TRANSEND

Our mission is transmission

Transend Networks Pty Ltd

Basis of Preparation

Information for Economic Benchmarking

Company Information

Transend Networks Pty Ltd
ABN 57 082 586 892.

Registered office: 1–7 Maria Street, Lenah Valley, Tasmania 7008

Postal address: PO Box 606, Moonah, Tasmania 7009

Telephone: 1300 361 811
Overseas callers: +61 3 6274 3000
Facsimile: +61 3 6274 3872

Email: revenuereset@transend.com.au
Internet: www.transend.com.au

Contact

This document is the responsibility of the Business Services Group, Transend Networks Pty Ltd.

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1 Background

Transend Networks Pty Ltd (Transend) is a private company, owned by the State of Tasmania and is the owner and operator of the electricity transmission system in Tasmania. Transend transports extra-high voltage electricity from power stations to substations around the State. The transmission system is connected to the national electricity grid via Basslink, an undersea cable that links the Tasmanian power system to the national grid on mainland Australia.

The Australian Energy Regulator (AER) has issued a Regulatory Information Notice (RIN) to Transend under Division 4 of Part 3 of the National Electricity (Tasmania) Law (NEL).

This Basis of Preparation has been prepared to satisfy the RIN which requires network service providers (NSPs) to prepare basis of preparation documents that support their responses to the information requirements. Under section 2.2 of the RIN Transend is required to:

Prepare a Basis of Preparation in accordance with the requirements specified in Schedule 1. The Basis of Preparation must, for each Variable and any other information:

- demonstrate how the information provided is consistent with the requirements of the Notice;
- explain the source from which Transend obtained the information provided;
- explain the methodology Transend applied to provide the required information, including any assumptions Transend made; and
- explain, in circumstances where Transend cannot provide input for a Variable using Actual Information and therefore must provide input using Estimated Information:
    - why an estimate was required, including why it was not possible for Transend to use Actual Financial Information or Actual Non-financial Information (as the case may be, depending on the Variable); and
    - the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is Transend's best estimate, given the information sought in this Notice.

The Bases of Preparation set out within this document have been applied in preparing the information requirements for all regulatory years presented in the Excel workbooks provided to the AER.

Terms used in this Basis of Preparation have the same meaning as those given in the RIN unless otherwise stated.

2 Revenue

2.1 Revenue group of chargeable quantity

Consistency of information with the requirements of the RIN

Revenue information presented has been split in accordance with the categories in the Templates. Only prescribed transmission revenues have been included in the worksheet.

Source of information

Reported prescribed transmission revenues have been extracted from Transend's metering and billing system, or a summary thereof, and are determined based on the pricing models. Revenue is therefore based on actual revenue earned and invoiced during each financial year. Revenue from Other Sources relates to intra-regional settlement residues as well as being the reconciling item to total prescribed transmission revenue.

Methodology applied to determine information, including assumptions made

Reported prescribed transmission revenues were extracted from the historical information maintained in Transend's metering and billing system or historical summary information prepared from Transend's metering and billing system. Transend has allocated its prescribed charging classifications to the groupings included in the worksheet.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

There have been no changes in accounting policy; however there has been a change in the allocation of Transmission Use of System (TUOS) locational revenue between groupings included in the worksheet. TUOS locational revenue was allocated to Variable Demand based Usage Charges from 2006 to 2009. From 2010 to 2013, this was then allocated to Fixed Demand based Usage Charges. This reflects a change in Transend's pricing methodology between the 2004–09 and 2009–14 regulatory control periods.

2.2 Revenue grouping by type of connected equipment

Consistency of information with the requirements of the RIN

Revenue information presented has been split in accordance with the categories in the Templates. Only Prescribed Transmission Services revenues have been included in the worksheet.

Source of information

Reported prescribed transmission revenues have been extracted from Transend's metering and billing system, or a summary thereof, and are determined based on the pricing models. Revenue is therefore based on actual revenue earned and invoiced during each financial year.

Methodology applied to determine information, including assumptions made

Reported prescribed transmission revenues were extracted from the historical information maintained in the metering and billing system or historical summary information prepared from the metering and billing system.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for the grouping by type of connected equipment.

2.3 Revenue (penalties) allowed (deducted) through incentive schemes

Consistency of information with the requirements of the RIN

Information presented has been split in accordance with the categories in the Templates. The penalties or rewards of the incentive schemes have been reflected in the year that the penalty or reward is applied.

Source of information

Service Target Performance Incentive Scheme (STPIS) rewards included in the worksheet have been based on the actual rewards/penalties approved for each financial year and recovered through invoiced prescribed revenues. This is determined through the pricing models prepared for each financial year.

Methodology applied to determine information, including assumptions made

Reported STPIS rewards were extracted from the historical information maintained in the pricing models for each financial year.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for the incentive scheme revenues allowed and penalties deducted.

3 Operating expenses

3.1 Operating expense categories

Consistency of information with the requirements of the RIN

Table 3.1.1 has not been completed as there has been no material change in cost allocations or bases of preparation for the Regulatory Financial Statements.

Operating expenses (Opex) have been reported for all regulatory years.

Source of information

The reported Opex is consistent with information previously reported in the audited Regulatory Financial Statements.

Methodology applied to determine information, including assumptions made

Information was extracted from the audited Regulatory Financial Statements. No assumptions were necessary in the preparation of the worksheet.

Use of estimates

Information presented for the all regulatory years, including 2013, reflects actual information. No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for operating expenses.

3.2 Provisions

Consistency of information with the requirements of the RIN

Financial Information has been presented for each of the provisions as required under the RIN.

Source of information

The reported provisions are consistent with information previously reported in the audited Regulatory Financial Statements.

Methodology applied to determine information, including assumptions made

Annual Leave

- Opening and closing balances for annual leave were taken from the audited Regulatory Financial Statements.
- Amounts incurred and charged against the provision during the period, being annual leave taken or paid out for departures, were taken from the payroll system.
- The increase or decrease during the period due to discounting of the provision was calculated based on the assumption that each employee takes 20 days of annual leave per year, pay increases will be received consistent with Enterprise Bargaining Agreements, performance increases will be received consistent with historical trends and the time value of money has been determined with reference to the Government Indicative Bond Rates.
- Increases to the provision were derived as the reconciling item as all other factors were known.
- There were no unused amounts of annual leave reversed during any period.

Long Service Leave

- Opening and closing balances for long service leave were taken from the audited Regulatory Financial Statements.
- Amounts incurred and charged against the provision during the period, being long service leave taken or paid out for departures for employees with 7 years of service or more, were taken from the payroll system.
- The decrease during the period due to discounting of the provision was calculated based on the assumption that each employee takes their long service leave when it vests at 10 years, pay increases will be received consistent with Enterprise Bargaining Agreements, performance increases will be received consistent with historical trends and the time value of money has been determined with reference to the Government Indicative Bond Rates.
- Increases to the provision were derived as the reconciling item as all other factors were known.
- Unused amounts of long service leave that were reversed during any period relates to departing employees with less than 7 years of service and was extracted from the payroll system.

Superannuation

- Opening and closing balances for the superannuation provision were taken from the audited Regulatory Financial Statements.
- Amounts incurred and charged against the provision during the period were taken from the detailed superannuation general ledger accounts.
- The increase or decrease during the period due to discounting of the provision was derived as the reconciling item as all other factors were known.
- Increases to the provision during the period were taken from the detailed superannuation general ledger accounts.
- The unused amounts of the superannuation provision reversed during 2009 were extracted from the detailed superannuation general ledger accounts.

- Interest incurred on the defined benefit liability and actuarial gains and losses have been classified as neither operating nor capital expenditure.

Other Minor Provisions

- Other minor provisions include provisions for redundancies and provisions for employee incentives.
- Opening and closing balances for other minor provisions were taken from the audited Regulatory Financial Statements.
- Amounts incurred and charged against the provisions during the period, increases to the provisions and reversals of unused amounts of the provisions were taken from the general ledger.
- As these are only short term provisions, discounting was not required.

Split between Operating and Capital Expenditure

- The allocation of provisions and movement in provisions to operating or capital expenditure was determined with reference to the actual on-costs (including payroll taxes, superannuation etc.) incurred during each financial year. For the 2006 opening provision balances, the average allocation between operating and capital expenditure over the period 2006 to 2013 was used.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for provisions.

4 Assets (regulatory asset base)

4.1 Regulatory asset base values

Consistency of information with the requirements of the RIN

Regulatory asset base (RAB) financial information includes data on overhead lines, underground cables, transformers and other assets. The RAB financial information has been prepared in accordance with the RAB Framework as outlined in the RIN.

Source of information

The reported RAB information has been sourced from the reconciliations of property, plant and equipment (and the underlying detailed asset records) for prescribed transmission assets which are prepared annually for provision to the AER as part of the Regulatory Financial Statements.

Methodology applied to determine information, including assumptions made

Information reported in table 4.1 is the aggregate of the asset value roll forward presented by asset in table 4.2.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.
- Reason for non-compliance

  Not applicable
- Changes in accounting policies

  There have been no changes in accounting policies for RAB assets.

4.2 Asset value roll forward

Consistency of information with the requirements of the RIN

Regulatory asset base (RAB) financial information includes data on overhead lines, underground cables, transformers and other assets. The RAB financial information has been prepared in accordance with the RAB Financial Reporting Framework as outlined in the RIN.

Source of information

The reported RAB information has been sourced from the reconciliations of property, plant and equipment (and the underlying detailed asset records) for prescribed transmission assets which are prepared annually for provision to the AER as part of the Regulatory Financial Statements.

Methodology applied to determine information, including assumptions made

Aggregate RAB values were able to be directly attributed to the disaggregated asset categories by reviewing the underlying detailed asset records and allocating them directly to the asset categories as required.

For each asset category presented:

- Opening values were agreed through to the previous year's closing value.
- The inflation addition reflects a CPI increase to the opening net book value of the assets.
- Straight line depreciation is calculated based upon the estimated useful lives of the assets.
- Regulatory depreciation is the net of the inflation addition and the straight line depreciation.
- Recorded additions are based on the cost of the assets for regulatory accounting purposes.
- Roll forward model adjustments have been captured in the actual additions for the 2009 financial year.
- Recorded disposals are based on actual assets that are sold or scrapped in any given year.
- Closing values are derived from the sum of all elements noted above.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.
- Reason for non-compliance

  Not applicable
- Changes in accounting policies

  There have been no changes in accounting policies for RAB assets.

4.3 Total disaggregated regulatory asset base asset values

Consistency of information with the requirements of the RIN

Regulatory asset base (RAB) financial information includes data on overhead lines, underground cables, transformers and other assets. The RAB financial information has been prepared in accordance with the RAB Framework as outlined in the RIN.

Source of information

The reported RAB information has been sourced from the reconciliations of property, plant and equipment for prescribed transmission assets which are prepared annually for provision to the AER as part of the Regulatory Financial Statements.

Methodology applied to determine information, including assumptions made

Information reported in table 4.3 has been taken from the closing value of each asset class presented in the asset value roll forward table at 4.2.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for RAB assets.

4.4 Asset lives

Consistency of information with the requirements of the RIN

Regulatory asset base (RAB) financial information includes data on overhead lines, underground cables, and transformers and other assets. The RAB financial information has been prepared in accordance with the RAB Framework. The useful lives presented are calculated as a weighted average of the entire asset class calculated in accordance with the instructions in the RIN.

Source of information

The reported RAB information has been sourced from the supporting information to the reconciliations of property, plant and equipment (including the underlying detailed asset records) for prescribed transmission assets which are prepared annually for provision to the AER as part of the Regulatory Financial Statements

Methodology applied to determine information, including assumptions made

Assets are allocated a useful life at acquisition based on the useful lives historically prescribed to like assets and management's assessment of the useful life based on past experience and future expectations of use.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for RAB assets.

5 Operational data

5.1 Energy delivery

Consistency of information with the requirements of the RIN

The amount of electricity transported through the network has been taken from the downstream settlement location, and includes energy imported and exported over Basslink.

Source of information

Information has been sourced from Transend's metering system, which captures energy supplied to other connected transmission networks, distribution networks and end-users in 30 minute intervals.

Methodology applied to determine information, including assumptions made

Energy supplied to other connected transmission networks over Basslink is measured on the Tasmanian side of the interconnector for both imports and exports.

Energy supplied to distribution networks and directly connected end users is measured at the downstream settlement location which does not include transmission losses.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies relating to metering.

5.2 Connection point numbers

Consistency of information with the requirements of the RIN

Connection point numbers have been reported as the average number of connection points in each relevant regulatory year under system normal conditions.

For the purpose of the RIN, Transend has considered the Transmission Network Identifier (TNI) as a connection point.

Source of information

Information has been sourced from Transend's metering and billing system which contains details of all actual connection points.

Methodology applied to determine information, including assumptions made

Basslink has been included in the presentation of the connection point numbers as an exit point only, and not as an entry point.

Where the average calculation would have resulted in a part connection point being reported, this has been rounded up to the nearest whole number.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for connection points.

5.3 System demand

Consistency of information with the requirements of the RIN

Information reported has been determined in accordance with the definitions provided in the RIN.

Source of information

Information has been sourced from Transend's metering and billing system which contains details of coincident and non-coincident maximum system demand by connection point.

Methodology applied to determine information, including assumptions made

Basslink has been included in the presentation of the coincident and non-coincident maximum system demand information.

Average overall network power factor conversion is the total average megawatts divided by total average megavolt-amperes. This includes Basslink exports.

Average power factor conversion for 220 kV lines is the average megawatts divided by average megavolt-amperes of 220 kV connection points. This includes Basslink exports.

Average power factor conversion for 110 kV lines is the average megawatts divided by average megavolt-amperes of 110 kV connection points.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for system demand.

6 Physical assets

6.1 Transmission system capacities variables

Consistency of information with the requirements of the RIN

Data has been reported on the quantities and capacities of physical assets. Data has been disaggregated into the overhead network, underground cable and transformers where necessary.

Source of information

Information regarding the route length measurements and continuous load ratings has been sourced from the Asset Management Information System (AMIS), Ratings Information System (RIS) and Geographical Information System (GIS). Where past values were required, historical reports were used.

Methodology applied to determine information, including assumptions made

For table 6.1.1, in determining the length of the overhead network circuits, information was extracted from the GIS for the 2010 regulatory year and later, and for energised service status only. For years up to and including the 2009 regulatory year, information was extracted from historical Transend Annual Reports and all asset service statuses are included in this information.

For table 6.1.2, in determining the length of the underground cable circuits, information was extracted from AMIS, where the circuit lengths are recorded.

For tables 6.1.3 and 6.1.4, the weighted average megavolt-amperes capacity was calculated from circuit rating and circuit length data from Transend's asset management information systems, consistent with the definition provided in the RIN. The estimated average capacity used in the calculation for transmission lines was the maximum winter capacity whilst for transformers the maximum continuous loading rating was applied. Some back casting was required to ascertain the line capacities in earlier years for which data is presented. Only those overhead network and underground cable circuits owned by Transend were included in the calculations, not those assets managed by Transend but owned by third parties. The length of the overhead network and underground cable circuits has been taken from tables 6.1.1 and 6.1.2.

For table 6.1.5, information was extracted from AMIS, with back casting performed to remove the impact of upgrades made to the transmission system between 2006 and 2013. The back casting was confirmed as accurate with reference to historical annual planning reports.

To assist with determining the transformer capacity for directly connected end–users owned by the TNSP (TPA0503) reference was made to Transends 'Customer Relationship management' intranet portal to ascertain which customers Transend has and which Substation they are supplied from. Further confirmation checking using substation power circuit one line diagram (PCOLD) or Operational diagram to ensure that the substations in question only had a direct connect customer as the single point load and no supply to the DNSP to ensure accurate data was recorded.

To assist with determining the capacity for directly connected end-user assets owned by the end user (TPA0504) site data sheets were referenced to access details of end user load requirements as transformer capacity is not known.

For table 6.1.6, the asset management system was interrogated for details of any listed spare assets.

Use of estimates

The only estimation required was in regards to determining the interconnector transformer capacity (TPA0505) as the available load details are in MW and so an estimated power factor was applied to arrive at the MVA value. No other estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business. Some back casting was required to determine line and transformed capacities; however this back casting would not have valid alternatives that could result in materially different responses to the RIN.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  There have been no changes in accounting policies for physical assets.

7 Quality of service

7.1 Service component

Consistency of information with the requirements of the RIN

Information reported has been determined in accordance with the definitions specified in the transmission network service providers STPIS documents.

Source of information

Information has been sourced from Transend's performance reporting system, PerfRep, and has been supplemented by incident reports. Data on material failures of the Supervisory Control and Data Acquisition (SCADA) system is input into the performance reporting system based on information obtained direct from the Australian Energy Market Operator (AEMO). Information on incorrect operational isolation of primary or secondary equipment was determined through inspection of incident reports.

Methodology applied to determine information, including assumptions made

For table 7.1.1, the percentages of outages have been calculated as the number of outages reported on a line, transformer or reactive plant, divided by the total number of defined lines, transformers or reactive plants, as relevant. The total number of fault and forced outages has been extracted from the PerfRep performance reporting system. PerfRep gathers information on fault outages from Transmission Operations Group's fault reporting system. PerfRep gathers information on forced outages from Transend's Plant Restriction and Outage Management System. The total number of defined lines, transformers or reactive plants is also maintained in the PerfRep performance reporting system. For the purposes of this table, only prescribed circuits have been considered in the outage rate calculations.

Service parameters are as defined in the AER document "AER Final decision - Electricity TNSP Service target performance incentive scheme - December 2012"

No assumptions have been required to be made in the presentation of data in tables 7.1.2 and 7.1.3.

Information contained in table 7.1.4 for the number of failure events has been extracted from PerfRep.

For this table:

- Included within the scope of incorrect operational isolation of primary or secondary equipment are:
  - incorrect secondary isolations resulting in a primary plant operation;
  - incorrect isolations resulting in a safety incident; and
  - incorrect switching incidents.
- Excluded from the scope of incorrect operational isolation of primary or secondary equipment are:
  - incorrect secondary isolations that did not result in a primary plant operation;
  - incorrect isolations whereby the error identified was rectified prior to the occurrence of a primary plant operation; and
  - safety incidents whereby the electrical technician specifically chose not to isolate (live work is permitted within our work procedures).

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  Changes in accounting policies are not applicable for quality of service.

7.2 Market impact component

Consistency of information with the requirements of the RIN

Information reported has been determined in accordance with the definitions specified in the transmission network service providers STPIS documents.

Source of information

Information has been sourced from Transend's PerfRep system and AEMO market data.

Methodology applied to determine information, including assumptions made

The total number of dispatch intervals has been determined through interrogation of the NEM database to determine the number of constraints, which was then matched to outages and coded with the Market Impact Component tool.

NSCPS and FCAS constraints have been included in the MIC count based on a meeting between Transend and AER representatives held on 15 November 2013. The meeting decided that:

- Calculation of Transend's MIC performance over a 2 year period will remain as defined by AER
- (N-1) FCAS constraints will be included in the MIC measure where Transend is the instigator
- (N-1) NCSPS constraints will be included in the MIC measure where Transend is the instigator

Transend had previously considered excluding FCAS and certain NCSPS constraints from MIC event counts.

The reason for the possible exclusion of certain NCSPS constraints is as follows:

NCSPS is treated as non-regulated (non-prescribed) asset and paid for by an interconnector company. It is used to increase transmission network capability to maximise interconnector flows.

The current design of NCSPS is effective under a non-intact (N-1) system. Even with an outage of a transmission circuit, NCSPS and its related constraint equations increase transmission capacity.

NCSPS constraint equations can be either Type 1, Type 2, Type 3, Type 4 or Type 5. Type 4 constraint equations relate to firm power flows when NCSPS is not operating. Type 1, 2, 3 and 5 constraints relate to NCSPS operation and increased network capability. It is proposed to include Type 4 constraint counts for MIC and exclude Type 1, 2, 3 and 5 constraint counts.

The appropriate exclusion code is Exclusion 9 from the STPIS definition ie *"network constraints that are invoked to reflect a temporary network reconfiguration implemented by a TNSP to manage an outage. For the avoidance of doubt, the network reconfiguration may result in lower capability than during system normal but must be higher than what the capability of the network would have otherwise been during the outage. The TNSP must have notified the AER of such outage prior to the outage occurring for the exclusion to apply"*.

Transend Networks has excluded several network outages that occurred concurrently with generator outages where the transmission line solely provides a connection service for a generator that was out of service for maintenance activity. Transend coordinates its line outages on prescribed entry services with the generators to minimise any impact to the market. Transend believes that in these circumstances the market impact with the line out of service is not different from the market impact with the line in service, and therefore the outage should be excluded from the market impact calculation. It is noted that this circumstance does not align with any category of exclusions listed in the relevant instructions for the RIN. Transend has sought clarification from the AER regarding this matter, but has not, at time of writing, received a response.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.
- Reason for non-compliance

  Not applicable
- Changes in accounting policies

  Changes in accounting policies are not applicable for quality of service.

7.3 System losses

Consistency of information with the requirements of the RIN

Information reported has been determined in accordance with the definitions provided in the RIN.

Source of information

Information has been obtained from Transend's metering and billing system, which measures energy passing through all metering points.

Methodology applied to determine information, including assumptions made

Electricity inflows and electricity outflows were sourced from Transend's metering and billing system. The prescribed calculation was adhered to in calculating the system losses percentage for each reported year.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  Changes in accounting policies are not applicable for quality of service.

8 Operating environment

8.1 Terrain factors

Consistency of information with the requirements of the RIN

Information has been provided regarding terrain factors in accordance with the definitions included within the RIN.

Source of information

Total number of vegetation maintenance spans

- Information has been sourced from completed work orders which have been issued to vegetation management contractors.

Average vegetation maintenance span cycle

- Information has been sourced from the Transmission Line Easement Asset Management Plan.

Average number of trees per vegetation maintenance span

- Information regarding the total number of vegetation maintenance spans has been sourced from completed work orders which have been issued to vegetation management contractors. The density of vegetation within the spans has been determined by:
    - using vegetation density data collected by contractors approximately 10 years ago; and/or
    - viewing the spans via an online medium (eg. Google Earth) and, through experience, assigning a particular density to the vegetation in like areas (it is assumed that the vegetation densities assigned by Transend align with those used by the contractors that collected similar data 10 years ago).
- Transend has used data provided by Forestry Tasmania in quantifying 'Medium' vegetation density.
- Information for the quantification of other vegetation density categories was sourced internally through experience of Transend's easements and the types of vegetation typically encountered.

Average number of defects per vegetation maintenance span

- Information has been sourced from work orders, which include information as to whether a defect has been noted within a span.

Tropical proportion

- Based on the definition of Tropical Spans within the RIN and as defined by the Australian Bureau of Meteorology Australian Climate Zones Map, this is not applicable to Tasmanian vegetation.

Standard vehicle access

- Structures that intersect with standard vehicle access roads within a nominated radius were identified with reference to Transend's Geographical Information System in consultation with Asset Officers. Span lengths were extracted from the Asset Management Information System.

Altitude

- The altitude of each structure was extracted from the Asset Management Information System, which derives its altitude data for each tower from manually inputted data obtained through the analysis of contour maps.

Bushfire risk

- To determine the number of spans in bushfire risk areas a Tasmanian bushfire likelihood map was obtained from the Department of Primary Industries, Parks, Water and Environment (DPIPWE) showing the five levels of 'likelihood' for bushfire start. From this map, areas of 'Almost Certain' or 'Likely' bushfire likelihood within Tasmania were ascertained.

Methodology applied to determine information, including assumptions made

Total number of vegetation maintenance spans

- Information has been extracted from the asset management system for completed work orders. No assumptions were required for the majority of work orders. A small number of work orders included a scope of works that seemed larger than that suggested by actual expenditure. In the absence of any additional information it has been assumed that the scope of works is correct.

Average vegetation maintenance span cycle

- Information has been sourced from the Transmission Line Easement Asset Management Plan, whereby each asset is inspected on a 5 year cycle, with 20 per cent inspected each year. This inspection cycle results in vegetation maintenance activities that, on average, occur every 5 years.

Average number of trees per vegetation maintenance span

- The average number of trees per vegetation maintenance span has been arrived at by multiplying the span length (for the span where the maintenance was completed) by the easement width by the determined density of vegetation within each of the spans (the 'density factor'). It has been assumed that all 110 kV transmission lines have an easement width of 50m, and 220 kVA lines have a width of 60m.

Average number of defects per vegetation maintenance span

- The majority of defects per vegetation maintenance span are grouped and recorded as a single defect if they occur, regardless of the number of defects within the span. It is assumed that the number of spans where multiple defects have been recorded is not material.

Tropical proportion

- Based on the definition of Tropical Spans within the RIN and as defined by the Australian Bureau of Meteorology Australian Climate Zones Map, this is not applicable to Tasmanian vegetation.

Standard vehicle access

- A 10 metre radius was applied to each structure to determine if they intersect with standard vehicle access roads. Asset Officers were consulted for confirmation of the accessibility of the structures. Only those structures that are accessible all year round were included for the purposes of presenting this data. It has been assumed that if standard vehicle access is possible to a tower, then access to the span forward from that tower is also possible, and it is this span length that has been counted.

- Transend has reported this variable as the route line length not accessible to standard vehicles.

Altitude

- For each structure that is installed at 600 metres above sea level or higher, the forward span length was counted to determine the Route Line Length.
- Transend's altitude measurements have been made at the tower base. Therefore there may be a very small number of towers whereby the conductor attachment point is in excess of 600 metres, yet the tower base is below 600m, and hence the structure and associated span forward, would not be counted.

Bushfire risk

- A map of the location of all towers was overlaid on the DPIPWE Tasmanian bushfire likelihood map, to locate those towers that are located in areas of either 'Almost Certain' or 'Likely' bushfire likelihood. Due to the way in which the risk model is constructed, Transend has assumed that the use of likelihood, rather than risk, more appropriately meets the requirements of the AER. Transend has also assumed that 'Almost Certain' and 'Likely' bushfire likelihood is equivalent to 'High' bushfire risk as specified by the AER.

Use of estimates

Total number of vegetation maintenance spans

- No estimations have been required (other than those assumptions outlined in the methodology applied above) in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Average vegetation maintenance span cycle

- No estimations have been required (other than those assumptions outlined in the methodology applied above) in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Average number of trees per vegetation maintenance span

- The determined density factor has been broken down into four bands, and an estimate has been required to assign the number of trees in each band of density (through practical experience and through an assessment of aerial photos for each easement where vegetation maintenance has occurred). This estimate has been required as information has historically been impracticable to collect and maintain. The level of accuracy for these vegetation densities is considered to be very low for the 'Medium' and 'High' categories.
    - Pasture = 5 trees per Ha
    - Low = 50 trees per Ha
    - Medium = 1300 per Ha (approximately equal to typical Forestry Tasmania plantation density)
    - High = 2000 per Ha

  Transend does not currently have the capability or asset information to take into account vegetation density variation due to changes in easement geography or vegetation height. Accordingly the quantities reported are all trees within the span rather than those which may require active management.

Average number of defects per vegetation maintenance span

- No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business.

Tropical proportion

- No estimations have been required in the collation and presentation of this information.

Standard vehicle access

- No estimations (other than those assumptions outlined in the methodology applied above) have been required in the collation and presentation of this information. Information is based on actual information; historical accounting records or other records used in the ordinary course of business, and has been determined in line with the methodology set out above.

Altitude

- No estimations (other than those assumptions outlined in the methodology applied above) have been required in the collation and presentation of this information. Information is based on actual information; historical accounting records or other records used in the ordinary course of business, and has been determined in line with the methodology set out above.

Bushfire risk

- No estimations (other than those assumptions outlined in the methodology applied above) have been required in the collation and presentation of this information. Information is based on actual information; historical accounting records or other records used in the ordinary course of business, and has been determined in line with the methodology set out above.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  Changes in accounting policies are not applicable for the operating environment.

8.2 Network characteristics

Consistency of information with the requirements of the RIN

Information has been provided regarding network characteristics in accordance with the definitions included within the RIN.

Source of information

Route line length

- The total route line length has been sourced from information maintained within AMIS.

Variability of dispatch

- Information has been sourced from historical metering information.

Concentrated load distance

- Information has been sourced from the GIS.

Total number of spans

- The total number of spans has been sourced from information maintained within AMIS.

Methodology applied to determine information, including assumptions made

Route line length

- Information was extracted from AMIS, with some back casting required to ascertain the route line lengths in earlier years for which data is presented. All asset service statuses are included in the information presented.

Variability of dispatch

- Variability of dispatch was determined with reference to historical metering information, including only that energy generated by hydro and wind powered stations.

Concentrated load distance

- Information has been extracted from the GIS. Sheffield Substation has been selected as the generation node and Greater Hobart as the load centre to meet the AER definition.

Total number of spans

- The total number of spans has been has been extracted from the AMIS. All asset service statuses are included in the information presented.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information, historical accounting records or other records used in the ordinary course of business. Some back casting was required to determine route line lengths; however this back casting would not have valid alternatives that could result in materially different responses to the RIN.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  Changes in accounting policies are not applicable for the operating environment.

8.3 Weather stations

Consistency of information with the requirements of the RIN

Information has been provided regarding weather stations in accordance with the definitions included within the RIN.

Source of information

Weather station location details have been taken from the Bureau of Meteorology, which were then input to Transend's geographical information systems.

Methodology applied to determine information, including assumptions made

A weather station was considered to be relevant to the management of the network when there is a transmission asset within a 20 kilometre radius of the weather station. Weather station postcodes were also generated using Transend's geographical information systems.

Weather stations have been considered not relevant to the management of the network where they are located more than 20 kilometres from a transmission asset.

Use of estimates

No estimations have been required in the collation and presentation of this information. Information is based on actual information; historical accounting records or other records used in the ordinary course of business, and has been determined in line with the assumptions set out above.

Compliance with financial reporting framework

- Non-compliance

  There has been no non-compliance with the financial reporting framework.

- Reason for non-compliance

  Not applicable

- Changes in accounting policies

  Changes in accounting policies are not applicable for the operating environment.

TRANSEND

Our mission is transmission