Annex B – Costs and volumes DRAFT

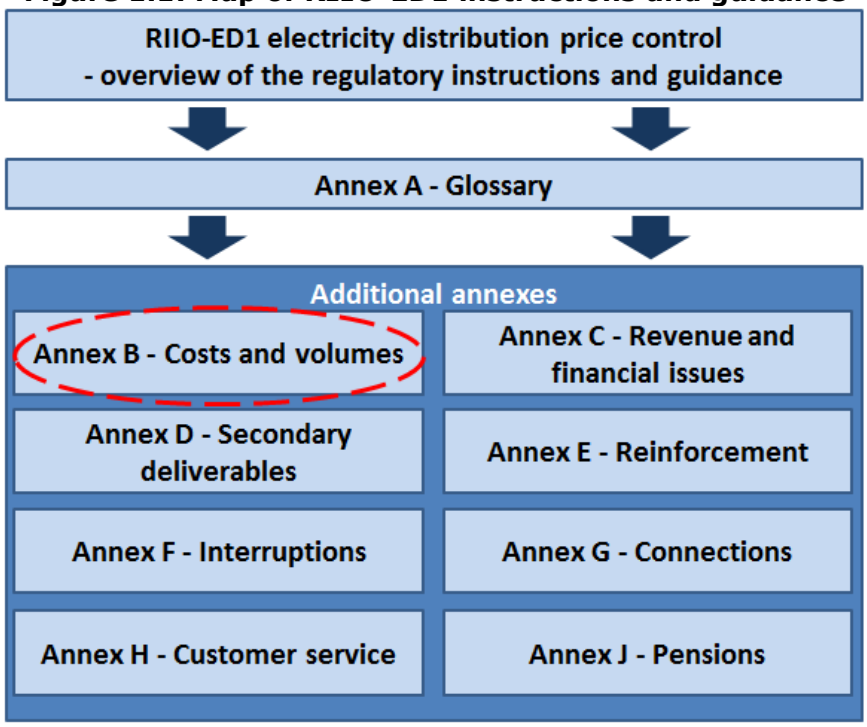
1. Introduction

Scope of this document

1.1. This document is part of the regulatory instructions and guidance (RIGs) for RIIO-ED1. The term RIGs refers to a collection of documents – our instructions and guidance, and the reporting pack and commentary templates the DNOs have to fill out.

1.2. Figure 1.1 shows all the instructions and guidance documents for the RIIO-ED1 RIGs. This document, circled in red, is one of a series of annexes containing instructions and guidance. They provide electricity distribution network operators (DNOs) with information on how to fill in the Costs and Volumes Reporting Pack and commentary template.

Figure 1.1: Map of RIIO-ED1 instructions and guidance



1.3. This document should be read in conjunction with:

- the RIIO-ED1 electricity distribution price control – overview of the regulatory instructions and guidance document
- the associated Microsoft Excel® reporting pack template named "Costs and Volumes Reporting Pack"
- the associated Microsoft Word® commentary template [to be developed].

1.4. The purpose of the information we collect in the Costs and Volumes Reporting Pack is to monitor DNOs performance in RIIO-ED1 and to provide information that will inform the next price control review.

General instructions for completing the worksheets

Reporting pack template

1.5. Cells in the worksheets are colour coded to reflect the action required.

	Input cells
	Total cells/averages/calculations
	Link to cells within worksheet
	Referencing to other worksheets
	Referencing to other workbooks
	Check cells
	No Input
	Descriptions and pack data

1.6. Values must be entered in the column corresponding to the regulatory year under report and any previous regulatory years. For example, data reported for regulatory year 2018-19 should be reported under the column headed 2019.

1.7. Some of the worksheets in this reporting pack are designed to link to other RIGs reporting packs. The DNO must save the workbooks on their own systems and re-establish the links to operate correctly.

1.8. 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 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 can be left as a blank.

Costs

1.9. DNOs must provide the in the prices of the year under report (ie, 2015-16 data should be in 2015-16 prices). Ofgem will provide the RPI indices to use for deflation/inflation purposes. Actual costs should be entered inclusive of real price effects RPEs.

Allocation of indirects

1.10. The DNO must provide their methodology for allocating indirects with each submission of the C&V Reporting Pack. Any changes to the methodology from the previous year should be highlighted.

Cost type split

1.11. The costs reported are differentiated into cost types. The following lists the costs types used in the C&V Reporting Pack. Definitions of each of the Cost Types are to be found in Annex A - glossary.

- Labour
- Pensions
- Contractors
- Materials
- Wayleaves (including Easements/Servitudes)
- Road Charges
- Other
- Related Party Margins
- Customer Contributions
- Cost Recoveries.

1.12. All numbers must be entered as positive, including Customer Contributions and Cost Recoveries.

Income

1.13. All income must be entered as a positive. The income must be that which is shown in the Profit and Loss Account (Income Statement), and itself would represent the income on a WIP basis. Any values not shown on a WIP basis must be highlighted in the commentary showing the financial impact of the divergence from that policy.

Indirect Activity Allocation

1.14. All costs allocated to indirect activities in worksheet C1 must be entered as a negative.

2. Instructions for completing admin, overview and driver worksheets

Cover sheet

2.1. This sheet is used for the DNO to enter key data including the DNO name, the reporting year and the names of related parties. The names of the related parties are linked to the relevant worksheets in the C&V reporting pack.

2.2. DNOs should maintain the same naming convention for related parties across reporting periods where possible and ensure that the related parties are entered in the same cells across reporting periods to avoid confusion comparing different packs.

2.3. The DNOs should enter the name of any relevant related party in rows 19-33. This will automatically link to the C1 matrices. These are the only entry cells in the cover sheet.

Log

2.4. This sheet is used for Ofgem to enter the version of the C&V reporting pack in use, should changes be made.

Navigation

2.5. This worksheet details what tables are contained within the workbook, and provides hyperlinks to all the tabs.

CS1 – check sheet

2.6. This worksheet collects together the results of all the checks included within the workbook to provide an easy reference to determine whether there are any clear errors in the pack.

2.7. The DNO is not required to input any data on this worksheet.

I1 - PCFM inputs 2012-13

2.8. [Note the linking is still to be developed]

2.9. The purpose of this table is to convert the data summarised in I2 – PCFM Inputs Nominal into 2012-13 prices. This information will be used as inputs to the ED1 Price Control Financial Model (PCFM) and therefore must be in 2012-13 prices.

This information will be used in the Annual Iteration Process for the ED1 PCFM. Conversion to 2012-13 prices uses information in worksheet D4 - RPI

2.10. Allowed expenditure for specified areas is also derived from information submitted in the RIGs. These areas are:

- visual amenity projects
- worst served customers
- smart meter roll-out.

2.11. Allowed expenditure for each of these areas is calculated based on actual expenditure and volume information. The formulae contained in the relevant licence conditions is replicated in this worksheet. The information required is:

- Actual expenditure or volumes - submitted in relevant worksheets of the reporting pack template.
- Fixed values from the relevant conditions of the electricity distribution licence – contained in worksheet I4 – licence values. These values are fixed and no input is required from DNOs.

2.12. The Authority may direct revised PCFM variable values for these areas. To ensure that the information in the RIGs is up-to-date DNOs are required to input the directed PCFM variable values in the relevant yellow cells in this worksheet. DNOs are only required to input values for the regulatory years prior to the regulatory year under report.

I2 - PCFM inputs nominal

2.13. [Note the linking is still to be developed]

2.14. The purpose of this table is to summarise the data that is submitted by DNOs in the RIGs and used in the ED1 Price Control Financial Model (PCFM). The information in this table is in nominal prices.

2.15. No input is required from DNOs. This worksheet links to other worksheets in the reporting pack.

2.16. Actual totex expenditure is derived from information submitted by DNOs in other worksheets of the reporting pack. It is split between 7 categories, the PCFM cost type split. Actual non-load related capex – other requires disposal proceeds from the sale of network assets to be netted off. This calculation is in this worksheet. Actual controllable opex requires income from theft recovery and value added services (DRS 8) net income/costs to be netted off. This calculation is in this worksheet.

2.17. This worksheet also collates information used to derived allowed expenditure in the following areas:

- Visual amenity projects

- worst served customers
- smart meter roll-out.

I3 – uncertainty mechanism information

2.18. [Note the linking is still to be developed]

2.19. The purpose of this table is to provide a summary of information on expenditure on areas that are subject to an uncertainty mechanism. This information is not directly used in the PCFM but may be used to inform revisions to relevant PCFM variable values.

2.20. No input is required from DNOs. This worksheet links to other worksheets in the reporting pack template.

I4 – licence values

2.21. The purpose of this table is to provide information that is in the licence that is needed for calculations used to derive PCFM variable values. This information is used in worksheet I1 – PCFM inputs 2012-13 and, in the case of Forecast amount related to theft recovery in the worksheet R1 – Theft Recovery.

2.22. No input is required from DNOs.

I5 – Revenue reporting inputs

2.23. [Note the linking is still to be developed]

2.24. The purpose of this table is to summarise the information submitted in this reporting pack template that is used in the Revenue Reporting Pack and Financial Issues Reporting Pack.

2.25. No input is required from DNOs. This worksheet links to other worksheets in the reporting pack template.

R1 – theft recovery

2.26. The purpose of this worksheet 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.

2.27. Reported income from theft recovery (rows 9 to 11) is automatically deducted from actual controllable opex (ACO) in worksheet I2 – PCFM inputs nominal. The

purpose of this is to ensure that the reported income is shared with consumers via the Totex Incentive Mechanism.

2.28. This worksheet excludes the reporting of income from services provided under DRS5. Revenue protection services which should be reported under C19 - DRS.

2.29. The following terms are defined in Annex A - glossary:

- Income from theft recovery = recovery of costs + recovery of value of electricity taken – Forecast amount of revenue relating to theft recovery[1]
- Total costs incurred in respect of relevant theft of electricity.

2.30. When reporting under:

- recovery of value of electricity taken (row 9), KWh means the units of electricity unaccounted for that can be attributed to the reported income from theft recovery.
- recovery of costs (row 10), 'cases' refers to the number of successful cases (ie, where income from theft recovery has been reported in this worksheet).

2.31. Total costs incurred in respect of relevant theft of electricity (row 14) is for information only and does not feed into any calculations elsewhere in this workbook. The costs are captured in other activities reported in this workbook 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)
- successful cases (where income from theft recovery has been reported)
- unsuccessful cases (where no income from theft recovery has been reported).

2.32. Additional data and commentary on distribution losses related activities is reported in M5 - losses. This includes information specific to initiatives to address electricity theft.

D1 - drivers

2.1. This worksheet is for the input of cost driver information, which may be used for future and within period benchmarking.

2.2. This table should be completed with the following data, on an annual basis (based on actuals and forecast data as appropriate):

[1]DNOs are not required to report the forecast amount of revenue relating to theft recovery in the RIGs. If applicable to the calculation of income from the theft recovery, the amount is automatically included within any deduction from ACO in worksheet I2 – PCFM inputs nominal.

- Number of customers
- Units distributed
- Network-wide peak demand
- Unplanned customer interruptions
- Unplanned customer minutes lost
- MEAV
- Other MEAV variations used for benchmarking.

2.3. The units for reporting the cost drivers are:

- The number of customers which will match the customer number as provided to Ofgem as part of the IIS return.
- The gigawatt hours distributed by the network.
- The total volume of demand (MVa) at the 12 month peak half-hour period. This should be captured in line with the Distribution code definition of Peak Demand, but should be measured in line with the substation maximum demand that is incorporated into the Load Index.
- MEAV, this is the Modern Equivalent Asset Value. This would be the cost of rebuilding a network from scratch using currently available equipment. This will be automatically calculated from the D3 – MEAV worksheet.

D2 - FTEs (full time equivalents)

2.4. [[to be developed]

D3 - MEAV (modern equivalent asset value)

2.5. [to be developed]

D4 - RPI

2.6. The purpose of this table is to calculate the index needed to convert nominal costs into 2012-13 prices. Costs are needed in this price base in the PCFM. This information is used in worksheet M1a – PCFM Inputs 12-13.

2.7. DNOs are required to input the retail prices index for the relevant regulatory year. DNOs should enter the arithmetic regulatory year average of the general index of retail prices for all items published by the Office for National Statistics (ONS) each month (ONS code name is CHAW). The values entered must be to 3 decimal places.

F1 - forecasts

2.8. [to be developed]

3. Instructions for completing cost worksheets

Purpose of costs worksheets

3.1. The purpose of the costs worksheets is to collect data that can be used to compare these items to allowances and to provide historic and forecast data for trend and benchmarking reviews. The detail in the tables allows benchmarking at the individual activity level as well as at the totex level when all activities are added together.

T1 – summary of C1s (nominal)

3.2. This worksheet is automatically populated from the C1 matrices and allows the monitoring of the total net costs (including pension costs) after allocation for RAV. It summarises:

- Pensions
- Total gross costs
- Total net costs before allocations
- Total net costs after allocation for RAV
- Total net costs after allocation for RAV and reopeners.

T2 – summary of C1s (real)

3.3. This worksheet is automatically populated from the C1 matrices and D4 – RPI. It provides the same detail as T1 but in real terms.

T3 – C1 movements (real)

3.4. This worksheet is automatically populated from the T2 to provide year on year movements in costs.

T4 – Protection summary

3.5. [to be developed]

T5 – Link box summary

3.6. [to be developed]

C1 – summary

3.7. This worksheet is automatically populated from the C1 matrices and provides an in-year summary of each C1 cost matrix. Cell D7 allows the selection of the year. It provides a summary of:

- Cost type split
- Total gross costs
- Total net costs before allocations
- Allocation of Income relating to closely associated indirects
- Allocation of Income relating to Business support costs and IT & Telecoms
- Indirect activity allocations to Connections outside of RAV
- Indirect activity allocations to non-distribution (exc Connections)
- Total net costs after allocation for RAV
- Indirect activity allocation to High Value Projects – reopener
- Indirect activity allocation to High Value Projects – reopener
- Total Net Costs after allocation for RAV and HVP reopener.

C1 – cost matrix

3.8. These worksheets (13 in total for years 2010-11 and 2022-23) allows the monitoring of the total DNO expenditure by high level a**c**tivity and cost type and provides visibility of what costs and incomes are being included in the RAV calculation.

Total Gross Costs and total net cost before allocations (rows 10 to 38)

3.9. Total Gross Costs (row 35) and total net cost before allocations (row 38) and the associated cost type split (rows 11-18 and 36-37) are automatically populated from the relevant C and CV tables that are in row 8.

3.10. Within these rows the only input cells are for related party margins. The gross costs in rows 19-33 and net costs in rows 43-57 should be split by each relevant related party. The related party name is automatically linked from rows 58-72 of the cover sheet.

3.11. All costs relating to connection work to which a regulated or unregulated margin has been applied, will automatically be entered without any margin included from CV1 – connections summary.

Allocation of income relating to closely associated indirects (row 59)

3.12. [to be developed]

Allocation of income relating to business support costs and IT&T (row 60)

3.13. [to be developed]

Indirect Activity Allocations to Connections outside of RAV (row 62-69)

3.14. [to be developed]

Indirect Activity Allocations to Non Distribution (exc Connections) (rows 72-78)

3.15. [to be developed]

Total net costs after allocation for RAV (row 80)

3.16. [to be developed]

Indirect Activity Allocation to High Value Projects – reopener (row 83-89)

3.17. DNOs should input a negative adjustment against the CAI columns (AW to BB) the amount of indirect costs that relate to the High Value Projects – reopener by cost type split.

Overview - C tables

Cost type split

3.18. As noted above, all cost tables (C 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

3.19. Income for customer contributions (rows 18) and cost recoveries (row 19) should be entered as a positive number.

3.20. Entries against customer contributions should relate only to income received from customers. Regarding connection projects, contributions relating to indirect cost incurred on a connection project should be included under the relevant type of connection project, rather than under the particular indirect cost category. All margins charged on connection projects should be included in the amount input as contributions.

Total gross costs and total net costs

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

Category type data

3.22. Some C tables only require the costs by cost type. Other C tables require costs by category type. Category type costs are more disaggregated activity level costs.

3.23. 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.

C2 – IT&T (non op)

3.24. This worksheet provides the prime data entry point for all IT & Telecoms (Non Operational) capex by cost type and category.

3.25. Gross costs should be reported by cost type and for the following categories, which are defined in Annex A - glossary:

- Hardware and Infrastructure Costs
- Application Software Development Costs.

C3 – property (non op)

3.26. This worksheet provides the prime data entry point for all Non-Operational Property capex by cost type.

3.27. Gross costs should be reported by cost type only. No further disaggregation is required.

C4 – vehicles and transport (non op)

3.28. This worksheet provides the prime data entry point for all Vehicles and Transport (Non Operational) Capex by cost type.

3.29. Gross costs should be reported by cost type only. No further disaggregation is required.

C5 – STEPM (non op)

3.30. This worksheet provides the prime data entry point for all Small Tools, Equipment, Plant and Machinery (Non Operational) capex by cost type.

3.31. Gross costs should be reported by cost type only. No further disaggregation is required.

C6 – remote generation (opex)

3.32. This worksheet provides the prime data entry point for Remote Generation (Opex).

3.33. Gross costs should be reported by cost type only and by the following categories defined in Annex A – Glossary:

- Remote Location Generation Operating Costs: Fuel
- Remote Location Generation Operating Costs: O&M.

C7 – core CAI

3.34. This worksheet collects cost type 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.

3.35. Gross costs should be reported by cost type and for the following categories:

- Network Design and Engineering
- Project Management
- Engineering Management and Clerical Support (EMCS)
- System Mapping
- Network Policy.

C8 – wayleaves (CAI)

3.36. The worksheet collects cost type data on the Wayleaves activity to feed the input to the C1 cost matrix. It also provides a split of Wayleaves.

3.37. Gross costs should be reported by cost type and for the following categories, which are defined in Annex A - glossary:

- Wayleaves Payments
- Wayleaves and Easements/Servitudes: Admin Costs.

3.38. It is expected that all Wayleaves Payments costs will be reported under the cost type Wayleaves (inc Easements/Servitudes).

3.39. Costs reported on this table exclude Wayleaves (inc Easements/Servitudes) costs associated with network investment which should be reported on the appropriate table.

C9 – call and control centre (CAI)

3.40. This worksheet collects cost type data on the aggregated total of Call and Control Centre closely associated indirect 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.

3.41. Gross costs should be reported by cost type and for the following categories:

- Control Centre
- Call Centre.

C10 – stores (CAI)

3.42. The worksheet collects cost type data on the Stores closely associated indirect activity to feed the input to the C1 cost matrix.

3.43. Gross costs should be reported by cost type only. No further disaggregation is required.

C11 – operational training (CAI)

3.44. 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.

3.45. Operational Training reports the training of operational staff employed by the DNO or related party. It is this classification of operational staff which drives the distinction of training between operational and non-operational training, and therefore includes all training of operational staff, regardless of whether the training is engineering or non-engineering related. Operational staff are staff employed by the DNO or related party who work directly on the network. These staff are commonly referred to as Craftspersons and Engineers, and these terms are defined in Annex A - glossary.

3.46. Operational Training includes only the training costs of the DNO and its related parties. 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 Non Price Control De-Minimis (C21). Any costs associated with training third party employees within DNO training facilities should also be reported in the same way.

3.47. The key terms used in this worksheet are defined in Annex A - glossary and include:

- Operational Training
- Craftsperson
- Engineer
- Operational Refresher
- Operational Staff
- Non-Operational Staff
- 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.

3.48. The check cells will ensure that the input for total costs by cost type and the costs by category (at gross cost level) reconcile.

3.49. The tables in the workbook 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.

3.50. Learner Costs should be reported as follows:

- New Recruits (in year and previous year) – 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 and Engineers. A unit cost is then calculated automatically by the table.
- Up-skilling – this reports the costs of all operational employees recognised as undertaking up-skilling training, per Annex A - glossary. 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. Training days are defined in Annex A - glossary. These costs and volumes should be reported separately between Craftspersons and Engineers (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 employees attending operational refreshers, per Annex A - glossary. The associated volumes are the number of training days spent on refresher training. No costs or volumes relating to contractor training should be included. Training days are defined in Annex A - glossary. These costs and volumes should be reported separately between Craftspersons and Engineers. A unit cost is then calculated automatically by the table.

3.51. Cost of Training Provision should be reported separately between:

- Trainer and course material costs
- Training Centre and training admin costs

- Recruitment.

3.52. There are no volumes to be reported associated with this area.

3.53. 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.
- 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.

C12 – vehicles and transport (CAI)

3.54. The worksheet collects cost type data on the Vehicles and Transport closely associated indirect activity to feed the input to the C1 cost matrix.

3.55. Gross costs should be reported by cost type only. No further disaggregation is required.

3.56. The key term for this table is defined in Annex A - glossary and is:

- Vehicles and Transport (CAI).

C13 – core BS

3.57. This worksheet collects cost type 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.

3.58. Gross costs should be reported by cost type and for the following categories:

- HR and Non-operational Training
- Insurance totals
- Finance and Regulation
- Fines & Penalties (other than in Streetworks)
- CEO.

3.59. Once the total costs of each sub-activity have been entered, the check cells will ensure that the total gross costs reconcile in line 25.

3.60. Income should; be reported by year for the following categories:

- Insurance – Claims paid out to DNO

- Other Income.

3.61. Once the total income of each sub-activity has been entered, the check cells will ensure that the total income reconciles in line 26.

C14 – IT&T (business support)

3.62. This worksheet provides a cost type split for the IT&T (business support) costs to feed into the C1 table.

3.63. Gross costs should be reported by cost type only. No further disaggregation is required.

3.64. The key term for this table is defined in Annex A - glossary and is:

- IT&T (business support).

C15 – property management (business support)

3.65. This worksheet provides a cost type split for Property Management expenditure and related income by year to feed into the C1 table.

3.66. Gross costs should be reported by cost type only. No further disaggregation is required.

3.67. 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 margin line.

3.68. The key term for this table is defined in Annex A - glossary and is:

- Property Management (business support).

C16 – atypicals non severe weather

3.69. [to be developed]

C17 – atypicals non severe weather (non RAV)

3.70. [to be developed]

C18 – stand alone funding (non RAV)

3.71. [to be developed]

C19 – DRS (directly remunerated services)

3.72. 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 C23 – connections outside price control.

3.73. The DRS categories to be reported in this worksheet are:

- DRS2. Diversionary works under an obligation
- DRS3. Works required by an alteration of premises
- DRS4. Top-up, standby, and enhanced system security
- DRS5. Revenue protection services
- DRS6. Metering Services
- DRS7. Smart Meter Roll-out rechargeable services
- DRS8. Value Added Services
- DRS9. Miscellaneous.

3.74. Revenue for each directly remunerated service should be input in columns AD to AP. Direct costs for each category should be input by cost type. The total gross costs for each directly remunerated service is calculated from this information.

C20 – legacy meters

3.75. Costs and revenue related to legacy metering activity, by category, are reported in this worksheet.

3.76. In the table By Category DNOs should report direct costs and revenue associated with each category of legacy metering activity.

C21 – de minimis

3.77. Costs and revenue for de minimis business activities, by activity, are reported in this worksheet.

3.78. 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.

C22 – other consented activities

3.79. Costs and revenue for other consented activities, by activity, are reported in this worksheet.

3.80. 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.

C23 – connections outside price control

3.81. This worksheet is for the input of connections cost data outside of the price control to feed the input to the C1 cost matrix.

3.82. Gross costs should be reported by cost type only. No further disaggregation is required. Gross costs reported in this worksheet must agree to total costs outside the price control reported in table CR11 in the Connections Reporting Pack.

C24 – out of area networks

3.83. Costs and revenue for out of area networks, by category, are reported in this worksheet. These categories are:

- Out of area networks - Network Investment
- Out of area networks - Network Operating Costs
- Out of area networks – Use of System.

3.84. In the table By Category DNOs should report direct costs and revenue associated with each category of out of area networks.

C25 – atypicals non severe weather non price control

3.85. [to be developed]

C26 - pass-through items

3.86. 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.

3.87. The pass-through items reported in this worksheet are:

- Licence fee payments
- Business Rates payments
- Pass-through Transmission Connection Point Charges
- Smart Meter Communication Licensee Costs
- Smart Meter Information Technology Costs
- Ring Fence Costs
- Shetland Variable Energy Costs.

3.88. In the table By Category DNOs should report costs for each pass-through item listed above, except Shetland Variable Energy Costs. Shetland Variable Energy Costs

should be reported under three subcategories contained in the table Components of the Shetland Variable Energy Costs

3.89. Only SSEH is required to report costs for the subcategories of Shetland Variable Energy Costs.

C27 – non activity based costs

3.90. [to be developed]

C28 – related party margin

3.91. [to be developed]

4. Instructions for completing cost and volume worksheets

Purpose of cost and volume worksheets

4.1. The data in the C tables can be used to compare these items to allowances and to provide historic and forecast data for trend and benchmarking reviews. The detail in the tables allows benchmarking at the individual activity level as well as at the totex level when all activities are added together.

Overview

Cost type split

4.2. The costs in all CV tables must be differentiated into cost type. 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

4.3. Income for customer contributions (rows 18) and cost recoveries (row 19) should be entered as a positive number.

4.4. Entries against customer contributions should relate only to income received from customers. Regarding connection projects, contributions relating to indirect cost incurred on a connection project should be included under the relevant type of connection project, rather than under the particular indirect cost category. All margins charged on connection projects should be included in the amount input as contributions.

Total gross costs and total net costs

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

Category type data

4.6. Some CV tables only require the costs by cost type. Other C 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.

4.7. 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.

Asset base

4.8. 23 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 25-158). These asset movements are then linked to the summary volumes tables for each year (V3 – volume matrices) and then to V2 - total asset movements. The following CV tables require this data:

- CV1 – connections summary
- CV2 – primary reinforcement
- CV3 – secondary reinforcement
- CV4 – fault level reinforcement
- CV6 – diversions
- CV7 – diversions rail electrification
- CV8 – asset replacement
- CV13 – Black Start
- CV14 – BT21C
- CV15 – legal and safety
- CV16 – QoS and North of Scotland resilience
- CV17 – flood mitigation
- CV19 – Rising Laterals and Mains
- CV20 – OH clearances
- CV23 – Losses
- CV24 – Environmental Reporting
- CV25 – High Value Projects
- CV26 – Faults
- CV27 – Severe Weather
- CV28 – ONIs
- CV35 – NIA
- CV36 – NIC
- CV37 – Low Carbon Network Fund.

CV1 – connections summary

4.9. This worksheet is for the input of connections cost data to C1 and asset volumes data to V2.

4.10. The cost data reported in this table relates to Connections costs within the Price Control only, which comprises:

- Connection projects DPCR4
- Element of connection that is subject to the apportionment rules - Customer Funded
- Element of connection that is subject to the apportionment rules - Duos Funded.

4.11. Costs are reported by cost type only to input to C1. Disaggregation of the activities listed above can be found in table CR11 in the Connections Reporting Pack. Costs reported in this table in the C&V Reporting Pack must agree to total costs inside the price control reported in table CR11 in the Connections Reporting Pack.

4.12. This asset volume data reported in this worksheet relates to asset movements for all Connections activity whether the activity is within or outside of the Price Control. This is because it is not possible to split assets between these activities.

CV2 – primary reinforcement

4.13. This worksheet captures reinforcement activity on the primary network (33kV and above).

4.14. 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.

4.15. 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 (in MVA) by three types of intervention:

- Conventional – substation: reinforcement using Conventional Solutions at the substation
- Conventional – circuit: reinforcement using Conventional Solutions on circuits
- Innovative: any Innovative Solution

4.16. 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. 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.

4.17. The costs and capacity released must be reported in the correct row for the voltage on either side of the substation or substation group affected by a constraint.

4.18. 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. The DNOs should describe the substation constraints (if any) in the commentary to this worksheet.

4.19. 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.

The DNOs should describe the activities reported in the Other Reinforcement Activities table in the commentary to this worksheet.

4.20. The total gross costs should be split by cost type at the top of the worksheet.

4.21. This worksheet requires the reporting of asset additions and disposals as a result of primary reinforcement.

CV3 –secondary reinforcement

4.22. This worksheet captures reinforcement activity on the secondary network (LV and HV). This information will be used to track the price control settlement. DNOs must report work undertaken to manage capacity constraints affecting either a substation or circuit.

4.23. For capacity constraints affecting a substation, the table is disaggregated between reinforcement done at pole mounted and ground mounted substations. The type of solution is disaggregated between Conventional and Innovative solutions. Innovative solutions are those that the DNO has included in the Innovative Solutions worksheet. Conventional solutions are any other activities. The DNO must provide the capacity released by the work (in MVA). For Innovative solutions where a firm capacity is not available, this should be calculated as set out in the guidance to the Innovative Solutions worksheet. If a reinforcement scheme includes both Innovative and Conventional solutions, the capacity should be apportioned between the two categories on the basis of the capacity released by each solution type. The cost should be apportioned on the basis of the cost of each solution type.

4.24. For capacity constraints affecting a circuit, the table is disaggregated between reinforcement on overhead lines and underground cables. This is also disaggregated between LV and HV network. The type of solution is disaggregated between Conventional and Innovative solutions. Innovative Solutions are those that the DNO has included in the Innovative Solutions worksheet. Conventional solutions are any other activities. The DNO must provide the number of times reinforcement is required as the volume of activity. If a reinforcement scheme includes both Innovative Solutions and Conventional Solutions, it should be attributed to the type of solution with the highest proportion of costs.

4.25. There is a table for reporting other reinforcement activities. Only use 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. However, DNOs must report socialised reinforcement activity that is required as a consequence of Standard Licence Condition 13C which would otherwise have been recovered through connection charges. The DNOs should report the volume as the number of times a reinforcement scheme is required.

4.26. The total gross costs should be split by cost type at the top of the worksheet.

4.27. This worksheet requires the reporting of asset additions and disposals as a result of secondary reinforcement.

CV4 – fault level reinforcement

4.28. [to be developed]

CV5– TCP (transmission connection points)

4.29. [to be developed]

CV6 - diversions

4.30. This table is for the input of cost and volumes data for:

- The conversion of wayleaves to easements, easements, injurious affection 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).

4.31. Costs and volumes associated with diversion activity necessitated by rail electrification work should be recorded in on table CV7 Diversions for Rail Electrification.

4.32. The sum of CV6 Diversions and CV7 Diversion for Rail Electrification should amount to the total overall expenditure and workload for diversionary activities.

4.33. The total activity volumes and direct costs are to be reported by voltage and activity categorisation listed within the worksheet. The worksheet contains the following activity categories, which are defined in Annex A - glossary:

- Conversion of wayleaves to easements, easements, injurious affection
- Diversions due to Wayleave Terminations etc.
- Diversions for Highways (funded as detailed in NRSWA).

4.34. For the purposes of this worksheet, volumes must only be recorded once the claim is settled or the diversion completed.

4.35. 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.

4.36. The total gross costs should be split by cost type at the top of the worksheet.

4.37. This worksheet requires the reporting of asset additions and disposals as a result of Diversion programmes.

CV7 – diversions (rail electrifications)

4.38. This table is for the input of cost and volume data for diversionary activities relating to Network Rails electrification programme. It includes both diversions due to wayleave terminations and diversions for highways work which is part-funded by the DNO (as detailed in NRSWA).

4.39. Costs and volumes associated with diversion activity not necessitated by rail electrification work should not be reported in CV7 Diversions for Rail Electrification. Instead, these costs and volumes should be reported in table CV6 Diversions.

4.40. The sum of CV7 Diversions for rail electrification and CV6 Diversion should amount to the total overall expenditure and workload for diversionary activities funded by the DNO.

4.41. There are two sections within this worksheet requiring population with activity volumes and direct costs:

- the first section requires reporting by activity and voltage on an annual basis
- the second section requires reporting by individual electrification project.

4.42. These sections should reconcile.

4.43. Both sections of the worksheet contain the following activity categories, which are defined in Annex A - glossary:

- Diversions – Wayleave terminations
- Diversions – Highways (funded as detailed in NRSWA).

4.44. For the second 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, length of lines diverted 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.

4.45. A diversion includes all work and equipment utilised in the scheme. Although a diversion scheme 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.

4.46. For the purposes of this worksheet, volumes must only be recorded once the diversion is completed.

4.47. The total gross costs should be split by cost type at the top of the worksheet.

4.48. This worksheet requires the reporting of asset additions and disposals as a result of Diversion programmes.

CV8 – asset replacement

4.49. This worksheet is for the input of cost and volume data for condition based replacement of assets and civil works driven by asset replacement.

4.50. This worksheet requires the reporting of asset additions and disposals as a result of the asset replacement programme.

4.51. There are two activities recorded within this worksheet:

- Asset Replacement
- Civil works driven by asset replacement.

4.52. No civil works costs or volumes are to be entered in the asset replacement tables.

4.53. The total additions for each class of asset and direct costs are to be reported by the applicable voltage and categorisation listed within the worksheet. The number of units of each asset must be entered into the respective Volumes cells.

4.54. The Unit Cost tables on the right of the worksheet are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.55. The next table in this worksheet is for the reporting of the total number of Disposals for each asset category that is listed.

4.56. The costs for each asset category need to be reported by cost type split in top table. This cost type split should be inclusive of both asset replacement and civil works driven by asset replacement.

4.57. All asset categories listed within this worksheet are defined in Annex A - glossary.

4.58. Within the commentary document by asset category and voltage block provide details of the current position in the investment cycle. Those replaced assets which were the focus during DPCR5 and those assets which will be the focus of the asset replacement strategy during RIIO-ED1 and a high level view of RIIO-ED2 should be identified.

4.59. The table at the bottom of the worksheet civil works driven by asset replacement, records the number of items where civil works have been undertaken

as a result of the replacement of an asset. For example the number of HV assets where civil engineering work is taking place as a result of the replacement of HV switchboards.

4.60. No civil works costs or volumes should be entered in the asset replacement table.

4.61. The civil works driven by asset replacement records the number of works taken place during the reporting year by voltage level (HV, 33kV, 66kV and 132kV).

4.62. Gross costs should also be reported by cost type at the aggregated asset replacement activity level to feed the input to the C1 cost matrix.

4.63. Gross costs should be reported by cost type at the aggregated asset replacement activity level to feed the input to the C1 cost matrix. The cost type split is to contain the costs of both asset replacement and civil works driven by asset replacement.

4.64. This worksheet requires the reporting of asset additions and disposals as a result of the asset replacement programme.

CV9 – refurbishment no SDI and CV10 – refurbishment SDI

4.65. There are two refurbishment worksheets:

- CV9 – Refurbishment No SDI
- CV10 – Refurbishment SDI.

4.66. These tables are for the input of cost and volume data related to Refurbishment works.

4.67. The two separate worksheets enable expenditure for activities that have the potential to impact Network Asset Secondary Deliverables, to be separately identified from all other Refurbishment expenditure.

4.68. Some, but not all, asset types are included in the Network Asset Secondary Deliverables for RIIO-ED1. The asset types where Network Asset Secondary Deliverables are agreed may differ between licensees.

4.69. A licensees performance in delivering the Network Asset Secondary Deliverables is assessed based upon the change in Network Asset Indices associated with Asset Replacement and Refurbishment activities (including High Value Projects where the primary driver is Asset Replacement or Refurbishment).

4.70. There are two types of Refurbishment activity:

- Type 1: Refurbishment activities that, if the licensee were to agree (either currently, or in the future) a Network Asset Secondary Deliverable for the relevant asset type, would relate to interventions that would be included in the measure of delivery of the Network Asset Secondary Deliverables. All Type 1 Refurbishment activities are reported on worksheet CVXX – Refurbishment SDI, irrespective of whether the licensee has agreed Network Secondary Deliverables.
- Type 2: Refurbishment activities that, if the licensee were to agree (either currently, or in the future) a Network Asset Secondary Deliverable for the relevant asset type, would relate to interventions that are not included in the measure of delivery of the Network Asset Secondary Deliverables. All Type 2 Refurbishment activities are reported on worksheet CVXX – Refurbishment No SDI, irrespective of whether the licensee has agreed Network Secondary Deliverables.

4.71. Refurbishment activities that are reported in the Refurbishment – SDI worksheet are identified in the Condition Based Task Allocation Tables in Annex A - glossary. These are Type 1 activities.

4.72. Refurbishment activities that are reported in the Refurbishment – No SDI worksheet are identified in the Condition Based Task Allocation Tables in Annex A - glossary. These are Type 2 activities.

CV9 – refurbishment No SDI

4.73. This table is for the input of cost and volume data related to Type2 Refurbishment works.

4.74. Cost and volume data is reported against the asset type upon which the Refurbishment activity was undertaken.

4.75. The costs to be reported in this worksheet are direct costs only.

4.76. Refurbishment activities that are reported in the Refurbishment – No SDI table are identified in the Condition Based Task Allocation Tables in Annex A - glossary. These are Type 2 activities.

4.77. The volume data to be reported shall represent the number of assets where Refurbishment - No SDI activities have been undertaken, irrespective of whether multiple Refurbishment – No SDI activities to the same asset have been undertaken (eg, if two Refurbishment – No SDI activities have been undertaken, in the 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 V2 – 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 – No SDI work has been undertaken
** - for pressurised cables: a volume of one should be reported for:-

- each joint or termination where Refurbishment – No SDI work has been undertaken; and
- each distinct hydraulic, or gas, section where Refurbishment – No SDI work has been undertaken.

4.78. The Unit Cost tables at the top right of the worksheet are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.79. The total gross costs should be split by cost type at the top of the worksheet.

CV10 – refurbishment SDI

4.80. This table is for the input of cost and volume data related to Type 1 Refurbishment works.

4.81. Cost and volume data is reported against the asset type upon which the Refurbishment activity was undertaken.

4.82. The costs to be reported in this worksheet are direct costs only.

4.83. Refurbishment activities that are reported in the Refurbishment –SDI table are identified in the Condition Based Task Allocation Tables in Chapter 4 of Annex A - glossary. These are Type 1 activities.

4.84. Asset categories where the individual licensee has an agreed Network Asset Secondary Deliverable should be identified by inputting Yes in the column headed Is there a Network Asset Secondary Deliverable agreed for this asset category in the RIIO-ED1 period? (cells H31 to H160). This enables expenditure relating to activities that contribute to delivery of the Network Asset Secondary Deliverables agreed by the licensee, to be separately identified from all other Refurbishment expenditure.

4.85. Asset categories where the individual licensee does not have an agreed Network Asset Secondary Deliverable should be identified by inputting No in the column headed Is there a Network Asset Secondary Deliverable agreed for this asset category in the RIIO-ED1 period?

4.86. The volume data to be reported shall represent the number of assets where Refurbishment - SDI activities have been undertaken, irrespective of whether multiple Refurbishment – SDI activities to the same asset have been undertaken (eg, if two Refurbishment – SDI activities have been undertaken, in the 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 V2 – Total Asset Movement.

4.87. The Unit Cost tables at the top right of the worksheet are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.88. The total gross costs should be split by cost type at the top of the worksheet.

CV11 – civil works condition driven

4.89. This worksheet is for the input of costs and volumes data for civil works driven by condition of civil items.

4.90. 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, EHV and 132kV).

4.91. The total activity volumes and direct costs are to 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. If two civil works activities have been undertaken, in the reporting year, on the same asset then a volume of one should be recorded.

4.92. The unit cost tables at the top right of the worksheet are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.93. The total gross costs should be split by cost type at the top of the worksheet.

CV12 – operational IT&T

4.94. This worksheet collects cost and volume data relating to Operational IT&T expenditure, excluding expenditure associated with BT 21st Century.

4.95. Gross costs and volumes should be reported for the following categories, which are defined in Annex A - glossary:

- Substation RTU, Marshalling Kiosk and Receivers
- Communications for switching & monitoring
- Control centre hardware and software.

4.96. The total gross costs should be split by cost type at the top of the worksheet.

CV13 – Black Start

4.97. This table provides expenditure and activity on Black Start resilience enhancement for electrical distribution systems and associated telecoms and SCADA assets as defined in ENA ER G91. It will be reviewed in light of the recommendations of the Electricity Task Group to the Energy Emergency Executive Committee (E3C).

4.98. The categories for which gross costs and volumes are to be reported in this this worksheet are defined in Annex A - glossary and include:

- BSR - Protection Batteries
- BSR - SCADA Batteries
- BSR - Three phase generator
- BSR - Single phase generator
- BSR - DC disconnection scheme
- BSR - Land lines & Internal Telephony
- BSR - Mobile Voice Communications
- BSR - SCADA Infrastructure.

4.99. Volumes for the first five should be reported by voltage (EHV and 132kV).

4.100. Only the first two of these require DNO inputs. Annual unit costs are populated automatically using the activity and cost data.

4.101. Additionally, DNOs are required to provide data on the outstanding population of both substation and telecommunications sites where the target level of resilience has not yet been achieved and provide volume on the solution type that was adopted.

4.102. The total gross costs should be split by cost type at the top of the worksheet.

4.103. This worksheet requires the reporting of asset additions and disposals as a result of Black Start activities.

CV14 – BT21CN

4.104. This worksheet is for the input of volume and cost data for work carried out relating to BT's 21st century project.

4.105. The tables in this worksheet report the volumes and costs of providing replacement protection communication circuits and the costs of operational measures associated with BT21C.

4.106. The categories for this worksheet are defined in Annex A - glossary and include:

- Protection communication circuits – replacement
- Protection operational measures.

4.107. The total activity volume and direct costs are to be reported by the applicable categorisation listed within the worksheet. The volumes correspond to the number of BT communication circuits for all categories.

4.108. The costs associated with these works must be entered into the respective total direct costs cells.

4.109. The unit cost tables in the worksheet are formula driven from the volume and cost data entered. They will calculate the annual unit cost and the multi-year average unit cost.

4.110. The total costs should be split by cost type at the top of the worksheet.

4.111. This worksheet requires the reporting of asset additions and disposals as a result of Black Start activities.

CV15 – legal and safety

4.112. This worksheet is for the input of cost and volume data for Legal and Safety.

4.113. The categories for which gross costs and volumes are to be reported in this this worksheet are defined in Annex A - glossary and include:

- Site security by number of substations (split by voltage - HV, EHV and 132kV)
- Asbestos management – surveys & signage by number of sites
- Asbestos management – containment by number of sites
- Asbestos management – removal by number of sites
- Asbestos management – meter positions 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
- Link boxes by number of sites
- Other.

4.114. The table allows for the DNO to add further activities of Legal and Safety work under other. DNOs should list each activity and the direct costs and volumes associated with it. DNOs may add additional rows if additional activities need to be listed.

4.115. A full explanation of any additional activities added by the DNO must be included in the Commentary and appropriately named in the table.

4.116. The total gross costs should be split by cost type at the top of the worksheet.

4.117. This worksheet requires the reporting of asset additions and disposals as a result of Diversion programmes.

CV16 – QoS (quality of service) and North of Scotland resilience

4.118. [to be developed].

4.119. The total gross costs should be split by cost type at the top of the worksheet.

4.120. This worksheet requires the reporting of asset additions and disposals as a result of QoS activity and North of Scotland resilience works.

CV17 – flood mitigation

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

4.122. DNOs should input costs and volumes associated with:

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

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

4.124. 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, 123kV and 275kV & 400kV).

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

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

4.127. 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.

4.128. The categories for this worksheet are defined in Annex A - glossary and include:

- flooding risk ETR 138
- fluvial/costal flood risk
- pluvial flood risk
- flood mitigation schemes
- flooding site surveys
- 1 in 100 event
- 1 in 200 event
- 1 in 1000 event
- non site specific costs.

4.129. The unit cost table to the right of the worksheet are formula driven from the cost and volume data entered.

4.130. 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.

4.131. The total gross costs should be split by cost type at the top of the worksheet.

4.132. The information provided in this table and in M1 - flood mitigation (site) will be shared with DECC.

CV18 – CNI

4.133. This worksheet provides the names of schemes along with the expenditure and data which will be used in conjunction with the Centre for Protection of National Infrastructure (CPNI) review of key DNO sites for physical security provisions. Expenditure means costs incurred by the licensee for the purposes of implementing any formal requirement of the Secretary of State. The category includes all costs relating to activities which are necessarily undertaken to meet requirements of the Secretary of State to enhance the physical security of a DNOs network, including the provision of necessary communications sites and associated infrastructure.

4.134. There are two separate reporting tables within this section.

4.135. The first is for the sites with an ED1 ex ante allowance, and should include the name and category with total costs reported by year.

4.136. The second table is for sites with no ED1 ex ante allowance, and should include name and category with total costs reported by year.

4.137. The total gross costs should be split by cost type at the top of the worksheet.

CV19 – RLMs

4.138. This worksheet provides a summary of rising and lateral mains (RLMs) expenditure. Costs and volumes should be entered in this worksheet and not in CV8 - Asset Replacement or CV30 – repair and maintenance.

4.139. Beneath the cost type split there is two sections of costs.

4.140. The first is the asset cost and volume (additions and disposals) associated with RLMs. Only the following rows of the standard asset base section in the CV tables are expected to be completed for the following:

- Length of LV service cable associated with RLMs by km (row 34)
- Number of LV Services associated with RLMs (row 36)
- Number of LV cut outs (row 43).

4.141. The second section is the inspection and maintenance costs associated with RLMs. Data is required for the following:

- Number of LV mains inspected
- Number of LV mains repaired or maintained
- Number of LV services inspected
- Number of LV services repaired or maintained.

4.142. The total gross costs of these two sections should equal the total gross costs by cost type split. The costs by cost type should be completed at the top of the worksheet.

CV20 – OH clearances

4.143. This worksheet captures the costs and volumes associated with the on-going management of overhead clearances to ensure compliance with vertical and horizontal clearances requirements as specified in Regulations 17 and 18 (respectively) of the Electricity Supply Quality and Continuity Regulations (2002) (as amended).

4.144. 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.

4.145. Costs are reported by cost type and by category.

4.146. Beneath the cost type split this worksheet collects four categories by four voltage levels (LV, HV, EHV and 123kV):

- 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.

4.147. 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.

4.148. 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.

4.149. 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.

4.150. 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 2010-11. The calculation uses the reference volumes, adding any additional sites identified in subsequent years and subtracting the sites that are resolved in subsequent years.

4.151. The total gross costs of these categories should equal the total gross costs by cost type split. The costs by cost type should be completed at the top of the worksheet.

4.152. This worksheet requires the reporting of asset additions and disposals as a result of OH clearances programmes.

4.153. The unit cost tables to the right of the worksheet are formula driven from the volumes of OH clearance Sites resolved and cost data entered, and will calculate the unit cost data for each voltage. This is only calculated for those OH clearance sites resolved where the prime driver of the work is to remove the non-compliance issues.

4.154. Key terms for completing this table are defined in Annex A - glossary include:

- Overhead Clearance Site
- 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.

4.155. Narratives should include (where relevant, but not limited to):

- An explanation of how work programmes are delivered specifying whether each site is resolved individually or whether a number of sites are combined into larger projects.
- Where significant volumes of new issues are identified, a summary of the reasons why new issues have been identified and whether this is as a result of new inspection regimes.

CV21 – WSC (worst served customers)

4.156. [to be developed]

CV22 – visual amenity

4.157. The purpose of this worksheet is to record the costs and volumes associated with visual amenity projects and the undergrounding of overhead lines under the Visual Amenity Allowance funding mechanism. The funding mechanism allows undergrounding of overhead lines for Visual Amenity Inside Designated Areas and allows for up to 10% of the total allowances to be for undergrounding of overhead lines for Visual Amenity Outside Designated Areas.

4.158. Key terms for the tables are defined in Annex A - glossary and include:

- Designated Areas
- OHL inside Designated Areas at end of year (km)
- OHL inside Designated Areas at the start of reporting year (km)
- OHL (overhead lines)
- OHL (km) removed during year
- UG cables (km) installed
- UG cables (km) installed during year
- Visual Amenity Allowance
- Visual Amenity Expenditure
- Visual Amenity Inside Designated Areas
- Visual Amenity Outside Designated Areas (10% Allowance)
- Visual Amenity Projects.

4.159. 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. Information required for each voltage is:

- kilometres of overhead lines (OHL) at the end of the year (only applicable to Visual amenity inside designated areas)
- kilometres of overhead lines (OHL) removed
- kilometres of UG cables installed.

4.160. For the avoidance of doubt, these volumes relate to the activities undertaken under the eligibility criteria for the Visual Amenity Allowance, regardless of how they were funded.

4.161. The cost table is for the recording of the costs of the Visual Amenity activity inside and outside of Designated Areas. For the avoidance of doubt, costs recorded in this table are only those for Visual Amenity Projects funded under the Visual Amenity Allowance.

4.162. If the total length of overhead lines located within Designated Areas in a DNOs network increases, for example due to the expansion of an existing or creation of a new Designated Area, or decreases due to activities other than those reported here, the DNO must provide an explanation as to why this has occurred.

4.163. The total gross costs of visual amenity activity in row 198 should equal the total gross costs by cost type split (row 17). The costs by cost type should be completed at the top of the worksheet.

4.164. This worksheet requires the reporting of asset additions and disposals as a result of visual amenity.

4.165. One output of this worksheet, VAE, feeds into calculation of the Visual Amenity Allowance which is used in the PCFM.

4.166. The Environment Report allows DNOs to provide further information to stakeholders on the progress of Visual Amenity Projects and the use of the 10% allowance.

CV23 – losses

4.167. 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.

4.168. 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 areas of (defined in Annex A - glossary):

- equipment to manage losses
- loss management actions.

4.169. We would expect the costs reported for equipment to manage losses to be associated with the asset class list reported in this worksheet.

4.170. Additional data and commentary on distribution losses related activities is reported in M5 – Losses and includes:

- information on specific projects or actions, including those where distribution losses management is not the primary driver
- an assessment of the projected impact on distribution losses
- CBAs
- information on how actions taken relate to the distribution losses strategy.

CV24 – environmental reporting

4.171. The purpose of this worksheet is for reporting volume and expenditure relating to environmental activities. It also collects data relating to environmental impact and complying with environmental legislation or guidelines for each of the following categories, defined in Annex A - glossary:

- Contaminated Land Clean Up
- Environmental Management System (EMS)
- Environmental Civil Sanctions
- Fluid-filled cable
- Fluid recovered
- Fluid used to top up cables
- Noise Pollution
- Oil in service in Cables
- Oil Pollution Mitigation Scheme - Cables
- Oil Pollution Mitigation Scheme - Operational Sites
- Oil Pollution Mitigation Scheme - Non Operational Sites
- SF6 Bank
- SF6 Emitted
- SF6 Emitted Mitigation Schemes
- Undergrounding in Non-Designated Areas
- Non-undergrounding visual amenity schemes
- Environmental Cautions
- Environmental Compliance Notices
- Environmental Enforcement Undertakings
- Environmental Fixed Monetary Penalties
- Environmental Prosecutions
- Environmental Reportable incidents
- Environmental Restoration Notices
- Environmental Stop Notices
- Environmental Variable Monetary Penalties
- Environmental Warnings.

4.172. This worksheet excludes undergrounding activity for Visual Amenity Projects undertaken under the Visual Amenity Allowance, which is reported in table CV22 – Visual Amenity. Detailed losses reporting and BCF are also reported separately, in tables CV23 - losses and M13 - BCF. Undergrounding in Non-Designated Areas which meets the eligibility criteria for the Visual Amenity Allowance but is not funded under this mechanism should be identified in commentary and details of the relevant Designated Area should be provided.

4.173. Costs and volumes for each activity should be reported by category listed in the table Environmental costs and volumes. These should be recorded where the primary driver of the schemes undertaken was environmental improvements. SF6 should be reported in kg as opposed to CO2 equivalent as in M13 - BCF.

4.174. SF6 and Oil Pollution Mitigation Schemes measures undertaken and the cost and benefit implications of these activities should be described in commentary. The nature of Oil Pollution Mitigation Schemes should be described in commentary.

4.175. Additional volume information should be provided by DNOs associated with Oil Pollution Mitigation Schemes - Cables, SF6 and Noise Pollution. Oil Pollution Mitigation Schemes - Cables reporting captures cable oil volumes. This gives clarity on the leakage volumes (Fluid Used to Top Up Cables) in relation to the related Oil In Service for the Fluid-Filled Cables systems.

4.176. It is not intended that the reporting requirements should be any more onerous than would be required by current reporting or management practices. It is therefore expected that DNOs will use existing information systems to report these measures (including those introduced to support the National Operating Code on the Management of Fluid Filled Cable Systems).

4.177. To support the reporting of these indicators, DNOs must include in their commentary:

- discussion of any emerging trends in the environmental data and areas of trade-off in performance
- the nature of any complaints relating to noise pollution and the nature of associated measures undertaken to resolve them
- the nature of any Non-Undergrounding Visual Amenity Schemes undertaken
- further details of any reportable incidents or prosecutions
- details of any Environmental Management System (EMS) accredited under ISO or other recognised accreditation scheme.

4.178. Ofgem continues to take an interest in Schedule 9 matters and DNOs are also encouraged to send Ofgem copies of their Schedule 9 statements, for instance, after a review or update.

CV25 – HVP (high value projects)

4.179. [to be developed]

CV26 – faults

4.180. This worksheet is for the input of cost and volume data for Troublecall faults.

4.181. Costs are reported by cost type and by category.

4.182. Costs should be split by cost type at the top of the worksheet.

4.183. For category costs, volumes should also be reported. The total activity costs and volumes are to be reported by the applicable occurrence type, and voltage, and power system voltage equipment categories listed within the worksheet. The volumes correspond with each volume type listed in the applicable row. The total direct costs for each activity must be entered into their respective cells.

4.184. For a number of the power system voltage equipment categories listed within the worksheet the cost data for each activity must be entered as:

- Non damage incidents only
- Damage incidents requiring Asset Repair/Replacement.

4.185. The costs of the damage incidents. These costs will include the total cost of rectifying the faults that have occurred in that regulatory year.

4.186. The unit cost tables are formula driven from the cost and volume data entered for the subject matter of the relevant table.

4.187. The costs and volumes reported in this worksheet should exclude all data (costs and volumes) related to incidents which occur as part of a Severe Weather 1-in-20 events. The costs and volumes for these events are reported separately in CV27 – Severe Weather.

4.188. For the avoidance of doubt the costs of restoring supplies, repairs and/or replacing of assets following an Incident should be reported only in this worksheet and not in CV8 Asset Replacement. Similarly, the costs of restoring supplies, repairs and/or replacement of assets following an incident, which are due to metal theft on a DNOs network, and these volumes, are to be reported in M15 only.

4.189. This worksheet requires the reporting of asset additions and disposals as a result of dismantlement activity.

CV27 – severe weather

4.190. The purpose of this table is to record the costs and volume incidents associated with severe weather 1-in-20 year events.

4.191. The costs related to Power System Voltage Equipment/Unplanned Incident are reported at total direct costs by year and then by the following voltage disaggregation:

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

4.192. Costs and volume incidents that are recorded in this table are not to be recorded in faults table CV26.

4.193. The recorded volume should be for only those incidents which occur as part of severe weather 1-in-20 events for which exemptions have been requested as set out in CRC8 of the distribution licence, and which meet the 1-in-20 thresholds.

4.194. The volume of incidents should be reported for the number of Unplanned Incidents on Power System Voltage Equipment due to Severe Weather 1-in-20 events.

4.195. All categories listed within this worksheet are defined in Annex A - glossary.

4.196. Costs should be split by cost type at the top of the worksheet.

CV28 – ONIs

4.197. This worksheet is for the input of cost and volume data for Occurrences Not Incentivised (ONIs).

4.198. ONIs do not include occurrences which are identified during the installation of, or attempted installation of, a smart meter.

4.199. For each of the following activity tables enter both cost and volume data as applicable (the volume for these tables are also separately reported to Ofgem as ONIs):

- power system voltage equipment/no unplanned incident
- other occurrences (not affecting power system voltage equipment).

4.200. Throughout the worksheet the Unit Cost tables are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.201. Costs should be split by cost type at the top of the worksheet.

4.202. This worksheet requires the reporting of asset additions and disposals as a result of dismantlement activity.

CV29 – tree cutting

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

4.204. 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 also 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.

4.205. The key terms for this worksheet are:

- ENATS 43-8
- ETR 132
- ETR 132 Physical Cut
- ETR 132 Other Declared Compliant
- Spans Cut
- Spans Inspected (Tree Cutting)
- Span length Average
- Cut Cycle
- Other work to achieve ETR 132 compliance
- Overhead network length cleared
- Network Parameters
- Tree Cutting Policy
- Tree Cutting Cycle.

4.206. The total activity costs and volumes are to be reported by the applicable categorisation listed within the each table.

4.207. The costs associated with this expenditure must be entered into the respective total direct costs cells.

4.208. The unit cost tables are formula driven from the cost and volume data entered. They will calculate the annual unit cost.

4.209. Costs for all Tree Cutting expenditure then needs split by each cost type split at the top of the worksheet.

4.210. The Network Parameters and ENATS 43-8 Tree Cutting Policy table collects volume data. The total volumes data should be reported by the applicable voltage category and categorisation listed within the table.

4.211. The Activity and Progress against ETR 132 sub-tables summarise 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.

4.212. 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 Regulatory Impact Assessment

undertaken by the Department of Trade and Industry assumed that 20% of each DNOs HV & EHV overhead line networks would be classed as strategic. The DNOs total network compliance should therefore be considered against the level of strategic overhead lines on their network.

CV30 – inspections

4.213. This worksheet is for the input of cost and volume data related to inspections.

4.214. The worksheet reports the volumes and costs associated with inspections by asset type. Then the total direct costs are split by cost type within the top table.

4.215. 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.

4.216. All categories within this worksheet are defined in Annex A - glossary.

4.217. The annual unit cost table in this worksheet is formula driven from the volume and cost. The Individual Assets Inspected table 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 four inspections would be recorded.

CV31 – repair and maintenance

4.218. This worksheet is for the input of cost and volume data related to Repair & Maintenance.

4.219. Cost and volume data is reported against the asset type upon which the Repair & Maintenance activity was undertaken.

4.220. The costs to be reported in this worksheet are direct costs only.

4.221. 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 visits to the same asset have been undertaken (eg, if two Repair & Maintenance visits have been undertaken, in the 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 V2 – 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
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

4.222. Repair & Maintenance includes the invasive examination of system assets. Other activities considered as Repair & Maintenance are further identified in the Condition Based Task Allocation Tables in Annex A - glossary.

4.223. Where Repair & Maintenance activities are undertaken as part of other works that are classified as Refurbishment (No SDI) or Refurbishment (SDI), then the associated costs (and volume data) shall be recorded on the appropriate Refurbishment worksheet.

CV32 – dismantlement

4.224. This table records costs associated with dismantlement split by cost type to feed into the C1 table.

4.225. Key term for this table, which is defined in Annex A - glossary is:

- Dismantlement.

4.226. This worksheet requires the reporting of asset additions and disposals as a result of dismantlement activity.

CV33 – substation electricity

4.227. The purpose of this table is for DNOs to provide information relating to the both the cost and volume of electricity consumed at substations.

4.228. Key terms for this table, which are defined in Annex A - glossary are:

- Cost per MWh
- Substation Electricity
- Substation Electricity Costs
- Units Consumed.

4.229. DNOs should insert the volume of Units Consumed, in MWh, at DNOs substation in the appropriate cells.

4.230. The cost per MWh of electricity consumed at substations is derived by formula.

4.231. DNOs should insert the total Substation Electricity Costs split by cost type at the top of the table.

4.232. A commentary supporting narrative should be provided by DNOs in their commentaries to support any material change to contract prices and/or usage within the regulatory reporting period.

CV34 – smart metering roll out

4.233. [to be developed]

CV35 – NIA (Network Innovation Allowance)

4.234. This worksheet is for reporting costs and volumes related to NIA funding. NIA is a set allowance that the licensee can use to fund innovation projects each year on

a use it or lose it basis. It also records costs related to preparing bids for the Network Innovation Competition (NIC).

4.235. The output of this worksheet are two terms that will be used in the calculation of the DNOs Allowed Distribution Network Revenue:

- Eligible NIA Expenditure (ENIA term)
- Eligible NIC Bid Preparation Costs (BPC term).

4.236. The table Costs allocated by PCFM Cost Type requires the DNO to allocate total costs on Eligible NIA Projects and Eligible NIC Bid Preparation Costs to the relevant PCFM cost type and by year incurred. Total Gross Costs should include indirects. Total gross indirect costs must also be recorded separately.

4.237. The table Eligible NIA Expenditure by project should be used to record costs by project and by year for all projects funded through the NIA.

4.238. The table Eligible NIC Bid Preparation Costs should be used to record costs by year related to preparing bids for the NIC.

4.239. Total gross costs for each year in table Costs allocated by PCFM Cost Type must equal the sum of costs in each year recorded in tables Eligible NIA Expenditure by project and Eligible NIC Bid Preparation Costs.

4.240. Extra rows may be added to the bottom of this worksheet to list additional NIA projects.

CV36 - NIC

4.241. This worksheet is for reporting costs and volumes related to projects funded through the NIC and expenditure from the NIC project bank account. The NIC is an annual competition for funding larger-scale innovative projects that have the potential to deliver carbon or other environmental benefits to consumers.

4.242. The table Costs allocated by PCFM Cost Type requires the DNO to allocate total costs, where the primary driver has been delivery of NIC projects, to the relevant PCFM cost type and by year incurred. Total Gross Costs should include indirects. Total gross indirect costs must also be recorded separately.

4.243. DNOs are also required to report costs against the following for each NIC project:

- 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.

4.244. Total gross costs in table Costs allocated by PCFM Cost Type for each year must equal the sum of total costs for each year recorded for each area listed in above.

CV37 – LCN Fund Second Tier

4.245. This worksheet is for recording costs and volumes related to projects funded through the LCN Fund and expenditure from the LCN Fund project bank account. The LCN Fund was an annual competition for funding larger-scale innovative projects that had the potential to deliver carbon or other environmental benefits to consumers. The LCN Fund has been replaced by the NIC for RIIO-ED1. This worksheet records costs and volumes for projects that have previously been funded but have not yet completed.

4.246. The table Costs allocated by PCFM Cost Type requires the DNO to allocate total costs, where the primary driver has been delivery of LCN Fund projects, to the relevant PCFM cost type and by year incurred. Total Gross Costs should include indirects. Total gross indirect costs must also be recorded separately.

4.247. DNOs are also required to report costs against the following for each LCN Fund project:

- LCN Fund Second Tier Funding, Halted Project Revenues, Disallowed Expenditure in line with the Project Direction
- LCN Fund Royalties, LCN Fund Directly Attributable Costs, Returned LCN Fund Royalties and Retained LCN Fund Royalties
- Discretionary Funding.

4.248. Total gross costs in table Costs allocated by PCFM Cost Type for each year must equal the sum of total costs for each year recorded for each area listed above.

CV38 – Smart meters outside price control

4.249. This worksheet is designed to collect the elective smart meter data costs for all years of RIIO-ED1 and DCC licence fee costs in the last two years of the price control, after the end of the smart meter roll out. This information will be used to track the costs and expected benefits from smart metering data.

4.250. DNOs are required to report against two categories of costs: Elective Communication Services and Smart Meter Communication Licensee Costs. These terms are defined in special licence condition CRC 2.B Part H.

4.251. Elective Communication Services must be reported in each year of RIIO-ED1. Smart Meter Communication Licensee Costs only need to be reported in the final two years of RIIO-ED1. Prior to this, these costs should be reported on Worksheet XX as a pass through item.

5. Instructions for completing volume worksheets

Overview

5.1. 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 will inform and enable modelling though the period.

5.2. 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 - cleansing

5.3. The cleasing 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.

V2 – total asset movements

5.4. DNOs are required to input the closing balance of assets for the 2009-10 reporting year in column AC of this worksheet. The total asset movements worksheet is then auto populated by addition and disposal volumes from the activity areas.

5.5. 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.

5.6. 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 33kV - Pressurised
- Decommissioned 66kV - Pressurised

- Decommissioned 132kV – Pressurised

5.7. The LV Fuses (PM) count is auto-populated from the PMT count in the top table.

5.8. This worksheet also includes a table for Shared Infrastructure for Telecoms, with the number of shared poles or towers to be input.

V3 – volume matrix

5.9. 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 2010-11 to 2022-23.

AP1 – age profile

5.10. Glossary terms defined in this worksheet:

- Average Asset Lives
- Standard Deviation of Lives
- Strategic Spares.

5.11. DNOs must input the existing asset quantities (by asset category as specified in the worksheet and Annex A - glossary) in the Regulatory Year in which they were added to the network.

5.12. 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).

5.13. 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.

5.14. Assets under construction must not be included in the age profile.

5.15. Strategic spares must not be included in this table until installed and energised on the system.

5.16. 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.

5.17. Asset data must be disclosed by operating, and not by construction, voltage. Where asset data is available only at construction voltage then this must be stated in the commentary.

6. Instructions for completing memo worksheets

Overview

6.1. 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.

6.2. 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.

6.3. 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.

6.4. All numbers must be entered as positive.

M1 – flood mitigation

6.5. This worksheet collects volumes and costs and other key information relating to DNOs work on flood risk mitigation. DNOs are required to provide a site-by-site breakdown as dictated by the table for each site that has a flood risk that has been mitigated in DPCR5 or is due planned to be defended or have further detailed study undertaken to determine the extent of the risk in RIIO-ED1.

6.6. The data required by the table is driven by ETR 138: Resilience to Flooding of Grid and Primary Substations (first issued in 2009 and subsequently re-issued).

6.7. The information provided in this table and CV17 – Flood Mitigation will be shared with DECC and other bodies.

6.8. 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.

6.9. 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.

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

- Assessment against EA/SEPA (Col 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(Col 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 (Col K): For each substation that is at risk of flooding, identify the flood impact for that particular site.
- Societal Impact Assessment (Col 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 O 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.

6.11. 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 Pare 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.

6.12. 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.

6.13. 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 CV17 – Flood Mitigation.

M2 – DPCR5 WSC Schemes

6.14. This worksheet collects data on the number of Worst Served Customers (as defined for the DPCR5 Worst Served Customer mechanism) for regulatory years in DPCR5.

6.15. The worksheet also collects detailed information on the activity volumes and expenditure incurred due to schemes commissioned under the Worst Served Customers mechanism. This data enables:

- the assessment of whether historic performance data demonstrates that the schemes qualify for the Worst Served Customer mechanism
- the assessment of whether the post-project-completion performance data shows that the required performance improvement has been achieved.

6.16. A number of tables in this worksheet populate automatically from the reference data tables (Projects with expenditure in DPCR5, 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.

6.17. 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 DPCR5
- Project details
- Number of HV+ incidents within the reference period
- Number of HV+ incidents post scheme completion
- Costs (£k).

6.18. In the Worst Served Customers in year table, the DNO is to populate the total number of customers meeting the definition of Worst Served Customer.

6.19. 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.

6.20. In the Projects with expenditure in DPCR5 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.

- 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.

6.21. 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.

6.22. 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.

6.23. 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.

6.24. In the Costs (£k) table, the DNO should insert the expenditure on each project in the regulatory year.

6.25. 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.

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

6.27. 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.

6.28. The auto-populated Performance Assessment table calculates the total number of customers interrupted for each scheme before and after the technical completion of the scheme. It is uses the Start of reference period and Year project completed dates to pull through the relevant data from the Calculated number of customers interrupted in reference period and Calculated number of customers interrupted post scheme completion tables. It uses the before and after three year totals to calculate the percentage improvement and then determines whether the change in performance meets the required performance improvement criteria. Note that in DPCR5 all DNOs had the same improvement criteria of 25%, but for RIIO-DPCR5 DNOs were allowed to specify their own values provided they were supported by stakeholder engagement.

6.29. Key terms for completing this table are defined in Annex A - glossary and include:

- 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 - Performance Improvement Target from CRC 3H
- WSC – Number of higher voltage Customers Interrupted in the WSC reference period
- WSC - Number of higher voltage Customers Interrupted post scheme completion
- WSC - % improvement scheme (post scheme actual vs reference period)
- WSC - Improvement qualifies for revenue recovery
- WSC - Calculated number of customers interrupted in reference period
- WSC - Calculated number of customers interrupted post scheme completion.

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

M3 – ED1 WSC Schemes

6.31. This worksheet collects data on the number of Worst Served Customers (as defined for the ED1 Worst Served Customer mechanism) for regulatory years in ED1.

6.32. The worksheet also collects detailed information on the activity volumes and expenditure incurred due to schemes commissioned under the Worst Served Customers mechanism. This data enables:

- the assessment of whether historic performance data demonstrates that the schemes qualify for the Worst Served Customer mechanism
- the assessment of whether the post-project-completion performance data shows that the required performance improvement has been achieved.

6.33. A number of tables in this worksheet populate automatically from the reference data tables (Projects with expenditure in DPCR5, 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.

6.34. 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 DPCR5
- Project details
- Number of HV+ incidents within the reference period
- Number of HV+ incidents post scheme completion
- Costs (£k)
- Performance Improvement Target.

6.35. In the Worst Served Customers in year table, the DNO is to populate the total number of customers meeting the definition of Worst Served Customer.

6.36. 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.

6.37. In the Projects with expenditure in ED1 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.

- 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.

6.38. 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.

6.39. 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.

6.40. 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.

6.41. In the Costs (£k) table, the DNO should insert the expenditure on each project in the regulatory year.

6.42. In the Performance Improvement Target from CRC 3H, the DNO should insert the performance improvement requirement for ED1 Worst Served Customer schemes that was specified by the DNO and supported by the DNOs stakeholders. This value is recorded within Licence Condition CRC 3H.

6.43. 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.

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

6.45. 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.

6.46. The auto-populated Performance Assessment table calculates the total number of customers interrupted for each scheme before and after the technical completion of the scheme. It is uses the Start of reference period and Year project completed dates to pull through the relevant data from the Calculated number of customers interrupted in reference period and Calculated number of customers interrupted post scheme completion tables. It uses the before and after three year totals to calculate the percentage improvement and then determines whether the change in performance meets the required performance improvement criteria. Note that in DPCR5 all DNOs had the same improvement criteria of 25%, but for RIIO-ED1 DNOs were allowed to specify their own values provided they were supported by stakeholder engagement.

6.47. Key terms for completing this table are defined in Annex A - Glossary and include:

- 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 - Performance Improvement Target from CRC 3H
- WSC - Number of higher voltage Customers Interrupted in the WSC reference period
- WSC - Number of higher voltage Customers Interrupted post scheme completion
- WSC - % improvement scheme (post scheme actual vs reference period)
- WSC - Improvement qualifies for revenue recovery
- WSC - Calculated number of customers interrupted in reference period
- WSC - Calculated number of customers interrupted post scheme completion.

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

M4 – visual amenity

6.48. In this worksheet, the DNO is to report the length of overhead lines within each of the Designated Areas within its network at end of year, ensuring double-counting of lines which cross the boundary of two such areas is avoided. They should also list total activity volume and expenditure by Designated Area under the ED1 Visual Amenity Allowance, Inside and Outside of Designated Areas, where activity Outside of Designated Areas should be reported against the Designated Area which the activity under the 10% provision of the Visual Amenity Allowance is associated with. Where no activity has been undertaken in a particular Designated Area, these cells should remain blank.

M5 – losses

General

6.49. The purpose of this workbook is to collect data on DNOs actions to manage Distribution Losses. SLC 49 (Electricity Distribution Losses Management Obligation and Distribution Losses Strategy) requires DNOs to publish their actions to manage Distribution Losses and to deal with Relevant Theft of Electricity. DNOs can contribute to meeting this obligation by completing this workbook, and publishing it as part of their Environment Report.

6.50. The following terms are defined in Annex A - glossary:

- Asset Replacement
- Baseline scenario
- Cable
- Distribution Losses
- Distribution Losses Strategy
- Distribution Losses-justified costs
- Environment Report
- Equipment to manage losses
- Fault Level reinforcement
- General Reinforcement
- Innovative Solutions
- Loss management actions

- Non-technical losses
- opening base revenue allowance
- Relevant Theft of Electricity
- RIGs
- RIIO-ED1 CBA tool
- Smart Meters
- Technical losses
- Transformer.

6.51. DNOs should report the following activities to manage Distribution Losses:

- Activities where the costs incurred principally relate to managing Distribution Losses.
- Activities where some of the costs incurred relate to managing Distribution Losses (but where losses are not the principal reason for the expenditure). For example, the decision to install low loss transformers may be primarily driven by asset health reasons rather than losses. However, their installation will have losses benefits.

6.52. DNOs should not report activities that may help to manage losses but where Distribution Losses are not associated with the DNOs decision to undertake the expenditure. Any losses benefits are purely coincidental. For example, the installation of a new piece of network equipment may reduce losses. However, losses benefits did not inform the decision to undertake the activity because the equipment had to be installed to meet safety standards.

6.53. This workbook should be completed on an incremental basis each Regulatory Year so that it provides an up-to-date picture of activities to manage Distribution Losses. Actuals should be completed for every year in RIIO-ED1 up to and including the reporting Regulatory Year. Forecast data should be reported for the following Regulatory Year.

6.54. All costs/benefits should be entered in 2012-13 prices.

6.55. To complete this workbook DNOs should, as appropriate, complete the latest version of the RIIO-ED1 CBA tool for each category of each policy decision to manage Distribution Losses recorded in column C. Where the RIIO-ED1 CBA tool cannot be used, DNOs should provide evidence for how they have derived the equivalent figures used in completing the table.

Action

6.56. In column B please enter each action against the relevant category of activity - Cable, Innovative Solutions, Transformer, Smart Meters and Relevant Theft of Electricity. If there is more than one action for a category, please insert additional rows. If the action is not covered by one of the categories please enter it as 'other' and specify what this category is.

6.57. In column C, please provide a summary and rationale of the policy decision to manage Distribution Losses. This decision should be at the level use to justify the activity in the RIIO-ED1 CBA Tool where appropriate.

6.58. In cell C2, please enter the reporting Regulatory Year in the format 20XX/XX.

6.59. In column D, please select the type of Distribution Losses that are managed by the activity – either technical losses or non-technical losses.

6.60. In column E, please select the primary driver of the activity from the list - Equipment to manage losses, Loss management actions, Asset Replacement, General Reinforcement, or Fault Level reinforcement. If 'other' is selected, please provide additional information in the commentary

6.61. In column F, please provide a cross reference to another part of the RIGs if the data if it has been reported elsewhere.

6.62. In column G, please state whether or not funding for this specific activity forms part of your opening base revenue allowance. If no, please provide additional information in the commentary.

6.63. In column H, please state the unit of activity that is being adopted.

Unit costs

6.64. In column I, please enter the unit cost of the activity (eg, the pure asset cost and operational costs, if any, such as installation).

6.65. In column J, please describe the Baseline scenario which would be employed if Distribution Losses management was not a consideration in the decision to undertake the activity. Where used, this should be equivalent to the 'Baseline scenario' in the RIIO-ED1 CBA tool.

6.66. In column K, please enter the unit cost of the 'do minimum' or baseline scenario solution. Please input '0' if the activity would not have taken place.

6.67. In column L, please enter the component of the unit cost that is justified by Distribution Losses benefits. If losses is the primary driver, this could be the difference between the adopted option and the baseline scenario.

RIIO-ED1 CBA tool summary – cumulative values for RIIO-ED1 and 45 years

6.68. In columns M and N, please enter the Distribution Losses-justified costs over RIIO-ED1 and, where appropriate (ie for capital investment), for 45 years. This should be the product of the losses-justified unit costs and planned volumes over RIIO-ED1 and for the 45 years from the start of the activity. These costs should be

presented on an equivalent basis to the 'Total Net DNO benefits' row of the RIIO-ED1 CBA tool.

6.69. In columns O and P, please enter the avoided DNO costs over RIIO-ED1 and for 45 years (if appropriate). These should be the avoided costs based on undertaking the activity compared with the baseline scenario. These costs should be presented on an equivalent basis to the 'Total Net DNO benefits' row of the RIIO-ED1 CBA tool.

6.70. In columns Q and R, please enter the Distribution Losses benefits (based on the activity compared with the baseline) over RIIO-ED1 and for 45 years (if appropriate). These should be based on the 'Losses' and 'CO2e associated with losses' rows under Societal Benefits in the RIIO-ED1 CBA tool.

6.71. In columns S and T, please enter the cumulative discounted net benefits over RIIO-ED1 and for 45 years (if appropriate). These should be based on the discount factor in the RIIO-ED1 CBA tool.

Volumes

6.72. In columns U to AB, please report actual volumes for every year of RIIO-ED1 up to and including the reporting Regulatory Year. Please provide a forecast of future volumes for the same activity for the following Regulatory Year.

Total costs

6.73. Columns AC to AJ automatically calculate the total costs based on the product of the total unit cost of the activity and the volumes for each Regulatory Year.

6.74. Where the primary driver is 'Equipment to manage losses' or 'Loss management actions' the total costs for each year are compared with the totals in the RIGs – CV23 Losses. For the reporting Regulatory Year, if the figure reported elsewhere in the RIGs does not match the figure reported in this workbook, please indicate why, in the commentary

Distribution losses - justified costs over Baseline scenario

6.75. Columns AK to AR automatically calculate the losses-justified costs based on the product of the component of unit cost justified by losses benefits and the volumes for each Regulatory Year.

Distribution losses benefits

6.76. In columns AS to AZ, please enter the Distribution Losses benefits (based on the activity compared with the baseline scenario) for each year of RIIO-ED1 for which you have provided volumes data. These benefits should be based on the sum

of 'Losses' and 'CO2e associated with losses' rows under Societal Benefits in the RIIO-ED1 CBA tool.

Supporting analysis

6.77. In column BA, please provide a reference to where this activity can be found in your current Distribution Losses Strategy.

6.78. In column BB please include a reference to the file name and location of any additional relevant evidence submitted to support the costs and benefits inputted into this spreadsheet. For example, the relevant completed RIIO-ED1 CBA tool for each activity.

M6 – IRM (Innovation Roll-out Mechanism)

6.79. The purpose of this worksheet is to record costs and volumes related to schemes designed to roll-out a proven innovation. This worksheet will only need to be completed where the licensee has applied to, and the Authority has approved, a relevant adjustment for the purposes of the IRM.

6.80. The IRM allows for additional funding to roll-out proven innovations if they have carbon or wider environmental benefits, and provide long term value for money. The DNO cannot receive commercial benefits from the roll-out within the remainder of the price control period and funding cannot be used to fund ordinary business arrangements.

6.81. There are two application windows for a DNO to propose a relevant adjustment. The first application window opens on 1 May 2017 and ends on 31 May 2017. The second application window opens on 1 May 2019 and closes on 31 May 2019. No costs should be reported before 2018-19.

6.82. The tables Total by cost type (excluding indirect allocations) and Asset costs and volumes should be completed using the common guidance.

6.83. The table Costs allocated by PCFM Cost Type requires the DNO to allocate total gross costs, where the primary driver has been delivery of IRM schemes, to the relevant PCFM Cost Type and by year incurred. Total Gross Costs should include indirects. Total gross indirect costs must also be recorded separately.

6.84. The table Costs by scheme (including indirects) requires the DNO to record costs, where the primary driver has been delivery of IRM schemes, by scheme name and by year incurred.

6.85. Total gross costs for each year in table Costs allocated by PCFM Cost Type must equal total costs for each year in Costs by scheme (including indirects).

M7 – smart meter benefits

6.86. This worksheet combines costs relating to smart metering in a single location. Th costs section of the table automatically populates. It also collects the DNOs estimates of the benefits of smart metering using the categories set out in DECCs January 2014 Impact Assessment.[2]

6.87. This worksheet provides a single location for a comprehensive narrative on smart meter IT and data costs as these are otherwise found in two separate worksheets: C26 – Pass Through and CV38 – Smart Meter Outside PC.

6.88. The DNO must report the estimated benefits delivered in each year from the use of smart metering data against each of the categories in the table. These categories are defined in the DECC Impact Assessment from January 2014. The benefits can be estimated using the CBAs undertaken when planning data and IT procurement or deployment of innovative solutions that rely on smart metering.

6.89. In the commentary to this table the DNO should set out a strategy for maximising the benefits from smart metering and smart meter data. This should as a minimum include the following three sections.

- A description of what the expenditure reported under Smart Meter Information Technology Costs is being used to procure and how it expects this to deliver benefits for consumers. The DNO must provide an estimate of the net benefit over RIIO-ED1 of this investment. This should be derived from CBAs, which must also be submitted.
- A description of the benefits expected from the non-elective data procured as part of the Smart Meter Communication Licensee Costs. The DNO should set out how it has used this data. It should also provide an estimate of the net benefit over RIIO-ED1 of using this data. This should be derived from CBAs, which should also be submitted.
- The DNO should provide a description of the Elective Communication Services being procured, how it has used these services, and a description of the benefits it expects to achieve. The DNO should provide an estimate of the net benefit over RIIO-ED1 of these services. This should be derived from CBAs, which should also be submitted.

6.90. In the above Smart Meter Information Technology Costs, Smart Meter Communication Licensee Costs, and Elective Communication Services should be interpreted as defined in special licence condition CRC 2.B Part H.

[2] DECC Smart meter roll-out for the domestic and small and medium non-domestic sectors (GB): Impact Assessment (Jan 2014)

M8 - streetworks (ex ante)

6.91. All ongoing streetworks costs, including costs associated with TMA/T(S)A permitting schemes and lane rental schemes, should be embedded in the relevant cost activity tables and reported in the streetworks cost type split.

6.92. General streetworks costs are costs and volumes associated with complying with traffic management legislation designed to tackle congestion and disruption to the road network during DNO streetworks activities.

6.93. Streetworks costs and volumes associated with existing TMA/T(S)A permit schemes and existing lane rental schemes should be reported in M8. An existing permit or lane rental scheme is one which was implemented as at 1 July 2013 and where the DNO had 12 months of cost data relating to this scheme.

6.94. Costs associated with new TMA/T(S)A permit schemes and new lane rental schemes should be reported in table M9 (re-opener). A new permit or lane rental scheme is one which was not operational by 1 July 2013 or where the scheme has been implemented by this date but the DNO did not have 12 months of cost data relating to the scheme.

6.95. These costs and volumes are to be reported in terms of whether the activity is driven by:

- Connection project which has no element subject to the apportionment rules
- Connection project which has an element subject to the apportionment rules
- Network Investment
- Network Operating Costs associated with planned and capital work (ie, planned operating costs)
- Network Operating Costs associated with unplanned fault work (ie, reactive operating costs)

6.96. Costs charged initially to the DNOs must be reported separately from those incurred by contractors working for the DNO.

6.97. Related party costs should be reported as if incurred by the DNO.

6.98. Costs and volumes recovered from the contractors must also be separately reported.

6.99. All income should be entered as a positive number.

M9 – streetworks (reopener)

6.100. The instructions for M8 – streetworks (ex ante) apply for M9 – streetworks (reopener). The only difference is that the costs here are new and not existing streetwork costs (see Annex A – Glossary).

6.101. Costs associated with new TMA/T(S)A permit schemes and new lane rental schemes should be reported in table M9 (re-opener). A new permit or lane rental scheme is one which was not operational by 1 July 2013 or where the scheme has been implemented by this date but the DNO did not have 12 months of cost data relating to the scheme.

6.102. Streetworks costs and volumes associated with existing TMA/T(S)A permit schemes and existing lane rental schemes should be reported in M8. An existing permit or lane rental scheme is one which was implemented as at 1 July 2013 and where the DNO had 12 months of cost data relating to this scheme.

M10 – innovative solutions

6.103. This worksheet is used to capture information about the Innovative Solutions deployed on or in support of the network throughout the RIIO-ED1 price control period, as well as informing on solutions deployed during DPCR5. This information will be used to inform on potential savings and costs during the RIIO-ED2 price control period, as well as allowing us to monitor ongoing innovation rollout.

6.104. Only solutions you are rolling out into business as usual that meet one of the following criteria can be included on this worksheet and be defined as Innovative Solutions:

- Has been trialled as part of an LCNF, NIC or IFI innovation project during DPCR5 or RIIO-ED1.
- A new piece of equipment (including control and communications systems and software) to the GB networks that gives direct benefit to the distribution network.
- A specific novel arrangement or application of existing Distribution System equipment (including control and communications systems and software).
- A specific novel operational practice directly related to the operation of the Distribution System.
- A specific novel commercial arrangement with a Distribution System User.

6.105. This includes related enablers required for that specific solution. Wider, general enablers (eg smart meter IT systems, other IT system upgrades) should be reported elsewhere.

Solution Type

6.106. The innovative solutions must fit into one of the provided categories. We recommend using the intention of the solution for category selection.

Unit

6.107. Please provide the number of deployments for each innovative solution. For example, a whole network management scheme is one deployment, whereas a single scheme type installed in separate areas will be multiple deployments. Please provide detail on how you have defined a deployment in the commentary.

Voltage level of Issue

6.108. Indicate the principal location on the network of the issue being addressed by the innovative solution. This can be informed by where this solution is reported in the relevant cost worksheet. In cases where the issue is spread across multiple levels, either indicate this, or select the level where the majority of the costs have been apportioned in the relevant cost worksheet.

RIIO output

6.109. State which of the RIIO outputs the solution will principally be addressing. The RIIO outputs are: safety, environment, customer satisfaction, connections, social obligations, reliability and availability.

Worksheet (costs)

6.110. DNOs must detail where the cost of the solution has been reported elsewhere in the RIGs. Please provide the number of the relevant worksheet.

Worksheet (savings)

6.111. DNOs must state in which worksheet the savings have been reported. Please provide the number of the relevant worksheet.

Costs

6.112. The costs are to be reported year to regulatory year, and align with those reported in the appropriate cost and volumes tables.

Volumes/Additions

6.113. Net volumes to be reported in the Units expressed earlier in the table. Units added in each regulatory year will be assessed as functional for the remainder of the

period, and therefore do not need to be considered in the following years volumes. Should units be taken away from the network ascribe them a negative figure for the year they are removed, which indicates it will be removed from the cumulative period total. Costs do not necessarily have to have an associated volume or addition, for example upgrades to an innovative solution may be necessary for interoperability, but provide no benefit to outputs.

MVA released

6.114. DNOs to report the estimated capacity released in MVA due to each solution on a year by year basis. In the case of capacity being reduced, report with a negative figure to ensure aligned cumulative totals. Please place a 0 where no capacity is released by the solution in that year. For example, if a temporary smart solution delivers 10MVA in year 1 and is removed in year 3 when conventional reinforcement takes place, this should be reported as 10MVA in year 1, zero in year 2 and -10MVA in year 3.

6.115. Please complete this for all solutions that change network capacity, even if not the intent of the deployment (eg if an active network management system is used primarily for improving Customer Interruption performance and coincidentally released capacity, this should be reported).

6.116. Non-firm capacity solutions are to be reported in line with the Connection Charging Methodology.

Estimated avoided costs

6.117. Please enter the estimated avoided costs by using the innovative solution. Please use the cost-benefit analysis used to assess the solution to derive the estimated saving per deployment and multiply this by the number of deployments, taking into account any differences in scale of deployment or other factors that can easily be accommodated into this estimate. This should be reported as the saving in each year taken individually. In years where there is a net negative costs saving, for example with ongoing payments to customers, please enter a negative figure.

Estimated Losses Impact

6.118. Please provide an estimate of the impact on Distribution Losses the solution will have on the network for that year. Distribution Losses is defined as in Standard Licence Condition 1.

Estimated CI Impact

6.119. DNOs to provide an estimate of the number of Customer Interruptions (CIs) avoided (positive) or caused (negative), by each innovative solution. Where a solution has an ongoing benefit year to year, the previous years figure may be added to any additional CI reduction. For example, a solution that avoids 5 interruptions per year will have 5 placed into each year after. This ensures the total number of

avoided interruptions is correctly totalled. The estimated interruptions may be taken in comparison to the conventional alternative where appropriate.

Estimated CML Impact

6.120. Provide estimates of the impact on Customer Minutes Lost (CML) for each solution. On the same principle as the Estimated CI Impact reporting, solutions that provide an ongoing benefit may be added into the figure for subsequent years.

Further Notes on Table

6.121. Where a timely direct assessment of the impact cannot be ascertained for losses, CI and CML, please use the outcomes of the applicable cost-benefit analysis as for estimated avoided cost.

M11 – LCTs (low carbon technologies)

6.122. This worksheet captures the number and size of Low Carbon Technologies connected in the previous year. This will help to track the low carbon scenario in comparison with those set out by DECC and by the DNOs in their business plans.

6.123. The term Low Carbon Technologies is defined in Annex A - glossary.

6.124. The DNO must input the number of Low Carbon Technologies added to the network in each regulatory year and the total size (in MW) of these. This should be disaggregated between those added at the Primary (EHV+) and Secondary (LV-HV) network. We recognise that at the beginning of RIIO-ED1 there will not be perfect processes for DNOs to receive this data. We expect DNOs to work together and with other relevant organisations to develop better notification processes during the price control period.

6.125. The commentary to this table should at a minimum explain what processes the DNO has used to calculate or estimate the number and size of each type of the Low Carbon Technologies. If any assumptions have been made in calculating or estimating either of these values, these must be noted and explained. The DNO must also explain how the level of Low Carbon Technologies they have experienced compares to its forecast for RIIO-ED1 and the DECC low carbon scenarios. The DNO must also provide a forecast of the DECC low carbon scenario it expects for the remainder of the price control.

M12 – Enablers for ED2 (NPGY AND NPGN only)

6.126. This worksheet only applies to NPgN and NPgY. An element of these DNOs allowances is specifically for investment in enablers that do not provide benefits in RIIO-ED1 but do so by the end of RIIO-ED2.

6.127. The purpose of this worksheet is to report costs and volumes associated with the deployment of enablers specifically funded to provide benefits by the end of RIIO-ED2. This is a memo worksheet. All costs and volumes reported here should also be reported elsewhere as they do not feed into any calculations in this workbook.

6.128. The table lists all smart grid enablers which do not have a net benefit in RIIO-ED1 but provide net benefits by the end of RIIO-ED2 forecast in the DNOs business plan. In columns F and G state the worksheet number and row in which costs and volumes for each enabler are reported elsewhere in the workbook. Where costs or volumes of an enabler are reported across more than one worksheet or row, use one of the spare rows to separate the costs and volumes reported in each place.

6.129. Costs and volumes should be reported against each enabler listed in the worksheet. If other interventions not listed are used, these should be added into spare rows in the table.

6.130. The following elements should be included as a minimum in the commentary to this worksheet:

- Explanation of progress to date compared with costs and volumes forecast in the RIIO-ED1 business plan, providing justification for divergence from the forecast.
- Where a new enabler has been added, a detailed description of the technology, why it has been used instead of those forecast, and the incremental additional benefit this enabler will provide compared with the forecast.
- The net benefit of making these investments in total for all enablers in RIIO-ED1 by the end of RIIO-ED2 (regulatory year 2030-31) and over 45 years of the first deployment of any of these enablers. These should be calculated using Ofgems RIIO-ED1 cost benefit analysis template. The net benefit calculations should be re-run each year, updating for actual activity and using the latest information to derive the forecast.
- Description of key assumptions in the cost benefit analysis including, but not limited to, the low carbon scenario anticipated over the remainder of RIIO-ED1, during RIIO-ED2 and up to 45 years, with reference to how this is different to forecast used in the RIIO-ED1 business plan. The low carbon scenario assumption used in the cost benefit analysis should be the same as is used to complete the reinforcement worksheets.

M13 – BCF

6.131. The purpose of this worksheet is to provide a framework for the collection and provision of accurate and consistent information on Business Carbon Footprint (BCF). The data is required in order to monitor performance under the different measures, as well as monitoring key drivers of that performance. This Worksheet provides a quantification of DNOs BCF (in tonnes of CO2 equivalent).

6.132. We have included losses in the BCF in order to provide an annual estimate of total BCF. DNOs must therefore report losses under their BCF, in addition to the separate reporting on low loss equipment and actions in CV23 – losses.

6.133. DNOs must provide methodology used in the commentary. This should include detailed emission tables for each of the sections below and further information on the methodology adopted, including the starting year from which BCF targets have been estimated, which we expect to be 2014-15.

6.134. The DNO should use the confirmed BCF reporting year approved by Ofgem for this purpose, which should align with the regulatory year.

6.135. Key terms for the tables are defined in Annex A - glossary and include:

- Buildings – Electricity
- Buildings – Other Fuels
- Buildings energy usage
- Business Carbon Footprint (BCF)
- Business transport
- Carbon Emission
- Greenhouse gas emission
- Fuel Combustion
- Fuels Other
- Fugitive Emissions
- Gas Natural
- Gases Other
- Operational Transport
- SF6
- Substation Electricity.

General principles of the reporting methodology

6.136. The reporting methodology must be compliant with the principles of the Greenhouse Gas Protocol[3] (GHG Protocol). In summary[4], the BCF reporting must be:

- Relevant: the inventory must reflect the substance and economic reality of the companys business relationships, not merely its legal form.
- Complete: all relevant emission sources must be included (although in practice lack of data or cost of gathering could be a limiting factor).
- Consistent: accounting approaches, inventory boundary and calculation methodology must be applied consistently over time.
- Transparent: information on the processes, procedures, assumptions and limitations of the BCF reporting must be disclosed in a clear, factual, neutral and understandable manner, enabling internal and external verifiers to attest to its credibility.

[3] Greenhouse gas protocol
[4] For further details, please refer to GHG Protocol – A corporate Accounting and Reporting Standard.

- Accurate: GHG measurements, estimates, or calculations must be systemically neither over nor under the actual emissions value, as far as can be judged, and that uncertainties be reduced as far as practicable.

Reporting boundaries

6.137. DNOs must report on all Scope 1 and Scope 2 emissions and a subset of Scope 3 emissions, as detailed below on an operational control basis ie, report all emissions from operations on which the DNO has full authority to introduce and implement its operating policy.

6.138. DNOs must also report on a subset of Scope 3 emissions (business travel and external contractors), to ensure that the reporting captures all of the emissions arising from the development and operation of the licensees Distribution System, regardless of the legal entity carrying out each activity.

6.139. DNOs that form part of a larger corporate group must provide a brief introduction outlining the structure of the group. The commentary must detail which organisations are considered to be within the reporting boundary for the purpose of this exercise.

6.140. Apportionment of emissions across a corporate group to the DNO business units must be made clear in the commentary.

Contractors

6.141. BCF emissions due to contractors must be separately reported in the BCF tables in the second half of the worksheet. DNOs are not required to reverse populate the separate contractor emissions for DPCR5 values and should complete the DNO emissions table based on the RIGs in place at the time.

6.142. The exclusion of any contractors must be specified and justified and any thresholds used for exclusion must be stated in the commentary.

6.143. The commentary must also include an indication of what proportion of contractors have been excluded. This figure could be calculated based on contract value.

6.144. As far as possible, DNOs must try to ensure that data provided from different contractors is based on consistent assumptions. We continue to work with DNOs to develop the consistency of reporting of contractors emissions. As such, the tables allow for reporting of contractors emissions in any category and DNOs may enter zero in those cells where they are not reporting emissions from contractors.

Detailed reporting requirements

6.145. DNOs are given flexibility to set their own standards for the use of estimates rather than direct measurement[5], and any exclusion from the reporting based on (lack of) materiality considerations[6]. Any assumptions used to make estimates must be included in the commentary. It is anticipated that data will need to be estimated under two scenarios:

- when the type of emissions is not measured
- when there is measurement data, but an estimate is required as the data is not at the same level of granularity as required by the summary BCF worksheet.

6.146. As a general principle, DNOs must focus more on the first type of estimation.

6.147. There is currently a provision for a baseline year, which for DPCR5 was 2010-11. During RIIO-ED1, we will invite DNOs to submit for baseline readjustment under BCF. For information, we expect BCF to be expressed in terms of 2014-15 for the Environment Report (as established through Standard Condition 47 of the electricity distribution licence).

6.148. The commentary must include data tables for each area of emissions (ideally at the same level of granularity as the Defra conversion factors) containing the following information:

- the DNO in question
- the level of emissions (in tCO2e)
- the data source and collection process[7]
- the relevant physical units eg, miles
- the emission conversion factor used
- the source of the emission conversion factor (this shall be Defra unless there is a compelling case for using another conversion factor)
- the Scope of the emissions ie, Scope 1, 2 or 3
- whether the emissions have been measured or estimated
- any tools used in the calculation
- whether the emissions stem from contractors.

6.149. The commentary must also include details of any auditing a DNO has performed to verify their emissions data.

[5] In accordance with the principles of the GHG protocol and ISO14001, we expect a process of continual improvement, so that estimates are progressively replaced by direct measurement. More attention must be given to those estimates of emissions, which are likely to be significant.
[6] In cases where emissions have not been estimated, it is important that this is transparently documented and justified in the methodology.
[7] Collection processes requiring a more detailed explanation must be elaborated upon elsewhere in the commentary.

Apportionment across Distribution Service Areas

6.150. When the emissions data is not available for individual Distribution Service Areas then the apportionment factor used must be transparent. The basis for calculating the apportionment factor must also be included in the commentary.

6.151. We expect that the basis for calculating the apportionment factor will vary according to the area of emissions. The table below gives the preferred basis for determining the apportionment factor. Other methodologies can be used, but they must be justified.

Apportionment factor determination

Area of emissions	Basis for apportionment factor
Building usage	Head count
Operational Transport	Network length or km^2 of the DSA.
Business transport	Head count, or like operational transport
Substations usage	Number of substations
Diesel mobile generation	CML or CI or number of interventions

Guidance on completing the worksheet

6.152. In the worksheet, data entry is in the form of base measurement and conversion factors. Such factors will be the most recent applicable factors published by Defra, unless there is a compelling case for using an alternative factor. The selection of factor and methodology for calculation of each category of BCF should be provided in commentary, including justification for any deviation from Defra factors.

6.153. DNOs are required to enter volumes and applied conversion factors within the worksheet tables for the RIIO-ED1 period. This is not required for the DPCR5 years included, where a direct value in tCO2e may be entered.

6.154. Where multiple conversion factors are required to calculate BCF within a particular category (eg, due to use of both diesel and petrol vehicles), DNOs should enter a weighted average of these factors and the supporting methodology should be described in commentary. Where multiple units are required for calculation of volumes in a given BCF category (eg, a mixture of mileage and fuel volume for transport), DNOs should enter volumes in a single, equivalent unit and describe their methodology in commentary.

Buildings energy usage

6.155. Emission for electricity usage in buildings must be converted according to the relevant DEFRA conversion factor.

6.156. Natural Gas, Diesel and other fuels are all categorised as fuel combustion and must be converted to tCO2e on either a Gross Calorific Value (Gross CV) or Net

Calorific Value (Net CV) basis. We expect that this element of the chosen approach is clearly stated in the commentary and that this is consistently applied over time.

6.157. Electricity usage in substations must be captured under Buildings energy usage. All substation consumption must be treated as energy supplied rather than losses. It is recognised that not all substations will be metered; rather, it is expected that licensees will in time register all substation as unmetered supplies and develop a common method for estimating consumption. Each licensee must include in its methodology (included in the commentary) the basis on which energy supplied has been assessed. Estimation could be based on a bottom-up approach, whereby the substation energy usage is split into estimates of its constituent parts, such as heating and lighting etc.

Transport

6.158. Defra guidelines provide for a range of emission conversion factors for transport means, with the aim to provide the best possible estimate of emissions from the vehicle portfolio owned and/or operated by the company. The reporting must, as far as reasonably practicable, use the full range of emission conversion factors available (as applicable to the range of means of transport actually used by the company).

6.159. Defra allows for transport to be entered in terms of both mileage and fuel consumption. Reporting must be based upon mileage, using conversion factors at the greatest level of disaggregation that is reasonably practicable. Reporting can be based on fuel consumption only where detailed and reliable data is available eg, through fuel cards.

6.160. In cases where emission factors for specific transport means are not available (we are aware of this issue for helicopters, but there may be some other instances) the equivalent tonnes of carbon dioxide (tCO2e) must be estimated and summed to the closest means of transport (eg, air for helicopters). The methodology and assumptions used for estimating/measuring these emissions must be included in the commentary.

6.161. Operational Transport is the transportation (often a fleet of vehicles) used in the day to day operation of the business ie, in the inspection and maintenance of the network.

6.162. Business Transport is that undertaken by staff travelling to locations that are other than their normal place of work or moving between sites for purposes such as meetings.

Fugitive emissions

6.163. This category caters for GHG emissions from a range of gases that may be relevant to the DNO business. We anticipate that this will mainly include SF6 emissions, but other gases may be included (eg, HFC from air conditioning). SF6

emissions must be reported in accordance with ENA-ER S38, using Defra conversion factors.

6.164. The commentary must identify which fugitive emissions have not been calculated or estimated.

Fuel combustion (non-building)

6.165. This is to cover for non-building fuel usage, such as mobile plants and the stand-by diesel mobile generators that are deployed from time to time in response to planned outages or faults. Defra emissions factors must be used. All mobile plant and generation used by the licensee, related and affiliate undertakings, contactors and sub-contractors must be included in so far as it is reasonably practicable. The methodology must describe the degree of estimation, and decisions to exclude any sources of emissions, applied.

Losses

6.166. This is to consider DNOs responsibility towards losses as a Scope 2 emission, using the relevant Defra conversion factor for electricity losses. DNOs should describe their methodology for reported losses volumes in commentary, which should follow their methodology for developing the line loss factors reported to Elexon. Substation electricity usage must be excluded from the reported emissions for network losses, so that it is not double-counted.

M14 – metal theft

6.167. [to be developed]

M15 – Shetland (SSEH)

6.168. [Linking to be developed]

6.169. This worksheet is relevant to SSEH only. This table enables SSEH to report annually on the efficient costs incurred related to generating electricity on Shetland. Other costs related to generating electricity on Shetland are reported in the pass through table and through legacy arrangements.

6.170. An ex ante allowance has been provided for the cost categories listed in the M15 Shetland costs table, as described in our Final Determination under Shetland Fixed Energy Costs Allowance and Competitive Process Costs. These costs are subject to a reopener in 2017, as stated in CRC3F, with a 10% (of ex ante allowance for these categories) materiality threshold.

6.171. Shetland Fixed Energy Costs Allowance is made up of Third party contracts (TPC), LPS capital & operating costs (LPSC), NINES ongoing costs (NINEs),

Competitive Process Costs (CPC) and potential Contingency costs (CC). All are defined in Annex A – Glossary.

- Third party contracts (TPC) comprising:
  - TPC project management costs
  - TPC operational costs
- LPS capital & operating costs (LPSC)
- Capital and operating cost allowance for Lerwick Power Station (LPS) (excluding fuel) made up of the following components:
  - LPSC insurance
  - LPSC EU Emission Trading Allowances
  - LPSC consents and permits
  - LPSC engineering
  - LPSC construction
  - LPSC operations staff
  - LPSC spares and consumables
  - LPSC depreciation
- NINES ongoing costs (NINOC)
  - NINOC operational costs
  - NINOC other
- Competitive Process Costs (CPC)
  - CPC project management
  - CPC regulatory and consent
  - CPC engineering
  - CPC procurement
- Contingency costs (CC)
  - CC project management
  - CC regulatory and consent
  - CC procurement
  - CC construction
  - CC commissioning.

The costs in £m for each year, from the beginning of DPCR5 period through to the last price control reporting period. Complete this for each cost category listed in the table, rows 31 to 35 (excluding the cost category headings), in the highlighted cells.

M16 – Subsea Cables (SSEH)

6.172. [to be developed]

M17 - Moorside (ENWL)

6.173. [to be developed]

M18 – LRE (load related expenditure) summary

6.174. [to be developed]