category listed within the sheet.
- 6.188 This worksheet is relevant to SSEH only. It enables SSEH to report annually on the efficient costs incurred related to generating electricity on Shetland provided under an ex ante allowance.
- 6.189 Key terms for this this worksheet, defined in ED3 BPDT Glossary (under the prefix “Shetland”), are:
- Shetland Uncertain Energy Costs (UCSIC)
 - Shetland Competitive Process Costs (UCCPC)
 - Shetland Extension Fixed Energy Costs (UCSEFEC)
 - Shetland Enduring Solution Process Costs (UCSEPC)
 - Shetland Extension Battery Costs (UCSEBC)
 - Shetland Transmission Link Contribution Costs (STLCC)
 - Shetland Enduring Solution Energy Costs
- 6.190 Shetland Uncertain Energy Costs are made up of Third Party Contracts (TPC), LPS Capital and Operating Costs (LPSC), NINES ongoing costs (NINES), and potential Contingency costs (CC).
- 6.191 Shetland Extension Fixed Energy Costs are made up of Third Party Contracts (TPC), LPS Capital and Operating Costs (LSPC; excluding Shetland Extension Battery Costs which has a separate allowance, Shetland Extension Battery Costs), Active Network Management costs (ANM, which replaces NOC), and potential Contingency costs (CC), which are defined in RIIO-ED3 BPDT Glossary. A memo has also been included for Shetland Transmission Link Contribution Costs and Shetland Enduring Solution Energy Costs. These costs are not reported anywhere else in the pack and are the inclusion of these memo items are for information only.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**C26 – Cyber Resilience**

- 6.192 The purpose of the table is to submit Cyber Resilience costs. For background information, including definitions of PCD and UIOLI projects, refer to the main ED3 Business Plan Guidance.
- 6.193 Costs should be reported by Cost Type in rows 9-20 as defined in the glossary. Costs must also be reported in rows 37-47 split by the following categories, which are:
- People (FTE)
 - People (FTC)
 - Professional Services and/or 3rd Party Services
 - Software
 - Hardware
- 6.194 For each project, companies must specify:
- Project Name
 - Investment Category (PCD / UIOLI)
 - Activity Type
 - Rate / Unit Cost (£m)
 - Total Units / Days / FTE
- 6.195 Projects should be mapped to the relevant primary Cyber Assessment Framework (CAF) Principle (eg A1. Governance, A2. Risk Management, A4. Supply Chain) in accordance with regulatory guidance.
- 6.196 We expect companies to provide clear project names and line items. For example, if a project requires five project managers that each cost £650 per day, then we would expect to see this in an individual line item.
- 6.197 Companies may add additional rows or project entries as needed. When doing so, ensure all columns are copied to maintain the integrity of validation checks and automated totals.
- 6.198 If necessary, the individual line items on the worksheet can be redacted and the full form sent directly to the cyber team via the Secure Information Exchange (SIE) as part of the cyber submission.
- 6.199 Validation checks are provided in the worksheet. Network companies must ensure all required fields are completed and totals are correct before submission.
- 6.200 The summary tables in rows 27 to 32 do not need to be filled in manually as they will auto-populate based on the detailed entries below.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

6.201 Companies should engage the cyber team directly (RIIO3cyber@ofgem.gov.uk) if they have any queries regarding filling in the cyber tables.

C27 – Severe Weather 1-in-20

6.202 The purpose of this table is to record the costs of Troublecall unplanned incidents associated with Severe Weather 1-in-20 Events.

6.203 The costs in this worksheet should be for only those incidents which occur as part of Severe Weather 1-in-20 events for which exceptional event exemptions have been requested as set out in SpC 4.4 (Interruptions incentive scheme output delivery incentive) of the distribution licence, and which meet the 1-in-20 thresholds set out in SpC 3.10 (Allowed Expenditure for 1-in-20 Severe Weather Event) of the distribution licence.

6.204 The cost data provided in this worksheet should not be included in CV26 – Faults.

6.205 It is recognised that cost collection during 1-in-20 severe weather events may not allow full disaggregation of costs into the categories of unplanned incidents on Power System Voltage Equipment. As a consequence, the costs related to severe weather 1-in-20 events are reported by the following voltage disaggregation:

- LV Network
- HV Network
- EHV Network
- 132kV Network

6.206 We expect forecast costs to reflect DNOs' best estimate of the expected annual cost associated with Severe Weather 1-in-20 Events, such that the submitted values represent costs spread evenly across 20 years rather than the cost of a single year event.

6.207 The number of 1-in-20 severe weather events in the Regulatory Year should also be provided.

6.208 All categories listed within this worksheet are defined in ED3 BPDT Glossary.

6.209 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type across rows 33 and 35.

6.210 There is a memo table included in row 40 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

7. Instructions for completing the Business Plan Data Table cost and volume worksheets

Purpose of cost and volume Business Plan Data Table worksheets

- 7.1 The purpose of the cost and volume (CV) tables is to report expenditure information at various levels of granularity to enable Ofgem to fully understand the relationship with outputs. The detail in the worksheets allows benchmarking at the individual activity level as well as at the Totex level when all activities are added together.

Overview

Cost Type split

- 7.2 As noted above, all CV tables must be differentiated into Cost Types. The DNO must enter total gross costs by Cost Type (rows 9-16). This Cost Type data feeds into the C1 matrices.

Customer Contributions and Cost Recoveries

- 7.3 Income for customer contributions (row 18) and cost recoveries (row 19) should be entered as a negative number.
- 7.4 Entries against customer contributions should relate only to income received from customers. Regarding Connections projects, contributions relating to indirect cost incurred on a Connections project should be included under the relevant type of Connections project, rather than under the particular indirect cost category. All margins charged on Connections projects should be included in the amount input as contributions.

Total gross costs and total net costs

- 7.5 Total gross costs (row 17) and total net costs (row 20) are automatically calculated in each CV table. These costs feed into the C1 matrices.

Category type data

- 7.6 Some CV tables only require the costs by Cost Type. Other CV tables also require costs (and volumes) by category type. Category type costs and volumes are more disaggregated activity level costs to allow for more detailed assessment of the elements that comprise the activity in each table.
- 7.7 The check cells in row 22 will ensure that the input for total gross costs by Cost Type and total gross costs by category type reconcile. Where relevant, the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

check cells in row 22 will ensure that in the input for total net costs by Cost Type and total net costs by category type reconcile.

Asset base

7.8 CV tables also require the input of data on the assets added (additions) or removed (disposals) from the distribution network in carrying out a relevant network activity (rows 28-131). These asset movements are then linked to the summary volumes tables for each year (V5 – volume matrices) and then to V1 - total asset movements. The following CV tables require this data:

- CV1 – Primary Reinforcement (data provided in CV1a and CV1b)
- CV2 – Secondary Reinforcement (data provided in CV2a and CV2b)
- CV2c – Off Gas Grid PCD (data provided in CV3a and CV3b)
- CV3 – Fault Level Reinforcement (data provided in CV4a and CV4b)
- CV5 – Diversions
- CV7 – Asset Replacement (data provided in CV7a, CV7b and CV7c)
- CV12 – ESR
- CV13 – BT21CN
- CV14 – Legal and Safety
- CV15 – QoS and North of Scotland
- CV16 – Resilience (data provided in CV16a, CV16b and CV16c)
- CV17 – Rising Laterals and Mains
- CV18 – OH Clearances
- CV19 – Worst Served Customers
- CV20 – Visual Amenity
- CV21 – Losses
- CV22 – Environmental Reporting
- CV23 – High Value Projects DR5 & ED1 & ED2
- CV24 – High Value Projects ED3
- CV26 – Faults
- CV28 – Occurrences Not Incentivised (ONIs)
- CV32 – Dismantlement
- CV36 – Network Innovation Allowance (NIA)
- CV37 – Network Innovation Competition (NIC) & LCN Fund
- CV39 – Directly Remunerated Services (DRS)
- CV44 - Voltage Management

CV1 – Primary Reinforcement

7.9 There are two Primary Reinforcement worksheets for inputs:

- CV1a – Primary Reinforcement
- CV1b – Primary Reinforcement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.10 These tables are for the input of cost and volume data related to Primary Reinforcement and are collated in CV1 - Primary Reinforcement

CV1a – Primary Reinforcement

- 7.11 This worksheet collects reinforcement activity undertaken to resolve capacity restraints on the Primary Network (33kV and above).
- 7.12 The costs and volumes reported in this sheet should reflect the low-regret investments identified through the sensitivity testing set out in Section 8 of the Business Plan Guidance. This sheet should reflect all Primary Reinforcement expenditure associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with expenditure for any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 7.13 DNOs must report work undertaken to manage capacity constraints (including voltage) affecting either an individual substation or substation group. Within these categories, reporting must be disaggregated between reinforcement for n-1 or n-2 schemes.
- 7.14 In each of the sections of the table for n-1 and n-2 schemes affecting individual substations or substation groups, DNOs must report the cost and capacity released at time of energisation (in MVA) by three types of intervention:
- Conventional – substation: reinforcement using Conventional Solutions at substations
 - Conventional – circuit: reinforcement using Conventional Solutions on circuits
 - Innovative: any Innovative Solution (except the reservation and deployment of flexibility services which is reported separately (see paragraph 7.19 below))
- 7.15 The cost and capacity released should be apportioned according to the type of solution used. A single scheme involving multiple types of solution should be reported across all relevant rows. The costs should be allocated based upon the actual costs of each solution. The capacity released should be the amount associated with each solution. For example, a total scheme may cost £10m and release 100MVA but the values reported would be £9m and 60MVA for the conventional part and £1m and 40MVA for the Innovative part. Where a solution does not provide firm capacity, the capacity released should be calculated as set out in the guidance to the Innovative Solutions worksheet.
- 7.16 The costs and capacity released must be reported in the row corresponding to the highest and lowest voltages at a substation or the highest and lowest voltages affected by the constraint for a substation group. If a circuit constraint

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- affects a number of substations, it should be reported under substation groups. E.g if two 33/11 kV substations are supplied by a common cable and the cable is restricting the capacity of the substation group and only circuit works are carried out on the 33kV cable causing the constraint, this should be classified as 33kV:11kV (related to the substations affected by the constraint) and not as 33kV:33kV work (based on the cable constraint).
- 7.17 DNOs should only use the table for “Other substation constraints” where it is not possible to include the activity in one of the tables for capacity constraints. For activity reported under Other Substation Constraints, do not disaggregate reporting between network voltage levels.
- 7.18 DNOs should only use the table for “Other reinforcement activities” where it is not possible to include the activity in one of the other tables in this worksheet. However, protection enhancements must be reported here. DNOs should enter a reasonable volume unit for each item in this table and the voltage level(s) affected.
- 7.19 DNOs should use the table entitled “Flexibility” to capture the costs and volumes associated with flexibility services. This relates to any flexibility that is contracted to resolve capacity constraints that may otherwise require a Conventional Solution or other Innovative Solution to provide the necessary capacity. These costs will be included in the DSO memo table. Please refer to section 4 of the Glossary (Cost Mapping Matrix) for further details. DNOs should report total volumes and associated costs of constraints addressed through flexibility in the 'All capacity constraints' row, and a breakdown of the volumes and associated costs of flexibility used to deliver that in the 'Contracted flexibility' and 'Flexibility despatch' rows. The total cost of 'Contracted flexibility' and 'Flexibility despatch' should add up to the total cost for 'All capacity constraints'.
- 7.20 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.21 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs from all category types.
- 7.22 DNOs should report costs and volumes associated with the Green Recovery Scheme in rows 316-322. These costs will be excluded from the TIM and not link into any other worksheet. No costs are expected to be reported in ED3.
- 7.23 There is a memo table included in row 326 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Resilience. These costs will be included in the M30 - Climate Resilience Memo table.
- 7.24 DNOs should complete the TANJI fields in CV1 – Primary Reinforcement for primary reinforcement interventions that release additional net capacity on the primary network.
- 7.25 TANJI data should be reported against the relevant asset category and voltage level, consistent with the reporting of primary reinforcement costs and volumes elsewhere in the worksheet. Where a scheme includes more than one asset type, such as transformers, switchgear and circuits, the DNO should report the capacity released and resulting TANJI points against each relevant asset type. For asset replacement or upgrade schemes that release additional capacity, DNOs should calculate the MVA per unit by calculating the difference between the capacity of the new asset and the capacity of the asset being replaced. For new assets that do not replace an existing asset, DNOs should use the additional net capacity made available to the network by the intervention.
- 7.26 Where a primary reinforcement scheme is delivered in stages, TANJI points should be reported in the Regulatory Year in which each stage releases net capacity. DNOs should not report the full TANJI benefit of a multi-year scheme in the first year unless the full capacity benefit is delivered in that year.
- 7.27 The TANJI data reported in CV1 should be consistent with the capacity released and asset movement data reported elsewhere in the worksheet. Any material differences between the reported capacity released for reinforcement purposes and the net capacity released used for TANJI should be explained in the BPDT Commentary.
- 7.28 For the TANJI calculation method and timing of reporting, see the TANJI Calculation section and Timing of TANJI Reporting section in C2 – Connections.

CV1b – Primary Reinforcement

- 7.29 This worksheet collects reinforcement activity undertaken to resolve capacity restraints on the Primary Network (33kV and above).
- 7.30 The costs and volumes reported in this sheet should reflect the additional costs and volumes required to meet the demand associated with the unadjusted outputs of the tRESP. The reported costs and volumes should therefore represent the investments not identified as low-regret through the sensitivity analysis described in Section 8 of the Business Plan Guidance.
- 7.31 Except for the statement above, the guidance for CV1b is identical to that set out for CV1a.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**CV2 – Secondary Reinforcement**

- 7.32 There are three Secondary Reinforcement worksheets for inputs:
- CV2a – Secondary Reinforcement
 - CV2b – Secondary Reinforcement
 - CV2c – Off Gas Grid PCD
- 7.33 These tables are for the input of cost and volume data related to Secondary Reinforcement and are collated in CV2 - Secondary Reinforcement.

CV2a – Secondary Reinforcement

- 7.34 This worksheet collects reinforcement activity on the secondary network (LV and HV).
- 7.35 The costs and volumes reported in this sheet should reflect the low-regret investments identified through the sensitivity testing set out in Section 8 of the Business Plan Guidance. This sheet should reflect all Secondary Reinforcement expenditure associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with expenditure for any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 7.36 For capacity constraints affecting a substation, the table is disaggregated between reinforcement done at pole mounted and ground mounted substations (rows 138-139). The DNO must provide the capacity released by the work at time of energisation (in MVA).
- 7.37 For capacity constraints affecting a circuit, the table is disaggregated between LV and HV network (rows 143-146). DNOs should also report the number of circuit reinforcement schemes in the Volumes tables.
- 7.38 There is a table for reporting ‘Other reinforcement activities’ (rows 150-156). Entries should only be made in this table if the reinforcement activity cannot be categorised as managing a capacity constraint affecting a substation or circuit and therefore reported elsewhere on this worksheet. The DNOs should report the volume as the number of times a reinforcement scheme is required. DNOs must report any socialised reinforcement activity that is required under Standard Licence Condition 13C, in the Connection pack.
- 7.39 DNOs should use the table entitled “Flexibility” to capture the costs and volumes associated with flexibility services (row 160). This relates to any flexibility that is contracted to resolve capacity constraints that may otherwise require a Conventional Solution or other Innovative Solution to provide the necessary capacity. These costs will be included in the DSO memo table. Please refer to section 5 of the Glossary (Cost Mapping Matrix) for further details. DNOs should report total volumes and associated costs of constraints

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

addressed through flexibility in the 'All capacity constraints' row, and a breakdown of the volumes and associated costs of flexibility used to deliver that in the 'Contracted flexibility' and 'Flexibility despatch' rows. The total cost of 'Contracted flexibility' and 'Flexibility despatch' should add up to the total cost for 'All capacity constraints'.

- 7.40 DNOs should report the cost and volumes of activities relating to Proactive Service Reinforcement and Reactive Service Reinforcement to include single phase and three phase interventions (rows 169-193). The total number of Unlooped Properties, as a result of Proactive Service Reinforcement and Reactive Service Reinforcement, should be recorded in the memo table.
- 7.41 DNOs should report costs and volumes associated with the Green Recovery Scheme in rows 197-203. These costs will be excluded from the TIM and not link into any other worksheet. No costs are expected to be reported in ED3.
- 7.42 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.43 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs from all category types.
- 7.44 DNOs are required to report the number of HV and LV sites in each of the network utilisation bands for Pole Mounted and Ground Mounted transformers separately, on rows 250-256 and rows 307-313 respectively. In each of these sections, DNOs are required to report the number of sites in each utilisation band with interventions. DNOs should also input the average utilisation of Pole Mounted and Ground Mounted transformers on rows 266 and 323.
- 7.45 DNOs should report cost and volumes related to Pole Mounted transformers capacity released on rows 221-227 where the intervention relates to a thermal constraint and rows 240-246 where the intervention relates to a non-thermal constraint. DNOs must avoid double counting, interventions must be reported against either utilisation (thermal) or non-thermal, not both.
- 7.46 Where a network exhibits both a transformer utilisation constraint and a non-thermal constraint, any associated transformer intervention should be reported within the tables corresponding to the earliest forecast constraint type. Where the two constraints are forecast to materialise within the same forecast year, the intervention should be reported in the utilisation tables, with utilisation therefore taking precedence for reporting purposes.
- 7.47 Similarly, Ground Mounted transformers capacity released should be reported on rows 278-284 and 297-303. This information is disaggregated in network utilisation bandings. Interventions should be reported against the network utilisation band corresponding to transformers' pre-intervention utilisation

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

level. Capacity released should report gross MVA added by an intervention against the same network utilisation banding as the associated disposals, if any. For the avoidance of doubt, DNOs should not report MVA capacity released as net capacity added to the network due to an intervention.

- 7.48 DNOs should report the number of transformers subject to an intervention, as well as disposals, for Pole Mounted transformers on rows 212-218 where the intervention is driven by a transformer utilisation (thermal) constraint and rows 231-237 where the intervention is driven by a non-thermal constraint. Similarly, for Ground Mounted transformers, DNOs should report the numbers on rows 269-275 where the where the intervention is driven by a transformer utilisation (thermal) constraint and rows 288-294 where the intervention is driven by a non-thermal constraint.
- 7.49 There is a memo table included in row 331 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV2b – Secondary Reinforcement

- 7.50 This worksheet collects reinforcement activity on the secondary network (LV and HV).
- 7.51 The costs and volumes reported in this sheet should reflect the additional costs and volumes required to meet the demand associated with the unadjusted outputs of the tRESP. The reported costs and volumes should therefore represent the investments not identified as low-regret through the sensitivity analysis described in Section 8 of the Business Plan Guidance.
- 7.52 Except for the statement above, the guidance for CV2b is identical to that set out for CV2a.

CV2c – Off Gas Grid PCD (UKPN Only)

- 7.53 This worksheet collects detailed anticipatory investment under the Off-Gas Grid PCD. It applies to UKPN only.
- 7.54 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs from all category types.
- 7.55 There is a memo table included in row 331 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**CV3 – Fault Level Reinforcement**

- 7.56 There are two Fault Level Reinforcement worksheets for input:
- CV3a – Fault Level Reinforcement
 - CV3b – Fault Level Reinforcement
- 7.57 These tables are for the input of cost and volume data related to Fault Level Reinforcement and are collated in CV3 - Fault Level Reinforcement

CV3a – Fault Level Reinforcement

- 7.58 This worksheet collects details of Fault Level Reinforcement activity on the distribution network.
- 7.59 The costs and volumes reported in this sheet should reflect the low-regret investments identified through the sensitivity testing set out in Section 8 of the Business Plan Guidance. This sheet should reflect all Fault Level Reinforcement expenditure associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with expenditure for any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 7.60 DNOs must report costs and volumes associated with Fault Level Reinforcement Schemes. Volumes must be recorded as the number of fault level constraints resolved. The schemes should be reported by the assets (switchboard, circuit or other) affected by the fault level constraint. This should be further disaggregated by voltage level (HV, EHV, 132kV) and by the type of solution (conventional or innovative).
- 7.61 DNOs should only use the table for Other schemes where it is not possible to include the activity in either switchboards or circuits. Supporting information should be provided in the commentary, explaining the issue and the solution. Examples of such work include LV switchgear and any voltage of pole mounted switchgear.
- 7.62 Solution type has been disaggregated into conventional and Innovative Solutions.
- 7.63 Typical conventional solutions are:
- Replacing the switchgear
 - Increasing the size of cables
 - Replacing transformers with higher impedance units
- 7.64 Anticipated innovative solutions are:
- Fault current limiting devices

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Real-time management of fault level
- 7.65 Where a combination of innovative solutions and conventional solutions are used, the costs should be allocated across the categories based upon the cost proportions of each element. This may be different for each scheme.
- 7.66 The volumes are a count of the switchboards/circuits affected by fault level constraints. This means that a count of one will be allocated even if more than one type of solution is used to mitigate the constraint. The approach to be followed is to allocate the unit across the different solutions in proportion to the contribution to resolving the fault level constraint from each solution. This means that if the solution benefits are in the ratio of 80:20 (conventional/innovative), 0.8 units are allocated to conventional and 0.2 units are allocated to innovative.
- 7.67 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.68 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs from all category types.
- 7.69 There is a memo table included in row 181 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.
- 7.70 DNOs should complete the TANCI fields in CV3 – Fault Level Reinforcement where a fault level reinforcement intervention releases additional net network capacity or enables additional net capacity to be made available.
- 7.71 TANCI data should be reported against the relevant asset category, voltage level and solution type, consistent with the reporting of fault level reinforcement costs and volumes elsewhere in the worksheet.
- 7.72 Where the intervention resolves a fault level constraint but does not release additional net capacity, TANCI points should not be reported. DNOs should continue to report the relevant fault level reinforcement costs and volumes in CV3 in accordance with the existing worksheet guidance.
- 7.73 Where a fault level scheme enables additional net capacity through the replacement, uprating or installation of assets, DNOs should calculate net capacity released using the incremental net capacity made available as a result of the intervention. Where the capacity benefit is dependent on a wider reinforcement scheme, the DNO should ensure that TANCI points are not double counted between CV3 and any other worksheet.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.74 DNOs should provide supporting commentary for any CV3 TANCI entries where the relationship between fault level mitigation and capacity released is not directly observable from the worksheet inputs.
- 7.75 For the TANCI calculation method and timing of reporting, see the TANCI Calculation section and Timing of TANCI Reporting section in C2 – Connections.

Technical Details

- 7.76 Technical data about the number of switchboards affected by fault level issues allows Ofgem to monitor the required levels of Fault Level Reinforcement Schemes.
- 7.77 With regards to the fault level reinforcement element of the table, DNOs must populate the relevant rows with the total number of HV, EHV and 132kV switchboards/substation busbars, the number of these that have exceeded a fault level duty of above 95% of their rating, and the volume that are subject to fault level risk mitigation measures (such as operational restrictions).

CV3b – Fault Level Reinforcement

- 7.78 This worksheet collects details of Fault Level Reinforcement activity on the distribution network.
- 7.79 The costs and volumes reported in this sheet should reflect the additional costs and volumes required to meet the demand associated with the unadjusted outputs of the tRESP. The reported costs and volumes should therefore represent the investments not identified as low-regret through the sensitivity analysis described in Section 8 of the Business Plan Guidance.
- 7.80 Except for the statement above, the guidance for CV3b is identical to that set out for CV3a.

CV4 – NTCC (New Transmission Capacity Charges)

- 7.81 There are two NTCC worksheets for input:
- CV4a – NTCC
 - CV4b – NTCC
- 7.82 These tables are for the input of cost and volume data related to NTCC and are collated in CV4 - NTCC.

CV4a – NTCC

- 7.83 In ED1, ED2 and ED3, ex ante allowances are provided to DNOs for projects to be carried out by transmission licensees at transmission connection points (also referred to as grid supply points). These ex-ante allowances only cover

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

those projects initiated by the DNO for increased capacity at existing transmission connection points or for new transmission connection points.

- 7.84 The costs and volumes reported in this sheet should reflect the low-regret investments identified through the sensitivity testing set out in Section 8 of the Business Plan Guidance. This sheet should reflect all NTCC expenditure associated with heat pump uptake that assumes a two-year delay to the tRESP pathway, along with expenditure for any preparatory works required to support the demand associated with the unadjusted outputs of the tRESP.
- 7.85 The purpose of this table is to collect expenditure information relating to the charges payable by the DNO to a transmission licensee for projects which have been initiated by the DNO but carried out by the transmission licensee. There are two categories of expenditure: the first for reinforcement of existing transmission connection points and the second for new transmission connection points.
- 7.86 The charges payable to the transmission licensee should be reported by Cost Type and costs and volumes should be reported for the following categories, which are defined in ED3 BPDT Glossary:
- TCPs Reinforced - Licensee Requirement
 - TCPs New - Licensee Requirement
- 7.87 Each of the above categories allow for DNOs to report sub-components of those costs, originating from either capacity charges or the capital connection cost associated with the works defined above.
- 7.88 DNOs should also provide the value of customer contributions in rows 142 and 143 associated with the NTCC categories.
- 7.89 The total charges payable to the transmission licensee should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs by category type in row 139.
- 7.90 Other charges payable to transmission licensees must be reported in the related tab for Pass Through.
- 7.91 There is a memo table included in row 147 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**CV4b – NTCC**

- 7.92 In ED1, ED2 and ED3, ex ante allowances are provided to DNOs for projects to be carried out by transmission licensees at transmission connection points (also referred to as grid supply points). These ex-ante allowances only cover those projects initiated by the DNO for increased capacity at existing transmission connection points or for new transmission connection points.
- 7.93 The costs and volumes reported in this sheet should reflect the additional costs and volumes required to meet the demand associated with the unadjusted outputs of the tRESP. The reported costs and volumes should therefore represent the investments not identified as low-regret through the sensitivity analysis described in Section 8 of the Business Plan Guidance.
- 7.94 Except for the statement above, the guidance for CV4b is identical to that set out for CV4a.

CV5 - Diversions

- 7.95 This table is for the input of cost and volumes data for:
- The conversion of wayleaves to easements, easements and injurious affection claims where a payment is made to retain an asset in situ
 - Network diversions due to wayleave terminations or re-development clauses in easements or other consents
 - Network diversions for highways work which are part funded by the DNO (as detailed in NRSWA)
 - Network diversions due to wayleave terminations or re-development clauses in easements or other consents associated with Network Rails electrification programme
 - Network diversions for highways work which are part funded by the DNO (as detailed in NRSWA) associated with Network Rails electrification programme
- 7.96 The sum of diversions for that are not associated with rail electrification and diversions associated with rail electrification should amount to the total overall expenditure and workload for diversionary activities.
- 7.97 The total direct costs and activity volumes are to be reported by voltage and activity categorisation listed within the worksheet. The worksheet contains the following activity categories, which are defined in ED3 BPDT Glossary:
- Conversion of wayleaves to easements, easements, injurious affection
 - Diversions due to Wayleave Terminations etc
 - Diversions for Highways (funded as detailed in NRSWA)
 - Diversions due to wayleave terminations (rail electrification)
 - Diversions for highways (funded as detailed in NRSWA) (rail electrification)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.98 For the purposes of this worksheet, volumes must only be recorded once the claim is settled or the Diversion completed.
- 7.99 A diversion includes all work and equipment utilised in the scheme. Although a diversion project could include multiple equipment types at different voltage levels, for the purposes of this worksheet all cost and volume should be reported as one diversion scheme against the highest voltage involved in that scheme.
- 7.100 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.101 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs by category type in row 169.
- 7.102 This worksheet requires the reporting of asset additions and disposals as a result of Diversion programmes.
- 7.103 There are four further items below the main diversions data
- Memo: Injurious affection claims in progress
 - Memo: Injurious affection claims settled
 - Wayleaves and Easements
- 7.104 Data for the three memo items needs to be added to CV5. See the ED3 BPDT Glossary for details on injurious affection claims. The Wayleaves and Easements data is imported from C10.
- 7.105 At the end of the worksheet there is a section that requires reporting by individual rail electrification project.
- 7.106 For the final section, activity volumes and direct costs for diversion schemes should be reported by activity type for each discrete rail electrification project, or rail route (eg all volumes and costs for the Paddington to Swansea rail line would be classed as a single project). Table headers Project 1, Project 2 etc should be overtyped with the electrification project name. If required, additional sections should be added to the table to accommodate more electrification projects.
- 7.107 The purpose of check cell in row 254 is to ensure the total gross costs associated with rail electrification in rows 169 and 166 reconcile with total gross costs by individual rail electrification in row 253.
- 7.108 There is a memo table included in row 257 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV7 – Asset Replacement, CV7a – Asset Replacement Network Asset Risk Metric (NARM), CV7b – Asset Replacement non NARM and CV7c – Asset Replacement Civils Driven

7.109 There are four Asset Replacement worksheets:

- CV7 – Asset Replacement
- CV7a – Asset Replacement NARM
- CV7b – Asset Replacement non NARM
- CV7c – Asset Replacement Civils Driven

7.110 These tables are for the input of cost and volume data related to Asset Replacement works and Civil Works Driven by Asset Replacement.

7.111 The four separate worksheets enable expenditure for activities that have the potential to impact NARM, to be separately identified from all other Asset Replacement expenditure as well as expenditure on Civil Works Driven by Asset Replacement.

7.112 In RIIO-ED1, the Network Asset Secondary Deliverables (NASDs) differed between licensees. From RIIO-ED2 onwards, we have decided that all asset types included in the NARM will be consistent across all licensees.

7.113 A licensee's performance in delivering the NARM will be assessed based upon the change in Network Asset Indices associated with Asset Replacement and certain Refurbishment activities (including High Value Projects where the primary driver is Asset Replacement or Refurbishment).

7.114 There are two types of Replacement activity:

- Asset Replacement NARM: Asset Replacement interventions to asset types included in the NARM
- Asset Replacement non NARM: Asset Replacement interventions to asset types that are not included in the NARM

CV7 – Asset Replacement

7.115 This worksheet provides a summary of cost and volume data for condition-based replacement of assets and for Civil Works Driven by Asset Replacement. It is auto populated and requires no input from the DNOs.

7.116 The two activities recorded within this worksheet, defined in ED3 BPDT Glossary, are:

- Asset Replacement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Civil Works Driven by Asset Replacement
- 7.117 For Asset Replacement reporting, DNOs should report on asset additions (cells AA28:AR131 in CV7a – Asset Replacement NARM and CV7b – Asset Replacement Non NARM) and disposals (cells AW28:BN131 in CV7a – Asset Replacement NARM and CV7b – Asset Replacement Non NARM) as a result of the asset replacement programme and this sheet will autopopulate (except for rows 9 to 16 and 18 to 19 for ED1 years where costs should be entered by the DNO). For condition-based asset replacement, costs are to be reported by asset type and voltage based upon the asset installed, not the asset replaced. The number of assets installed represents reportable volumes for this activity. These are to be reported by the applicable voltage and categorisation listed within the worksheet.
- 7.118 In undertaking Smart Meter Interventions, DNOs may identify that Cut Outs are in poor condition. Data flows from meter operators will identify the category of defect as defined in MOCOPA. Only the replacement of Cut Outs resulting from Smart Meter Interventions – Category C should be included in this worksheet. The replacement of Cut Outs resulting from Smart Interventions Category A and Smart Interventions Category B should be reported in CV28 – ONIs.
- 7.119 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.120 No civil works costs or volumes are to be entered in the asset replacement tables.
- 7.121 The costs of acquiring and the credits associated with utilising Strategic Spares are to be entered on to row 135 of CV7b. No volumes are reported for strategic spares in Table CV7a or CV7b but are recorded against the relevant row of the appropriate CV table where the strategic spare is subsequently utilised. Instructions on how to record Strategic Spares costs are included below.
- 7.122 There are two treatments to be considered when recording the activities relating to Strategic Spares:
- Treatment on the acquisition of Strategic Spares:
 - The costs of acquisition should be recorded as a positive value within the year of purchase on row 135 of Table CV7b.
 - No volumes to be recorded in the Costs and Volumes Reporting Pack at the point of acquisition as the Strategic Spare has not yet been utilised on the network (DNOs should maintain their own record of volumes, as they would for stock items and should provide a summary of those volumes in the BPDT commentary).
 - The purchase of Strategic Spares is treated as a Totex cost, which is different to the treatment of normal stock items.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Treatment on the utilisation of Strategic Spares:
 - Once utilised on the network, the original cost of the spare should be recorded as a negative value within the year of utilisation on row 135 of Table CV7b (any subsequent replenishment would be treated as an acquisition (as above)).
 - There will be an equal and opposite positive cost entry recorded on the relevant row of the CV table for which the utilisation relates (ie if Strategic Spares were required to rectify a fault, these costs are to be recorded on relevant row on Table ‘CV26 – Faults’).
 - The associated asset volume should be recorded at this point on Asset Register class row of the CV table relating to the cost (in the above example - faults).
 - The utilisation of Strategic Spares has no net impact on Totex as the cost transactions recorded at this point are equal and opposite (other than in the unlikely event that the utilisation relates to an activity outside of the price control).
- 7.123 For Civils Works Driven by Asset Replacement, only costs (no volumes) are summarised (cells E138:V143) by the six categories listed.
- 7.124 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). This Cost Type split should be inclusive of both asset replacement and Civil Works Driven by Asset Replacement.
- 7.125 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 146.
- 7.126 At the bottom of this worksheet are two memo items:
- Steel mast memo
 - Asset Replacement memo
- 7.127 These memo tables allow for further disaggregation of the Asset Replacement categorisation listed in “Asset Class” table to reflect differences in unit costs at a more disaggregated categorisation. This memo table relates only to asset replacement and not to Civil Works Driven by Asset Replacement.

CV7a – Asset Replacement NARM

- 7.128 This worksheet is for the input of cost, addition volume and disposal volume data for condition-based replacement of assets that are in asset categories that are included in the measure of delivery of the NARM.
- 7.129 For Asset Replacement reporting, DNOs should report on asset additions (cells AA28:AR184) and disposals (cells AW28:BN184) as a result of the asset replacement programme. For condition-based asset replacement, costs are to be reported by asset type and voltage based upon the asset installed, not the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

asset replaced. The number of assets installed represents reportable volumes for this activity. These are to be reported by the applicable voltage and categorisation listed within the worksheet.

- 7.130 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.131 No civil works costs or volumes are to be entered in the asset replacement tables.
- 7.132 The total gross costs, for years 2020/21 onwards, should be split by Cost Type at the top of the worksheet (rows 9 to 16). This Cost Type split should be for asset replacement interventions that are included in the measure of delivery of the NARM.
- 7.133 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 146.
- 7.134 There is a memo table included in row 196 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV7b – Asset Replacement non NARM

- 7.135 This worksheet is for the input of cost, addition volume and disposal volume data for condition-based replacement of assets that are in asset categories that are not included in the measure of delivery of the NARM.
- 7.136 For Asset Replacement reporting, DNOs should report on asset additions (cells AA28:AR130) and disposals (cells AW28:BN130) as a result of the asset replacement programme. For condition-based asset replacement, costs are to be reported by asset type and voltage based upon the asset installed, not the asset replaced. The number of assets installed represents reportable volumes for this activity. These are to be reported by the applicable voltage and categorisation listed within the worksheet.
- 7.137 In undertaking Smart Meter Interventions, DNOs may identify that Cut Outs are in poor condition. Data flows from meter operators will identify the category of defect as defined in MOCOPA. Only the replacement of Cut Outs resulting from Smart Meter Interventions – Category C should be included in this worksheet. The replacement of Cut Outs resulting from Smart Interventions Category A and Smart Interventions Category B should be reported in CV28 - ONIs.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.138 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.139 No civil works costs or volumes are to be entered in the asset replacement tables.
- 7.140 The total gross costs, for years 2020/21 onwards, should be split by Cost Type at the top of the worksheet (rows 9 to 16). This Cost Type split should be for asset replacement interventions that are included in the measure of delivery of the NARM.
- 7.141 The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 146.
- 7.142 There is a memo table included in row 194 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV7c – Asset Replacement Civils Driven

- 7.143 For Civil Works Driven by Asset Replacement, only costs (no volumes) should be entered (cells M9:V16) by the six categories listed.
- 7.144 The total gross costs, for the years 2020/21 onwards, should be split by Cost Type at the top of the worksheet (rows 9 to 16). This Cost Type split should be for Civil Works Due To Asset Replacement only.
- 7.145 There is a memo table included in row 147 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV8 – Refurbishment Non NARM Improvement and CV9 – Refurbishment NARM

- 7.146 There are two refurbishment worksheets:
- CV8 – Refurbishment non NARM
 - CV9 – Refurbishment NARM
- 7.147 These tables are for the input of cost and volume data related to Refurbishment works.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.148 A licensee's performance in delivering the NARM will be assessed based upon the change in Network Asset Indices associated with Asset Replacement and certain Refurbishment activities (including High Value Projects where the primary driver is Asset Replacement or Refurbishment).
- 7.149 Some, but not all, asset types are included in the NARM deliverable for RIIO-ED2 and ED3. The asset types where NARM outputs are to be delivered are common to all licensees. Where an asset type is included in the NARM deliverable, only certain Refurbishment activities are considered in the measure of delivery of the NARM.
- 7.150 The two separate worksheets, CV8 and CV9, enable expenditure for activities that impact the NARM deliverable, to be separately identified from all other Refurbishment expenditure.
- 7.151 There are two types of Refurbishment activity:
- type 1 – Refurbishment NARM: Refurbishment activities that are undertaken on asset categories that are included in the NARM deliverable and are interventions that would be included in the measure of delivery of the NARM. All Type 1 Refurbishment activities are reported on worksheet CV9 – Refurbishment NARM
 - type 2 – Refurbishment non NARM: Refurbishment activities that would relate to interventions that are not included in the measure of delivery of the NARM. All Type 2 Refurbishment activities are reported on worksheet CV8 – Refurbishment Non NARM, irrespective of whether the licensee has an agreed NARM deliverable associated with the asset type
- 7.152 Refurbishment activities that are reported in the Refurbishment – NARM worksheet are identified in the Refurbishment and Repairs & Maintenance Task Allocation Tables in ED3 BPDT Glossary. These are Type 1 activities.
- 7.153 Refurbishment activities that are reported in the Refurbishment – Non NARM worksheet are identified in the Refurbishment and Repairs & Maintenance Task Allocation Tables in ED3 BPDT Glossary. These are Type 2 activities.

CV8 – Refurbishment Non NARM

- 7.154 This table is for the input of cost and volume data related to Type 2 Refurbishment works. All costs and volumes entered in this table relate to activities that are not considered in the measure of NARM delivery.
- 7.155 Cost and volume data is reported against the asset type upon which the Refurbishment activity was undertaken.
- 7.156 The volume data to be reported shall represent the number of assets where Refurbishment - Non NARM activities have been undertaken, irrespective of whether multiple Refurbishment – Non NARM activities have been undertaken

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

on the same asset (eg if two Refurbishment – Non NARM activities have been undertaken in the same reporting year on the same asset then a volume of one should be recorded). For the majority of asset types, the unit reported shall be consistent with the unit used to record the Total Asset Register population on worksheet V1 – Total Asset Movement, with the following exceptions:

Asset Type	Unit
LV Main (UG Consac)	no. of refurbishments*
LV Main (UG Plastic)	no. of refurbishments*
LV Main (UG Paper)	no. of refurbishments*
6.6/11kV UG Cable	no. of refurbishments*
20kV UG Cable	no. of refurbishments*
HV Sub Cable	no. of refurbishments*
33kV UG Cable (Non Pressurised)	no. of refurbishments*
33kV UG Cable (Oil)	no. of refurbishments**
33kV UG Cable (Gas)	no. of refurbishments**
66kV UG Cable (Non Pressurised)	no. of refurbishments*
66kV UG Cable (Oil)	no. of refurbishments**
66kV UG Cable (Gas)	no. of refurbishments**
EHV Sub Cable	no. of refurbishments*
132kV UG Cable (Non Pressurised)	no. of refurbishments*
132kV UG Cable (Oil)	no. of refurbishments**
132kV UG Cable (Gas)	no. of refurbishments**
132kV Sub Cable	no. of refurbishments*
Pilot Wire Overhead	no. of refurbishments
Pilot Wire Underground	no. of refurbishments

* for non-pressurised cables: a volume of one should be reported for each joint or termination where Refurbishment – Non NARM work has been undertaken

** for pressurised cables: a volume of one should be reported for:-

- each joint or termination where Refurbishment – Non NARM work has been undertaken; and each distinct hydraulic, or gas, section where Refurbishment – Non NARM work has been undertaken.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.157 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.158 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 132.
- 7.159 There is a memo table included in row 134 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV9 – Refurbishment NARM

- 7.160 This table is for the input of cost and volume data related to Type 1 Refurbishment works. All costs and volumes entered in this table relate to activities that can be considered in the measure of NARM delivery.
- 7.161 Cost and volume data is reported against the asset type upon which the Refurbishment activity was undertaken.
- 7.162 The volume data to be reported shall represent the number of assets where Refurbishment - NARM activities have been undertaken, irrespective of whether multiple Refurbishment – NARM activities have been undertaken on the same asset (eg if two Refurbishment – NARM activities have been undertaken in the same reporting year on the same asset then a volume of one should be recorded). The unit reported shall be consistent with the unit used to record the Total Asset Register population on worksheet V1 – Total Asset Movement. This requires the aggregation of individual refurbishment activities (eg “Painting of tower”, “Replacement of individual steelwork members” and “Replacement of tower foundations”) into a single reporting category (eg 66kV Tower).
- 7.163 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.164 An additional split of refurbishment volumes by key refurbishment activity is reported within the memo table in rows 134 to 149. As per 6.110 the volume data to be reported shall represent the number of assets where (disaggregated) Refurbishment - NARM activities have been undertaken.
- 7.165 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

costs in row 17 reconciles with the total gross costs by category type in row 132.

- 7.166 There is a memo table included in row 152 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV10 – Civil Works Condition Driven

- 7.167 This worksheet is for the input of costs and volumes data for civil works driven by the condition of civil items.
- 7.168 Civil works driven by the condition of civil items records the number of unique substations where civil works have taken place during the reporting year, broken down by voltage level (HV, 33kV, 66kV and 132kV). If two civil works activities have been undertaken in the same reporting year on the same asset then a volume of one should be recorded.
- 7.169 The total costs and activity volumes should be reported by the applicable voltage and categorisation of civil works and substation listed within the worksheet. The costs associated with each category of civil works and substation must also be entered into the respective Total Direct Costs cells.
- 7.170 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.171 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 143.
- 7.172 There is a memo table included in row 146 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV11 – Operational IT&T

- 7.173 This worksheet collects cost and volume data relating to Operational IT&T expenditure, excluding expenditure associated with BT 21st Century.
- 7.174 Gross costs should be reported for the following categories, which are defined in ED3 BPDT Glossary:
- Substation RTU, Marshalling Kiosk and Receivers

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Communications for Switching and Monitoring
 - Control Centre Hardware and Software
 - Cyber Resilience
- 7.175 Volumes should also be reported for Substation RTU, Marshalling Kiosk and Receivers.
- 7.176 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in rows 138 and 146.
- 7.177 There is a memo table included to capture any costs in relation to DSO. These costs will be included in the M19 DSO Memo table. Please refer to the Cost Mapping Matrix in the BPDT Glossary for further details.
- 7.178 In rows 141 to 146, DNOs should report the costs and volumes associated with the installation of monitoring equipment on pole mounted and ground mounted transformers. This information is disaggregated by bundled and standalone installations. ‘Bundled’ installations refers to monitoring equipment installations bundled as part of another activity - for example, installing a new transformer. Standalone installations refer to all other instances.
- 7.179 In cells AA149 and AA153, DNOs should input the total number of pole mounted and ground mounted sites with installed monitoring for 2016 respectively.
- 7.180 There is a memo table included in rows 222 to 230 to capture costs in relation to Data & Digitalisation. These costs will be included in the M29 D&D Memo table. The costs reported in this table should reconcile with investment proposals detailed in the Digitalisation Strategy and Action Plan (DSAP). Please refer to the ED3 Business Plan Guidance for further details. Costs should be reported at a total level in ED1 and ED2. In ED3 costs should be reported for the following categories which are defined in ED3 BPDT Glossary:
- Digital Infrastructure
 - Digital Processes
 - Digital Platforms
 - Digitalising Field Works
 - Network Monitoring
 - AI and Machine Learning
 - Other Data Best Practice
- 7.181 DNOs should report costs associated with the Green Recovery Scheme in row 233. These costs will be excluded from the TIM and not link into any other worksheet. No costs are expected to be reported in ED3.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

7.182 There is a memo table included in row 236 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV12 – Electricity System Restoration

7.183 This table provides expenditure and activity on Electricity System Restoration resilience enhancement for electrical distribution systems and associated telecoms and SCADA assets at DNO substations with a secondary voltage greater than or equal to 11kV (or 6.6kV) excluding single customer sites as defined in ENA Engineering Regulation G91.

7.184 In the first table ‘Sites resolved’ DNOs should report the volumes of sites where Black Start resilience has been or will be achieved for protection or SCADA batteries and the costs of achieving this. The costs and volumes of Securing of Existing Telecommunications Infrastructure by site should also be recorded.

7.185 The unit cost tables on the right of the worksheet (columns BQ to CE) are formula driven from the cost and volume data entered. They calculate the annual unit cost.

7.186 In the second table ‘Outstanding population of sites to be resolved’ DNOs are required to provide the number of outstanding sites to be resolved by

- HV
- EHV
- 132Kv
- Securing of Existing Telecommunications Infrastructure

7.187 For the purposes of CV12, HV sites are shared transmission/distribution sites where the DNO owns and operates HV assets.

7.188 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by sites resolved in row 141.

7.189 This worksheet requires the reporting of asset additions and disposals as a result of Electricity System Restoration activities.

7.190 There are Memo tables to provide detail on the solution employed. The categories for which gross costs and volumes are to be reported, defined in ED3 BPDT Glossary (under the prefix “Electricity System Restoration Resilience”), are:

- Protection Batteries

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- SCADA Batteries
- Generator
- DC Disconnection Scheme
- Distribution Restoration Zones
- Land lines & Internal Telephony
- Mobile Voice Communications
- SCADA Infrastructure

- 7.191 Volumes for the first five categories should be reported by voltage (HV, EHV and 132kV).
- 7.192 Annual unit costs are populated automatically using the activity and cost data.
- 7.193 There is a memo table included in row 184 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV13 – BT21CN

- 7.194 This worksheet is for the input of volume and cost data for work carried out relating to BT's 21st century project.
- 7.195 The tables in this worksheet report the volumes and costs of providing replacement protection communication circuits and the costs of operational measures associated with BT21CN.
- 7.196 The categories for this worksheet, defined in BPDT Glossary (under the prefix "BT21CN") are:
- Protection Communication Circuits – Replacement
 - Protection Operational Measures
 - Infrastructure Enabling
- 7.197 The total direct costs are to be reported by the applicable categorisation listed within the worksheet. For the first two categories, the volumes correspond to the number of BT communication circuits from which reliance has been removed. No volumes are required to be reported for Infrastructure Enabling.
- 7.198 The costs associated with these works must be entered into the respective total direct costs cells.
- 7.199 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost for Protection Communication Circuits – Replacement and Protection Operational Measures.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.200 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 139.
- 7.201 This worksheet requires the reporting of asset additions and disposals as a result of BT21CN activities.
- 7.202 There is a memo table included in row 141 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV14 – Legal and Safety

- 7.203 This worksheet is for the input of cost and volume data for Legal and Safety activities.
- 7.204 The categories for which gross costs and volumes are to be reported in this this worksheet, defined in ED3 BPDT Glossary, are:
- Site security by number of substations (split by voltage - HV, EHV and 132kV)
 - Asbestos management – surveys & signage by number of sites
 - Asbestos management – containment or removal by number of sites
 - Asbestos management – meter position replacement by number of meters
 - Asbestos management – meter positions containment by number of meters
 - Safety climbing fixtures - for supports or plant items
 - Fire protection by number of substations
 - Earthing upgrade by number of locations
 - Cable Pits by number of sites
 - Fire Blankets - Link Box related by number of sites
 - Shallow Cables
- 7.205 Costs for DNO specific programmes should be entered into the final table of the worksheet “Other – specify”. Each programme should be entered on a separate row.
- 7.206 The unit cost tables on the right of the worksheet (columns CO to DY) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.207 The total gross costs should be split by Cost Type at the top of the worksheet (rows 15 to 22). The purpose of check cell in row 28 is to ensure the total gross

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

costs in row 23 reconciles with the total gross costs by category type in row 201.

- 7.208 This worksheet requires the reporting of asset additions and disposals as a result of Legal and Safety related programmes.
- 7.209 There is a memo table included in row 198 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV15 – QoS and North of Scotland Resilience

- 7.210 This worksheet is for the input of cost and volume data for QoS and North of Scotland Resilience programmes. Only SSEH is required to complete the North of Scotland costs and volumes.
- 7.211 The categories for which gross costs and volumes are to be reported in this this worksheet, defined in ED3 BPDT Glossary, are:
- QoS (costs only)
 - Remote Location Generation Capital (costs only)
 - North of Scotland Resilience (costs and volumes)
- 7.212 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in rows 143.
- 7.213 This worksheet requires the reporting of asset additions and disposals as a result of QoS and North of Scotland resilience works.
- 7.214 There is a memo table included in row 145 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV16 – Resilience

- 7.69 There are four Resilience worksheets for inputs:
- CV16a – Flood Mitigation
 - CV16b – Storm Resilience
 - CV16c – Extreme Heat
 - CV16d - Storm Arwen PCD

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

7.70 These tables are for the input of cost and volume data related to Flood Mitigation, Storm Resilience and Extreme Heat and are collated in CV16 - Resilience.

CV16a - Flood Mitigation

7.215 This worksheet is for the input of cost and volume data for flood mitigation expenditure. It contains a summary of the cost and volume data reported on the M1 - Flood Mitigation worksheet.

7.216 DNOs should input costs and volumes associated with:

- flood mitigation schemes by substation
- flooding site surveys by substation

7.217 There are separate sections to report these activities for both Fluvial/Coastal and Pluvial mitigation work.

7.218 For fluvial/coastal flood mitigation schemes, costs and volumes are broken down by ETR138 flooding risk event level categories (1 in 100, 1 in 200 and 1 in 1000) and by voltage (HV, EHV, 132kV and 275kV & 400kV).

7.219 For pluvial schemes, only a breakdown by voltage is required.

7.220 The volumes are the number of substations for all of the above.

7.221 There are separate rows for non-site specific costs, at the base of the sub table for both fluvial/coastal and pluvial flood mitigation schemes.

7.222 The categories for this worksheet, defined in ED3 BPDT Glossary, are:

- Flooding Risk ETR 138
- Fluvial Flood Risk (with reference to coastal and pluvial flooding)
- Flood mitigation schemes
- Flooding site surveys
- 1 in 100 Event (see Flooding Risk ETR 138)
- 1 in 200 Event (see Flooding Risk ETR 138)
- 1 in 1000 Event (see Flooding Risk ETR 138)
- Non Site Specific Costs

7.223 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.

7.224 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 179.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.225 This worksheet requires the reporting of asset additions and disposals as a result of flood mitigation schemes. This is to accommodate the rare circumstances where a DNO is planning to relocate a substation due to flood risk and substation assets installed and removed as a result.
- 7.226 Costs associated with the inspection and repair and maintenance of installed flood defence measures should be included on tables CV30 and CV31 respectively.

CV16b – Storm Resilience

- 7.227 This worksheet is for the input of cost and volume data for storm resilience expenditure. It aligns with the storm resilience category defined in the ED3 BPDT Glossary and summarises the volume data reported on the corresponding M tables.
- 7.228 DNOs should input costs and volumes associated with storm related interventions that:
- directly mitigate the impacts of acute storm hazards (high winds, heavy rainfall, lightning, snow, or ice) on network assets, systems, or operations
 - address storm driven failure modes or vulnerabilities
 - support rapid response and recovery during storm induced disruptions
- 7.229 Activities reported in this worksheet should reflect the categories set out in the ED3 BPDT Glossary and may include (non exhaustive):
- structural reinforcement of overhead lines (OHL) and substations (eg, wind load rated materials, design upgrades)
 - foundation upgrades to improve stability under high wind/heavy rain conditions
 - smart fault technology for storm driven faults
 - targeted vegetation management where it directly relates to storm hazard mitigation (other vegetation costs are reported elsewhere)
 - storm event forecasting, monitoring, and related diagnostics
- 7.230 Costs and volumes should be reported by:
- voltage level (LV, HV, EHV, 132kV)
 - storm hazard type, where applicable (eg, wind, lightning, heavy rainfall, snow/ice)
 - activity type (load, non-load, operational), consistent with the SSMD-aligned investment categorisation
- 7.231 Volumes are the number of assets/sites subject to storm resilience interventions.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.232 Separate rows are provided for non site specific costs at the base of the worksheet (eg, modelling tools, network wide diagnostics, non location specific storm event forecasting).
- 7.233 Total gross costs should be split by cost type at the top of the worksheet. A check cell ensures the total gross cost reconciles with the sum of all category totals.
- 7.234 This worksheet requires reporting of asset additions and disposals arising from storm resilience interventions (eg, replacement of storm damaged OHL structures, installation/retirement of protection equipment).
- 7.235 Inspection, repair and maintenance of previously installed storm-resilience measures should be included in CV30 (inspection) or CV31 (maintenance), consistent with Flood Mitigation treatment.

CV16c – Extreme Heat

- 7.236 This worksheet is for the input of cost and volume data for extreme-heat-resilience expenditure. It aligns with the Extreme Heat Resilience category defined in the ED3 BPDT Glossary and summarises associated volume data reported in relevant M-tables.
- 7.237 DNOs should input costs and volumes associated with interventions that directly mitigate acute heat-hazard impacts on asset performance, thermal loading, and operational resilience. These may include interventions addressing:
- thermal stress or overheating risk
 - heat-driven derating of transformers, cables and OHL
 - performance degradation during heatwaves
- 7.238 Activities should reflect the categories set out in the ED3 BPDT Glossary, including (non-exhaustive):
- thermal-rating upgrades
 - active cooling infrastructure
 - heat-resilient civil works
 - thermal monitoring, diagnostics, modelling, and forecasting
 - dynamic line rating or thermal derating management systems
- 7.239 Costs and volumes should be reported by:
- voltage level (LV, HV, EHV & 132kV)
 - activity type (load, non-load, operational), aligned with the SSMD investment categorisation

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.240 Volumes are the number of assets upgraded, surveyed, or equipped with heat-resilience measures.
- 7.241 Total gross costs should be split by cost type and reconciled with the total gross cost reported in the summary line using the check cell.
- 7.242 This worksheet requires reporting of asset additions and disposals associated with the installation or removal of heat-resilience measures (eg, installation of cooling systems or heat-resistant materials).
- 7.243 Inspection, repair and maintenance of extreme-heat-resilience measures should be recorded in CV30 (inspection) and CV31 (maintenance).

CV16d – Storm Arwen PCD

- 7.244 This worksheet is for the reporting of costs of schemes and volumes of asset changes related to the Storm Arwen PCD.
- 7.245 The investment for Storm Arwen has a specific regulatory mechanism and the cost and volumes reported in this worksheet should only be for those schemes that relate to that mechanism.
- 7.246 Gross indirect costs (ie costs that would fall into Closely Associated Indirects or Business Support) should be recorded in rows 151 to 162 by project, with gross direct costs (ie all other costs) reported in rows 136 to 147.
- 7.247 This worksheet requires the reporting of asset additions and disposals as a result of Storm Arwen PCD activities.
- 7.248 This worksheet also requires activity volumes to be reported against each allowed proposal (in cells AI136:AM147). The unit of the volume should be entered into the input cells in column D.
- 7.249 This worksheet only includes inputs for costs and volumes in ED2, as the Storm Arwen PCD applies specifically to ED2. No costs or volumes associated with the Storm Arwen PCD should be reported in ED3.

CV17 – Rising and Lateral Mains (RLMs)

- 7.250 This worksheet provides a summary of rising and lateral mains (RLMs) expenditure. Costs and volumes for these activities should be entered in this worksheet and not in CV7 - Asset Replacement or CV31 – Repair and Maintenance.
- 7.251 Beneath the Cost Type split there are three sections of costs and volumes.
- 7.252 The first is the asset cost and volume (additions and disposals) associated with RLMs. Only the following rows of the standard asset list in the CV tables are expected to be completed:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Length of LV Main cable associated with RLMs by km (row 32)
- Number of Rising and Lateral Mains (row 34)
- Number of LV Services associated with RLMs (row 36)
- Number of LV Circuit Breakers (row 37)
- Number of LV Pillars (ID) (row 38)
- Number of LV Boards (WM) associated with RLMs (row 41)
- Number of LV cut outs (metered) (row 43)
- Number of LV Boards (X-type network) (WM) (row 44)

7.253 The second section is the Inspection and Maintenance costs associated with RLMs. Data is required for the following, which are defined in ED3 BPDT Glossary:

- LV mains inspected
- LV mains repaired or maintained
- LV services inspected
- LV services repaired or maintained

7.254 The total gross costs of these first two sections should equal the total gross costs by Cost Type split in row 17.

7.255 The third section should capture costs and volumes by the number of customers serviced by the RLM programme. These costs are not additional to those in the first two sections, but a different way of presenting the data. The total gross costs by customer should equal the total gross costs in of the first two sections and therefore row 23. The data should be captured by the type of property – House, Flat and Multi-Storey (defined in ED3 BPDT Glossary).

7.256 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.

7.257 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with the RLM Total (row 142).

7.258 There is a memo table included in row 187 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV18 – Overhead Line Clearances

7.259 This worksheet collects the costs and volumes associated with the on-going management of overhead clearances to ensure compliance with vertical and

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horizontal clearances requirements as specified in Regulations 17 and 18 (respectively) of the Electricity Supply Quality and Continuity Regulations (2002) (as amended).

- 7.260 This work includes the completion of work programmes that have been agreed with the Health and Safety Executive and the resolution of additional issues that are subsequently identified.
- 7.261 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by sites resolved in row 140.
- 7.262 This worksheet requires the reporting of asset additions and disposals as a result of OH Clearances programmes.
- 7.263 Beneath the asset reporting this worksheet collects four categories of costs by four voltage levels (LV, HV, EHV and 132kV), which are defined in ED3 BPDT Glossary:
- OH Horizontal or Vertical Clearance – Sites Resolved
 - OH Horizontal or Vertical Clearance – Sites Resolved as Part of Other Work
 - OH Horizontal or Vertical Clearance – Sites Identified in Year
 - OH Horizontal or Vertical Clearance – Outstanding Sites to be Resolved
- 7.264 OH Horizontal or Vertical Clearance – Sites Resolved represents the number of Overhead Clearance Sites where work has been carried out where the prime driver of the work is to remove the non-compliance issues. Both cost and volume data is required. The volumes are reported by voltage level.
- 7.265 OH Horizontal or Vertical Clearance – Sites Resolved As Part of Other Work represents those sites where the non-compliance is resolved through other works. The costs for these sites will be reported under the other works therefore only the volumes of sites resolved should be included.
- 7.266 OH Horizontal or Vertical Clearance – Sites Identified In Year represents the scale of new issues identified. It includes both those Overhead Clearance Sites that have been identified and addressed during the year and those that remain outstanding at the end of the year. The volumes are reported by voltage level.
- 7.267 OH Horizontal or Vertical Clearance – Outstanding Sites To Be Resolved represents the total number of Overhead Clearance Sites that remain outstanding at the end of the Regulatory Year. The majority of the data is formula driven from reference volumes specified for 2015-16. The calculation uses the reference volumes, adding any additional sites identified in subsequent years and subtracting the sites that are resolved in subsequent years.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.268 The unit cost tables on the right of the worksheet (columns CO to DY) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.269 There is a memo table included in row 160 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV19 – Worst Served Customers (WSCs)

- 7.270 This worksheet is for the reporting of direct costs, volumes of schemes and asset changes related to investment for Worst Served Customers (WSCs).
- 7.271 The investment for WSCs has a specific regulatory mechanism and the costs and volumes reported in this worksheet should only be for those schemes that relate to that mechanism.
- 7.272 Gross costs should be reported by Cost Type only. No further disaggregation is required.
- 7.273 The key terms for this worksheet, defined in ED3 BPDT Glossary, are:
- Worst Served Customers (WSCs)
 - Worst Served Customer Schemes
- 7.274 The volumes of WSCs Schemes should be reported. The volumes should be for completed schemes. This will provide a cross check with the supporting memo tables which specify the year in which schemes are completed.
- 7.275 This worksheet requires the reporting of asset additions and disposals as a result of WSCs Schemes.
- 7.276 There is a memo table included in row 138 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV20 – Visual Amenity

- 7.277 The purpose of this worksheet is to record the costs of Visual Amenity Projects and Non-technical Visual Amenity Projects to feed into C1 and associated asset additions and disposals to feed into V1 – Total Asset Movements. The Visual Amenity funding mechanism allows undergrounding of overhead lines and Non-technical Visual Amenity Projects for Visual Amenity Inside Designated Areas and allows for up to 10% of the total allowances to be used

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

for undergrounding of overhead lines and Non-technical Visual Amenity Projects for Visual Amenity Outside Designated Areas.

7.278 The following terms are defined in ED3 BPDT Glossary:

- Designated Areas
- OHL Inside Designated Areas at End of Reporting Year (km)
- OHL (Overhead Lines)
- OHL (km) Removed During Year
- UG Cables Installed During Year (km)
- Visual Amenity Allowance
- Visual Amenity Expenditure
- Visual Amenity Inside Designated Areas
- Visual Amenity Outside Designated Areas
- Visual Amenity Project
- Non-technical Visual Amenity Project

7.279 The Volume - Visual Amenity Inside Designated Areas and Volume - Visual Amenity Outside Designated Areas tables are for recording the volume related to this activity for each Regulatory Year.

7.280 The Costs table is for recording the costs of activity for Visual Amenity Inside Designated Areas and Visual Amenity Outside Designated Areas. For the avoidance of doubt, costs recorded in this table are only those for eligible Visual Amenity Projects funded under the Visual Amenity Allowance.

7.281 The Total Gross Costs entered in CV20 – Visual Amenity of the Costs, Volumes and Revenue Reporting Pack must be equal to the Total Visual Amenity Expenditure (row 183) of this table.

7.282 Where no activity has been undertaken in a particular Designated Area, these cells should remain blank. Total volumes of lines in place in the relevant Designated Area should be reported here, regardless of how any work relating to them was funded.

7.283 There is a memo table included in row 197 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV21 – Losses

7.284 The purpose of this worksheet is to report volumes and costs related to distribution losses. DNOs should only complete this worksheet where losses management is the primary driver of the investment or action. This is to avoid double counting of volumes and costs reported in other worksheets.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.285 Volumes and costs should be reported against the appropriate asset classes listed in this worksheet. The table “Activities where losses is the primary driver” should also be completed. It provides a high-level expenditure breakdown of losses activities, where losses management is the primary driver of investment, in the following areas, which are defined in the Glossary:
- Equipment to Manage Losses
 - Operational Activities to Manage Losses
- 7.286 We would expect the costs reported for Equipment to Manage Losses to be associated with the asset class list reported in this worksheet.
- 7.287 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 138.
- 7.288 This worksheet requires the reporting of asset additions and disposals as a result of Losses activities.
- 7.289 There is a memo table included in row 140 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV22 – Environmental Reporting

- 7.290 The purpose of this worksheet is to record the costs of environmental activities to feed into C1 and associated asset additions and disposals to feed into V1 – Total Asset Movements. It is also to record the costs and volumes relating to certain environmental activities.
- 7.291 This worksheet requires the reporting of asset additions and disposals as a result of environmental activity.
- 7.292 The worksheet requires the reporting of cost and volumes for the following terms as defined in the ED3 BPDT Glossary:
- Contaminated Land Clean Up
 - Environmental Civil Sanction
 - Noise Pollution
 - Non-Undergrounding Visual Amenity Schemes
 - Oil Pollution Mitigation Scheme - Cables
 - Oil Pollution Mitigation Scheme - Non Operational Sites
 - Oil Pollution Mitigation Scheme - Operational Sites
 - Persistent organic pollutant Asset Changes

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Persistent organic pollutant Oil Testing
- Persistent organic pollutant Oil Changes
- SF6 Emitted Mitigation Schemes
- Undergrounding for Visual Amenity

- 7.293 Costs and volumes for each activity should be reported by category listed in the table “Environmental costs and volumes” and “Persistent Organic Pollutant costs and volumes”. These should be recorded here where the primary driver of the activity undertaken was environmental improvements.
- 7.294 In the Persistent Organic Pollutant asset replacement memo table, DNOs should capture the costs and volumes associated with the asset replacement of 6.6/11kV and 20kV pole mounted transformers. DNOs should capture the costs and volumes based upon the capacity of the asset added.
- 7.295 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.296 There is a memo table included in row 189 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV23 - High Value Projects DPCR5, RIIO-ED1 and RIIO-ED2

- 7.297 This worksheet is for the input of volume and cost data on RIIO-ED1 and RIIO-ED2 High Value Projects (HVP). All costs and volumes associated with RIIO-ED1 and RIIO-ED2 high value projects should be included in this worksheet.
- 7.298 The asset list should be populated with the volumes (additions and disposals) for all projects.
- 7.299 The table “Expenditure Breakdown (by project)” collects HVP volume and expenditure data by project. This includes information including the scheme name, project/scheme ID and investment driver. The corresponding total direct costs should be reported in the adjacent table.
- 7.300 The investment driver must be picked from the drop down menu in the Detailed Activity table.
- 7.301 The “Expenditure Breakdown (by driver)” table populates automatically from data contained above.
- 7.302 Information about HVP progress and completion should be included in the narrative

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.303 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by sites resolved in row 183.
- 7.304 When reporting a project as a HVP the costs and volumes, LI, HI and Criticality movements associated with it should not be entered within any other cost category (for example Asset Replacement, Reinforcement or Civil Works) within this reporting pack. Related HI and Criticality movements should be reported in the relevant tables in the NARM reporting pack
- 7.305 Customer Contributions and Cost Recoveries should also be reported in rows 18 and 19.
- 7.306 There is a memo table included in row 186 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV24 – High Value Projects ED3

- 7.307 This worksheet is for the input of volume and cost data on RIIO-ED3 High Value Projects (HVP). All costs and volumes associated with RIIO-ED3 high value projects should be included in this worksheet.
- 7.308 The asset list should be populated with the volumes additions and disposals) for all projects.
- 7.309 The tables “HVP1”, “HVP2” and “HVP3” collect HVP volume and expenditure data by project. This includes information including the scheme name, project/scheme ID and investment driver. The corresponding total direct costs should be reported in the adjacent table.
- 7.310 The “Expenditure Breakdown by driver” table populates automatically from data contained above.
- 7.311 Information about HVP progress and completion should be included in the narrative.
- 7.312 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by sites resolved in rows 183, 235 and 287.
- 7.313 There is a memo table included in row 341 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV26 – Faults

- 7.314 This worksheet is for the input of cost and volume data related to Faults (Troublecall Occurrences classified as Unplanned Incidents) on Power System Voltage Equipment.
- 7.315 In the section for Unplanned Incidents on Power System Voltage Equipment, both costs and volumes should be reported. The costs and volumes should be disaggregated by the voltage and Power System Voltage Equipment categories listed within the worksheet.
- 7.316 The costs and volumes reported in this worksheet should exclude all data (costs and volumes) related to Unplanned Incidents which occur as part of Severe Weather 1-in-20 events. The costs for these events are reported separately in C27 – Severe Weather 1-in-20.
- 7.317 The costs reported should include the cost of restoring supplies to any affected customers, the cost of any work undertaken to restore the faulted asset to Pre-Fault Availability, work undertaken on any associated assets that is necessitated due to the circumstances of the faulted asset and elected work on the same asset undertaken at the same time. Where applicable, this includes costs for:
- switching to restore supplies
 - the cost of any temporary supplies
 - repairs to, or replacement of the faulted asset
 - work on any associated assets necessary by factors such as the configuration, location or access constraints associated with the faulted asset
 - elected work on the same asset at the same time, such as replacement of additional components or full replacement even if repair would be possible
- 7.318 The following are a few examples:
- a faulted cable is found to be wet and needs to be cut back to find a dry section of cable to make a joint. All the length of cable is included
 - a cable faults near a road crossing and the repair has to be extended to the other side of the road. All the length of cable is included
 - a cable termination on an item of switchgear faults. The cable termination is remade which necessitates jointing in a new section of the cable. The cost of jointing in the necessary length of cable and re-terminating included

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- a ground mounted transformer faults and has to be replaced, but it is physically linked to an LV pillar that is not compatible with the new transformer and therefore the LV pillar is also replaced. The fault cost includes the replacement of both items
- 7.319 The following is an example of elected work on the same asset:
- an item of switchgear could be returned to Pre-Fault Availability by the repair to a cable termination, but the licensee elects to change the switchgear
- 7.320 The ED3 BPDT Glossary provides further examples of cost allocation for typical scenarios. In the event a DNO identifies any conflict between these examples (above or in the Appendix) and the principles set out in the opening chapters of this document, the licensee must follow the principles as closely as possible and identify in its reporting commentary the identified conflict with the examples.
- 7.321 For the avoidance of doubt the costs associated with replacing assets as a result of an Unplanned Incident should be reported only in this worksheet and not in CV7 Asset Replacement. However, if the licensee elects to replace additional Separately Identifiable Asset Register Assets (which is not necessary due to the circumstances of the faulted asset) these should be reported in CV7 Asset Replacement. The following is an example of elected work on an additional asset:
- a defective link box is found during the repair of an LV UG cable fault. The restoration of the cable to Pre-Fault Availability does not necessitate the replacement of the link box. If the link box is replaced it is reported as asset replacement because it is a Separately Identifiable Asset Register Asset
- 7.322 The costs of restoring supplies, repairs and/or replacement of assets related to an Unplanned Incident which are due to metal theft on a DNOs network should be reported in this worksheet.
- 7.323 The cost of restoring supplies, repair and/or replacement of assets related to Unplanned Incidents which is due to a fault associated with rising and lateral mains (RLM) should be reported in this worksheet under the LV services or LV mains fault categories as appropriate.
- 7.324 The unit cost tables on the right of the worksheet (cells CO135:DI162) are formula driven from the cost and volume data entered.
- 7.325 It is acknowledged that due to the different scopes of work undertaken to return different assets back to Pre-Fault Availability the associated unit costs may vary across licensees. This should be reflected in any associated comparative analysis.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.326 Licensees are encouraged to provide details within the commentary of faults with abnormally high levels of expenditure or which could have a material impact on a licensee's ability to deliver NARM outputs. This can be considered by Ofgem when assessing licensee's delivery against the NARM monetised risk target under SpC 3.1 (Allowed Network Asset Risk Metric expenditure).
- 7.327 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 164.
- 7.328 This worksheet requires the reporting of asset additions and disposals as a result of unplanned incident activity.
- 7.329 Fault rates are automatically populated in cells EA135:ER162.
- 7.330 There is a memo table included in row 166 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV28 – Occurrences Not Incentivised (ONIs)

- 7.331 This worksheet is for the input of cost and volume data for Troublecall Occurrences Not Incentivised (ONIs). ONIs include occurrences which are identified during the installation of, or attempted installation of, a smart meter.
- 7.332 The data required for this worksheet is predominantly from the enquiry service operated by the licensee under standard condition 8 (Safety and Security of Supplies Enquiry Service). In some limited cases, DNOs may use alternative systems for some of the data, eg the management of non-urgent street lighting faults. Where this applies all relevant data should be reported in this worksheet. Reactive work that has to be addressed quickly (ie Category A defects requiring urgent action and Category B defects preventing work, which need resolving within a short timescale) should be reported in ONIs. Work which does not need to be resolved in a short timescale should be reported in CV7 – Asset Replacement, as effectively this is information for the DNO to inform its asset replacement programme.
- 7.333 There may be circumstances where the licensee is notified of an intervention required during the course of an installation or attempted installation of a Gas Smart Meter (referred to as Gas First). In such case the licensee should treat the intervention as a Proactive Intervention.
- 7.334 The tables at the end of the worksheet split out ONIs cost and volume data to identify occurrences linked to smart meter rollout interventions from other occurrences.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.335 Please use the 'Power System Voltage Equipment/No Unplanned Incident' and 'Other Occurrences' tables to report ONIs excluding occurrences which are identified during the installation of, or attempted installation of, a smart meter. Both tables are disaggregated into a number of sub-categories defined in ED3 BPDT Glossary.
- 7.336 This worksheet requires the reporting of asset additions and disposals as a result of ONI activity.
- 7.337 Please use the 'Smart Meter Installations carried out' tables to report ONIs arising from the smart meter roll out. The table is disaggregated into a number of sub-categories defined in ED3 BPDT Glossary.
- 7.338 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost. Please provide commentary to explain any distortion in unit costs for cells CO135:DI154 as there will be volumes recorded in two separate rows for street lighting and cut outs but costs recorded in one row.
- 7.339 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 151. The key terms for this worksheet, defined in ED3 BPDT Glossary, are:
- Power System Voltage Equipment/No Unplanned Incident
 - Other Occurrences (Not Affecting Power System Voltage Equipment)
 - Smart Meter Interventions – On-site/Physical Activities
 - Smart Meter Interventions – On-site/Physical Activities – Trued Up
 - Smart Meter Interventions – Extra scheduling & call centre
 - Smart Meter Interventions – Smart Meter registration
 - Smart Meter Interventions – Category A Intervention
 - Smart Meter Interventions – Category B Intervention
 - Smart Meter Interventions – Category C Intervention
 - Smart Meter Interventions – Proactive Interventions
- 7.340 There is a memo table included in row 163 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.
- 7.341 The following paragraphs describe the process for manual identification of Smart Meter Interventions associated with Smart Meter installations.
- 7.342 The DNO will maintain records of every defect reported that could lead to a Smart Meter Intervention. These will include defects reported through the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

dedicated Meter Operator Hotline, through other telephone lines, through the D0135 (Asset Condition Report) data flow or identified proactively.

- 7.343 These records will include (but are not limited to) the following data:
- reported defect code
 - reported details of the defect
 - date of reporting
- 7.344 Upon resolution of the defect, the record is updated to include:
- confirmation of the nature of the defect
 - actual defect code (which may be the same as or different to the reported defect code)
 - details of work undertaken to resolve the defect
 - date of resolution
- 7.345 This data is used in the D0126 (Asset Condition Report Response/Clearance) data flow.
- 7.346 Where one or more activities took place in a regulatory year in respect of a given Smart Meter Installation, these constitute only one Smart Meter Intervention. If work is carried out in subsequent regulatory years as part of the same Smart Meter Installation, this is not counted, as the intervention will have been recorded in a previous regulatory year.
- 7.347 The following processes can be used to identify reported Category A and B defects associated with Smart Meter installation:

Process A

- 7.348 An extract from the DNOs' records provides details of every resolved defect. This report includes all the information listed in the bullets above, alongside the relevant MPAN. In order to identify any necessary reconciliation across regulatory years, the report includes defects from RIIO-ED1.
- 7.349 This report is cross-referenced against a report of Smart Meter MPANs which includes the Meter Installation date. This cross-referencing process identifies where a defect has been reported for a Smart Meter MPAN. All other defects (ie those that are not related to a Smart Meter MPAN) are not included in CV28.
- 7.350 Given the possible delay between defect rectification and meter installation, it will be necessary to reconcile activity across reporting years as a defect report may have been resolved in the preceding regulatory years to the subsequent Smart Meter Installation, and information about the Smart Meter Installation would not necessarily be available at the relevant regulatory reporting date. When the licensee reports an initial figure for each year, it should also review the previous years to identify any additional Smart Meter Interventions which

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

took place in those years. Any defects now identified as associated with Smart Meter Installation should be reported as an adjustment within the column for the current reporting year in the cells for Smart Meter Interventions – prior years' restatement.

Process B (applies only to category B defect notifications)

7.351 Where a Meter Operator notifies a DNO of a category B defect via Asset Condition Report (D0135 dataflow), it is mandatory for them to confirm whether the defect driver is in relation to a smart/non smart meter visit. Where the defect notification is in response to a smart meter visit then the Meter Operator must identify this via the following means:

- Item Reference J2062 (Indicator for when a site visit is to install a Smart Meter)
- F: Not a visit to install a SMETS Meter
- T: Visit to install a SMETS Meter (exchange from Non-SMETS meter)

7.352 Where a DNO has received positive indication that the defect is Smart Meter Installation driven, then this is sufficient to allow subsequent rectification works to count as a 'Smart Meter Intervention' in the year that the rectification works are undertaken, rather than in the year the Smart Meter is Installed, where the two are different. Extra care will be required to avoid double counting.

CV29 – Tree Cutting

7.353 This worksheet is for the input of cost and volume data related to Tree Cutting.

7.354 These are the costs and volumes directly related to tree cutting and costs associated with the facilitation of tree cutting activities. This includes the workload involved with the physical felling or trimming of vegetation away from network assets and associated costs for activities such as generation, outages, traffic management, obtaining consents and network rail costs, compliance with the requirements of ENATS 43-8 (horizontal and vertical clearances) and ETR 132 (network resilience) of the ESQCR 2006.

7.355 The key terms for this worksheet, defined in ED3 BPDT Glossary are:

- ENATS 43-8
- ETR 132
- ETR 132 Physical Cut
- ETR 132 Other Declared Compliant
- Spans Cut
- Spans Inspected (Tree Cutting)
- Geospatial Inspections (Tree Cutting)
- Pole Clearance (Tree Cutting)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Span length Average
 - Cut Cycle
 - Other work to achieve ETR 132 compliance
 - Overhead network length cleared
 - Network Parameters
 - Tree Cutting Policy
 - Tree Cutting Cycle
- 7.356 The total activity costs and volumes are to be reported by the applicable categorisation listed within the table.
- 7.357 The unit cost tables on the right of the worksheet (columns CO to DI) are formula driven from the cost and volume data entered. They calculate the annual unit cost.
- 7.358 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 83.
- 7.359 The 'ENATS 43-8' table collects volume data. The total volumes data should be reported by the applicable voltage category and categorisation listed within the table.
- 7.360 The 'ETR 132' table summarises the total Overhead Network Length that has been cleared to meet or assessed as meeting the standard during the year. The table also requires DNOs to record how much of their total network is compliant with the standard at the reporting date, in km and as a percentage of their total network length. The Activity section of the table enables DNOs to distinguish between circumstances where physical work has been undertaken to achieve compliance or where compliance has been achieved without the need for physical activity/or as a result of work under other investment drivers.
- 7.361 It should be noted that DNOs are not required to bring their entire network up to a standard that is compliant with ETR 132. DNOs are only required to bring strategic overhead lines up to this standard. The DNOs total network compliance should therefore be considered against the level of strategic overhead lines on their network.
- 7.362 There is a memo table included in row 127 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**CV30 – Inspections**

- 7.363 The worksheet reports the volumes and costs associated with inspections by asset type.
- 7.364 The total activity volumes and direct costs are to be reported by the applicable category, activity and voltage level listed within the worksheet. The volumes correspond with each volume type listed for the applicable row. The total direct costs for each activity must be entered into their respective cells in the adjacent table.
- 7.365 All categories within this worksheet are defined in ED3 BPDT Glossary.
- 7.366 The volume inspected is for DNOs to report the quantity of individual assets or sites that have been inspected, irrespective of the number of times that the same asset has been inspected. For example, if an asset has been inspected four times during the reporting year, a count of one inspection would be recorded.
- 7.367 For the avoidance of doubt, substation flood defence inspection costs and volumes should be reported within this table in the row reflecting the highest voltage in operation at the relevant substation.
- 7.368 The unit cost tables on the right of the worksheet (cells CO135:DI167) are formula driven from the cost and volume data entered.
- 7.369 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 168.
- 7.370 There is a memo table included in row 171 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV31 – Repair and Maintenance

- 7.371 This worksheet is for the input of cost and volume data related to Repair & Maintenance.
- 7.372 Cost and volume data is reported against the asset type upon which the Repair & Maintenance activity was undertaken.
- 7.373 The volume data to be reported shall represent the number of assets where Repair & Maintenance activities have been undertaken, irrespective of whether multiple Repair & Maintenance activities have been undertaken on the same asset (eg if two Repair & Maintenance visits have been undertaken, in the same

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

reporting year on the same asset, then a volume of one should be recorded).

For the majority of asset types, the unit reported shall be consistent with the unit used to record the Total Asset Register population on worksheet V1 – Total Asset Movement, with the following exceptions:

Asset Type	Unit
LV Main (OHL) Conductor	Spans
LV Main (UG Consac)	no. of repairs
LV Main (UG Plastic)	no. of repairs
LV Main (UG Paper)	no. of repairs
6.6/11kV OHL (Conventional Conductor)	Spans
6.6/11kV OHL (BLX or similar Conductor)	Spans
20kV OHL (Conventional Conductor)	Spans
20kV OHL (BLX or similar Conductor)	Spans
6.6/11kV UG Cable	no. of repairs
20kV UG Cable	no. of repairs
HV Sub Cable	no. of repairs
33kV OHL (Pole Line) Conductor	Spans
66kV OHL (Pole Line) Conductor	Spans
33kV OHL (Tower line) Conductor	Spans
66kV OHL (Tower Line) Conductor	Spans
33kV UG Cable (Non Pressurised)	no. of repairs
33kV UG Cable (Oil)	no. of repairs
33kV UG Cable (Gas)	no. of repairs
66kV UG Cable (Non Pressurised)	no. of repairs
66kV UG Cable (Oil)	no. of repairs
66kV UG Cable (Gas)	no. of repairs
EHV Sub Cable	no. of repairs
132kV OHL (Pole Line) Conductor	Spans
132kV OHL (Tower Line) Conductor	Spans
132kV UG Cable (Non Pressurised)	no. of repairs

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Asset Type	Unit
132kV UG Cable (Oil)	no. of repairs
132kV UG Cable (Gas)	no. of repairs
132kV Sub Cable	no. of repairs
Pilot Wire Overhead	no. of repairs
Pilot Wire Underground	no. of repairs

- 7.374 Repair & Maintenance includes the invasive examination of system assets. Other activities considered as Repair & Maintenance are further identified in the Refurbishment and Repairs & Maintenance Task Allocation Tables in Chapter 3 of the ED3 BPDT Glossary.
- 7.375 Where Repair & Maintenance activities are undertaken as part of other works that are classified as Refurbishment (Non NARM) or Refurbishment (NARM), then the associated costs shall be recorded on the appropriate Refurbishment worksheet.
- 7.376 For the avoidance of doubt, substation flood defence repair and maintenance costs and volumes should be reported within this table in the row reflecting the highest voltage in operation at the relevant substation.
- 7.377 The unit cost tables on the right of the worksheet (cells CO28:DI139) are formula driven from the cost and volume data entered.
- 7.378 Costs should be split by Cost Type at the top of the worksheet. The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in rows 132 and 140.
- 7.379 There is a memo table included in row 143 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV32 – Dismantlement

- 7.380 The purpose of this worksheet is to record the costs of Dismantlement to feed into C1 and associated asset additions and disposals to feed into V1 – Total Asset Movements.
- 7.381 Costs are required by Cost Type only.
- 7.382 The key term for this worksheet, defined in ED3 BPDT Glossary, is:
- Dismantlement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.383 This worksheet requires the reporting of asset additions and disposals as a result of dismantlement activity.
- 7.384 There is a memo table included in row 136 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV33 – Substation Electricity

- 7.385 The purpose of this table is to collect information relating to the both the cost and volume of electricity consumed at substations.
- 7.386 Key terms for this worksheet, defined in ED3 BPDT Glossary, are:
- Cost per unit £/MWh
 - Substation Electricity
 - Substation Electricity Costs
 - Units Consumed
- 7.387 DNOs should insert the costs and units consumed, in MWh, at DNOs substation in the appropriate cells.
- 7.388 The cost per MWh of electricity consumed at substations is derived by formula.
- 7.389 DNOs should insert the total Substation Electricity Costs split by cost type at the top of the table.
- 7.390 There is a memo table included in row 143 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV35 – Operational Training (CAI)

- 7.391 This worksheet collects Cost Type data on the Operational Training activity to feed the input to the C1 cost matrix. It also provides a split of these costs, alongside associated volumes, to provide an understanding of the activity for cost assessment purposes.
- 7.392 Operational Training is the provision of training to Operational Staff employed by the DNO or Related Party or Agency Staff to support the Direct Activities of the DNO. These staff are referred to as Craftspersons, Engineers, and Other Operational Employees.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.393 Operational Training includes only the costs of training employee, Related Parties and Agency Staff. No contractor training costs should be reported in this activity. Where a DNO incurs costs assessing the capability of contractors, these costs should be included in C18 - De-Minimis. Any costs associated with training contractors within DNO training facilities should also be reported in the same way.
- 7.394 The key terms for this worksheet, defined in ED3 BPDT Glossary, are:
- Operational Training
 - Craftsperson
 - Engineer
 - Other Operational Employee
 - Operational Staff
 - Non-Operational Staff
 - Operational Refresher
 - Operational Up-skilling
 - New Recruits
 - New Recruits – Craftsperson
 - New Recruits – Engineer
 - Learner Costs
 - Leaver
 - Leaver – Due to Retirement
 - Leaver – Due to Reasons Other than Retirement
 - Training Days
 - Agency Staff
- 7.395 These terms have the prefix “Operational Training”, except Non-Operational Staff and Agency Staff as these terms are used in areas other than in Operational Training.
- 7.396 The check cells will ensure that the input for total costs by Cost Type and the costs by category (at gross cost level) reconcile.
- 7.397 The tables in the worksheet require costs to be split between the class of staff undertaking the training (Craftspersons, Engineers) and between the types of training provided (New Recruits, Up-skilling, Operational Refreshers), as well as reporting the costs of providing the Training Centre and courses for Operational Training.
- 7.398 Learner Costs should be reported as follows:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- New Recruits (in year and previous years) – this reports the costs of all operational New Recruits to the DNO or Related Party, often on a formal training programme for several years (eg apprenticeship). The associated volumes are the FTEs recognised as on New Recruits training programmes. No costs or volumes relating to contractor training should be included. The FTEs should be adapted to recognise that a new recruit may only have been employed for part-way through the year, for example 1 FTE starting work in October would be classed as 0.5 FTE; and a part time employee of 0.8 FTE starting work in October would be classed as 0.4 FTE. These costs and volumes should be reported separately between Craftspersons Engineers and Other Operational Employees. A unit cost is then calculated automatically by the table.
- Operational Up-skilling – this reports the costs of all Operational Staff, Related Party Staff and Agency Staff recognised as undertaking Operational Up-skilling training. The associated volumes are the number of Training Days spent on up-skilling training, both classroom and on-the-job. No costs or volumes relating to contractor training should be included. These costs and volumes should be reported separately between Craftspersons, Engineers and Other Operational Employee (the role reported against should be the role towards which the employee has been working). A unit cost is then calculated automatically by the table.
- Operational Refreshers – this reports the costs of all Operational Staff, Related Party Staff and Agency Staff attending Operational Refreshers. The associated volumes are the number of Training Days spent on refresher training. No costs or volumes relating to contractor training should be included. These costs and volumes should be reported separately between Craftspersons, Engineers and Other Operational Employee. A unit cost is then calculated automatically by the table.

7.399 Cost of Training Provision should be reported separately between the following, which are defined in ED3 BPDT Glossary (under the prefix “Operational Training”):

- Trainer and Course Material Costs
- Training Centre and Training Admin Costs

7.400 There are no volumes to be reported in this area.

7.401 Volumes are also to be reported for the following areas:

- New Recruits in year – this reports the New Recruits (on a FTE basis) appointed to the DNO in the year. This should not be pro-rated to adapt for date the new recruit joined the DNO. This should be reported separately between Craftspersons and Engineers.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Leavers – this reports the number of Leavers in the year (on a FTE basis), reported separately between Leavers due to Retirement and Leavers for Reasons other than Retirement. These should not be pro-rated to adapt for date the leaver left the DNO. These are also reported separately by Craftspersons and Engineers.

7.402 There is a memo table included in row 62 to capture any costs in relation to Climate Resilience. This memo table should capture the incremental investment costs of the works in this activity associated with Climate Resilience. These costs will be included in the M30 - Climate Resilience Memo table.

CV36 – Network Innovation Allowance (NIA)

7.403 This worksheet is for reporting costs and volumes related to NIA funding. This worksheet is for RIIO-ED1 and RIIO-ED2 costs and forecast ED3 costs.

7.404 NIA is a set allowance that the licensee can use to fund innovation projects each year on a use it or lose it basis.

7.405 Gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The Cost Type split should exclude indirect costs. ED2 Expenditure by project should be entered in rows 139-156, while ED3 Expenditure by project should be entered in rows 160-177. This sheet also captures Carry-over Network Innovation Allowance.

CV37 – Network Innovation Competition (NIC) & LCN fund

7.406 This worksheet is for reporting costs and volumes related to projects funded through the NIC and LCN fund, and expenditure from the associated project bank accounts.

7.407 The NIC was an annual competition in RIIO-ED1 for funding larger-scale innovative projects that have the potential to deliver carbon or other environmental benefits to consumers.

7.408 The LCN Fund was an annual competition in DPCR5 for funding larger-scale innovative projects that had the potential to deliver carbon or other environmental benefits to consumers. The LCN Fund was replaced by the NIC for RIIO-ED1.

7.409 For each NIC project, DNOs are also required to report costs, including indirects, against the following items, which are defined in ED3 BPDT Glossary:

- NIC Funding, Halted Project Revenues, Disallowed Expenditure in line with the Project Direction
- NIC Royalties, Directly Attributable Costs, Returned Royalty Income and Retained NIC Royalties

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.410 For LCN fund, This worksheet records costs and volumes for projects that have previously been funded, undertaken and completed through DPCR5 and RIIO-ED1. It was assumed that all such projects would be complete by the end of RIIO-ED1 and thus no costs would be forecast in RIIO-ED2.
- 7.411 There is a memo table included in row 226 to capture any costs in relation to LCN fund.
- 7.412 The combined Gross costs for NIC and LCN fund should be split by Cost Type at the top of the worksheet (rows 9 to 16). The Cost Type split should exclude indirect costs and should reflect the combined total of NIC + LCN Fund costs reported in CV37. The purpose of the check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the sum of total gross costs for all projects.

CV39 – Directly Remunerated Services (DRS)

- 7.413 Costs and revenue for each category of directly remunerated service, set out in CRC 5C (Directly Remunerated Services), are reported in this worksheet with the exception of “DRS1 Connection services” which should be reported in C2 – Connections.
- 7.414 The following DRS categories are to be reported in this worksheet and are defined in ED3 BPDT Glossary:
- DRS2. Diversionary works under an obligation
 - DRS3. Works required by an alteration of premises
 - DRS10. Value Added Services
 - DRS11. Top-up, standby, and enhanced system security
 - DRS12. Revenue protection services
 - DRS13. Metering Services
 - DRS14. Smart Meter Roll-out rechargeable services
 - DRS15. Miscellaneous
 - DRS16. Distribution Network Voltage Control Services.
- 7.415 Revenue for each DRS should be input in columns BS to CM. Direct costs for each category should be input by Cost Type. The total gross costs for each directly remunerated service are calculated from this information.
- 7.416 A memo table titled "Allocation of Indirects" has been included in rows 251 to 261 to capture indirect cost allocations for each individual DRS category. These indirect costs are then automatically added to the direct DRS costs to obtain total costs per DRS on the I3 - BPFM Inputs tab (rows 216 to 233). In each year, the total indirect costs input into this table should equal the total indirect allocations entered into the C1 - Cost Matrix tables (cells BR78:BR83).

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**CV40 – Strategic Innovation Fund (SIF)**

- 7.417 This worksheet is for reporting costs and volumes related to projects funded through the SIF.
- 7.418 Gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The Cost Type split should exclude indirect costs. The purpose of the check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the sum of total gross costs for all projects.
- 7.419 Expenditure by project should be entered in rows 135 to 144.

CV42 – West Coast of Cumbria

- 7.420 This worksheet collects details activities under the West Coast of Cumbria project. It applies to SPEN only. The purpose of this worksheet is to record the relevant DUoS costs of SPEN’s work carried out under the West Cost of Cumbria project to feed into C1 and associated asset additions and disposals to feed into V1 – Total Asset Movements.
- 7.421 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconcile with total gross costs from all category types.
- 7.422 For Asset reporting, DNOs should report on asset additions (cells AA27:AU131) and disposals (cells AW27:BQ131). The number of assets installed represents reportable volumes for this activity. These are to be reported by the applicable voltage and categorisation listed within the worksheet.
- 7.423 The expenditure breakdown by driver tables volume and expenditure data. This includes information by driver, customer contributions and total cost recoveries. The corresponding total direct costs should be reported in the adjacent table.
- 7.424 The “Net Total” table populates automatically from data contained above.

CV43 – Smart Street

- 7.425 This worksheet is for the reporting of costs, volumes of schemes and asset changes related to Electricity North West’s Smart Street Project.
- 7.426 The investment for Smart Street has a specific regulatory mechanism and the costs and volumes reported in this worksheet should only be for those schemes that relate to that mechanism.
- 7.427 The key terms for this worksheet, defined in ED3 BPDT Glossary, are:
- Smart Street
 - On-load tap changer

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 7.428 Gross costs of Smart Street projects and the “Number of on-load tap changers installed” should be recorded in row 135.
- 7.429 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs in row 136.
- 7.430 This worksheet requires the reporting of asset additions and disposals as a result of Smart Street activities.

CV44 – Voltage Management

- 7.431 The purpose of this worksheet is to report volumes and costs related to voltage management. DNOs should only complete this worksheet where voltage management is the primary driver of the investment or action. This is to avoid double counting of volumes and costs reported in other worksheets.
- 7.432 Volumes and costs should be reported against the appropriate asset classes listed in this worksheet. The table “Activities where voltage is the primary driver” should also be completed. It provides a high-level expenditure breakdown of losses activities, where losses management is the primary driver of investment, in the following areas, which are defined in the Glossary:
- Equipment to Manage Voltage
 - Operational Activities to Manage Voltage
- 7.433 We would expect the costs reported for Equipment to Manage Voltage to be associated with the asset class list reported in this worksheet.
- 7.434 The total gross costs should be split by Cost Type at the top of the worksheet (rows 9 to 16). The purpose of check cell in row 22 is to ensure the total gross costs in row 17 reconciles with the total gross costs by category type in row 137.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

8. Instructions for completing the volume worksheets

Overview

- 8.1 The purpose of the volume (V) worksheets is to collect total asset population volume data and the number of asset and disposals for each asset type. The information provided will be used in conjunction with the cost data to provide information regarding the unit cost for assets and additionally feeds into the calculation of MEAV.
- 8.2 The volume worksheets show the total number of network assets for each year and the number of network assets added and removed from the network each year. There are auto-populated volume matrix sheets for each year which are populated from the activity worksheets.

V1 – Total Asset Movements

- 8.3 DNOs are required to input the closing balance of assets for the 2014/15 reporting year in column BS of this worksheet. The total asset movements worksheet is then auto populated by addition and disposal volumes from the activity areas.
- 8.4 This worksheet also includes a section for total population data of certain asset types for which disaggregation of additions and removals by investment driver is not required. These asset categories are contained within the “Other assets” table at the bottom of the spreadsheet.
- 8.5 The total count for the following assets within the other assets section of V2 must be populated and include:
- LV Fuses (GM) (TM)
 - Switching Points with Remote Control/Automation Facility
 - GM Indoor Substation
 - GM Outdoor Substation
 - GM Third Party Substation
 - Total GM 33kV Substations
 - Total GM 66kV Substations
 - Total GM 132kV Substations
 - Decommissioned UG Cable (Oil & Gas) 33kV - Pressurised
 - Decommissioned UG Cable (Oil & Gas) 66kV - Pressurised
 - Decommissioned UG Cable (Oil & Gas) 132kV – Pressurised
- 8.6 The LV Fuses (PM) count is auto-populated from the PMT count in the top table.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**V2 - Cleansing**

- 8.7 This worksheet is for the input of any volume cleansing required within the period. Volumes are to be entered as net values of additions and removals. Downward adjustments should be entered as a negative number.

V3 – Not Used**V4 – Other Asset Movements**

- 8.8 This worksheet records asset addition and disposal volumes which are not then recorded in the other V tables, V2 Cleansing or in the V5 volume matrices, or in C2 - Connections. Where volumes occur and they are not reported in these tables (directly or indirectly), DNOs should put the volumes in this worksheet. Examples of when this might occur includes:
- Consequential asset replacement
 - Smart meter outside price control

V5 – Volume Matrix (2016 to 2033)

- 8.9 The volume matrix tables are auto populated from the additions of assets input in the activity worksheets. There is a volume matrix for each year from the reporting year 2015/16 to 2032/33.

AP1 - Age Profile

- 8.10 The key terms for this worksheet, which are defined in ED3 BPDT Glossary are:
- Average Asset Lives
 - Standard Deviation of Lives
 - Strategic Spares
- 8.11 DNOs must input the existing asset quantities (by asset category as specified in the worksheet and ED3 BPDT Glossary) in the Regulatory Year in which they were added to the network.
- 8.12 DNOs must input the average asset lives for the assets and the standard deviation of asset lives in the asset replacement profile section. Average asset lives are defined as the expected average age at replacement as experienced by DNO for the asset population (this is the mean value of the asset age replacement profile of the particular asset).
- 8.13 Assets must only appear in this table once they are energised on the network. Assets which have been re-energised must appear in the year in which the asset was originally installed.
- 8.14 Assets under construction must not be included in the age profile.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 8.15 Strategic spares must not be included in this table until installed and energised on the system.
- 8.16 Assets disconnected and de-energised during the year but which are available for re-commissioning (eg pressure assisted cables) must not be entered in the age profile.
- 8.17 Asset data must be disclosed by operating, and not by construction, voltage.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

9. Instructions for completing RPEs and Ongoing efficiency worksheets

OERPE1 - RPEs and OE

- 9.1 The purpose of this worksheet is to provide an analysis of Real Price Effects (RPEs) and Ongoing Efficiency (OE) forecasts and assumptions. Rates and weightings are required for the last two years of RIIO-ED1, and all years of RIIO-ED2 and ED3 to enable a clear comparison between price controls.

Real Price Effects

- 9.2 This table enables licensees to provide their forecast of real price effects (additional to other building block forecasts). All cost forecasts provided elsewhere within the tables should be exclusive of RPEs.
- 9.3 For each input, fill in a relevant index on which forecasts are based. The index should represent your forecast of how costs will change over time relative to expected changes in the CPIH. CPIH data is contained in the Universal Data tab. Indices have a base year of 2025/26 – ie if you expect Controllable Opex to increase by 1% above CPIH from 2025/26 to 2026/27, enter 1.01 for the year 2026/27.
- 9.4 The index for materials should reflect the cost changes associated with both direct materials and those used by contractors. The inputs specified allow for a different index to be submitted for opex and capex, eg if materials used are different between the two then a different index can be used. If there is no difference then the same index can be used.
- 9.5 Fill in the weights of each input for the expenditure building blocks. Weights should sum to 100%, therefore 'other' should capture all inputs not split out. Different weights can be inserted for different years.
- 9.6 You should provide evidence within the commentary/business plan of how the final indices were deduced and why you expect the weight of each input category to vary over time (if applicable).
- 9.7 The first two tables for RPEs give an indication of the £m impact of the RPE indices, broken down by expenditure and input categories. These tables are for information purposes only, and it is important to note that they may not accurately reflect the impact of RPE indices. This is because the £m tables will calculate the impact of RPEs with each DNOs' individual cost structure. Additionally, the £m impact of RPEs may change depending on the indexation process during the course of ED3.
- 9.8 General Labour costs include any form of payment, consideration or other benefit, paid or due to or in respect of employees, including the costs of

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

temporary or Agency staff. It also includes contractor costs and direct labour costs. It excludes Specialist Labour (see 9.9).

- 9.9 Specialist labour refers to employees in the following Standard Occupational Classification (SOC) codes:
- 21: science, research, engineering and technology professionals
 - 31: science, engineering and technology associated professionals
 - 52: skilled metal, electrical and electronic trades
 - 53: skilled construction and building trades
- 9.10 This does not include the labour element of any contractor costs
- 9.11 Transport includes, as defined in the BPDT Glossary, the costs of:
- 9.12 Vehicles and Transport (Non-Operational); and
- 9.13 Vehicles and Transport (CAI)
- 9.14 Materials, for the purposes of this worksheet, refer to the Materials Cost Type defined in the BPDT Glossary less:
- 9.15 Vehicles and Transport (Non-Operational)
- 9.16 Vehicles and Transport (CAI)
- 9.17 Plant and Equipment, including Small Tools, Equipment, Plant and Machinery (Non-Operational) (STEPM).

Ongoing efficiency

- 9.18 This table also requests DNOs to provide their ongoing efficiency forecasts. Ongoing efficiencies are productivity improvements expected by even the most efficient DNO. This should represent a DNO's forecast of reductions in input volumes that can be achieved whilst delivering the same outputs.
- 9.19 Fill in your ongoing efficiency assumption as a % of Totex costs on row 146.
- 9.20 In the table disaggregating the ongoing efficiency assumption by expenditure areas, input how the totex assumption maps out across these areas. This table aims to provide transparency for us to better understand how the overall assumption is built up across expenditure categories.
- 9.21 You should provide evidence within the commentary/business plan of how the final ongoing efficiency assumption was deduced.
- 9.22 For the avoidance of doubt, all costs forecast elsewhere within the tables should exclude ongoing efficiency assumptions.
- 9.23 The £m summary table gives an indication of the impact of the totex ongoing efficiency assumption on each expenditure areas. This table is for information

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

only, and it is important to note that they may not accurately reflect the impact of the ongoing efficiency assumption.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

10. Instructions for completing memo worksheets

Overview

- 10.1 The purpose of the instructions and guidance in this chapter is to provide a framework for the collection and provision of accurate and consistent cost and other data from the DNOs.
- 10.2 This chapter deals with additional cost and volume data useful to Ofgem, containing memorandum, disaggregated and new data to allow us a better understanding of the costs reported.
- 10.3 All costs are to be entered on a Cash Basis (see Glossary) and exclusive of atypical items except where specifically instructed to report data. Cash means exclusive of all provisions and all accruals and prepayments that are not incurred as part of the ordinary level of business.

M1 – Flood Mitigation

- 10.4 This worksheet collects volumes and costs and other key information relating to DNOs work on flood risk mitigation. Its purpose is threefold:
- to ensure compliance with ETR 138: Resilience to Flooding of Grid and Primary Substations (first issued in 2009 and subsequently re-issued)
 - to provide relevant data to share with DECC and other bodies
 - to provide a cross check with the aggregated costs reported in CV16 – Flood Mitigation
- 10.5 DNOs are required to provide a site-by-site breakdown for each site noting where a flood risk that has been mitigated, where flood mitigation is planned or where further detailed study has been undertaken to determine the extent of the risk.
- 10.6 DNOs are required to list the substations within their defence plans (with primary/secondary voltages) in columns B to D, followed by details of the numbers of customers served, including the number and type of critical customers in columns E to G.
- 10.7 Column H should be used to enter the ETR138 flooding risk probability pertinent to each site: 1/100 for the 1/100 risk contour, 1/200 for the 1/200 risk contour or 1/1000 for the 1/1000 risk contour.
- 10.8 Columns I to L are used to record DNOs progress with the assessments they are required to make under ETR138. There are four types of assessment that form part of a consistent Data Collection process developed with EA, Natural Resources Wales and SEPA. Once these assessments are complete the

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

appropriate options for protecting the site can then be determined. The assessments are:

- “Assessment against EA/SEPA” (column I): Identify all substations in the flood plain for fluvial, pluvial and coastal flooding using best available current data from the EA, Natural Resources Wales and SEPA or specialist flood risk/hydrological consultants
- “Detailed Flood Risk Assessment/feasibility study” (column J): Establish the flood risk for each substation including the flood depth, condition of existing defences, historical flooding data and other factors such as climate change, sea level rises etc
- “Impact Assessment of Predicted Flood” (column K): For each substation that is at risk of flooding, identify the flood impact for that particular site.
- “Societal Impact Assessment” (column L): Complete For each substation that is at risk of flooding, identify the societal impact relating to the number of customers and critical customers served by the substation and whether the substation is a critical infrastructure site
- Column N is used to indicate whether there the defence of the substation is subject to a wider defence scheme sponsored by an appropriate public body, local authority or whether any other action is planned by another body

- 10.9 Once an appropriate solution has been chosen for the scheme, based on the levels of flood risk and a cost/benefit assessment, columns O and P are used to record the date of completion of the detailed scheme design and of the schemes implementation. Once complete, DNOs should enter completed against the substation concerned.
- 10.10 In column Q “Nature of flooding risk”, DNOs should specify the type of flood risk that each scheme is primarily designed to mitigate, for example fluvial/coastal or surface water flood risk.
- 10.11 In column R, DNOs are required the level of protection that the defences have been designed to provide for the substation, which should mitigate the flood risk entered in column H. The remainder of the columns in the table to the right of and including column S are used to record the historical and proposed costs of the schemes chosen to defend each substation. The total costs for each year for all schemes should reconcile to the costs of the flood mitigation schemes (exc. Non-site specific and surveys costs) recorded in CV16 – Flood Mitigation. A check cell in row 180 of CV16 tests this reconciliation.

M2 – ED Worst Served Customers

- 10.12 This worksheet serves two purposes.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**Part A:**

- 10.13 The purpose of this worksheet is to assess how DNOs expect the volume of Worst Served Customers to change over the course of ED3, as they carry out work on the schemes commissioned under the Worst Served Customers mechanism.
- 10.14 The data in this worksheet will be treated as being indicative of a DNO's best view of the number and expected profile of Worst Served Customers (as defined for the ED3 Worst Served Customer mechanism) over the course of the price control. Ofgem will treat these values as an estimate, and do not expect DNOs to be held to the values within the worksheet.

Part B:

- 10.15 This worksheet also assesses whether:
- historic performance data demonstrates that the schemes qualify for the WSC mechanism
 - the post-project-completion performance data shows that the performance improvement has been achieved
- 10.16 This worksheet collects data on the number of Worst Served Customers (as defined for the ED1 and ED2 Worst Served Customer mechanism) for Regulatory Years in ED1 and ED2 and on the activity volumes and expenditure incurred due to schemes commissioned under the Worst Served Customers mechanism.
- 10.17 A number of tables in this worksheet populate automatically from the reference data tables ('Projects with expenditure in RIIO-ED1 and RIIO-ED2', and 'Project details') provided on the schemes undertaken. The following tables automatically populate:
- Customer information
 - Performance assessment
 - Calculated number of customers interrupted in reference period
 - Calculated number of customers interrupted post scheme completion
- 10.18 Certain tables in this worksheet need to be populated by the DNO, these are:
- Worst Served Customers in year
 - Unplanned number of customers interrupted
 - Projects with expenditure in RIIO-ED1 and RIIO-ED2
 - Project details
 - Number of HV+ incidents within the reference period
 - Number of HV+ incidents post scheme completion

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Costs (£k)

- 10.19 In the “Worst Served Customers in year” table, DNOs should populate the ‘Worst Served Customers in year’ table, based on the expected total number of customers meeting the definition of a Worst Served Customer (as defined for the ED3 Worst Served Customer mechanism). This table should be used as a guide to represent the impact of the schemes that are commissioned under the Worst Served Customers mechanism in the ED3 period, as well as the potential impact of new customers being identified over the course of the price control. For each year, DNOs are required to give an estimate of the number of worst served customers that will be addressed through the schemes the DNO will undertake, as well as any new customers that may be identified, or fall within or outside of the WSC definition, throughout the year. The formulae in rows 9 and 13 auto populate to give the end position for each year, and the starting position for the subsequent year. columns I to N should be populated with a DNO's latest values as observed on their network. columns O to V should be populated based on estimates or the expected volume of Worst Served Customers. DNOs should provide the supporting evidence and justification for the funding to address Worst Served Customers, including a list of works intended to be carried out over the period, within their Engineering Justification Papers at a programme level.
- 10.20 In the “Unplanned number of customers interrupted” table, the DNO is to populate the number of customers who have experienced unplanned interruptions over a three year period. The three year reference period is automatically calculated from the reporting year being populated. It includes the current year being reported and the previous two reporting years. The reporting criteria for this table is by the minimum number of higher voltage interruptions in any one year of the three years starting at zero and rising in single increments to five or more, and the total number of higher voltage interruptions over the three year period (starting at 10 interruptions and rising to 20 or more). The purpose of this table is to inform Ofgem of the number of customers satisfying the definition of Worst Served Customers in a DNOs area and the number of customers marginally not satisfying the criteria to inform the review of the definition at future Price Controls.
- 10.21 In the “Projects with expenditure in RIIO-ED1 and RIIO-ED2” table, the DNO is to populate details of the schemes carried out. The data entered drives the population of the customer information, performance assessment and costs per worst served customer benefitting from the scheme tables.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Start of reference period determines the data to be used for the three-year reference period that defines the starting performance for the performance assessment. This starting date must lead to at least three full years of data prior to the year in which the project was started. The starting date refers to the first year of the three year reference period.
- Year Project Completed determines the data to be used for the three-year reference period that defines the post-project-completion performance for the performance assessment. This data represents the year in which the project has been technically completed. The data for the performance assessment will be the three full years that follow the year in which the project was completed. This should be left blank if a project is not yet technically complete.
- Scheme ID (Project number) is the primary link between the project data and the substation data in the “Project details” table.

10.22 In the “Project details” table, the DNO is to populate substation based information, such as the number of worst served customers on the substation, number of customers expected to benefit from the scheme and other specified reference data. The data provided links the incident information to the “Performance assessment” table.

10.23 In the “Number of HV+ incidents within the reference period” table, the DNO is to populate the number of incidents that defined the customers as worst served. This is the number of higher voltage incidents occurring at each substation for each of the years within the reference period for the specific scheme. The years populated must relate to the relevant years derived from the Start of reference period for the scheme.

10.24 In the “Number of HV+ incidents post scheme completion” table, the DNO should populate the data about incidents affecting the substations/customers after the work has been completed. This data will be added to each year until data is available for three full years after the year in which the project was technically completed.

10.25 In the “Costs (£k)” table, the DNO should insert the expenditure on each project in the Regulatory Year.

10.26 The auto-populated “Customer information” table calculates the total number of worst served customers and the total number of worst served customers benefitting from the scheme for each scheme. The calculation uses the scheme id to pull through the relevant information from the substation data in the “Project details” table. These values are required for the assessment of costs per customer.

10.27 The auto-populated “Calculated number of customers interrupted in reference period” table calculates, for each substation, the product of the number of

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

incidents in the reference period and the number of worst served customers expected to benefit from the scheme. This uses the worst served customers expected to benefit because it is those customers who are being targeted with an improvement and which form part of the performance assessment.

10.28 The auto-populated “Calculated number of customers interrupted post scheme completion” table calculates, for each substation, the product of the number of incidents post scheme completion and the number of worst served customers expected to benefit from the scheme. This uses the worst served customers expected to benefit because it is those customers who are being targeted with an improvement and which form part of the performance assessment. The key terms for this worksheet, defined in ED3 BPDT Glossary, are:

- WSC - Circuit Reference Number
- WSC - Feeder Name/Ref
- WSC - Number of Customers expected to Benefit
- WSC - Number of HV+ incidents post scheme completion
- WSC - Number of Worst Served Customers on feeder
- WSC - Number of Worst Served Customers on Substation
- WSC - Primary Name
- WSC - Schemes
- WSC - Scheme id (project number)
- WSC - Secondary Substation (name)/Customer Details
- WSC - Secondary Substation Ref/customer ref
- WSC - Start of reference period
- WSC - Type of scheme (brief description of work done)
- Worst Served Customers
- WSC - Year Project completed
- WSC - Number of HV+ Incidents within the reference period
- WSC - Number of higher voltage Customers Interrupted in the WSC reference period
- WSC - Number of higher voltage Customers Interrupted post scheme completion
- WSC - Calculated number of customers interrupted in reference period
- WSC - Calculated number of customers interrupted post scheme completion

10.29 Where no activity has been undertaken as part of this mechanism, then the DNO should leave these cells blank.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**M4 – Vulnerability Deliverables**

- 10.30 We have established a set of principles and baseline expectations which stipulate the minimum level of service expected from DNOs in supporting consumers in vulnerable situations in ED3. DNOs should deliver this level of service, and thereby meet the baseline expectations, as part of their BAU operations. We will require DNOs to develop and submit vulnerability strategies as part of their ED3 Business Plans and in these strategies, DNOs will need to set out the activities and deliverables that will contribute to supporting consumers in vulnerable situations, as well as how these activities and deliverables meet the baseline expectations.
- 10.31 We expect all costs associated with DNOs’ delivery of their vulnerability strategies to be captured in the relevant reporting tables.
- 10.32 In the M4 table, DNOs should provide annual cost totals associated with the three key vulnerability delivery areas: Priority Services Register, Fuel Poverty services and Low Carbon Transition services. The costs associated with the Priority Services Register should be separated between those that are associated with PSR promotion or registration of customers, and those associated with support for those vulnerable during a loss of supply. Historical costs should be provided from ED2 onwards.
- 10.33 DNOs should separate costs associated with activities that fall within the scope of the Consumer Vulnerability incentive, and those that fall outside the scope of the incentive.
- 10.34 Vulnerable consumers are defined in the Consumer Vulnerability Strategy. Please see ED3 BPDT Glossary.

M9 – Streetworks

- 10.35 This table collects Streetworks costs to inform future cost assessment and to collect information for the Specified Street Works Costs Re-opener.
- 10.36 All ongoing Streetworks costs, should be embedded in the relevant cost activity tables and reported in the Street Works Cost Type split. The admin associated with all Street Works should be reported in Engineering Management and Clerical Support (EMCS).
- 10.37 Total Streetworks Costs, excluding administration costs, across the Street works should closely reconcile with the Streetworks Cost Type expenditure reported in the C1 tables for the RIIO-ED1 and RIIO-ED2 years.
- 10.38 The Street Work Costs table (rows 9 to 60) separately identifies the costs and volumes associated with Street Works (see definition).
- 10.39 Gross costs and volumes should be reported for the following categories, which are defined in ED3 BPDT Glossary (under the prefix “Streetworks”):

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Notices (volumes only, no costs)
- Notice Penalties
- Overstay Fines
- Sample Inspections (costs only, no volumes)
- Investigatory Inspection and Penalties (costs only, no volumes)
- Congestion Charges (costs only, no volumes)
- Street Works Admin (costs only, no volumes)
- Suspensions and Closures (costs only, no volumes)
- Permits
- Non-Chargeable Permits (volumes only)
- Issued Permits (costs and volumes)
- Permit Variations (costs and volumes)
- Permit Penalties
- Permit Condition Costs (costs and volumes)
- Lane Rentals
- Permit and Lane Rental Set Up Costs (costs only, no volumes)
- Changes to Working Practices Costs (costs only, no volumes)
- Disposal of Street Works Excavation Waste Material (costs only, no volumes)
- Highway Reinstatement (costs only, no volumes)

10.40 DNOs are also expected to report the income for the following in rows 67 to 71, also defined in ED3 BPDT Glossary (under the prefix “Street Works”):

- Income from Connectee
- Penalties Recovered from Contractor

10.41 All income and penalties recovered should be entered as a negative number.

10.42 Related Party costs should be reported as if incurred by the DNO.

10.43 These costs, volumes and income are to be reported in terms of whether the activity is inside or outside the Price Control, where costs outside the Price Control refer to Connections that are customer funded.

10.44 DNOs should provide a reconciliation in their Strategic Commentary between M9 and the Streetworks cost category reported on in the C1 Cost Matrices.

M13 – Uncertainty Mechanisms

10.45 The purpose of this table is to provide a summary of information on expenditures proposed as uncertainty mechanisms. The information is not directly used in the BPFM but may be used to inform revisions to relevant BPFM values.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 10.46 DNOs should populate this table with only the costs associated with the proposed uncertainty mechanism. Therefore, costs included in this table should be excluded from associated cost categories and as a result, excluded from C1 worksheets.

M14 - Drivers

- 10.47 The purpose of this worksheet is for DNOs to provide cost driver information, which may be used for future and within period benchmarking.
- 10.48 This worksheet collects data in the following tables:
- Exogenous Totex Drivers
 - Quality of Service (unplanned and unweighted)
 - Number of LCTs (new in each regulatory year)
 - Network Operating Characteristics
 - Installed Network Assets
- 10.49 DNOs are required to input data in the first two tables only for:
- Number of customers
 - Units distributed
 - Network-wide peak demand
 - Unplanned customer interruptions (numbers will be a year in arrears as the approved numbers from Ofgem will not be available by 31 July each year)
 - Unplanned customer minutes lost (numbers will be a year in arrears as the approved numbers from Ofgem will not be available by 31 July each year)
 - Number of LCTs (new in each Regulatory Year)
- 10.50 Where applicable, the values reported above should reflect or capture the outcomes of the low-regret investment scenario set out in Section 8 of the Business Plan Guidance. Under this scenario, load-related expenditure, and any associated indirect costs, should be based on heat pump uptake that assumes a two-year delay to the tRESP pathway. This scenario also includes the expenditure of preparatory works required, and associated indirect costs, to support the demand associated with the unadjusted outputs of the tRESP.
- 10.51 The other drivers are auto populated and include:
- Spans cut
 - Spans inspected
 - Total network length
 - Overhead LV and HV network
 - Share of Overhead network
 - Share of High Voltage network

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Unplanned Incidents on Power System Voltage Equipment - Total Damage Incidents
- ONIs total
- Connections – number of MPANs connected

10.52 Key terms for this worksheet, defined in ED3 BPDT Glossary, are:

- Customers Interrupted (CI)
- Customer Minutes Lost (CML)
- Customer⁶
- GWh
- MVA
- Span

10.53 The values for exogenous Totex drivers and DNO output levels in each reporting year should be actuals up to and including that reporting year.

10.54 The values for Number of LCTs should be as follows;

- Heat Pumps: the total number of heat pumps installed at the end of the relevant Regulatory Year, using data from the Microgeneration Certification Scheme (MCS) Installation Database (MID).
- Electric Vehicles: the total number of plug-in vehicles (PiVs) registered at the end of the relevant Regulatory Year, using the most recent (quarterly) df_VEH0145 dataset published by DfT & DVLA. It is acknowledged that due to the lag in publishing this dataset, between the end of the relevant quarter and the publication date, data may not be available for the whole of the Regulatory Year under report. Data for the previous reporting year should therefore also be updated in each Regulatory Year, to include all registered PiVs registered at the end of the previous Regulatory Year. Additionally;
 - Vehicles registered to LSOA areas with <100 PiVs should be distributed across DNO regions using the LSOA areas where they are registered.
 - Vehicles registered to LSOA areas with >100PiVs will not all be allocated to the DNO area that contains the LSOA area where they are registered but instead to all DNO regions on the same proportion as the vehicles registered in LSOA areas with <100 PiVs. This will ensure that leased PiVs are distributed across all DNO areas rather than just to those DNO areas where the lease companies are registered.
 - Where part of a single LSOA is located in two or more DNO regions, all of the vehicles within that LSOA should be allocated to the DNO region which contains the majority of the area of the LSOA.

⁶ These values should be provided on the same basis as that used for the IIS returns.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**M15 - MEAV (Modern Equivalent Asset Value)**

- 10.55 This worksheet automatically calculates MEAV for a DNO, based on data provided from the V1 – Total Assets Movements worksheet. Please provide estimates of unit costs for each asset class in FY2025/26 prices.

M18 – Full Time Equivalents

- 10.56 The purpose of this worksheet is for DNOs to provide an estimated number of Full Time Equivalents (FTEs) at 31st March in each occupational group (SOC code) in the table.
- 10.57 Please provide total FTE numbers for the entire DNO. Figures should include the DNO's own FTEs only, in line with what is reported in the Labour cost type, DNO Own. This could therefore include temporary/agency staff whose costs are reported as such.
- 10.58 Where you provide figures for 3 or 4-digit SOC codes, these should be a subset of the 2-digit SOC code above it. Where clarification of the SOC definitions is required, the ONS SOC⁷ manual should be referred to.
- 10.59 When completing this worksheet, DNOs should use the Office for National Statistics (ONS) Standard Occupational Classification (SOC) 2020 guidance to determine the appropriate occupational group for each role. The SOC framework provides standard definitions for 2-, 3- and 4-digit occupational groupings and should be used to ensure FTEs are categorised on a consistent and comparable basis. Where job titles or roles do not align clearly to a single SOC code, DNOs should apply judgement by reference to the primary duties and skill requirements of the role, in line with the ONS SOC descriptions and coding index. The SOC 2020 guidance, including detailed definitions and supporting materials, is available on the ONS website.

M19 – DSO

- 10.60 The purpose of this table is to provide a summary of information on DSO expenditure that is reported in relevant tables within the BPDT pack, and to reconcile specific costs between the DSO strategies and the BPDT.
- 10.61 The DNOs are required to input the costs of ED1, ED2 and ED3 Innovation in row 31. If required, DNOs can provide an estimate of ED2 and ED3 Cyber Resilience costs in row 32. Other net costs in the main M19 table are automatically populated through linking to other worksheets in the BPDT pack.

⁷ <https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassification/soc>

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 10.62 It is expected that in the BPDT commentary, DNOs provide further detail of the types of DSO costs they are incurring to support the costs reported in this table.
- 10.63 For the Total Closely Associated section, we have added categories of expenditure that were not reported in RIIO-ED1; we have now added these should they become applicable to a DNO through RIIO-ED2 and ED3. Please leave any categories that remain not applicable to a DNO blank.

M20 – LCTs (low carbon technologies)

- 10.64 This is a Memo worksheet. All costs and volumes forecast here should also be included in CV1 and CV2 as appropriate.
- 10.65 This worksheet captures the number and size of Low Carbon Technologies (LCTs) connected in the Regulatory Year.
- 10.66 The term Low Carbon Technologies is defined in the Glossary.
- Low Carbon Technologies
 - Number and Size of LCTs Installed
- 10.67 DNOs must input the number of LCTs added to the network in each Regulatory Year by technology type. DNOs should disaggregate the LCT volumes across the (EHV+) and Secondary (HV and LV) voltages. The volumes recorded in this table should be for new technologies connected in that year, and not a cumulative total.
- 10.68 DNOs must report the ‘maximum export allowed’ (in MW) of the LCTs added to the network in each Regulatory Year by technology type. This should be disaggregated between those added at the Primary (EHV+) and Secondary (LV-HV) networks.
- 10.69 DNOs must report on the following LCTs:
- Heat pumps
 - Electric vehicle (EV) chargers, both slow and fast charging
 - Photovoltaics (PV) connected under Engineering Recommendation G98
 - Other renewable distributed generation (DG), excluding PV, connected under Engineering Recommendation G98
 - Renewable DG not connected under Engineering Recommendation G98
- 10.70 For the recording of renewable DG not connected under Engineering Recommendation G98, we would expect:
- the DG to be “still energised in the reporting year”
 - the DG was “subject to use of system charges in the reporting year”

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 10.71 For the recording of renewable DG not connected under Engineering Recommendation G98, where the DNO is able to split the number of those that are subject to ‘use of system charges in the reporting year’ against those that are not, it should do so within its BPDT commentary.
- 10.72 For recording information on Electric Vehicles DNOs must input the volumes using the following logic:
- EV Slow charging: means EV up to 16A/3.7kW draw-down rate
 - EV Fast charging: means anything above 16A/3.7kW draw-down rate

M25 – Company-Specific Factors

- 10.73 The purpose of this worksheet is to capture any costs relating to company-specific factors that might result in the efficient level of costs being higher for a specific DNO than others.
- 10.74 For company-specific factors, this worksheet is intended to aid a transparent and comparable submission of normalisation claims across DNOs and provides Ofgem with a view of the scale of and areas impacted by each factor.
- 10.75 In relation to regional factors (eg record the impact of regional wage variance). We would expect regional factors to be reported in the Business Plan with supporting the evidence. The costs relating to company-specific factors are to be included within the baseline figures reported elsewhere in the BPDTs.

Company-Specific Factors Table

- 10.76 **Company Specific Factor:** Enter a description of the company-specific factor within the “Company Specific activity” column. The “Company Specific activity” should be consistent with titles and descriptions used with the Business Plan and Business Plan Data Table Commentary.
- 10.77 **Reference to Supporting Narrative(s):** Provide a list of all locations within the business plan and/or any supporting documents that support the Company-Specific factor. This will enable Ofgem to associate each company-specific factor across all documents that reference it.
- 10.78 **Claimed cost per annum:** Enter the value of the net cost that is considered attributable to the company-specific factor. The costs are those which a DNO considers to be caused by a factor that is either unique to the DNO, or materially different from other DNOs.
- 10.79 DNOs should not average net costs and enter the expected/’profiled’ annual net cost when entering values over the course of the RIIO-ED1, RIIO-ED2 or ED3 price control periods. If the company-specific factor has specific historical costs (ie if the company-specific factor submitted in ED3 is the same as ED2), please enter the values of the company specific factor for each year in RIIO-ED1 and RIIO-ED2.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 10.80 The value entered will be a net cost, accounting for both the unique costs and unique cost savings that the factor generates for the DNO.
- 10.81 Cost categories effected: Select “Yes” from the drop-down menu for each cell where the company-specific factor has a cost impact to the cost category. For each cell where there is no cost impact for that company-specific factor, select “No” from the drop-down menu.
- 10.82 Further detail on the underlying cost activities and cost types impacted by the company-specific factor should be provided in the Business Plan and Business Plan Data Table Commentary.

M26 – Incremental Costs

- 10.83 The purpose of this worksheet is to collect a snapshot of any incremental investment undertaken by DNOs ie costs incurred over and above the core costs not associated with the primary driver for investment, but instead secondary and/or tertiary drivers such as investment ahead of need or strategic investment for Net Zero.

Activity

- 10.84 column A lists all asset types from CV7 – Asset Replacement. DNOs should report only against asset types in column A, where they are proposing incremental investment.
- 10.85 In column B, DNOs should cross-reference to the relevant BPDT table where the costs and volume data for the activity has been reported.
- 10.86 In column C, the title of the programme or project of the policy decision driving the incremental investment should be provided.
- 10.87 In column D, the driver for the incremental investment should be provided, for example, Investment Ahead of Need or Strategic Investment for Net Zero. DNOs may enter more than one driver in column D.
- 10.88 In column E, DNOs should cross-reference to the relevant BPDT Commentary, Engineering Justification Paper (EJP) and/or Cost Benefit Analysis (CBA) the provides the justification and analysis of the incremental investment.

Units and estimated unit costs

- 10.89 In column F, DNOs should state the unit of activity that is being adopted, for example, MVA of capacity added.
- 10.90 In column G, DNOs should enter the estimated unit cost of the activity ie the total cost of the activity including the core costs associated with the primary driver for investment and the incremental costs associated with the driver for incremental investment.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 10.91 In column H, DNOs should enter the estimated incremental component of the unit cost in column G, that is justified by Commentary, EJP and/or CBA as cross-referenced in column E.

Volumes

- 10.92 In columns I to O, forecast volumes of each activity for every future year up to the end of ED3 are required.

Estimated Total Costs

- 10.93 In columns P to V, the estimated total costs for every future year up to the end of ED3 are required. This should be equal to the product of the estimated unit cost of the activity and the volumes.

Estimated Incremental Costs

- 10.94 In columns W to AC the incremental costs for every future year up to the end of ED3 are required. This should be equal to the product of the estimated unit incremental cost and the volumes.

M29 – Data and Digitalisation

- 10.95 The purpose of this table is to provide a summary of information on Data and Digitalisation (D&D) expenditure that is reported in relevant tables within the BPDT pack, and to reconcile specific costs between the D&D strategies and the BPDT.
- 10.96 The DNOs are required to input the costs of Innovation in cells I24:Q24. Other net costs in the M29 table are automatically populated through linking to other worksheets in the BPDT pack.

M30 – Climate Resilience

- 10.97 The purpose of this table is to provide a summary of information on Climate Resilience expenditure that is reported in relevant tables within the BPDT pack, and to reconcile specific costs between the Climate Resilience strategies and the BPDT.
- 10.98 The DNOs are required to input the costs of Innovation in cells P77:V77. Other net costs in the M30 table are automatically populated through linking to other worksheets in the BPDT pack.

M31 – Capex & Opex Split

- 10.99 The purpose of this sheet is to collect information on how each cost area is apportioned between capital expenditure and operational expenditure. It supports consistent reporting across DNOs and enables Ofgem to understand how costs have been classified within the Business Plan.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- for each cost area listed, DNOs are required provide the percentage of expenditure allocated to capex and the percentage allocated to opex.
- percentages must total 100 percent for each cost area
- use the same allocation methodology applied within your Business Plan and ensure it aligns with the assumptions and explanations set out in the BPDT Commentary

M32 – Voltage Management

10.100 The purpose of this sheet is to collect information on assets and operational activities associated with delivery of the voltage management outcomes

10.101 Row 9 to 23 should be used to detail asset costs and volumes, row 27 to 38 should be used to detail costs of operational activities associated with voltage management.

10.102 The following categories are included for asset costs and volumes:

- AVCs
- Tap changes
- Voltage regulators
- Capacitor banks

Assets which fall outside of these categories should be added in rows 13 to 23.

10.103 The following categories are included for operational activities related to voltage management:

- Managing voltage at customer boundary point
- Managing voltage on LV network
- Managing voltage on HV network
- Managing voltage above HV network
- Managing active and reactive power flows at T-D boundary

10.104 Operational activities which fall outside of these categories should be listed in rows 32 to 38.

11. Instructions for completing the NARM Tables**Background**

11.1 In ED3, licensees shall have a price control deliverable, the Network Asset Risk Metric (NARM), relating to the reduction in condition based asset risk that is delivered through Asset Replacement and certain Refurbishment activities.

11.2 Within NARM, condition based asset risk is represented using Network Asset Indices, which comprise three components:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- Health Index - which relates to asset health and probability of failure;
 - Criticality Index - which relates to consequences of failure; and
 - Risk Index - this is a monetised risk measure, determined from the combination of the Health Index and Criticality Index, which represents the long term risk associated with condition based asset failure and is the present value (£) of the current and future risk associated with a typical asset within the relevant Health Index and Criticality Index bands
- 11.3 For Asset Register categories included in the NARM deliverable, the NARM tables provide Network Asset Indices information relating to:
- the health and criticality of the asset population
 - future changes in health and criticality due to forecast deterioration
 - the impact on health and criticality of planned interventions, for intervention types that are considered in the NARM deliverable
- 11.4 The asset categories included within the ED3 NARM deliverables shall be consistent across all licensees and encompass all asset categories covered by the Common Network Asset Indices Methodology (CNAIM). This would be a common set covering sixty one RRP Asset Register Categories

General instructions and guidance

- 11.5 An agreed Common Network Asset Indices Methodology shall be directed by Ofgem for use in completion of the ED3 NARM tables. The tables shall be completed in accordance with the principles and guidance agreed as part of the Common Network Asset Indices Methodology for ED3. Any additional terminology that is used in the Common Network Asset Indices Methodology will be defined there.
- 11.6 The health of an asset is derived from a combination of various factors including age and condition data. Individual assets are grouped together using Health Index Bands. A common approach to deriving asset health and assigning Health Index Bands to assets is defined as part of the Common Network Asset Indices Methodology. This approach shall be used to assign to each asset a Health Index Band between HI1 and HI5.
- 11.7 The Health Index Bands represent the relative Probability of Failure indicated by each asset's health. The lowest Health Index Band, HI1, is assigned to assets where the Probability of Failure is the same as would be expected for a new asset. The highest Health Index Band, HI5, is assigned to assets with the highest values of Probability of Failure relative to other assets within the same asset category.
- 11.8 Where the NARM tables require a forecast Health Index Band, representing the Health Index in a future year, the future Health Index Band shall be determined

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

in accordance with the methodology for deriving the future Health Index of an asset defined in the Common Network Asset Indices Methodology for ED3.

- 11.9 Criticality Index Bands provide a comparative measure of the Consequences of Failure associated with an asset. A common approach to assigning Criticality Index Bands to assets is defined as part of the Common Network Asset Indices Methodology for ED3. This approach shall be used to assign each asset a Criticality Index Band.
- 11.10 Volumes of assets entered into the Health Index and Criticality Index matrices, within the NARM tables, shall be entered using consistent units to those used for entry of the asset volumes in the BPDT cost and volumes tables.
- 11.11 The asset categories included within the ED3 NARM deliverables shall be consistent across all licensees and encompass all asset categories covered by the Common Network Asset Indices Methodology (CNAIM). This is a common set covering the sixty one RRP Asset Register categories included in the NARM tables.
- 11.12 Where the licensee does not have a population of assets in a particular Asset Register category, the relevant cells in the NARM tables for that Asset Register category should be populated to show that zero volumes apply.
- 11.13 Movements in Health Index and Criticality Index should reconcile to the Asset Register movements, or activity volumes, shown in the BPDT cost and volumes tables for the same investment drivers/ reasons for movement.
- 11.14 Movements in Health Index and Criticality Index due to asset additions shall be entered as positive values.
- 11.15 Movements in Health Index and Criticality Index due to asset disposals shall be entered as negative values.
- 11.16 Where the licensee does not forecast movements in the health and criticality rankings for a particular Asset Register category, the relevant cells in the NARM tables for that Asset Register category should be populated to show that zero movement volumes apply.

NARM1 - Risk Index Weightings

- 11.17 Worksheet NARM1 contains fixed value data for the Risk Index values, used in the NARM measure, for each asset category. These provide the typical values of long term risk that are applied to an asset located in a given Health Index/ Criticality Index combination.
- 11.18 The Risk Index values within this worksheet correspond to those stated within the agreed Common Network Asset Indices Methodology applicable to this submission.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**NARM2 – ED2 NARM Profiles**

- 11.19 This worksheet provides Ofgem with licensee’s views of the health and criticality of their assets for the remaining years of RIIO-ED2, as represented using Health Index and Criticality Index information determined using the Common Network Asset Indices Methodology for RIIO-ED2.
- ‘Asset Profile – Start of 2026 (at 01/04/2026)’ (columns F to K)
- 11.20 In these columns, for each Asset Register category, input the number of assets in each combination of HI bands, HI1 to HI5, and criticality bands, C1 to C4, at 31st March 2026.
- 11.21 The total volumes of assets shown in each Asset Register category should reconcile to the Total Asset Register volumes shown on table V1 (‘V1 - Total Asset Movements’) of the BPDT for the closing balance of the reporting year ending 31st March 2026.

‘Forecast Asset Profile - End of ED2 (31/03/2028) - With No Further ED2 Intervention’ (columns M to R)

- 11.22 This provides a forecast of the health and criticality rankings as at the end of RIIO-ED2, for assets in the Current Year asset population (as described in columns F to K), assuming no interventions are undertaken in the remainder of the RIIO-ED2 period.
- 11.23 In these columns, for each Asset Register category, input the number of assets in each combination of HI bands, HI1 to HI5, and criticality bands, C1 to C4, using the future Health Index Bands for each asset based on forecasting forwards to the end of 2027/28. Future Health Index Bands shall be determined in accordance with the methodology for deriving the future Health Index of an asset defined in the Common Network Asset Indices Methodology for RIIO-ED2.
- 11.24 The total volumes of assets shown in each Asset Register category should reconcile to the total volumes for the Asset Register Category shown in the Current Year asset population (in columns F to K).

‘Forecast Asset Profile - End of ED2 (31/03/2028) With ED2 Interventions’ (columns T to Y)

- 11.25 This provides a forecast of the health and criticality rankings as at the end of RIIO-ED2, taking into account actual and forecast. When compared with the ‘Forecast Asset Profile - End of ED2 (31/03/2028) - With No Further ED2 Intervention’ (columns M to R), this provides an indication of the impact of actual and forecast licensee activity, in the remainder of RIIO-ED2, upon the health and criticality ranking for each Asset Register category.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.26 In these columns, for each Asset Register category, input the number of assets forecast to be ranked, at 31st March 2028, in each combination of HI bands, HI1 to HI5, and criticality bands, C1 to C4, taking into account the licensees actual and forecast interventions in the period 1st April 2026 to 31st March 2028.
- 11.27 The total volumes of assets shown in each Asset Register category should reconcile to the forecast Total Asset Register volumes shown on table V1 ('V1 - Total Asset Movements') of the BPDT for the closing balance of the reporting year ending 31st March 2028.

NARM3 – ED3 NARM Profiles

- 11.28 This worksheet summarises the overall forecast health and criticality data for the RIIO-ED2 period, for all Asset Register categories where the NARM deliverable is applicable. This shows:-
- the forecast change in asset health during the ED3 period
 - the forecast impact of planned ED3 interventions that are intervention types that shall be included within the measure of NARM delivery

'Forecast Asset Profile - Start of ED3 Period (01/04/2028)' (columns F to K)

- 11.29 This provides the forecast health and criticality rankings for the start of the ED3 period for the asset populations in each Asset Register category.
- 11.30 The columns are auto-populated with the forecast health and criticality rankings from the 'Forecast Asset Profile - End of ED2 (31/03/2028) With ED2 Interventions' in table NARM2.

'Impact of Forecast Deterioration to End of ED3 (31/03/2033)' (columns M to R)

- 11.31 Forecast deterioration represents the change in Health Index, over time, due to changes in asset health. Deterioration relates only to the impact on the Health Index Band and therefore should not include changes to the Criticality Index Band.
- 11.32 In these columns the forecast deterioration, for each Asset Register category, is calculated from the change in Health Index profiles between the 'Forecast Asset Profile - Start of ED3 Period (01/04/2028)' (columns F to K) and the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' (columns T to Y).

'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' (columns T to Y)

- 11.33 This provides a forecast of the health and criticality rankings as at the end of ED3, for assets in the Start of ED3 period asset population (as described in columns F to K), assuming no investment in the ED3 period.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.34 In these columns, for each Asset Register category, input the number of assets in each combination of HI bands, HI1 to HI5, and criticality bands, C1 to C4, using the future Health Index Bands for each asset based on forecasting forwards to the end of 2032/33. Future Health Index Bands shall be determined in accordance with the methodology for deriving the future Health Index of an asset defined in the Common Network Asset Indices Methodology for ED3.
- 11.35 The total volumes of assets shown in each Asset Register category should reconcile to the total volumes for the Asset Register Category shown in the Start of ED3 period asset population (in columns F to K).

‘Forecast movements due to planned Asset Replacement upon 2033 Profile – Disposals’ (columns AA to AF)

- 11.36 Asset Replacement interventions contribute to NARM delivery, for assets where the Asset Register category is included within NARM. These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from asset disposals associated with planned Asset Replacement activity.
- 11.37 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the ‘Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention’ in columns T to Y) due to planned Asset Replacement disposals.
- 11.38 The total volumes of asset disposals shown in each Asset Register category should reconcile to the total disposal volumes for the Asset Register Category in the ED3 period shown in table CV7 of the BPDT.

‘Forecast movements due to planned Asset Replacement upon 2033 Profile - Additions’ (columns AH to AM)

- 11.39 Asset Replacement interventions contribute to NARM delivery, for assets where the Asset Register category is included within NARM. These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from asset additions associated with planned Asset Replacement activity.
- 11.40 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the ‘Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention’ in columns T to Y) due to planned Asset Replacement additions.
- 11.41 The total volumes of asset additions shown in each Asset Register category should reconcile to the total additions volumes for the Asset Register Category in the ED3 period shown in table CV7 of the BPDT.

‘Forecast movements due to planned Refurbishment (NARM) activity upon 2033 Profile’ (columns AO to BA)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.42 Certain Refurbishment interventions contribute to NARM delivery, for assets where the Asset Register category is included within NARM. These are activities are classified as Refurbishment (NARM) activities and are included in table CV9 of the BPDT.
- 11.43 Other Refurbishment activities are not considered in the delivery of NARM. These are separately identified from Repair & Maintenance activities because they tend to be ‘one-off’ activities that would not be routinely expected to be undertaken in the life of an asset (and therefore have the potential to distort comparability of R&M activity). However, these activities aren’t considered in delivery against the NARM output either because they are not considered to deliver long-term health improvements, or they are activities where a long term health improvement is expected but the improvement cannot be quantified at the time the refurbishment is undertaken (eg because it is assessed using a lagging measure), making it unsuitable for inclusion in a delivery metric. These are activities are classified as Refurbishment (no NARM) activities and are included in table CV8 of the BPDT.
- 11.44 These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from those Refurbishment interventions that are considered to contribute to NARM delivery ie Refurbishment (NARM) activities only.

‘Forecast movements due to planned Refurbishment (NARM) activity upon 2033 Profile - Pre-Refurbishment Health/ Criticality of Refurbished Assets’ (columns AO to AT)

- 11.45 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the ‘Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention’ in columns T to Y) resulting from planned Refurbishment (NARM) interventions, which for each asset relate to the movements from the Health Index that is forecast if the intervention were not to be undertaken (ie the movement from the pre-refurbishment Health Index, which shall be entered as a negative value). These movements should be consistent with the ED3 activity shown in table CV9 of the BPDT.

‘Forecast movements due to planned Refurbishment (NARM) activity upon 2033 Profile - Post-Refurbishment Health/ Criticality of Refurbished Assets’ (columns AV to BA)

- 11.46 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the ‘Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention’ in columns T to Y) resulting from planned Refurbishment (NARM) interventions, which for each asset relate to the movements to the Health Index that is forecast to be achieved as a result of the intervention being undertaken (ie the movement to

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

the post-refurbishment Health Index, which shall be entered as a positive value). These movements should be consistent with the ED3 activity shown in table CV9 of the BPDT.

'Forecast movements due to planned HVP activity upon 2033 Profile - Asset Replacement Disposals' (columns BC to BH)

- 11.47 Interventions undertaken as part of high value projects may include asset replacement works. These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from any asset disposals associated with planned asset replacement activity undertaken as part of high value projects. These works will be reported in these columns and not the respective columns for Asset Replacement activity (ie columns AA to AF).
- 11.48 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' in columns T to Y) due to planned asset replacement disposals undertaken as part of high value projects.
- 11.49 The total volumes of asset disposals shown in each Asset Register category should be consistent with table CV25 of the BPDT, noting that asset volumes shown on table CV25 may include asset volumes associated with other investment drivers than asset replacement.

'Forecast movements due to planned HVP activity upon 2033 Profile - Asset Replacement Additions' (columns BJ to BO)

- 11.50 Interventions undertaken as part of high value projects may include asset replacement works. These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from any asset additions associated with planned asset replacement activity undertaken as part of high value projects. These works will be reported in these columns and not the respective columns for Asset Replacement activity (ie columns AH to AM).
- 11.51 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' in columns T to Y) due to planned asset replacement additions undertaken as part of high value projects.
- 11.52 The total volumes of asset additions shown in each Asset Register category should be consistent with table CV25 of the BPDT, noting that asset volumes shown on table CV25 may include asset volumes associated with other investment drivers than asset replacement.

'Forecast movements due to planned HVP activity upon 2033 Profile - Refurbishment (NARM) activity' (columns BQ to CC)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.53 Interventions undertaken as part of high value projects may include refurbishment activities that are activity types that are classified as Refurbishment (NARM) activities. These columns show the forecast impact on health and criticality rankings, as at the end of ED3, resulting from any planned Refurbishment (NARM) undertaken as part of high value projects. These works will be reported in these columns and not the respective columns for Refurbishment (NARM) activity (ie columns AO to BA).
- 11.54 In these columns, for each Asset Register Category, enter the net movements to the forecast health and criticality profile (with respect to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' in columns T to Y) due to planned Refurbishment (NARM) interventions undertaken as part of high value projects. These should be consistent with any high value project expenditure included in table CV25 of the BPDT for Refurbishment (NARM) works.
- 11.55 'Forecast movements due to planned HVP activity upon 2033 Profile - Refurbishment (NARM) activity - Pre-Refurbishment Health/ Criticality of Refurbished Assets' (columns BQ to BV)
- 11.56 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' in columns T to Y) resulting from planned Refurbishment (NARM) interventions undertaken as part of high value projects, which for each asset relate to the movements from the Health Index that is forecast if the intervention were not to be undertaken (ie the movement from the pre-refurbishment Health Index, which shall be entered as a negative value).
- 11.57 ie'Forecast movements due to planned HVP activity upon 2033 Profile - Refurbishment (NARM) activity - Post-Refurbishment Health/ Criticality of Refurbished Assets' (columns BX to CC)
- 11.58 In these columns, for each Asset Register Category, enter the movements to the forecast health and criticality profile (with respect to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' in columns T to Y) resulting from planned Refurbishment (NARM) interventions undertaken as part of high value projects, which for each asset relate to the movements to the Health Index that is forecast to be achieved as a result of the intervention being undertaken (ie the movement to the post-refurbishment Health Index, which shall be entered as a positive value).

'Forecast - End of ED3 Period (31/03/2033) With NARM Interventions' (columns CE to CJ)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.59 This provides the forecast health and criticality rankings, for each Asset Register category, at the end of the ED3 period taking into account the impact of planned NARM related interventions ie:-
- Asset Replacement
 - Refurbishment (NARM)
 - Asset replacement and Refurbishment (NARM) works undertaken as part of high value projects
- 11.60 In these columns the asset profile, for each Asset Register category, is calculated by application of the health and criticality ranking movements entered in columns AA to CC to the 'Forecast Asset Profile - End of ED3 Period (31/03/2033) With No ED3 Intervention' (columns T to Y).

NARM4 – ED3 NARM Risk Movement

'Risk Index – Long Term Risk (impact on 2033 profile)' (columns C to I)

- 11.61 These columns determine the overall value of long term risk for the asset populations and movements shown in sheet NARM3 – ED3 NARM Profiles columns T to CC. The value of long term risk is derived by application of the appropriate value of Risk Index (from sheet NARM1) to the volumes shown in the health and criticality rankings in columns T to CC.
- 11.62 These columns calculate for each Asset Register category:
- the overall value of long term risk associated with the asset population based on the health and criticality assets profile for the start of ED3, assuming no interventions in the ED3 period (column C)
 - the overall value of long term risk associated with the asset population based on the health and criticality assets profile for the end of ED3, assuming no interventions in the ED3 period (column D)
 - the overall net value of long term risk movement (relative to the long term risk associated with the asset profile at the end of the ED3 period delivered by planned Asset Replacement interventions in the ED3 period (column E)
 - the overall net value of long term risk movement (relative to the long term risk associated with the asset profile at the end of the ED3 period) delivered by planned Refurbishment (NARM) interventions in the ED3 period (column F)
 - the overall net value of long term risk movement (relative to the long term risk associated with the asset profile at the end of the ED3 period) delivered by planned asset replacement or Refurbishment NARM interventions undertaken as part of high value projects in the ED3 period (column G)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- the overall value of long term risk associated with the asset population based on the health and criticality asset profile for the end of ED3, taking into account planned Asset Replacement, Refurbishment (NARM) interventions in the RIIO-ED3 period, including planned asset replacement and Refurbishment (NARM) interventions undertaken as part of high value projects (column H)
- the overall net value of long term risk movement relative to the long term risk associated with the asset profile at the end of the ED3 period) delivered through planned NARM interventions in the ED3 period ie Asset Replacement and Refurbishment (NARM) interventions including planned asset replacement and Refurbishment (NARM) interventions undertaken as part of high value projects (column I)

11.63 Rows 69 to 72 summate the long term risk values, described above, by the voltage of operation of the assets. row 68 provides an overall total for all Asset Register categories included in the NARM measure.

11.64 Rows 73 to 88 summate the long term risk values, described above, by grouped asset sub categories.

‘ED3 Total Costs £m’

11.65 These columns calculate the total costs associated with NARM interventions for each Asset Register category:

- the total Asset Replacement costs from sheet CV7a – Asset Repl NARM is calculated here for each Asset Register category (column K)
- the total Refurbishment NARM costs from sheet CV9 – Refurbishment NARM is calculated here for each Asset Register category (column L)
- any NARM related expenditure for HVP – Replacement (column M) or HVP – Refurbishment (column N) should be entered for each Asset Register category
- the total costs associated with NARM interventions are calculated for each Asset Register category (column O)

11.66 Rows 69 to 72 summate the total costs associated with NARM interventions, described above, by the voltage of operation of the assets. row 68 provides an overall total for all Asset Register categories included in the NARM measure.

11.67 Rows 73 to 88 summate the total costs associated with NARM interventions, described above, by grouped asset sub categories.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**LI – Substations/ LI Substation Groups**

Demand group description

Substation/Substation Group

- 11.68 In the ‘LI – Substations/Substation Group worksheets, this column should be populated with a unique name for each primary substation, excluding substations that are solely for a single customer.
- 11.69 Some DNOs operate an interconnected network of geographically dispersed single transformer primary substations that are interconnected on the low voltage side of the transformers so as to operate in a similar manner to an individual multi-transformer substation. These groups of multiple single transformer substations, that normally operate interconnected on the low voltage side of the substations, shall be reported as if they are a single individual substation with all the substation names listed. These will be reported in the ‘LI – Substations’ worksheets.
- 11.70 In the ‘LI – Substation Groups’ worksheets, this column should be populated with a unique name for a group of substations which are assessed together. This unique name should include a name for the group and include the names of the substations which make up the group. The individual substations that make up the group should also be included in the ‘LI – Substations’ worksheets.
- 11.71 Due to the number of ways substation groups can be assessed, DNOs are only required to report Load Index information for substation groups where there is an identified issue and expenditure is planned or in progress.
- 11.72 Where a substation/substation group has been included in the Load Index worksheets in the 2025/26 RRP return, the same name should be used (unless the substation name has changed) and the associated data should be entered in the same row of the worksheets.

Substation/Substation Group primary voltage

- 11.73 This column should be populated with the highest voltage in operation at the substation/substation group.

Substation/Substation Group secondary voltage

- 11.74 This column should be populated with the lowest voltage in operation at each substation/substation group.

No. of customers

- 11.75 This column should be populated with the number of customers supplied from the substation/substation group.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Network Topology

Parent GSP

- 11.76 This column should be populated with the name of the GSP that supplies the substation/substation group. Where possible this should align with the identifier used by NESO in the tRESP publication.

Parent BSP

- 11.77 For substations which derive their supplies from another substation (bulk supply point) contained within the Load Index (for example, EHV/HV substations supplied via a 132kV/EHV substation). This column should be populated with the substation name of the substation that the supplies are derived from.

Load index

Substation/Substation Group firm capacity immediately available under single circuit outage conditions

- 11.78 This column should be populated with the load index firm capacity as defined in the BPDT Glossary.
- 11.79 The firm capacity data should correspond to the season of most onerous demand.
- 11.80 For multi-transformer substations, the firm capacity value shall only include capacity that will be available through automatic processes (eg parallel operation of transformers, hard-wired switchover schemes, automatic SCADA initiated changeover schemes) or manually initiated SCADA changeover schemes. The changeover schemes that can be included are those which reconfigure running arrangements at primary voltages and changeover supplies to primary substation switchboards. This excludes any activities requiring switching downstream of primary substation switchboards which can be either initiated by SCADA or through manual intervention.
- 11.81 For single-transformer substations, the firm capacity value shall include the capacity that will be available through both automatic processes and manual processes, provided the manual processes can be carried out within the time constraints specified in Engineering Recommendation P2. This approach avoids single transformer primary substations being assigned an LI ranking of LI5, due to the absence of immediately available alternative capacity.
- 11.82 The firm capacity value should not include any adjustments for, demand side response's (DSR), flexibility, or distributed generation's (DG) contribution to security of supply. These are recorded separately.

Available DSR adjustment

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.83 This is the capacity (in MVA) that is released through DNO DSR contracts. These commercial arrangements allow DNOs to request that demand is reduced or disconnected. The available DSR adjustment should only include those DSR arrangements that can reduce demand within the time constraints specified in Engineering Recommendation P2.
- 11.84 The adjustment that is made should be carried out in line with the recommendations of engineering technical recommendation ETR130.

Assessed contribution towards security supply from DG adjustment

- 11.85 This is the capacity (in MVA) that is released through the contribution of DG to security of supply compliance. The adjustment that is made should be carried out in line with the recommendations of engineering technical recommendation ETR130.

LI firm capacity

- 11.86 The calculated firm capacity for use within the derivation of LI ranking and LI risk points. It is the firm capacity calculated as the capacity available under n-1 outage conditions including the contribution from DNO contracted DSR and the contribution of DG to security of supply compliance.

Season of most onerous demand

- 11.87 The “Season of most onerous demand” sets out whether the highest utilisation (as defined by the ratio of demand to firm capacity and not taking into account any DSR or generation contribution) occurs during winter or summer. For example whilst the absolute value of demand may be lower in the summer, the utilisation may be higher as a result of lower equipment ratings – this would lead to the summer being the season of most onerous demand.

Limiting Factor

- 11.88 The “Limiting Factor” refers to the specific restricting factor, of those listed, that determines the substation’s/substation group’s firm capacity:
- Cyclic rating of a transformer
 - Rating of the incoming circuit(s)
 - Capacity of normally connected secondary interconnection
 - Rating of the secondary switchboard
 - Rating of any ancillary equipment
 - Voltage regulation
 - Substation or network configuration
 - Rating of the primary switchgear or busbars
 - Redundant substation
 - Meshed network circuit capacity
 - Customer connection agreement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.89 There could be more than one restricting factor in place. This column should be used to specify the factor that limits the firm capacity to the lowest value.

Substation/substation group observed maximum demand

- 11.90 The maximum demand (in MVA) which corresponds to the season of most onerous demand for the substation/substation group within the regulatory year corrected only for abnormal running conditions. Correcting for abnormal running conditions relates to removing abnormal demand peaks that may arise, for example, during fault situations or maintenance outages. These corrections amend measured maximum into observed maximum demand.

Weather correction adjustment to observed maximum demand

- 11.91 The negative or positive adjustment to maximum demand (in MVA) that results from any weather correction, eg using ambient temperature data to rebase maximum demand values to an average cold spell.

Measurable distributed generation latent demand adjustment to observed maximum demand

- 11.92 Measurable DG output that coincides with the observed maximum demand and latent demand which needs to be supplied under n-1 conditions. This specifically applies to DG which does not contribute to firm capacity. The latent demand should be determined with reference to the assessment of latent demand as specified in engineering technical recommendation ETR130. This assessment is only required for highly loaded sites (those that are in load index bandings LI3 – LI5). DNOs can include data for all substations/substation groups where the data is readily available.

Capacity committed through Connection Agreements not utilised in year

- 11.93 When new customers connect to the network, licensees enter into connection agreements which have an agreed supply capacity. The amount of committed capacity will be related to the demand that a customer is expected to use and this demand will have been used for any reinforcement under cost apportionment rules. As a result this agreed supply capacity is committed to the customer. While the customer has been provided the agreed supply capacity they may not be using the full amount. This means that the measured demand on the network understates the amount of demand that would be present if the customer used all the committed capacity. This entry requires the population of the net difference between the demand being used by customers and the capacity committed in connection agreements at the time of maximum demand. It is anticipated that the types of customers that this affects are predominantly industrial and commercial customers..

Connected non-firm demand adjustment to observed maximum demand

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

- 11.94 Non-firm demand that can be discounted from maximum demand. For example a DNO may have an agreement with a demand customer that they will be disconnected from the network under fault conditions. This should be entered as a negative value.

Flexibility at time of observed maximum demand

- 11.95 The net reduction (or increase) in demand (in MVA) delivered by flexibility services that are activated and effective at the time of the observed maximum demand. This includes demand reduction, demand shift, temporary generation, or storage discharge procured by the DNO through formal flexibility arrangements (for example, flexibility tenders, bilateral contracts, or operational control schemes).
- 11.96 The value entered should reflect the verified delivered impact at the time of maximum demand. Where flexibility increases demand at the time of maximum demand (for example, charging of storage or demand recovery), this should be entered as a positive value; reductions in demand should be entered as a negative value.
- 11.97 Where flexibility effects have already been captured within either the 'Measurable distributed generation latent demand adjustment to observed maximum demand' column, or the 'Connected non-firm demand adjustment to observed maximum demand' column, they must not be double counted in this entry.

LI maximum demand

- 11.98 The calculated maximum demand for use within the derivation of LI ranking and LI risk points. This is calculated as the observed maximum demand adjusted for the weather correction, measurable DG latent demand, non-firm demand, and flexibility.

LI maximum demand as % of LI firm capacity

- 11.99 This calculation shows the LI maximum demand as a percentage of the LI firm capacity.

Hours at risk

- 11.100 This is the amount of time the substation/substation group demand is above 100% of LI firm capacity during the regulatory year.

LI ranking

- 11.101 This column calculates the LI ranking as directed by the bandings published in Ofgem's Strategy Decision for RIIO-ED1 published in March 2013:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

LI ranking	Loading percentage	Duration factor
LI1	>=0 and <80	n/a
LI2	>=80 and <95	n/a
LI3	>=95 and <99	n/a
LI4	>=99	<9 hours
LI5	>=99	>=9 hours

LI risk points

11.102 The calculation is the product of the number of customers on a substation/substation group and the weighting assigned for the LI ranking, as shown in the table below:

LI ranking	LI risk point weighting
LI1	1
LI2	1
LI3	1
LI4	20
LI5	100

FORECAST LOAD INDEX MAX DEMAND**Historic and forecast max demand (MVA) - excluding forecast reinforcement / including contracted non-firm demand**

11.103 Historic “LOAD INDEX MAXIMUM DEMAND” should be provided on an annual basis covering the period 2015/16 – 2025/26. Forecast “LOAD INDEX MAXIMUM DEMAND” should be provided to the end of the tRESP short term pathway (2034/35). This figure should exclude any forecast impact of increased/ decreased levels of non-firm demand connected in future years, or the impact of flexibility services, or reinforcement investment undertaken/ forecast to be undertaken in the ED3 period.

FORECAST LOAD INDEX FIRM CAPACITY

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**Historic and forecast firm capacity (MVA) - including forecast ED3 reinforcement / including actual/ forecast RIIO-ED1 reinforcement and all contracted DSR impact**

11.104 Historic “LOAD INDEX FIRM CAPACITY” and forecast “LOAD INDEX FIRM CAPACITY” should be provided on an annual basis covering the period 2015/16 – 2032/33. This figure should include any forecast impact of reinforcement investment undertaken/ forecast to be undertaken in ED3. Where actual maximum demand levels are available for the 2025/26 reporting year, these should be included in the 2025/26 input cells as though they are a forecast.

LOAD INDEX - 31 March 2028 (start of ED3)**31 March 2028 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (start of RIIO-ED3)**

11.105 This calculates the 2028 Maximum Demand as % of Substation Firm Capacity for each substation as forecast for the start of the ED3 period. The figures for Firm capacity should reflect any interventions carried out, or forecast to be carried out in RIIO-ED2.

31 March 2028 forecast hours / energy at risk (start of RIIO-ED3)

11.106 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2027/28 reporting year. The figures for Firm capacity should reflect any interventions carried out, or forecast to be carried out in RIIO-ED2.

Load Index rating (start of ED3)

11.107 Each substation’s forecast Load Index rating at 31 March 2028.

LOAD INDEX - 31 March 2035 (with no further ED3 intervention)**31 March 2033 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (with no further RIIO-ED2 intervention)**

11.108 This calculates the 2035 Maximum Demand as % of Substation Firm Capacity for each substation as forecast without ED3 interventions.

31 March 2035 forecast hours / energy at risk (with no further RIIO-ED3 intervention)

11.109 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2034/35 reporting year without ED3 interventions.

Load Index rating (2033 without intervention)

11.110 Each substation’s forecast Load Index rating during 2034/35 without ED3 interventions.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Expenditure

Historic and forecast reinforcement expenditure (£m)

11.111 Historic and forecast expenditure should be provided on an annual basis covering the period 2015/16 – 2032/33. Where the demand growth at a particular site requires a new substation to be constructed, the expenditure should be populated against the substation that's demand growth is the main driver for the investment.

P2 Compliance

11.112 This column records details of any P2 derogation associated with the substations/substation groups.

11.113 This column must be completed for all substations/substation groups currently ranked as LI3, LI4 and LI5. It is recognised that not all these substations/substation groups will require intervention as this depends on DNOs policies and approaches to compliance with P2.

- Where a derogation is in place select “Yes, in place”
- Where a derogation is anticipated select “Yes, anticipated”. This situation would arise where a substation/substation group is forecast to require intervention, but the planned intervention may be subject to delays and as a consequence the substation/substation group would become non-compliant with P2
- Where a derogation will be avoided due to interventions taking place select “No, avoided”
- Where a derogation is not required due to P2 requirements being met without intervention select “Not required”
- Where a substation/substation group is LI1 – LI2 select “n/a”

Intervention Details

Intervention action during ED3

11.114 This column is used to indicate where some form of intervention action that impacts the substation/substation group, is forecast to take place during the ED3 period and demand growth is the main driver for the investment.

11.115 Where a demand driven intervention is forecast to complete in ED3 this should be marked as ‘Yes’.

11.116 Where an intervention is forecast, but demand growth is not the main driver (eg non-LRE activities), this could affect the forecast firm capacity but should be marked as ‘No’ in this column.

DNO reference for intervention (eg project id)

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

11.117 This is the unique reference used by the DNO for the intervention project. The same reference may be used on different rows where a project impacts more than one substation (eg where the installation of a new substation off-loads two existing substations).

11.118 In some cases more than one reference may be required where a DNO uses more than one project for an intervention.

N-1 or N-2 intervention?

11.119 This column indicates whether the intervention is to resolve a single circuit outage (select “n-1”) or second circuit outage (select “n-2”) issue. Engineering recommendation P2 specifies when an n-2 assessment is required.

11.120 Leave blank if there is no intervention.

Total ED3 Expenditure (Conventional / Innovation / Flexibility)

11.121 This column records the forecast expenditure associated with the Conventional / Innovation / Flexibility intervention.

Firm capacity change resulting from intervention (Conventional/Innovation)

11.122 This column records the change in firm capacity (in MVA) that is delivered by the intervention.

11.123 Any change in firm capacity must only be stated once the intervention is commissioned. For multi-year projects that have staged commissioning, the intervention can only be recognised on commissioning of the entire scheme.

11.124 Conventional interventions tend to lead to discrete step changes in capacity, but since innovative solutions, by their nature, can lead to variable changes in capacity, the approach to specifying the change in capacity is more complex.

11.125 It is also anticipated that innovative solutions will continue to be developed during RIIO-ED3, so it is not possible to pre-define how these should be dealt with.

11.126 To enable DNOs to specify the capacity added for innovative solutions the following guiding principles apply:

- DNOs should determine and define how they calculate additional capacity for each innovative solution
- the methodology should be described in the commentary
- following annual submissions of data, Ofgem may identify whether there is a need for standardisation of the calculation methodology where innovative solutions are being used more widely

Demand change resulting from intervention (Conventional/Innovation)

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- 11.127 This column records the change in demand (MVA) that arises following the intervention. This may be positive where demand is increased (eg when a new substation is installed and loaded) or negative where demand is off-loaded to another substation.
- 11.128 For conventional interventions the change in demand should be based upon the new normal running arrangement (eg based upon a new split point on the network).
- 11.129 Innovative solutions may lead to dynamic operation of the network where the split points change to balance load or reduce losses.
- 11.130 To enable DNOs to specify the demand change for innovative solutions the following guiding principles apply:
- DNOs should determine and define how they calculate the demand change for each innovative solution
 - the methodology should be described in the commentary
 - following annual submissions of data, Ofgem may identify whether there is a need for standardisation of the calculation methodology where innovative solutions are being used more widely

Demand change resulting from intervention (Flexibility)

- 11.131 This column records the change in demand (MVA) that arises following the intervention. This may be positive where demand is increased (eg when a new substation is installed and loaded) or negative where demand is off-loaded to another substation

Intervention description

- 11.132 This column allows DNOs to provide a brief narrative description of the intervention. This will be used to group similar activities when comparing costs.
- 11.133 Typical examples of conventional solutions are:
- Uprating of transformers
 - Installation of additional transformer
 - Uprating upstream circuit
 - Uprating current transformers
- 11.134 Typical examples of innovative solutions are:
- Dynamic asset ratings
 - Load balancing schemes
 - Energy storage
 - LOAD INDEX - 2035 (with RIIO-ED3 network interventions [excl. flex])

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance**31 March 2035 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (with RIIO-ED3 network interventions)**

11.135 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2034/35 reporting including reinforcement interventions in the ED3 period (including flexibility).

Load Index rating (with RIIO-ED3 interventions, including flexibility)

11.136 This calculates each substation's forecast Load Index rating during 2034/35 including reinforcement interventions in the ED3 period (including flexibility).

Load Index - Weighted Risk Score

Start of ED3

11.137 This column calculates the Load Index Weighted Risk Score at the start of the ED3 price control period for each substation.

11.138 The score is derived by using the Load Index (LI) band for each substation, the corresponding LI score is then multiplied by the number of customers supplied to produce a customer-weighted measure of loading risk.

2035 – Without Investment

11.139 This column calculates the Load Index Weighted Risk Score for each substation in 2035 assuming no ED3 network investment or ED3 funded flexibility.

11.140 The score is derived by using the Load Index (LI) band for each substation based on 2035 demand forecasts and existing network capacity. The corresponding LI score is then multiplied by the number of customers supplied to produce a customer weighted measure of loading risk, representing the counterfactual risk position without ED3 interventions.

2035 – With ED3 Network Investments (excl. flex)

11.141 This column calculates the Load Index Weighted Risk Score for each substation in 2035 following the delivery of ED3 network reinforcement, excluding the impact of flexibility.

11.142 The score is derived by using the Load Index (LI) band for each substation after incorporating additional firm capacity provided by ED3 network investments. The corresponding LI score is then multiplied by the number of customers supplied to produce a customer weighted measure of loading risk, reflecting the reduction in loading risk attributable solely to physical reinforcement.

2035 – With ED3 Investments (incl. flex)

11.143 This column calculates the Load Index Weighted Risk Score for each substation in 2035 following the delivery of all ED3 investments, including both network reinforcement and flexibility interventions.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

11.144 The score is derived by using the Load Index (LI) band for each substation after accounting for additional firm capacity from ED3 network investments and capacity contributions from flexibility. The corresponding LI score is then multiplied by the number of customers supplied to produce a customer weighted measure of loading risk, reflecting the combined impact of reinforcement and flexibility.

Load Index Risk Delta (excl. flex)

11.145 This column calculates the change in the Load Index Weighted Risk Score resulting from ED3 network investments only, excluding flexibility.

11.146 The risk delta is derived as the difference between the 2035 – Without Investment weighted risk score and the 2035 – With ED3 Network Investments (excl. flex) weighted risk score. This provides a customer weighted measure of risk reduction attributable to ED3 physical network reinforcement.

Fault Level Index

11.147 The Fault Level Index (FLI) table provides a risk-based measure detailing substations approaching/exceeding fault level rating. The table should be completed to include all relevant substations where fault levels are constrained or are forecast to exceed equipment ratings.

11.148 This table should be populated on a similar basis as the technical data in CV3 reporting the number of switchboards / busbars affected by fault level issues.

Substation

11.149 This column should be populated with a unique name for each substation. The DNO should include all substations reported via LTDS. At HV it is sufficient to include only substations where fault levels are constrained, or forecast to exceed equipment ratings.

Switchboard/busbar voltage

11.150 This column should be populated with the operating voltage of the switchboard/busbar (132kV/EHV/HV). Where switchgear exists at multiple voltage at a substation, separate rows should be used for each voltage level.

No. Of Customers

11.151 This column should be populated with the number of customers supplied from the substation.

CURRENT FAULT LEVEL (2025/26)

11.152 This section records the current observed fault level position for the 2025/26 regulatory year reporting:

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- **≤95%:** the number of switchboards/substation busbars at or below 95% of the relevant equipment fault level rating
- **>95%:** the number of switchboards/substation busbars that exceed a fault level duty 95% of their rating
- **Total number of busbars:** calculated as the sum of switchboards/substation busbars ≤95% and >95%.
- **Busbars operationally managed:** the volume of switchboards/substation busbars that are subject to fault level risk mitigation measures (such as operational restrictions).
- **Fault level index risk score:** calculates the fault level index risk score for each substation for the 2025/26 regulatory year
- **Upstream constraint:** Where the fault level at the substation is constrained by fault level limitations arising from upstream (higher-voltage) networks, including transmission networks

FORECAST FAULT LEVEL (2035 – No Intervention)

11.153 This section records the forecast fault level position at 2035 considering tRESP growth, without any ED3 interventions applied:

- **≤95%:** the number of switchboards/substation busbars forecast to be at or below 95% of the relevant equipment fault level rating
- **>95%:** the number of switchboards/substation busbars forecast to exceed a fault level duty 95% of their rating,
- **Total number of busbars:** calculated as the sum of switchboards/substation busbars ≤95% and >95%
- **Busbars operationally managed:** the volume of switchboards/substation busbars that are forecast to require fault level risk mitigation measures (such as operational restrictions)
- **Fault level index risk score:** calculates the fault level index risk score for each substation at 2035, with no ED3 interventions
- **Upstream constraint:** Where the fault level at the substation is forecast to be constrained by fault level limitations arising from upstream (higher-voltage) networks, including transmission networks

INTERVENTION DETAIL

11.154 This section reports the forecast fault level position in 2035 with ED3 interventions applied and provides information on fault level driven interventions. This reports:

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- **Fault Level Intervention during ED3:** This column is used to indicate where some form of intervention action that impacts the substation/substation group, is forecast to take place during the ED3 period - and that fault level is the main driver for the investment. Where a fault level driven intervention is forecast to complete in ED3 this should be marked as 'Yes'. Where an intervention is forecast, but fault level is not the main driver, this should be marked as 'No' in this column
- **DNO reference for intervention (eg project id):** This is the unique reference used by the DNO for the intervention project. The same reference may be used on different rows where a project impacts more than one substation
- **Total ED3 Expenditure:** This column records the forecast expenditure associated with the fault level intervention (aligning with reporting under CV3)
- **Type of intervention:** This column records whether the intervention is conventional, innovation, or mixed (aligning with reporting under CV3).
- **Fault level ranking resulting from intervention including:**
 - **≤95%:** the number of switchboards/substation busbars forecast to be at or below 95% of the relevant equipment fault level rating
 - **>95%:** the number of switchboards/substation busbars forecast to exceed a fault level duty 95% of their rating
 - **Total number of busbars:** calculated as the sum of switchboards/substation busbars ≤95% and >95%
- **Busbars operationally managed:** the volume of switchboards/substation busbars that are forecast to require fault level risk mitigation measures (such as operational restrictions)
- **Fault level index risk score:** calculates the fault level index risk score for each substation at 2035 with ED3 interventions applied
- **Upstream constraint:** Where the fault level at the substation is forecast to be constrained by fault level limitations arising from upstream (higher-voltage) networks, including transmission networks

Fault Level Risk Delta

11.155 This column calculates the change in the Fault Level Weighted Risk Score resulting from ED3 fault level driven investments.

11.156 The risk delta is derived as the difference between the 2035 – Without Investment weighted risk score and the 2035 – With ED3 Network Investments weighted risk score. This provides a customer weighted measure of fault level risk reduction attributable to ED3 fault level reinforcement.

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Fault Level Risk Delta

11.157 These columns calculate the weighted risk score for each substation by multiplying the number of customers supplied by the substation with the following risk weighting:

FL	Weighting
≤95%	1
>95%:	20
Busbars operationally managed	100

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Appendix 1 - Cost Allocation Scenarios Fault and Asset Replacement

Cable scenarios:

Example	RIGS Classification	RIGS Classification
	Fault	Non Fault
An LV UG cable fault requires the length of cable damaged in the fault incident to be replaced to restore the cable to Pre-Fault Availability. The length may vary for different faults because there is no pre-set typical length .	All fault costs	N/A
An LV UG cable fault repair requires an extra length of cable to be installed in addition to the length damaged as a result of the fault incident. This is required either due to having to cut back the existing cable to get to a dry section, or to obtain a suitable jointing position. In both cases the full length is required to restore the cable to pre-fault availability.	All fault costs	N/A
An LV UG cable fault repair also addresses previous cable condition or fault history. The full length was required to be replaced to bring back the asset to Pre-Fault Availability. The existence of cable condition or previous fault data is irrelevant once the requirement to do the work is triggered by a fault.	All fault costs	N/A
An LV UG cable fault requires a length of cable to be replaced but DNO elects to replace additional cable based on fault history. The length required to restore the cable to Pre-Fault Availability is classed as faults, the additional length should be classed as asset replacement. Permissible that this was undertaken at the same time.	Minimum repair of 5m fault costs	45m additional asset replacement
LV UG cable fault repair with defective link box found during restoration (not linked to fault). Cable repair to faults, link box to asset replacement.	Cable repair faults costs	Link box replacement asset replacement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification	
	Fault	Non Fault
A HV UG cable fault requires a length of cable damaged in the fault incident to be replaced to restore cable to Pre-Fault Availability. The length may vary for different faults because there is no pre-set typical length.	All fault costs	N/A
A HV UG cable fault repair is completed during unplanned IIS (interruption incentive scheme) incident. In this case the repair work is completed before customers are restored. The timing of when the repair is completed is not dependent on the completion of an IIS incident. All the costs associated with the repair should be booked to faults.	All fault costs	N/A
A HV UG cable fault repair is completed after customers are restored and IIS incident is closed. In this case the repair work is completed after customers are restored. The timing of when the repair is completed is not dependent on the completion of an IIS incident. All the costs associated with the repair should be booked to faults.	All fault costs	N/A
A HV UG cable fault requires a length of cable to be replaced but prior information exists that the cable had poor fault history. The pre-existence of performance data is irrelevant if the repair is triggered by a fault. All the costs associated with the repair should be booked to faults.	All fault costs	N/A
A HV UG cable fault repair requires a length of cable to be replaced to return the cable to Pre-Fault Availability, but the DNO elects to replace an additional length due to prior information that the feeder had poor fault history. The length required for the fault repair should be classed as faults, the additional length should be classed as asset replacement.	Length required for fault repair treated as fault costs	Additional length to address fault history treated as asset replacement

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification	RIGS Classification
	Fault	Non Fault
A potential LV fault is causing fuses to blow, but supplies are being restored with replacement fuses and there is no clear location of the fault to carry out a repair. To monitor the situation LV fault monitoring devices are installed on the network and these identify the possible location of a joint that is breaking down and sniff tests confirm this. A project is undertaken to overlay a short length of cable to remove this joint before a further faults and loss of supplies occur. The initial costs of restoring supplies and installing devices will be logged as fault costs. The work that involves a planned shutdown and replacement of the short cable length is reported as asset replacement.	Initial costs of restoring supplies and installing devices fault costs	Cable overlay asset replacement
While on an LV mains fault, the cut out in a property is observed to be in poor condition. This does not need to be replaced to repair the LV fault and is not the cause of the fault but while on site this is replaced due to its condition. These additional costs for the replacement of the cut out should be reported as asset replacement.	LV mains fault recorded as fault costs	Cut out change reported as asset replacement
An underground cable fault requires a revised route eg protected trees, which prevent digging along original route. The entire length of the revised section is classified as faults given this is the work undertaken to bring the cable back into Pre-Fault Availability.	All fault costs	N/A
Excavating as a result of an underground fault reveals that the existing cable is shallow and not in conformance with HAUC requirements, therefore additional work is undertaken to lower the cable to the correct depth. The costs of repairing and dropping to the current design depth for the length of cable that would have restored the circuit to Pre-Fault Availability are classified as faults. The	Additional length to address fault history treated as asset replacement	Lowering further sections of cables legal & safety

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification Fault	RIGS Classification Non Fault
additional costs to lower further sections of the cable to the correct depth are classified as Shallow Cables in Legal and Safety		
A fire underneath/near a cable bridge results in a network fault and the need to replace and rebuild the entire structure. To reduce the likelihood of a repeat of this incident additional anti-climbing devices and security are installed as part of the same scheme to replace and rebuild the structure. The costs to replace the cables and replace and rebuild the bridge should be reported in faults. The additional anti-climbing devices and security should be reported in legal & safety.	Cable replacement bridge rebuild fault costs	Additional anti climbing devices and security legal & safety

Overhead line scenarios:

Example	RIGS Classification Fault	RIGS Classification Non Fault
During restoration of supplies for a HV overhead fault it is found that there is a defective pole mounted circuit breaker several poles away not related to initial fault. Since the defective circuit breaker is not related to the fault on the overhead line and its replacement is treated as asset replacement.	HV overhead fault costs	Pole mounted circuit breaker asset replacement
During restoration of supplies for a HV overhead fault it is found that there is a defective pole mounted circuit breaker preventing restoration of supplies. Both the overhead line fault and defective circuit breaker are treated as faults but require separate unplanned incidents to be created.	All fault costs	N/A

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification Fault	RIGS Classification Non Fault
Pole termination fault. On inspection the pole itself is showing signs of deterioration but can still be used (ie the existing pole will need replacing at some point in the future). It is decided to replace the pole at the same time as repairing the termination (rather than attaching the termination to a poor condition pole and then coming back to replace the pole). Since the pole replacement is additional to the work undertaken to restore the termination to Pre-Fault Availability, it is classified as asset replacement.	Termination fault costs	Pole asset replacement

Plant scenarios:

Example	RIGS Classification Fault	RIGS Classification Non Fault
HV switchgear fault requires full replacement of HV switchgear during unplanned IIS incident. In this case the repair work is completed before customers are restored. The timing of when the repair is completed is not dependent on the completion of an IIS incident. All the costs associated with the repair are reported as faults.	All fault costs	N/A
HV switchgear fault requires full replacement of HV switchgear but supplies restored prior to work. In this case the repair work is completed after customers are restored. The timing of when the repair is completed is not dependent on the completion of an IIS incident. All the costs associated with the repair should be booked to faults.	All fault costs	N/A
HV switchgear fault requires full replacement of HV switchgear but supplies restored prior to work – information existed prior to the fault that the equipment was in poor condition. The pre-existence of condition information is not relevant	All fault costs	N/A

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification Fault	RIGS Classification Non Fault
once the fault has occurred. All the costs should be booked to faults.		
HV pole mounted transformer fault requires replacement of transformer during unplanned incident	All fault costs	N/A
HV pole mounted transformer fault requires full replacement of transformer to restore to Pre-Fault Availability but supplies restored prior to work. The timing of when the repair is completed is not dependent on the completion of an IIS incident. All the costs should be booked to faults.	All fault costs	N/A
A ground mounted transformer has faulted and cannot be re-energised so needs to be replaced. The transformer mounted LV cabinet is undamaged in the incident but is not compatible with the new transformer. In this case the work to restore the transformer to Pre Fault Availability is to replace both the transformer and the LV cabinet together with extending and re-terminating the HV and LV cables. This activity should be reported as faults.	All fault costs	N/A
A transformer has faulted and cannot be re-energised so needs to be replaced. The transformer mounted LV cabinet is undamaged in the incident but an assessment is made to indicate it is in poor condition. In this case the minimum fault repair is to replace the transformer, with this work being recorded as faults together with any associated HV cable required to allow the transformer change. The work to replace the LV cabinet should be reported as asset replacement and the associated LV cables as consequential.	Transformer and associated cables fault costs	LV cabinet asset replacement. Associated cables reported as Consequential Assets

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification Fault	RIGS Classification Non Fault
A ground mounted transformer has faulted and cannot be re-energised. The fault has also damaged the LV cabinet beyond repair and this also needs to be replaced. The cost of replacing both of these assets together with any LV and HV cable should be reported as faults.	All fault costs	N/A
A faulty contact on an LV pillar or board has caused the loss of supplies to customer. It is found that the contact cannot be replaced within the existing pillar/board either due to a lack of spares or the board and contact is of an obsolete type. In this case, the solution is to replace the whole pillar or board but due to engineering reasons (compatibility of equipment) the transformer also needs to be replaced. The costs and volumes of all of this work, together with any associated cabling, should be reported as faults.	All fault costs	N/A
While this is not causing any loss of supply a link box is found to have a damaged or deteriorating contact which prevents its use for backfeeding. No fault has occurred so the volumes and costs of replacing this link box should be reported as asset replacement.	N/A	Asset replacement
A link box and its contacts are found to be in good condition, but backfeeding is not possible because the contacts for each way are too misaligned to allow the insertion of fuses or links. No fault has occurred so the costs and volumes of replacing this link box should be reported as asset replacement.	N/A	Asset replacement

EHV/132kV transformer:

Guidance ED3 Business Plan Data Table (BPDT) instructions and guidance

Example	RIGS Classification	
	Fault	Non Fault
There is a fault within a cable termination, that does not damage the rest of the transformer. The costs of remaking the termination, including any associated cable works should be allocated to faults.	All fault costs	N/A
Fault within a tap-changer, but there is no damage to the main transformer windings. The tap-changer is of a type that can be changed without the need for changing the transformer. The costs of repairing the tap-changer is allocated to faults. If at some later point (once it has been restored to Pre-Fault Availability) it is decided that the transformer needs to be replaced this would be allocated to asset replacement.	Tap changer fault costs	Subsequent Transformer change - asset replacement
Fault within a tap-changer, but the transformer is of a type where the whole transformer needs to be changed to restore it to Pre-Fault Availability. All the costs of replacing the transformer should be allocated to faults.	All fault costs	N/A
Fault within a transformer requiring the whole transformer to be changed. All the costs of replacing the transformer should be allocated to faults.	All fault costs	N/A

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Send us your feedback

We are keen to receive your feedback about this guidance. We would also like to get your answers to these questions:

- Do you have any comments about the quality of this guidance?
- Do you have any comments about its tone and content?
- Was it easy to read and understand? Or could it have been better written?
- Do you have any further comments?

Please send your feedback to stakeholders@ofgem.gov.uk.