

# **RP6 Business Plan**

## **Distribution Cost & Volumes**

### **Guidance Notes**



# RP6 Business Plan, Distribution Cost & Volumes Guidance Notes

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## 1.1 General Instructions & Guidance for the worksheets in the Cost & Volume Business Plan Reporting Workbook

1.1.1 The worksheets within the workbook are structured as follows:

1. The 'Cover' worksheet – this worksheet introduces the name of the workbook, the company name or names of the related parties, the reporting price base and the relevant year or years. As referenced above, the reporting periods are 1<sup>st</sup> April to 31<sup>st</sup> March for each year. A reporting year of “2013” means the year ended on 31<sup>st</sup> March 2013. We use this convention throughout the RIGs.
2. The 'Nav' worksheet – this worksheet helps us to navigate the workbook. It contains three sections: the Key; the Version submission control; and Worksheets, each of which are described below.
  - a. **Key** - We set out a colour code key for each cell in the workbook. For example: the company's input cells are formatted in the colour yellow; cells which total figures within a worksheet are formatted in the colour green; and cells which reference other worksheets within the workbook are formatted in light blue and so on, as set out in this section
  - b. **Version submission control** – for each submission the company should input the date the version was submitted to the Authority and the submission version number. This functionality will avoid the need to change the file name when submitting the workbook (except for the change to YYYY\_MM\_DD as identified above).
  - c. **Worksheets** – This section introduces each remaining worksheet within the workbook by setting out the worksheet type, worksheet name, a worksheet status and a worksheet category. The worksheet name is hyperlinked for ease of navigation. As referenced above, we request that the company is concerned about the 'Live' worksheets only. Other worksheets are hidden but may need to be activated in the future.
3. The 'Change Log' worksheet – this worksheet records any changes to the workbook. For each version of the workbook the company or the Authority must input the relevant: version number; date; comments/ notable changes; the effect of the changes; and the reason for the changes. A new version shall be created if any of the following apply: new formula/s; changed template structure; new worksheets required; changed data input; or changed row, column headings or classifications. As referenced above, unless otherwise agreed, only the Authority should make structural or formula changes to the workbook. The company shall complete a new row for each submission of the workbook completing all the relevant cells in that row.
4. The data submission comprises the following worksheets with detailed instructions and guidance on the individual worksheets provided in the subsequent sub-sections:
  - C26 – Network operating Costs – Other
  - C34 – Non-Activity Based Costs

- CV1 – Diversions
- CV2 – Activity Volumes – ESQCR
- CV3 – Asset Replacement
- CV5 – Refurbishment
- CV8 – Legal and Safety
- CV11 – Resilience
- CV12 – Environmental Reporting
- CV13 – Activity Volumes – Inspections and Maintenance
- CV14 – Tree Cutting
- CV15a – Medium Term Performance - All incidents
- CV15b – Occurrences Not Incentivised (ONIs)
- CV16 – Metering Services
- CV17 – Meter Reading
- CV101 – Reinforcements and DSM payments
- CV102 – Distribution Load Indices
- CV105 – Operational Information Technology and Telecoms
- V1 – Total Asset Movements
- V2 – Asset Register – Connection Projects
- V3 – Asset Register - General and Fault Level Reinforcement
- V4a & b – Asset Register – Other Movements
- V5 – Asset Register – Age Profile
- V11 – Medium Term Performance – Excluding all EEs
- V15 – Network Data
- V16 – Quality of Service & Worst Served Customer
- CM17 - FTEs

- 1.1.2 The work sheets are structured to enable, where appropriate, reconciliation to the Network Investment business plan submission. Some of the allowance codes in the network investment templates are duplicated in multiple tabs of the cost and volumes templates to allow the company to report expenditure from a single allowance across multiple activities.
- 1.1.3 The company should insert and populate a new table in the Cost and Volumes Business Plan templates to reflect any additional allowances which have been identified in the Network Investment Business Plan templates.

- 1.1.4 The company should ensure that the direct cost data submitted in the cost and volumes templates reconciles with the network investment business plan templates and the C1 matrices. The company should provide an explanation, in the commentary, of how the profile of costs in the yearly C1 matrices maps to the totals reported in the cost and volumes business plan submission.
- 1.1.5 A separate civil works tab is not included in the cost and volumes templates. Instead, the company is required to report civil works costs at an aggregated level for asset replacement and refurbishment activities. To avoid double counting, the company should ensure that civil works costs are not included in the cost of replacing or refurbishing the assets.
- 1.1.6 The company is required to include historic and forecast data as follows:
1. RP5 historic – outturn data including 2013, 2014 and 2015
  2. RP5 forecast – projected data including 2016 (LBE), 2017 and the period from April 2017 to September 2017
  3. RP6 forecast – projected data including the period from October 2017 to March 2018, 2019, 2020, 2021, 2022, 2023 and 2024

## **1.2 Worksheet C26 – Network operating costs – Other**

- 1.2.1 The ‘C26 – NOCs Other’ worksheet records costs associated with dismantlement, remote location generation operating costs, and substation electricity.
- 1.2.2 Key terms for this worksheet, which are defined in the Glossary include:
1. Dismantlement
  2. Remote Location Generation Operating Costs: Fuel
  3. Remote Location Generation Operating Costs: O&M
  4. Substation Electricity
- 1.2.3 For substations on the company’s network with metered electricity supplies, the company should insert the amount paid for electricity usage, the units consumed, and the cost per unit (in £/MWh).

## **1.3 Worksheet C34 – Non-Activity Based Costs**

- 1.3.1 The ‘C34 – Non Activity Based Costs’ worksheet collects data on Non Activity Based Costs and should be reported by each category listed within the sheet.
- 1.3.2 Key terms for this worksheet are defined in the Glossary and include:
1. Pass Through Costs
  2. Other

3. Bad Debt Expense
  4. Profit/Loss on sale of Fixed Assets and Scrap
- 1.3.3 Incremental ring fence compliance is the costs that have necessarily been incurred as a direct result of complying with the additional ring fence condition requirements introduced by the Authority.
- 1.3.4 The worksheet collates details of payments made by the company in relation to guaranteed standards breaches and other compensation or goodwill payments. The relevant headings of these tables are defined in the Glossary:
1. GS Compensation Payments (SI 448 of 1993)
  2. Ex-Gratia Compensation Payments (SI 448 of 1993)
  3. Any other Ex-Gratia/Goodwill Compensation Payments.
  4. All Non Activity Based costs except for pensions deficit repair payments should be classified as Subscriptions; this should include only actual costs and not depreciation.
  5. All income must be entered as a negative number.

## 1.4 Worksheet CV1 – Diversions

- 1.4.1 The 'CV1 – Diversions' worksheet records cost and volume data for Diversions and Conversions of wayleaves to easements, easements and injurious affections
- 1.4.2 The total activity volumes and direct costs are to be reported by the applicable voltage and categorisation listed within the worksheet. These categories are defined in the Glossary and include:
1. Diversions – Conversion of wayleaves to easements, easements, injurious affection
  2. Diversions – Wayleave Terminations
  3. Diversions – Highways
  4. The volumes related to this worksheet must only be recorded once the claim is settled. The volumes in the table relate to:
    - a. Claims associated with conversion of wayleaves to easements, easements, injurious affection; and
    - b. Quantity of diversions completed.
  5. Where a diversion requires work at more than one voltage level, then the diversion must be recorded against the higher voltage.

6. A diversion includes all work and equipment utilised in the scheme, this could include multiple cables and equipment types. This should be reported as one diversion scheme for the purposes of this worksheet against the highest voltage involved in that scheme.
7. The number of claims settled data must be entered for each category for the Activity Volumes table. While the Total Direct costs that corresponds to this activity should be entered in the adjacent table.
8. The first category within the table is for the input of costs relating to the conversion of Wayleaves to Easements (servitudes), payment of Easements and Injurious Affection claims and is reported by voltage level.
9. The second category is Diversions – Wayleave Terminations and is to be reported by voltage level. The volumes must only be recorded once the diversion is completed.
10. The final category is Diversions for Highways and the costs are to be reported by voltage level. The volumes must only be recorded once the diversion is completed. The company should report Highway diversion costs to reflect local practice.

## **1.5 Worksheet CV2 – Activity Volumes – ESQCR**

- 1.5.1 The 'CV2 – ESQCR' worksheet collects total activity volumes and direct costs by category and voltage level for safety clearances and risk register patrolling.
- 1.5.2 This worksheet requires costs and volumes to be reported in accordance with the terms defined in the Glossary.
- 1.5.3 The Unit Cost cells are formula driven from the volumes and cost data entered, and will calculate the unit cost data for each activity.
- 1.5.4 The table is for management of asset risk register development associated with compliance with Regulation 3 and clearance issues, associated with compliance with Regulations 17 and 18.

## **1.6 Worksheet CV3 – Asset Replacement**

- 1.6.1 The 'CV3 – Asset Replacement' worksheet records cost and volume data for condition based replacement of assets.
- 1.6.2 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.
- 1.6.3 The Unit Cost cells are formula driven from the volume and cost data entered.
- 1.6.4 The company should explain, in the commentary template, the reasons for variation in unit costs across the allowance categories for the same assets replaced and, in



addition, the reasons for variations between historic unit costs and forecast unit costs for the same assets.

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

1.6.6 All asset categories listed within the worksheet are defined in the Glossary.

## **1.7 Worksheet CV5 – Refurbishment**

1.7.1 The 'CV5 – Refurbishment' worksheet records cost and volume data for refurbishment works that forms part of the total Asset Replacement category.

1.7.2 All categories listed within this worksheet are defined in the Glossary.

1.7.3 The total volume of assets refurbished 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 activity for each asset must be entered into the respective Activity Volumes cells. The direct costs associated with these must be entered into the respective Costs cells in the adjacent table.

1.7.4 The Unit Cost cells are formula driven from the volume and cost data entered.

## **1.8 Worksheet CV8 – Legal and Safety**

1.8.1 The 'CV8 – Legal and Safety' worksheet records cost and volume data for Legal and Safety.

1.8.2 The categories for this worksheet are defined in the Glossary.

1.8.3 The total activity volumes and direct costs are to be reported by the applicable categorisation listed within the worksheet.

1.8.4 The direct costs associated with these Legal and Safety works must be entered into the respective Costs cells.

1.8.5 The table allows for the company to add up to five further categories of Legal and Safety work. A definition of the activity and full explanation of any additional categories added by the company must be included in the Commentary Template.

1.8.6 The Unit Cost cells are formula driven from the volume and cost data entered.

## **1.9 Worksheet CV11 – Resilience**

1.9.1 The 'CV11 – Resilience' worksheet records cost and volume data for Flood mitigation expenditure.

1.9.2 Volumes and costs will be reported for Flood Mitigation schemes and Flooding Site Surveys.

1.9.3 The categories for this worksheet are defined in the Glossary.

- 1.9.4 The company should input the costs and volumes associated with flood mitigation schemes and flooding site surveys in the relevant tables. The total activity volumes and direct costs are to be reported by the applicable flooding risk event levels listed within the worksheet. The volumes correspond to the number of substations.
- 1.9.5 The Unit Cost cells are formula driven from the volume and cost data entered.
- 1.9.6 The information provided in this table may be shared with DARD/Rivers Agency.

## **1.10 Worksheet CV12 – Environmental Reporting**

- 1.10.1 This worksheet is for the input of volume and cost data for Environmental information.
- 1.10.2 This worksheet collects the data corresponding to complying with environmental legislation or guidelines for each of the following categories:
- Visual amenity
  - Fluid used to top up cables
  - Fluid Used to Top-up Cables as a Percentage of Mass in Service
  - Oil Pollution Mitigation Scheme – Cables
  - Oil Pollution Mitigation Scheme - Operational Sites
  - Oil Pollution Mitigation Scheme - Non Operational Sites
  - SF6 in Bank
  - SF6 Emitted
  - SF6 Emitted Mitigation Schemes
  - SF6 Emitted as a Percentage of SF6 Bank
  - Noise Pollution
  - Contaminated Land Clean Up
  - Environmental Civil Sanctions
  - Environmental Management System (EMS) Certified Activities
- 1.10.3 These categories are defined in the Glossary.
- 1.10.4 Environmental Civil Sanctions includes:
- Environmental Reportable incidents
  - Environmental Prosecutions
  - Environmental Warnings
  - Environmental Cautions
- 1.10.5 The total activity volumes and direct costs are to be reported by the applicable categorisation listed within the worksheet. The relevant units for the volumes vary according to the specific category.
- 1.10.6 SF6 should be reported in kgs.
- 1.10.7 The direct costs associated with this activity must be entered into the respective Costs cells.

1.10.8 The Company must include in their commentary:

- discussion of any emerging trends in the environmental data and areas of trade-off in performance
- further details of any reportable incidents or prosecutions
- details of any Environmental Management System (EMS) accredited under ISO or other recognised accreditation scheme

## **1.11 Worksheet CV13 – Activity Volumes – Inspections and Maintenance**

1.11.1 The 'CV13 – I&M' worksheet records cost and volume data related to Inspections and Maintenance.

1.11.2 The worksheet reports the volumes and costs associated with inspections, and repair and maintenance by asset type.

1.11.3 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. The table at the top of the sheet (rows 7 to 50) is for recording activities by the number of incidences of each activity. For example if 100 inspections of Overhead Pole Lines were carried out at 85 different sites in the year, the activity volume recorded in this table would be 100. The bottom table (rows 56 to 73) is for recording the number of Individual Assets Inspected. Using the previous example, the activity volume recorded in this table would therefore be 85.

1.11.4 All categories within this worksheet are defined in the Glossary.

1.11.5 The Unit Cost cells are formula driven from the volume and cost data entered.

## **1.12 Worksheet CV14 – Tree Cutting**

1.12.1 The 'CV14 – Tree Cutting' worksheet records cost and volume data related to Tree Cutting.

1.12.2 These are the volumes and costs of physically felling or trimming vegetation from network assets to comply with the requirements of ENATS 43-8 (horizontal and vertical clearances) and ETR 132 (network resilience)

1.12.3 The key terms for this worksheet are:

1. ENATS 43-8
2. ETR 132
3. Spans Cut

4. Spans Inspected (Tree Cutting)
  5. ETR 132 - Stand alone
  6. ETR 132 - In addition to 43-8 clearance work
  7. ETR 132 - As Part of OHL Replacement
  8. Span length
  9. Cut Cycle
  10. Km of network cleared
  11. Network Parameters
  12. Tree Cutting Policy
  13. Tree Cutting Cycle
- 1.12.4 The total activity volumes and direct costs are to be reported by the applicable categorisation listed within the each table.
- 1.12.5 The direct costs associated with this expenditure must be entered into the respective Costs cells.
- 1.12.6 The Unit Cost cells are formula driven from the volume and cost data entered.
- 1.12.7 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.
- 1.12.8 The Progress against ETR 132 table summarises the total Overhead Network Length that has been cleared to meet the standard during the year. The table also requires the company to record how much of their total network is compliant with the standard at the reporting date.
- 1.12.9 If the activity, to meet either ENATS 43-8 or ETR 132 requirements, is atypically more or less costly (on a unit cost basis) during one or more reporting years, then company will be expected to provide further explanation as to the reasons for this in the accompanying Commentary Template.

### **1.13 Worksheet CV15a – Medium Term Performance - All incidents**

- 1.13.1 The 'CV15a – MTP all incidents' worksheet records cost and volume data for MTP All Incidents (excluding Severe Weather 1-in-20 events) (including Troublecall).
- 1.13.2 Costs in this worksheet should be reported in a consistent manner according to the required breakdown as presented in the worksheet.

- 1.13.3 The total activity volumes and direct costs 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 in the adjacent table.
- 1.13.4 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.
- 1.13.5 For the avoidance of doubt the costs of restoring supplies, repairs and/or replacing of assets following an Incident should be reported only in CV15a and not in CV3 Asset Replacement. Similarly, the costs of restoring supplies, repairs and/or replacement of assets following an Incident, which are due to metal theft on the company's network, and these volumes, are to be reported in CV15a only. Metal theft occurrences which do not cause Incidents, the costs and volumes of these are to be reported in CV15b only.
- 1.13.6 For each of the following activity tables, enter volume and cost data, as directed above:
1. Unplanned Incidents on Power System Voltage Equipment - (Non Damage Incidents only)
  2. Unplanned Incidents on Power System Voltage Equipment - (Damage Incidents Requiring Asset Repair/Replacement).
- 1.13.7 The following key terms are defined in the glossary:
1. Non Damage Incidents
  2. Damage Incidents
  3. Unplanned Incident (unplanned incident on distribution system)
  4. The operating cost data for each activity must be entered into the applicable category:
    - a. Non damage incidents only
    - b. Damage incidents requiring Asset Repair/Replacement
- 1.13.8 As part of the reporting in this worksheet, the company must populate the costs of the damage incidents. These costs will include the total cost of rectifying the faults that have occurred in that regulatory year.
- 1.13.9 Throughout the tab the Unit Cost cells are formula driven from the volume and cost data entered.

## **1.14 Worksheet CV15b – Occurrences Not Incentivised (ONIs)**

- 1.14.1 This worksheet is for the input of cost and volume data for Occurrences Not Incentivised (ONIs).
- 1.14.2 For each of the following activity tables enter both cost and volume data as applicable:
- power system voltage equipment/no unplanned incident
  - other occurrences (not affecting power system voltage equipment).
- 1.14.3 Throughout the worksheet the Unit Cost cells are formula driven from the cost and volume data entered.

## **1.15 Worksheet CV16 – Metering Services**

- 1.15.1 The 'CV16 – Metering Services' worksheet records cost and volume data for all meter related services provided by NIEN (excluding meter reading).
- 1.15.2 Costs in this worksheet should be reported in a consistent manner according to the required breakdown as presented in the worksheet.
- 1.15.3 The total activity volumes and direct costs are to be reported by the applicable customer, meter type and activity 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 in the adjacent table. For the avoidance of doubt, the term 'direct cost', when used in relation to metering services, means all costs which are not closely associated indirect costs or business support costs as defined in the Glossary
- 1.15.4 Throughout the worksheet the Unit Cost cells are formula driven from the cost and volume data entered.

## **1.16 Worksheet CV17 – Meter Reading**

- 1.16.1 The 'CV17 – Meter Reading' worksheet records cost and volume data for meter reading services provided by NIEN.
- 1.16.2 Costs in this worksheet should be reported in a consistent manner according to the required breakdown as presented in the worksheet.
- 1.16.3 The total activity volumes and direct costs are to be reported by the applicable customer type 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 in the adjacent table.
- 1.16.4 Throughout the worksheet the Unit Cost cells are formula driven from the cost and volume data entered.

## 1.17 Worksheet CV101 – Reinforcements and DSM payments

- 1.17.1 The 'CV101 – Reinforcement & DSM' worksheet records cost and volume data for substation reinforcement, circuit reinforcement, voltage regulation, fault level reinforcement and Demand Side Management (DSM payments).
- 1.17.2 For the avoidance of doubt, the rows relating to the primary and secondary network should be populated with data relating to both Low Carbon Technology-driven demand growth, and conventional growth.
- 1.17.3 For substation reinforcement on the primary network, the volume entered must reflect the forecast increase in MVA of capacity that will result from the reinforcement work forecast to be carried out.
- 1.17.4 For circuit reinforcement, the volume entered must reflect the volume of circuits, disaggregated by voltage, that are reinforced in the period. For secondary network circuit reinforcement schemes the company should also provide the circuit lengths involved.
1. For voltage regulation schemes, the volume entered must reflect the forecast volume of schemes, disaggregated by voltage.
  2. Where mixed schemes involve only circuit reinforcement and voltage regulation, these should be included in the circuit reinforcement data.
  3. The costs and volumes where relevant associated with substation reinforcement, circuit reinforcement and voltage regulation schemes should be disaggregated against the voltages on which the work is undertaken. The primary voltage should reflect the highest voltage that has been worked on, whilst the secondary voltage should be the lowest voltage worked on.
  4. DSM payments are only reported by voltage level.
  5. The DSM table is for the input of DSM expenditure the company has made by way of limiting peak load on the system to avoid the need to reinforce the network. When a DSM payment avoids reinforcement at more than one voltage level, the costs should be split across the relevant voltage levels. The company is required to indicate the capacity requirements that have been avoided through use of DSM, again where this applies to more than one voltage the volume should be split across the relevant voltage levels. DSM payments for purposes other than limiting the peak load on the system should be separately identified in the Commentary Template.
  6. With regards to the fault level reinforcement element of the table, the company must populate the relevant rows with the total number of EHV and 132kV switchboards/ substation busbars, the number of these that have a fault level duty of above 95% of their rating, and the volume that are subject to fault level operational restrictions.

7. Additionally, the company should provide volumes and costs of the specific fault level scheme types as listed in the table.
8. Input costs of demand side management payments for general reinforcement avoidance must be input by voltage level (LV, HV, EHV and 132kV).

## **1.18 Worksheet CV102 – Reinforcement (LI)**

### **DEMAND GROUP DESCRIPTION**

#### **Substation**

- 1.18.1 This column should be populated with the name of each primary network substation within the DNO.

#### **Primary voltage**

- 1.18.2 This column should be populated with the highest voltage in operation at each substation.

#### **Secondary voltage**

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

#### **No. of customers**

- 1.18.4 This column should be populated with the number of customers fed from each substation.

#### **Percentage of customers supplied by substation**

- 1.18.5 This column is formula driven and requires no user intervention.

### **LOAD INDEX – current (15/16)**

#### **Substation firm capacity under single circuit outage conditions**

- 1.18.6 This column should be populated with the maximum capacity that will be available at a substation, or within a substation group, immediately following the occurrence of an (n-1) incident within the 2015/16 reporting year.
- 1.18.7 The Firm (n-1) Capacity shall only include capacity that will be immediately available, under such circumstances, without requiring manual intervention. This input should be based on the 15/16 actual data.
- 1.18.8 This column should be populated with the MVA before any adjustments are made for DSR or DG contribution to security of supply. This input should be based on the 15/16 actual data.

#### **Immediately available DSR adjustment**

- 1.18.9 The additional level of capacity (MVA) above the “Current substation firm capacity under single circuit outage conditions” (if relevant) that is released through DNO-contracted DSR contracts. The adjustment that is made should be carried out in line with the recommendations of engineering technical recommendation ETR130. This input should be based on the 15/16 actual data.



### **Assessed contribution towards security supply from DG adjustment**

- 1.18.10 The additional level of capacity (MVA) above the “Current substation firm capacity under single circuit outage conditions” (if relevant) that is released through the contribution of distributed generation to security of supply compliance. The adjustment that is made should be carried out in line with the recommendations of engineering technical recommendation ETR130. This input should be based on the 15/16 actual data.

### **LOAD INDEX FIRM CAPACITY**

- 1.18.11 The n-1 firm capacity as defined for use within the Load Index secondary deliverable. This is calculated as the recorded firm capacity corrected for DNO contracted DSR and any contribution of DG to security of supply compliance.

### **Season of Most Onerous Demand, and Limiting Factor**

- 1.18.12 “Season of Most Onerous Demand” sets out whether the demand peak at the substation occurs during winter or summer. The “Limiting Factor” refers to the specific restricting factor, of those listed, that determines the substation’s firm capacity:

- (a) Rating of a transformer
- (b) Rating of the incoming circuit(s)
- (c) Capacity of normally connected secondary interconnection
- (d) Rating of the secondary switchboard
- (e) Rating of any ancillary equipment
- (f) Voltage regulation
- (g) Substation or network configuration
- (h) Rating of the primary switchgear or busbars
- (i) Redundant substation
- (j) Meshed network circuit capacity
- (k) Customer connection agreement

This input should be based on the 15/16 actual data.

### **Substation current Maximum Demand**

- 1.18.13 The maximum demand as forecast for the substation within the 2015/16 reporting year corrected only for normal running conditions.

### **Weather correction adjustment to maximum demand**

- 1.18.14 The negative or positive adjustment to each substation's firm capacity (MVA) that results from any weather correction to maximum demand carried out by the DNO. This input should be based on the 15/16 actual data.

**"Significant" measurable embedded generation adjustment to maximum demand**

- 1.18.15 Any significant and measurable DG output that coincides with the maximum demand at the substation. This input should be based on the 15/16 actual data.

**Connected non-firm demand adjustment to maximum demand**

- 1.18.16 Where identified in line with ETR130, any non-firm demand that shall be excluded from the maximum demand should be entered in this column as a negative adjustment. This input should be based on the 15/16 actual data.

**LOAD INDEX MAXIMUM DEMAND**

- 1.18.17 This is calculated as the recorded maximum demand corrected for any weather correction carried out by the DNO, "significant" measurable embedded generation and/ or non-firm demand connected.

**Substation current Maximum Demand as % of Substation Firm Capacity**

- 1.18.18 This calculation shows the LOAD INDEX MAXIMUM DEMAND as a percentage of the LOAD INDEX FIRM CAPACITY

**Hours / energy at risk**

- 1.18.19 The amount of time the substation is forecast to spend loaded at 100% or above during the 2015/16 reporting year. This input should be based on the 15/16 actual data.

**Load Index ranking**

- 1.18.20 This column calculates the LI1-5 ranking for each substation as dictated by the bandings shown in table 1 below:

Table 1

LI Banding	Loading percentage	Duration factor
LI1	0-80	N/A
LI2	80-95	N/A
LI3	95-99	N/A
LI4	99+	<9 hours over 100%
LI5	99+	>9 hours over 100%

**FORECAST LOAD INDEX MAX DEMAND**

**Historic and forecast max demand (MVA) - excluding forecast reinforcement /including contracted non-firm demand**

- 1.18.21 Historic and forecast “LOAD INDEX MAXIMUM DEMAND” should be provided on an annual basis covering the period 2012/13 – 2022/23. This figure should include any forecast impact of increased/decreased levels of non-firm demand connected in future years and reinforcement investment undertaken/forecast to be undertaken in RP5. Where actual maximum demand levels are available for the 2015/16 reporting year, these should be included in the 2015/16 input cells as though they are a forecast.

### **FORECAST LOAD INDEX FIRM CAPACITY**

#### **Historic and forecast firm capacity (MVA) - excluding forecast reinforcement/including contracted DSR impact**

- 1.18.22 Historic “LOAD INDEX FIRM CAPACITY” and forecast “LOAD INDEX FIRM CAPACITY” should be provided on an annual basis covering the period 2012/13 – 2022/23. This figure should include any forecast impact of increased/decreased levels of DSR contracted in future years and reinforcement investment undertaken/forecast to be undertaken in RP5. Where actual maximum demand levels are available for the 2015/16 reporting year, these should be included in the 2015/16 input cells as though they are a forecast.

### **LOAD INDEX - 1 October 2017 (start of RP6)**

#### **1 October 2017 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (start of RP6)**

- 1.18.23 This calculates the 2017 Maximum Demand as % of Substation Firm Capacity for each substation as forecast for the start of the RP6 period. The figures for Firm capacity should reflect any interventions carried out, or forecast to be carried out in RP5.

### **1 October 2017 forecast hours / energy at risk (start of RP6)**

- 1.18.24 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2016/17 reporting year without investment.

### **Load Index rating (start of RP6)**

- 1.18.25 Each substation’s forecast Load Index rating during 2017/18 without intervention.

### **LOAD INDEX - 31 March 2023 (with no further RP6 intervention)**

#### **31 March 2023 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (with no further RP6 intervention)**

- 1.18.26 This calculates the 2023 Maximum Demand as % of Substation Firm Capacity for each substation as forecast without reinforcement intervention.

### **31 March 2023 forecast hours / energy at risk (with no further RP6 intervention)**

- 1.18.27 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2022/23 reporting year without investment.

### **Load Index rating (2023 without intervention)**

- 1.18.28 Each substation's forecast Load Index rating during 2022/23 without intervention.

### **EXPENDITURE**

#### **Historic and forecast reinforcement expenditure (£m)**

- 1.18.29 Historic and forecast expenditure should be provided on an annual basis covering the period 2012/13 – 2022/23. Where the demand growth at a particular site requires a new substation to be constructed, the expenditure should be populated against the substation that's demand growth is the main driver for the investment.

### **INTERVENTION DETAIL**

#### **Is a reinforcement to increase firm capacity for this demand group planned over RP6?**

- 1.18.30 This indicates, based on the expenditure forecast within the RP6 period, whether there is expenditure forecast to be incurred on the increasing of capacity of each substation within the RP6 period.

#### **N-2 scheme?**

- 1.18.31 Where the expenditure against a specific substation is to fund an n-2 scheme, this column should be populated "Yes". Where the expenditure against a specific substation is to fund an n-1 scheme, this column should be populated "No". Where no expenditure is forecast against a specific substation, this column should be populated "-".

#### **31 March 2023 LOAD INDEX FIRM CAPACITY (with further RP6 intervention)**

- 1.18.32 Each substation's forecast LOAD INDEX FIRM CAPACITY within the 2022/23 reporting year including increased capacity from RP6 reinforcement interventions.

#### **LOAD INDEX MAXIMUM DEMAND for year ending 31 March 2023 Each substation's forecast LOAD INDEX MAXIMUM DEMAND within the 2022/23 reporting year including the impact of any RP6 interventions.**

- 1.18.33 Where new substations are proposed to be built to cater for some of the load at a given substation, the costs and reduction in maximum demand should be captured against the substation requiring the intervention.

#### **Are the relevant consents secured?**

- 1.18.34 Where the relevant consents are in place for any reinforcement work included in the table, enter "Yes". Otherwise enter "No" if these are to be secured and "-" where no expenditure is forecast. Within the accompanying guidance, DNOs should give clear explanation of their expected lead times for securing the relevant access.

#### **Capacity added from intervention**

- 1.18.35 This column calculates the level of capacity that is forecast to be delivered by the individual reinforcement schemes listed in the tab.

**31 March 2023 LOAD INDEX MAXIMUM DEMAND as % of LOAD INDEX FIRM CAPACITY (with further RP6 intervention)**

- 1.18.36 This calculates the 2023 Maximum Demand as % of Substation Firm Capacity for each substation as forecast with the additional capacity funded through RP6 reinforcement schemes.

**31 March 2023 forecast of hours / energy at risk (with further RP6 intervention)**

- 1.18.37 The amount of time the substation is forecast to spend loaded at 100% or over during its demand peak in the 2022/23 reporting year with investment.

**Load Index rating (with intervention)**

- 1.18.38 Each substation's forecast Load Index rating during 2022/23 with intervention.

**P2/6 Compliance**

**Is a derogation or self-derogation against P2/6 in place, or planned?**

- 1.18.39 Where the relevant derogation is in place for a substation included in the table, enter "Yes". Otherwise enter "No" if these are to be secured and "-" where no derogation is required. Further details of derogation arrangements should be included in the relevant commentary for the table.

**1.19 Worksheet CV105 – Operational Information Technology and Telecommunications**

- 1.19.1 The 'CV105 – Operational IT & Tele' worksheet provides the Authority with a summary of Operational IT and Telecoms expenditure and collects total activity volumes. Costs are reported by category and cost type.
- 1.19.2 Key terms for this worksheet are defined in the Glossary.
- 1.19.3 The Commentary Template should be used to outline:
1. Key elements of your existing IT infrastructure and approach to IT&T
  2. Whether the IT strategy over the reporting periods represents a 'business as usual' approach or whether your investment plans support the preparation for future innovation.
  3. Identification of system updates (or new systems) that may occur.

4. We would also expect to see a road-map (or equivalent documentation) to outline how your IT&T investment strategy supports future network enhancements (e.g. smart grids).

## **1.20 Worksheets V1 to V4b – Total Asset Movements**

- 1.20.1 The Asset Register is a collection of worksheets which show the total number of network assets for each year and the number of network assets added and removed from the network each year. The asset register is not linked to any of the Activity worksheets. For each work driver (e.g. asset replacement, general reinforcement, etc.), a worksheet has been added to allow each asset addition or disposal to be recorded against the driver.
- 1.20.2 The Asset Register consists of the following worksheets:
  1. V1 – Total Asset Movement
  2. V2 – Asset Register Connection projects. This worksheet records asset additions and disposals due to Connection projects.
  3. V3 – Asset Register General Reinforcement. This worksheet records asset additions and disposals due to General Reinforcement of the network.
  4. V4a – Asset Register - Other. This data in the worksheet records asset addition and disposal volumes associated with various other activities.
  5. V4b – Asset Register Other – Faults. This worksheet records asset addition and disposal volumes associated with activities related to faults.
- 1.20.3 The purpose of this Asset Register is to collect total asset population volume data, and the number of additions and disposals for each asset type.
- 1.20.4 Additions and disposals in each category must be input as positive numbers. The closing balance for each asset category, the total number of additions in each asset category and the total number of disposals in each asset category must be recorded according to the units specified in each worksheet.
- 1.20.5 Any data entered into the data cleansing section in the V1 template should have a corresponding explanatory entry in the commentary template.
- 1.20.6 Definitions for the key terms used within the Asset Register worksheets can be found within the glossary.
- 1.20.7 The ‘various activities covered in V4a – Other movements’ worksheet are:
  1. Diversion (non fully rechargeable)
  2. ESQCR
  3. Consequential Asset Replacement

4. Undergrounding in Designated Areas
  5. Legal & Safety
  6. Inspection & Maintenance
  7. Worst Served Customers
  8. Environmental Investment
  9. Dismantlement of redundant assets
  10. Assets adopted from ICPs
- 1.20.8 The various activities covered in the 'V4b – Other Movements – Faults' worksheet are:
1. Severe Weather Atypical 1-20 Year Events
  2. Trouble Call

## **1.21 Worksheet V5 – Asset Register – Age Profile**

- 1.21.1 The 'V5 – Age Profile' worksheet records an aged profile of the existing asset quantities (by asset category as specified in the worksheet and the Glossary) in the Regulatory Year in which they were added to the network.
- 1.21.2 The company 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 the company for the asset population (this is the mean value of the asset age replacement profile of the particular asset)”.
- 1.21.3 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.
- 1.21.4 Assets under construction must not be included in the age profile.
- 1.21.5 Strategic spares must not be included in this table until installed and energised on the system.
- 1.21.6 Assets disconnected and de-energised during the year but which are available for re-commissioning (e.g. pressure assisted cables) must not be entered in the age profile.
- 1.21.7 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 Template.

- 1.21.8 The company is required to provide forecast data to the end of the RP6 price control.

## **1.22 Worksheet V10a – Medium Term Performance - Severe Weather EEs only**

- 1.22.1 The 'V10a – MTP Severe Weather EEs only' worksheet records volumes of incidents that occur as part of severe weather exceptional events.
- 1.22.2 The volume of incidents should be reported for the number of Unplanned Incidents on Power System Voltage Equipment due to severe weather exceptional events.
- 1.22.3 All categories listed within this worksheet are defined in the Glossary.

## **1.23 Worksheet V11 – Medium Term Performance Excluding all Exceptional Events**

- 1.23.1 The 'V11 – MTP Excluding all EEs' worksheet records volumes of Unplanned Incidents on Power System Voltage Equipment excluding all exceptional events
- 1.23.2 The volume of incidents should be reported for the number of Unplanned Incidents on Power System Voltage Equipment due to severe weather exceptional events.
- 1.23.3 All categories listed within this worksheet are defined in the Glossary.

## **1.24 Worksheet V15 – Network Data**

- 1.24.1 The 'V15 – Network data' worksheet records data on customer numbers and demand on an annual basis (based on actual and forecast data as appropriate) as follows:
1. Number of customers
  2. Units distributed – the total volume of GW/h distributed by the network
  3. Network-wide peak demand – 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 in table.
- 1.24.2 The Commentary should include detail of the drivers of the movement in system max demand, and each driver's contribution to the net movement. Please set out how you have made your assumptions of both which drivers to use and their effects. In addition, please specifically detail what stakeholder interactions you have had in determining the forecast for system max demand.
- 1.24.3 Refer to the Glossary for the definition of any category listed within this section.



## **1.25 Worksheet V16 – Quality of Service & Worst Served Customer**

- 1.25.1 This worksheet collects data relating to quantity and duration of service interruptions and quantity of worst served customers and their related circuits
- 1.25.2 For each category of reporting the company shall enter historic and forecast data per the definition in paragraph 1.1.6.
- 1.25.3 Data required:
  - 1. Customer Minutes Lost per Connected Customer:
    - a. Excluding severe weather events
    - b. Including severe weather events
    - c. Pre-arranged outages
  - 2. Customer Interruptions per 100 Connected Customers:
    - a. Excluding severe weather events
    - b. Including severe weather events
    - c. Pre-arranged outages
  - 3. Worst Served Customers:
    - a. Number of Customers
    - b. Number of circuits
- 1.25.4 Refer to the Glossary for the definition of any category listed within this section

## **1.26 Worksheet CM17 – Full Time Equivalents**

- 1.26.1 This worksheet collects the number of FTEs (Full Time Equivalent) by category. Enter the number of FTEs for company Own and also for Related Parties.
- 1.26.2 For Indirect FTEs, this worksheet should be consistent with headcount before reallocation to non-distribution activities.
- 1.26.3 Refer to the Glossary for the definition of any category listed within this section.

## 2. Glossary of Terms

- 2.1.1 A glossary of terms for the regulatory instructions and guidance is under development.
- 2.1.2 The relevant definitions of the Electricity Distribution (DPCR5) Glossary of Terms – Regulatory Instructions and Guidance: Version 3<sup>1</sup> applies to the Business Plan Submission.
- 2.1.3 Specific additional definitions relevant to the Business Plan Submission are set out in Appendix 1. These will be incorporated into an RP6 Glossary of Terms in due course.

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<sup>1</sup> <https://www.ofgem.gov.uk/ofgem-publications/46549/dpcr5glossaryofterms.pdf>

# Version Control

Version	Date	Description
1.0	20Jan2016	First draft for review
2.0	19Feb2016	Issued to NIEN
2.1	20Apr2016	Removed guidance related to CV106 and replaced with guidance for V16 – QoS & WSC