8 March 2016

Electricity Distribution Services Input Methodology Determinations 2016

Proposed Schedule D

Capital and operating expenditure information

D1 Interpretation

In this Subpart, words in bold type bear the following meanings:

actual capex means the **capex** incurred during the **current period**;

actual opex means the **opex** incurred during the **current period**;

asset expenditure category means one of the following asset types:

(a) **subtransmission**;

(b) **zone substations**

(c) **distribution and LV lines**;

(d) **distribution and LV cables**;

(e) **distribution substations and transformers**;

(f) **distribution switchgear**;

(g) **other network assets**; and

(h) **non-network assets**.

asset expenditure class means a type of asset within an **asset expenditure category**. The extent that an **asset expenditure category** is disaggregated into different **asset expenditure classes** is at the discretion of the **EDB**.

asset management plan means an asset management plan included in the CPP proposal and prepared in accordance with the requirements of the current **ID determination,** where the first year of the planning period to which the **asset management plan** relates is the final year of the **assessment period**;

asset relocations capex means expenditure on assets where the **primary driver** is the need to relocate assets due to third party requests such as for the purpose of allowing road widening or similar needs. This expenditure category includes expenditure on assets relating to the undergrounding of previously above ground assets at the request of a third party.

asset replacement and renewal in relation to **capex or opex** means **capex or opex** where the where the **primary driver** is the need to maintain network asset integrity so as to

maintain current security and/or quality of supply standards and includes **expenditure** to replace or renew assets incurred as a result of-

(a) the progressive physical deterioration of the condition of **network** assets or their immediate surrounds;

(b) the obsolescence of **network** assets;

(c) preventative replacement **programmes**, consistent with asset life-cycle management **policies**; or

(d) the need to ensure the ongoing physical security of the **network** assets;

budget means an expenditure forecast that has been prepared for a purpose other then for inclusion in a **CPP proposal**;

business support opex means **opex** associated with the following corporate activities-

(a) human resources and training (other than operational training);

(b) finance and regulation including compliance activites, valuations and auditing;

(c) chief executive and director costs;

(d) legal services;

(e) consulting services (excluding engineering/technical consulting);

(f) proprerty management;

(g) corporate communications;

(h) corporate information technology;

(i) industry liaison and participation;

(j) commercial activities including pricing, billing, revenue collection and marketing; and

(k) liaison with Transpower, **consumers** and electricity retailers.

capex category means one of the categories in the following list which comprises, for the purpose of a **CPP proposal**, a classification of the types of **capex** that **EDBs** make when providing **electricity distribution services** to **consumers** and **capex categories** means all of the following categories:

(a) **consumer connection capex**;

(b) **system growth capex**;

(c) **reliability**, **safety and environment capex**;

(d) **asset replacement and renewal capex**;

(e) **asset relocations capex**; and

(f) **non-network assets capex**;

class B (planned interruption on the network) means a planned interruption initiated by the **EDB**;

class C (unplanned interruption on the network) means an unplanned interruption originating within the **network** of the **EDB**;

committed means, in respect of a **project** or **programme**, received all approvals internal and external to the **EDB** that are required in order for work on the **project** to commence;

consummer connection capex means **capex** where the **primary driver** is the establishment of a new **consumer** connection point, or alterations to an existing **consumer** connection point. This includes **expenditure** relating to-

(a) parts of the **network** for which the **expenditure** is recoverable in total, or in part, by a **capital contribution** from the **consumer** requesting the new or altered commection point; and

(b) both electricity injection and offtake points of connection

deliverability means the extent that the activities to which the **capex forecast** and **opex forecast** relate are likely to be undertaken by the **EDB** within the timeline indicated by the forecast by reference to the **EDB's** ability to-

(a) source and secure physical resources (such as appropriately skilled personnel and materials) and planning consents from external authorities; and

(b) prioritise, manage and undertake the work involved, including the ability to implement any planned step change from historical levels of investment and workload;

distribution and LV cables means all underground power cables operated at **distribution voltage** or **low voltage**;

distribution and LV lines means all overhead power lines operated at **distribution voltage** or **low voltage**;

distribution substations and transformers means-

(a) substations, including all associated pole mountings, ground pads and covers, and kiosks and components used to install transformers; and

(b) transformers used to convert between **distribution voltage** and **low voltage**

distribution switchgear means all switchgear operated at **distribution voltage,** that is not installed in a **zone substation**. This includes disconnectors, fuses (including drop outs and fuse switches), circuit breakers, reclosers, sectionalisers, ring main units and voltage regulators.

distribution voltage means nominal voltage-

(a) over 1kV and up to and including 30kV; and

(b) excludes those voltages used within the **network** in th role or manner of a **subtransmission voltage**;

document means correspondence, notices, circulars, memoranda, minutes, reports, **policies**, contracts or agreements in the possession or control of the **EDB**, whether in electronic or paper format;

geographically non-contiguous network means a **network** that is physically separate from another network except where-

(a) its total circuit length capable of conveying electricity at a voltage equal to or greater than 3.3 kilovolts is shorter than 25 kilometres;

(b) it conveyed fewer than 20 gigawatt hours of electricity in the most recent **disclosure year** prior to submission of the **CPP application**;

(c) its **lines** are not connected, whether directly or indirectly, to the national grid (as 'national grid' is defined in s 5 of the Electricity Industry Act 2010); or

(d) it conveys electricity to fewer than 2000 ICPs (as 'ICP' is defined in s 54D(2) of the **Act**).

generating unit means a machine that generates electricity and, for the purposes of this schedule, is permanently connected to the **network**;

ID determination means the Electricity Distribution Information Disclosure Determination 2012 or subsequent revisions of this document.

identified programme means a **project** or a **programme** which is planned to be undertaken during the **next period** and which is one of the-

(a) 5 largest **projects** or **programmes** by expenditure that fall within the **capex forecast**;

(b) 5 largest **projects** or **programmes** by expenditure that fall within the **opex forecast**; or

(c) 10 additional **projects** or **programmes** selected by the **verifier** for detailed assessment in accordance with clause **Error! Reference source not found.**;

key assumption means any assumption made by an **EDB** in the preparation of its **CPP proposal** that has a material impact on the **opex forecast** or the **capex forecast**;

low voltage (LV) means the nominal Alternating Current (AC) voltage of less than 1000 volts;

network means the fixed assets used by an **EDB** to provide **electricity distribution services**;

network maintenance opex means all of the following:

(a) **routine and corrective maintenance and inspection opex**;

(b) **vegetation management opex;**

(c) **asset replacement and renewal opex**; and

(d) **service interruptions and emergencies opex**

non-network assets capex means **capex** incurred in relation to assets not directly related to the **network** used in the **supply** of **electricity distribution services**, including in relation to-

(a) information and technology systems;

(b) asset management systems;

(c) office buildings, depots and workshops;

(d) office furniture and equipment;

(e) motor vehicles; and

(f) tools, plant, and machinery;

other network assets means **network** assets used by the **EDB** to provide **electricity lines services** that are not **sub transmission**, **zone substation**, **distribution and LV lines**, **distribution and LV cables**, **distribution substations and transformers** or **distribution switchgear**, and includes central facilities for SCADA and telecommunications systems;

opex category means one of the categories in the following list which comprises, for the purpose of a **CPP proposal**, a classification of the types of **opex** that **EDBs** make when providing **electricity distribution services** to **consumers**, and **opex categories** means all of the following categories:

(a) **business support opex**;

(b) **system operations and network support opex**;

(c) **routine and corrective maintenance and inspection opex**;

(d) **vegetation management opex;**

(e) **asset replacement and renewal opex**; and

(f) **service interruptions and emergencies opex**

planning standards means **policies** and other relevant criteria adopted by the **EDB** which relate to the planning of the **network** and the forecasting of **capex** and **opex** for that purpose, including in relation to-

(a) long term **network** development;

(b) **network** maintenance; and

(c) system operations;

policies means documented and undocumented short-term and long-term policies, procedures, strategies, guidelines, plans and approaches relevant to the preparation of a **CPP proposal** including, but not limited to, those relating to-

(a) asset management;

(b) asset security;

(c) augmentation and planning;

(d) business cases, including cost benefit analyses;

(e) **capex** (e.g. **capex** approval and replacement);

(f) condition monitoring and replacement;

(g) corporate governance;

(h) demand management;

(i) disaster recovery;

(j) connection and operation of **generating units**;

(k) new and emerging technology and energy storage;

(l) energy **supply** and **consumer** growth forecasting;

(m) when expenditure is to be treated as **opex** or **capex**

(n) information technology;

(o) internal reviews;

(p) investment decision making and evaluation;

(q) **land** and **easement** acquisition;

(r) **capital contributions**;

(s) **network spares**;

(t) non network solutions;

(u) prioritisation and options analysis;

(v) procurement;

(w) project management;

(x) regulatory compliance;

(y) risk management and assessment; or

(z) self insurance;

primary driver means the primary reason for a decision to incur a cost in the year the cost was incurred or forecast to be incurred. For example, an asset may be relocated at the request of a third party and, at the same time, capacity on the asset increased to

take account of expected future demand. If it is the third party request that required the asset to be relocated at that time, then the expenditure on assets would be allocated to **asset relocation**. If the deadline for relocating the asset was not imminent, but the project had to be completed to allow for the increase in capacity, then the expenditure on assets would be allocated to **system growth**. Where there is more than one driver for a cost, and the cost is a significant proportion of **opex** or **capex**, expenditure may be apportioned between expenditure categories according to the relative importance of each driver to the decision, or the project divided into cost categories;

reference year means the final year of the **current period**;

reliability, **safety and environment capex** means **capex** where **the primary driver** is-

(a) the improvement of reliability or service standards;

(b) maintaining or improving the safety of the network for **consumers**, employees, contractors and the public; or

(c) meeting legislative requirements; or

(d) reducing the impact of the **network** on the environment.

routine and corrective maintenance and inspection opex means **opex** where the primary driver is the activities specified in planned or programmed inspection, testing and maintenance work schedules and includes-

(a) fault rectification work that is undertaken at a time or date subsequent to any initial fault response and restoration activities

(b) routine inspection

(c) functional and intrusive testing of assets, plant and equipment including critical spares and equipment

(d) helicopter, vehicle and foot patrols, including negotiation of landowner access

(e) asset surveys

(f) environmental response

(g) painting of network assets

(h) outdoor and indoor maintenance of substations, including weed and vegetation clearance, lawn mowing and fencing

(i) maintenance of access tracks, including associated security structures and weed and vegetation clearance

(j) (customer-driven maintenance

(k) notices issued

s52P determination means a determination issued under Section 52P of the Commerce Act 1986 that is applicable to **EDBs**.

SAIDI (System Average Interruption Duration Index) means the average forced sustained interruption per year per **consumer** arising from **class B (planned interruptions on the network)** and **class C (unplanned interruptions on the network)**, measured in minutes. **Consumer** numbers are to be the average for a **disclosure year**.

SAIFI (System Average Interruption Frequency Index) means the average forced sustained frequency per **consumer** arising from **class B (planned interruptions on the network)** and **class C (unplanned interruptions on the network)**, measured in frequency per year. **Consumer** numbers are to be the average for a **disclosure year**.

service interruptions and emergencies opex means **opex** where the **primary driver** is an unplanned instantaneous event or incident that impairs the normal operation of **network** assets. This relates to reactive work (either temporary or permanent) undertaken in the immediate or short term in response to an unplanned event, including back-up assistance required to restore supply, repair leaks or make safe. It also includes operational support such as mobile generation used during the outage or emergency response. It also includes any necessary response to events arising in the transmission system. It does not include expenditure on activities performed proactively to mitigate the impact such an event would have should it occur. Planned follow-up activities resulting from an event which were unable to be permanently repaired in the short term are to be included under **routine and corrective maintenance and inspection**

subtransmission means any of the electric lines, cables, plant and equipment, operated at any **subtransmission voltage**, that are not installed in any **zone substation**. The assets include associated pilot and communication cables, switches and surge arrestors or other overhead lines and cable components installed outside of any **zone substation**

subtransmission voltage means three phase nominal voltage

(a) over 30kV and up to and including 110kV; or

(b) 22kV if that voltage is used within the network in the role or manner of a subtransmission voltage.

system growth capex means **capex,** other than **consumer connection capex**, where the **primary driver** is either a requirement for additional capacity at a particular location or a change in the requirement for electricity distribution services as a result of the introduction of new or emerging technologies. It includes **expenditure** associated with network protection, control, automation, and telecommunications assets and also includes **expenditure** on the acquisition of **networks** from other providers of **electricity lines services**;

system operations and network support opex means **opex** wherethe **primary driver** is the management of the **network** and includes expenditure relating to control centre and office-base system operations, including-

(a) asset management planning including the preparation of the asset management plan, load forecasting, **network** modelling;

(b) **network** and engineering design (excluding design costs capitalised for **capex projects)**;

(c) **network** policy development (including the development of environmental, technical and engineering policies;

(d) standards and manuals for **network** management;

(e) **network** record keeping and asset management databases including geographic information systems;

(f) outage recording;

(g) connection and **consumer** records/**consumer** management databases (including distributed generators);

(h) stakeholder queries and call centres (not associated with billing);

(i) operational training for **network** management and field staff;

(j) operational vehicles and transport;

(k) information technology and telecommunications for **network** management (including information technology support for asset management systems);

(l) day to day **consumer** management including responding to queries on new connections, disconnections and reconnections, distributed generators;

(m) engineering and technical consulting;

(n) **network** planning and system studies;

(o) logistics (procurement) and stores; and

(p) network asset site expenses and leases;

vegetation management opex means **opex** where the **primary driver** is the need to physically fell, remove or trim vegetation (including root management) that is in the proximity of overhead lines or cables. It includes **opex** arising from the following activities-

(a) inspection of affected lines or cables where the inspection is substantially or wholly directed to vegetation management (e.g., as part of a vegetation management contract). It includes pre-trim inspections as well as inspections of vegetation cut for the primary purpsose of ensuring the work has been undertaken in an appropriate manner;

(b) liaison with landowners including the issue of trim/cut notices, and follow-up calls on notices;

(c) tree felling or trimming of vegetation to met externally imposed requiremnts or internal policy, including operational support such as any mobile generation used during the activity.

The following activities and related costs are excluded from this category-

(a) general inspection of asset subject to vegetation, where this is not substantially directedto vegetation management (include in routine and corrective mainentnance and inspection);

(b) costs of assessing and reviewing the vegetation management policy (include in network support);

(c) data collection (include in network support);

(d) the cost of managing a vegetation management contract (include in network support)

zone substation means the transformers, switchgear, protection and control and Supervisory Control and Data Acquisition (SCADA) equipment, low voltage and station direct current systems, other secondary systems, ripple injection plant and outdoor structure installed in an electrical power substation primarily used to convert any **subtransmission voltage** to any distribution voltage. Zone substation assets include the land, any buildings and the value of site developments.

D2 Instructions relating to provision of information

(1) A **CPP proposal** must-

(a) unless otherwise agreed in writing by the **Commission**, include all information that this Schedule requires; and

(b) contain a table that, in respect of each clause of this schedule-

(i) provides a reference to the place where a response is provided in the **CPP proposal**; and

(ii) gives the title and page reference to any separate **document** identified in response, including in the case where the **document** in question is provided in the **CPP proposal**.

(2) A **CPP proposal** may include an **asset management plan** as a separate document. Information in the **asset management plan** that meets the requirements of this schedule need not be repeated elsewhere in the **CPP proposal** but must be referenced in the table included in accordance with subclause (1)(b).

(3) All information included in an **asset management plan** may be relied on by the **Commission** in evaluating the **CPP proposal**. This includes information that is not required by this Schedule and information that is not referenced in the table provided in accordance with subclause (1)(c).

(4) Where information required by this Schedule is omitted from a **CPP proposal**, the **CPP proposal** must contain an explanation for each such omission.

(5) For the avoidance of doubt-

(a) the content of the **CPP proposal** as initially provided to the **verifier** will not include information required by this schedule in relation to **projects** or **programmes** falling under paragraph (c) of the definition in this schedule of identified programme; and

(b) such information-

(i) need only be provided to the **verifier** upon the **verifier's** request; and

(ii) is required to be included in the **CPP proposal** as provided to the **Commission**.

D3 Governance, business procedures and processes

(1) Provide-

(a) all **policies** relied upon in whole or in part in preparing the response to-

(i) this schedule; and

(ii) any other requirement of Subpart 4 Section 8 of Part 5;

(b) the rationale for the **policies** provided in accordance with paragraph (a), including any consultants' reports relied upon in developing these **policies.**

(2) Where not provided in accordance with subclause (1), provide-

(a) a description of the business procedures and processes used by the **EDB** in the normal course of business to plan and approve its **capex** and **opex budgets** and work **programmes** and to develop, plan approve and implement and monitor its **capex** and **opex programmes** and **projects**;

(b) a description of the **EDB**'s **policies**, business procedures and processes relating to estimating the cost of **capex** and **opex programmes** and **projects** including, where applicable, the development and use of unit costs and the methodology used to ensure that the estimated costs are consistent with efficient industry costs;

(c) a high-level overview of the process used by the EDB to prepare the **capex forecast** and **opex forecast** including:

(i) a description of the process used to determine the affordability to **consumers** of the forecast expenditure including an overview of any relevant modelling and stakeholder consultation;

(ii) a statement on the sources of asset management information and other relevant data that have been relied upon in preparing the **opex forecast** and the **capex forecast**. This should include a description of the quality of the information and data, and also details of any assumptions that have been made to fill gaps or condition information or data;

(iii) identification of any formal internal or external reports relied on by the EDB for the preparation of the forecast, where these are not identified elsewhere in the **CPP proposal**;

(iv) a description of the treatment of risk, uncertainties in assumptions and information uncertainty and how these are provided for in the forecast, taking into account the likelihood that a lack of detailed planning information could reduce the accuracy of cost estimates for some **projects** and **programmes**;

(v) a statement as to whether or not the forecast includes provision for efficiency improvements over time and a description of the basis for any such provision;

(vi) a decription of the criteria used to determine whether expenditure is categorised as **capex** or **opex**; and

(vii) a detailed description of anyinternal challenge, review and approval process applied before the forecast was finalised for inclusion in the **CPP proposal**.

D4 Network asset information

(1) Provide details of the **EDB's** existing **network** assets for each geographically non-contiguous **network** including-

(a) a high-level description of the service area(s) including-

(i) the region(s) covered;

(ii) identification of large **consumers** that have a significant impact on **network** operations or asset management priorities; and

(iii) a description of the load characteristics for different parts of the **network**;

(b) a description of the existing **network** configuration, including-

(i) identification of bulk electricity **supply** points and any connected **generating units** with a capacity equal to or greater than 1 MVA;

(ii) existing firm **supply** capacity and current peak load of each bulk electricity **supply** point;

(iii) a description of the **subtransmission network(s)** and **zone substations** fed from the bulk electricity **supply** points, including identification and capacity of **zone substations** and the voltage(s) of the **subtransmission network(s)**;

(iv) identification of the subtransmission security levels of individual zone substations, eg, n, n-1, n-2, and the rationale for the use of each level; and

(v) a description of the distribution system, including the extent to which it is underground;

(c) a brief description of the **network's** distribution substation arrangements;

(d) a description of the **low voltage network**, including the extent to which it is underground;

(e) an overview of secondary assets such as ripple injection systems, SCADA and telecommunications systems;

(f) a description of the existing **network** assets by asset category (in the asset categories used by the **EDB** in complying with an **ID determination**), futher broken down as appropriate, including-

(i) voltage levels;

(ii) a description and quantity of assets;

(iii) age profiles (including expected remaining asset life);

(iv) a discussion of the condition of the assets, including historic failure rates and a description of any analysis on the probability and consequences of asset failure; and

(v) a discussion of any systemic issues that may lead to the need to prematurely replace assets or parts of assets;

(g) the sum of **regulated service asset values** by **asset category** consistent with those most recently disclosed by the **EDB** pursuiant to an **ID determination**, prior to making the **CPP application;**

(h) at the **EDB**'s option, a sum of **regulated service asset values** by any **asset expenditure category** or **asset expenditure class**;

(2) For the purpose of subclause (1)-

(a) where information is based on estimates, this must be explicitly stated;

(b) quantities of assets must be presented in a way that clearly describes the size of the regulatory asset base, but need not include detailed lists or schedules as would be included in a complete asset register or inventory; and

D5 Service levels

(1) Identify and define performance indicators that reflect the **expenditure objective** and are consistent with the **EDB**'s business strategies snd asset management objectives;

(2) The performance indicators identified and defined in accordance with sublcause (1) must include:

(a) **consumer** oriented indicators the preferably differentiate between different **consumer** types, which must include **SAIDI** and **SAIFI** after normalisation in accordance with the current **s52P determination**; and

(b) indicators of asset performance, asset efficiency and effectiveness and service efficiency, such as technical anf financial performance indicators related to the efficiency of asset utilisation and operation.

(3) For each performance indicator identified and defined in accordance with subclause (1) provide:

(a) the measured performance for each year of the **current period**; and

(b) the target performance for each year of the **next period**.

(4) Targets provided in accordance sith subclause (3)(b) should reflect what is practically achievable given the ccurrent **network** configuration and condition, the **capex forecast** and the **opex forecast**. A **CPP proposal** must include a justification for the targets associated with each performance indicator, which may include **consumer** expectations or demands, legislative, regulatory or other stakeholders' requirements or considerations.

(5) A **CPP proposal** should demonstrate how stakeholder needs were ascertained and translated into service level targets.

D6 Forecasts of consumer connections, distributed generation, electricity volumes carried and maximum demand

(1) Provide forecasts for **consumer** connections, embedded generation (including the forecast number of connections and aggregate capacity of micro generating units such as photovoltaics), maximum demand and electricity volumes carried in the relevant template in Schedule E. For each forecast -

(a) provide, describe and explain the methodology used to prepare the relevant forecast including-

(i) any sensitivity analysis undertaken;

(ii) where applicable, any weather normalisation methodology used and how weather data has been used; and

(iii) any models used (including each model's key inputs and assumptions);

(2) Provide-

(a) an outline of the treatment of very large loads, uncertain loads and significant loads transferred, or expected to be transferred, between different parts of the **network** (e.g. between zone substations and/or between feeders);

(b) details of the location, types quantities and aggregate capacity of **generating units** rated at less than 1MVA and assumptions relating to the impact they may have on **network** demand and energy forecasts; and

(c) details of the effect that existing or proposed demand management systems or initiatives, and other new or emerging technologies, may have on **network** forecasts and the extent to which these have been allowed for in the forecasts included in the **CPP proposal**.

(3) Information provided in response to subcluse 2(a) should include microgeneration such as photovoltaics. Information on microgeneration need not include specific locations.

(4) Explain the basis for any differences between the methodology used to derive these forecasts and the methodology used to derive the forecast quantities as required by clause 5.3.4(7).

D7 System growth capital expenditure information

(1) For **system growth capex** provide-

(a) a description of, and the rationale for, the **planning standards,** and **key assumptions** relied on by the EDB in determining the need to augment its **network** including the timing of any proposed augmentation;

(b) a description of the prioritisation methodology adopted for system growth **projects** and **programmes**; and, if not provided in response to clause D3, relevant **policies** for:

(i) purchasing **land** and **easements** for future use;

(ii) the conntection of new **generating units** to the **network**;

(iii) the application of non-network solutions and new or emerging technologies;

(c) where not already included in **policy** documents, the rationale for the **policies** provided in accordance with paragraphs (i).

(2) Based on the **planning standards** and **key assumptions** decribed in response to subclause (1) above provide-

(a) details of the specific **network** locations where constraints are expected to emerge due to the forecast demand increases, or the application of new or emerging technologies, and where expenditure on a **system growth capex**

project is expected to be required before the end of the **next period** in order to relieve the constraint;

(b) a description of the nature and the extent of the constraint at each **network** location identified in response to subclause (2)(a); and

(c) an analysis of the **network** and non-network development options available for each **network** location identified in response to subclause (2)(a) and a description of the option provided for in the **capex forecast**, including the basis for the selection for this option and the timing of its implementation;

(3) for each **system growth capex project** included in the **capex forecast** provide-

(a) a description of the **project** including the assumed number and ratings of significant new assets and, where applicable, a single line diagram showing how it is assumed that the **project** will be integrated into the existing **network**;

(b) an indication of the **project's** current status in the planning process;

(c) the estimated cost of the project, disggregated by disclosure year, including costs already incurred in the **current period** and costs expected to be incurred after the end of the **CPP regulatory period**; and

(d) an overview of the methodology used to prepare the estimated cost of the project including commentary on the source of all unit or component costs, the accuracy of the cost estiate, and the treatment of any cost uncertainty.

(4) Provide-

(a) a description of, and the rationale for, new **system growth capex programmes** that the EDB plans to commence during the **next period** or existing **system growth capex programmes** where a material increase in the average annual **expenditure** is planned over the **next period**;

(b) the actual and forecast expenditure on each programme described in subclause (4)(a) disaggregated by regulatory year in both the **current period** and the **next period**; and

(c) a description of the methodology, including full details of any relevant modelling and the rationale for all model input assumptions, used by the **EDB**

to determine the forecast **expenditure** over the **next period** on the **system growth capex programmes** decribed in subclause (4)(a).

D8 Asset replacement and renewal capital expenditure information

(1) For **asset replacement and renewal capex** provide-

(a) a description of the **key assumptions** relating to the circumstances in which **asset replacement and renewal capex** should be incurred, based on-

(i) the age, condition, reliability or risk profile of an asset in comparision with other assets of the same **asset category** or **asset class,** or with the asset base in its entirety; and

(ii) replacement of an asset rather than renewing or refurbishing it and vice versa;

(b) the rationale for the **key assumptions** provided in accordance with subclause (a);

(c) a description of the prioritisation methodology adopted for asset replacement **projects** and **programmes.**

(2) Describe the process used by the **EDB** to develop and finalise the **asset replacement capex forecast** for the **next period**. This description should include:

(a) an explanation as to whether and how the matters provided and identified in accordance with subclause (1) were taken into account in the **capex forecast**; and

(b) a description of any asset replacement models developed by or for the **EDB** to determine **asset replacement and renewal capex**, including-

(i) all supporting documentation for the models used, including the rationale for any **key assumptions** relating to the model inputs; and

(ii) any other relevant considerations;

(3) Provide:

(a) a description of, and the rationale for, new **asset replacement and renewal capex programmes** relating to an individual **asset expenditure class** that the EDB plans to commence during the **next period** or existing **asset replacement**

and renewal capex programmes relating to an individual **asset expenditure class** where a material increase in the average annual **expenditure** is planned over the **next period**;

(b) the actual and forecast **expenditure** on each **programme** described in subclause (4)(a) disaggregated by regulatory year in both the **current period** and the **next period;**

(c) a description of the methodology, incuding full details of any relevant modelling and the rationale for all model input assumptions, used by the **EDB** to determine the forecast **expenditure** over the **next period** on the **system asset replacement and renewal capex programmes** decribed in subclause (4)(a);

(4) For each **asset replacement and renewal capex project** included in the **capex forecast** provide-

(a) a description of the **project** including the assumed number and ratings of significant new assets and, if applicable, a single line diagram showing how it is assumed that the project will be integrated into the existing network;

(b) an overview of any **network** and non-network alternatives considered and the basis for and beenfits of selecting the preferred solution;

(c) an indication of the **project's** current status in the planning process;

(d) the estimated cost of the project, disggregated by disclosure year, including costs already incurred or costs expected to be incurred after the end of the **CPP regulatory period**; and

(e) an overview of the methodology used to prepare the estimated cost of the project including commentary on the source of the unit or component costs, the accuracy of the cost estiate and the treatment of any cost uncertainty.

(5) Explain how any anticipated system growth associated with the replacement of assets before the end of their **asset life** has been taken into account in the **asset replacement and renewal capex forecast** for the **next period**.

D9 Reliability, safety and environment capital expenditure information

(1) For **reliability, safety and environment capex**-

(a) identify the **primary drivers** for the **reliability, safety and environment capex forecast** and all **key assumptions** made in respect of these drivers;

(b) provide the rationale for all **key assumptions** identified in response to subclause (a).

(2) Describe the process used by the **EDB** to develop and finalise the **reliability, safety and environment capex forecast** for the **next period**. This description should include:

(a) an explanation as to whether and how the matters provided and identified in accordance with subclause (1) were taken into account in the **capex forecast**; and

(b) where applicable, a description of any models developed by or for the **EDB** to determine the **reliability, safety and environment capex**, including-

(i) a full description of the model and the rationale for all key input assumptions; and

(ii) any other relevant considerations.

(3) Provide:

(a) a description of, and the rationale for, new **reliability, safety and environment capex programmes** that the **EDB** plans to commence during the **next period** or existing **reliability, safety and environment capex programmes** where a material increase in the average annual **expenditure** is planned over the **next period**;

(b) the actual and forecast **expenditure** on each **programme** described in subclause (4)(a) disaggregated by regulatory year in both the **current period** and the **next period;**

(c) a description of the methodology, incuding full details of any relevant modelling and the rationale for all model input assumptions, used by the **EDB** to determine the forecast **expenditure** over the **next period** on the **system asset replacement and renewal capex programmes** decribed in subclause (4)(a);

(4) For each **reliability safety and environment capex project** included in the **capex forecast** provide-

(a) a description of the **project** including the assumed number and ratings of significant new assets and, if applicable, a single line diagram showing how it is assumed that the project will be integrated into the existing network;

(b) an overview of any **network** and non-**network** alternatives considered and the basis for and beenfits of selecting the preferred solution;

(c) an indication of the **project's** current status in the planning process;

(d) the estimated cost of the project, disggregated by disclosure year, including costs already incurred or costs expected to be incurred after the end of the CPP regulatory period; and

(e) an overview of the methodology used to prepare the estimated cost of the project including commentary on the source of all unit or component costs used, the accuracy of the cost estiate and the treatment of any cost uncertainty.

D10 Consumer connection and asset relocation capital expenditure information

(1) For **consumer connection capex** and **asset relocation capex** in the **capex forecast** provide-

(a) if not provided in response to clause A3(1), **policies** and **key assumptions** relevant to apportioning costs, where costs are not fully recovered from a **capital contribution**, together with any relevant modelling supporting the position taken by the **EDB** in regard to the apportioning of costs;

(b) the rationale, and the basis for determining the forecast amount including where applicable a description of any modelling used; and

(c) if applicable, a description and the estimated costs of any specific **project** or **programme** included in the forecast;

(2) The information required by subclause (1) must be provided separately for **consumer connection capex** and for **asset relocation capex.**

D11 Non-network assets capital expenditure information

(1) For **non-network assets capex** in the **capex forecast** provide the rationale, and the basis for determining the forecast amount incuding where applicable a description of any modelling used, for the expenditure in the largest two of the following expenditure categories by dollar value:

(a) asset management systems;

(b) information and technology systems;

(c) motor vehicles;

(d) office buildings, depots and workshops;

(e) office furniture and equipment; and

(f) tools, plant and machinery.

(2) The information required by subclause (1) need not be provided if the total **non-networks assets capex forecast** is less than 5% of the total **capex forecast**.

D12 Business Support, System Operations and Network Support Operating Expenditure

(1) Describe the organisation that the **EDB** uses to manage its **business support opex** and its **system operations and network support opex**. This description should include:

(a) the organisation structure;

(b) the number of full time equivalent persons employed in different functions;

(c) the arrangements for undertaking these activities including the extent to which these functions are centralised and outsourced;

(d) where these costs are shared with organisational activities that do not involve the provision of regulated electricity distribution services, the basis on which these costs have been allocated and included in the forecast; and

(e) details of the extent to which general management, administration and overheads costs has been included in the **capex forecast**. Sufficient information must be provided to enable the actual and forecast allocation of general management, administration and overheads costs to capex to be

separately identified for each disclosure year of both the **current period** and the **next period.**

(2) Describe any anticipated changes to the information provided in subclause (1) over the course of the **next period** that will have a material effect on the **business support opex forecast** and the **system operations and network support opex forecast**, including changes to the cost allocations described in subclauses (1)(d) and (1)(e) and discuss:

(a) the rationale for, and timing of these changes; and

(b) the impact of these changes on the opex forecast.

(3) Describe in detail the approach used to prepare the relevant **opex forecast** including:

(a) each relevant **key assumption** including the rationale for the assumption;

(b) any models used with sufficient supporting information to enable an independent assessment of the validity of the model; and

(c) the rationale for any new expenditure or step change from current levels of expenditure over the next period.

(4) Where appropriate, the information required by this clause should be provided separately for **business support opex** and for system operations and **network support opex**.

D13 Network Maintenance Operational Expenditure

(1) Describe the organisation that the **EDB** uses to manage network maintenance and assosociated expenditure. This description should highlight any differences in the management of the different subcategories of **network maintenance opex** and should include:

(a) the organisational structure;

(b) the number of full time equivalent persons employed in different network maintenance activities; and

(c) the physical arrangements for undertaking these activities including the extent to which these functions are centralised and outsourced.

(2) Describe any anticipated changes during the **next period** to the information provided in response to subclause (1);

(3) Discuss in detail any new expenditure or forecast changes to the level of expenditure on existing **programmes** over the course of the **next period** that will have a material effect on the **network maintenance opex forecast**, including:

(a) the rationale for, and timing of these changes;

(b) an assessment of the impact of these changes on the service levels provided by the EDB; and

(c) the impact of these changes on the **opex forecast**.

(4) Describe in detail the approach used to prepare each **opex category** expenditure forecast within the **network maintenance opex forecast** and povide:

(a) details of each relevant **key assumption** including the rationale for the assumption; and

(b) any models used with sufficient supporting information to enable an independent assessment of the validity of the model;

(5) Describe how, in the normal couse of business the EDB determines whether an asset should be renewed or replaced and how this decision has been taken into account when preparing the **opex forecast** and the **capex forecast**.

D14 Identified Projects

(1) For each **identified project** provide-

(a) a description of the **project** including:

(i) location;

(ii) assumed quantities and ratings of major assets, including the rationale for these assumptions;

(iii) where appropriate, a high-level single line diagram showing the assumed layout of the project and interfaces with the existing **network**; and

(iv) other information consistent with the nature of the **project** that is necessary to fully describe the scope of the project and what is involved in its implementation;

(b) full details of the need for the **project** including an assessment of the compatibility of the project with the **expenditure objective** and also of the consequences of not proceeding with the **project**;

(c) a statement as to the **project's** current status in the planning process;

(d) an overview of potential **project** alternatives, including non-network alternatives, and the basis for selection of the preferred alternative, the information provided to be commensurate with the **project's** current status in the planning process;

(e) the rationale for the proposed timing of the **project**;

(f) a detailed breakdown of the estimate of the project costs, disaggregated by disclosure year including a similar breakdown of any project costs incurred during the **current period** or expected to be incurred following the end of the **CPP regulatory period;**

(g) in addition to the breakdown provided in response to subclause (f):

(i) a description of the methodology used to prepare the estimate;

(ii) if not provided elsewhere in the **CPP proposal**, evidence that all unit or component costs used to compile the estimate are consistent with efficient current costs for the electricity distribution industry, taking due account of the project location; and

(iii) identification of scope or cost uncertainties and an explanation of how such uncertainties have been taken into account in the estimate;

(h) any cost benefit analyses relevant to the project undertaken by or for the **EDB**.

D15 Identified Programmes

(1) For each **identified programme** provide-

(a) a description of the **programme** including a full description of what the **programme** will accomplish and, where applicable, the quantities provided for in the **programme** cost;

(b) full details of the need for the **programme** including:

(i) an assessment of the compatibility of the **programme** with the **expenditure objective;**

(ii) where applicable, an assessment of the impact of the programme on the service levels provided by the **EDB**;

(iii) the rationale for the size of the **programme** over the **next period**, as proposed in the **CPP proposal**;

(iv) an assessment of consequences of not proceeding with the **programme** or reducing the size or scope of the **programme** from that included in the **CPP proposal**;

(v) if the **programme** is a continuation or extension of an existing **programme**, the rationale for any material changes in the forecast expenditure from the level of expenditure on the **programme** during the **current period** and an assessment of the consequences altering the size of the programme from that proposed in the **CPP application.**

(c) a breakdown of the estimate of the **programme** costs over the **next period**, together with a similar breakdown of costs incurred in the **current period**, disaggregated by disclosure year and including:

(i) a description of the methodology used to prepare the estimate;

(ii) if not provided elsewhere in the **CPP proposal**, evidence that all unit or component costs are consistent with efficient current costs for the electricity distribution industry, taking due account of location and other relevant factors; and

(iii) identification of any scope or cost uncertainties and an explanation of how such uncertainties have been taken into account in the estimate; and

(d) details of how the **EDB** proposes to measure and manage the efficiency of the implementation of the **programme**, including full definitions or desciriptions of any relevant indicators; and

(e) any cost benefit analyses relevant to the **programme** undertaken by or for the **EDB**.

D16 Self insurance

(1) For any proposed self insurance allowance-

(a) provide-

(i) a description of the uncertainties covered by the allowance;

(ii) the methodology used to calculate the self insurance risk premium (e.g. probability multiplied by consequence);

(iii) a report on the calculation of each self insurance risk premium from an actuary who is qualified to provide such advice; and

(iv) any quotes obtained from external insurers; and

(b) explain why compensation should be provided for the uncertainty.

(2) In respect of each quote provided in accordance with subclause (1)(a)(iv)-

(a) state-

(i) the amount insured for which the quote related (if not included in the quote itself);

(ii) the annual premium payable or paid by the **EDB**;

(iii) the size of any deductible;

(iv) the terms and conditions of the insurance; and

(v) why it is not considered suitable.

(3) Explain whether and, if so, how the costs of remediating the effects of each uncertainty for which the allowance is sought may be recovered through any other mechanism.

D17 Related parties

(1) Identify and describe **related parties** in respect of whom costs are disclosed in accordance with the **regulatory templates**.

(2) Describe, at an aggregate level the-

(a) nature of the **services** undertaken by the related party; and

(b) date and term of the contract in respect of any ongoing **services**.

(3) For **services** identified in accordance with subclause (2)(a)-

(a) provide a description of the tendering processes used to procure the **service**;

(b) identify all relevant documents used to tender for the provision of the services, including but not limited to requests for tender and tender submissions; and

(c) explain-

(i) whether the **services** procured are provided under a discrete contract or provided as part of a broader operational contract (or similar); and

(ii) whether the **service** was procured on a genuinely competitive basis and if not, why not.

(4) For each contract identified in accordance with subclause (2)(b), identify methodologies, consultants' reports, or **key assumptions** used to determine components of the costs included in the contract price.

D18 Deliverabilty

(1) Provide an overview of, and outputs from, any devilability risk assessment that the EDB has completed for part or all of the construction and maintenance activities provided for in the **capex forecast** and the **opex forecast.**

(2) Where it has not been provided in risk assessment information under subclause (1), provide an overview of how the **EDB** plans to ensure the **deliverability** of the activites provided for in the **capex forecast** and the **opex forecast,** with particular reference to:

(a) the ability to secure the require consents from external authorites within the time frames implied by the **CPP proposal**;

(b) the **EDB's** ability to implement any planned step change from historical levels of expenditure and workload;

(c) the extent to which additional activities will be undertaken internally or outsourced;

(d) a description of the prioritisation or other methodologies used to optimise delivery;

(e) the ability of contractors available to the **EDB** to deliver any proposed increase in workload; and

(f) the availability of appropriate skilled personnel, with particular reference to:

(i) the current level of skilled personnel, including engineering and project management personnel, available to the orgranisation compared to the anticipated requirement over the **next period**; and

(ii) the measures the **EDB** plans to take to source and secure the required additional personnel.

D19 Unit costs and expenditure escalators

(1) For each **key assumption** that is a unit or component cost-

(a) identify-

(i) source material from which it was derived;

(ii) the date it was developed; and

(iii) the historical unit rates adopted for key items of plant and equipment for the **capex forecast** and the **opex forecast**; and

(b) explain-

(i) how it was developed with reference to the responses to paragraph (a); and

(ii) evidence that it has been derived from, and is consistent with, efficient current costs for the electricity distribution industry.

(2) For each **key assumption** that is a labour or materials escalator-

(a) provide the class of labour and materials to which each escalator relates;

(b) provide-

(i) the labour and materials unit rates for that the **reference year**;

(ii) the escalator used in percentage terms for each year from the **reference year** to the end of the **next period**;

(iii) the quantum of the labour costs in the **capex forecast** and the **opex forecast** which is the result of application of the labour escalator;

(iv) the quantum of the materials costs in the **capex forecast** and the **opex forecast** which is the result of application of the materials escalator; and

(v) confirmation of whether the escalator used is expressed in constant price or nominal terms and, if constant price, the indexation assumptions used; and

(c) explain-

(i) the methodology underlying the calculation of each escalator, including sources, data conversions and the use of any assumptions, including lags;

(ii) the weightings given to each escalator and how these weightings were developed, including any assumptions;

(iii) whether the same expenditure escalators have been used in the **capex forecast** and **opex forecast**;

(iv) where the response to sub-paragraph (iii) is no, why different expenditure escalators were applied, using supporting evidence; and

(v) whether, in applying the relevant labour or material escalator, additional contingency factors have been applied and, if so, what uncertainties they account for and how they were calculated.