Basis of Preparation – Economic Benchmarking Data

31 March 2013

1. Overview

This Basis of Preparation document supports the preparation and reporting of the data presented in SPI PowerNet Pty Limited's ("SPI PowerNet") reports entitled 'TNSP economic benchmarking data - Actual Information', 'TNSP economic benchmarking data - Estimated Information', 'TNSP economic benchmarking data - Consolidated Information' and 'Other Supporting Information' ("the Reports"). The Reports provide data solely for the use of the Australian Energy Regulator ("the AER") to perform benchmarking activities under the AER's Better Regulation program.

The ultimate Australian parent of SPI PowerNet is SP Australia Networks (Transmission) Ltd which is part of a listed stapled group trading as SP AusNet. SP AusNet comprises the Stapled Group of SP Australia Networks (Distribution) Ltd and its subsidiaries, SP Australia Networks (Transmission) Ltd and its subsidiaries, and SP Australia Networks (Finance) Trust. The Stapled Group is also referred to as the SP AusNet Group.

The Reports have been prepared in accordance with the 'Regulatory Information Notice issued under section Division 4 of Part 3 of the *National Electricity (Victoria) Law'* ("RIN") issued by the AER on 28 November 2013, the accompanying 'Economic Benchmarking RIN for transmission network service providers - Instructions and Definitions' and other authoritative pronouncements of the AER.

SPI PowerNet's regulatory year is the period 1 April to 31 March ("Regulatory Year"). Data included in the Reports has been provided for each Regulatory Year from 2006 through to 2013. All financial data included in the Reports is presented in thousands of Australian dollars, rounded to the nearest dollar. Non-financial data is stated as per the measures specified in the Reports and includes a minimum of four figures (except where the RIN requires numbers of units).

Materiality has been applied throughout the Reports and Basis of Preparation. Materiality is defined as information that if omitted, misstated or not disclosed has the potential, individually or collectively to influence the economic decisions of users.

In conformity with AER requirements, the preparation of the Reports requires the use of certain critical management estimates. Where estimated information has been presented, the circumstances and the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is SPI PowerNet's best estimate has also been set out below. By definition, estimates seldom equal the related actual results and estimates have only been made for the purpose of disclosing the information requested. Considerations of the cost and efficiency of preparation as well as accuracy have been taken into account in determining the best methodology to apply.

For the purpose of preparing the reports, 'estimated information' is defined as information presented in the Reports whose presentation is not materially dependent on information recorded in accounting records or other records used in the normal course of business, and whose presentation for the purpose of the RIN is contingent on judgments and assumptions for which there are valid alternatives, which could lead to a materially different presentation in the Reports.

'Actual Information' is defined as information materially dependent on information recorded in historical accounting records or other records used in the normal course of business, and whose

presentation is not contingent on judgments and assumptions for which there are valid alternatives, which could lead to a materially different presentation. The preparation methodologies and information sources adopted in the preparation of the Reports are set out below. These methodologies and sources have been consistently applied and used for all Regulatory Years, unless otherwise stated.

Some information required in the reports is data managed by the Australian Energy Market Operator ("AEMO"). SPI PowerNet have identified within the Reports which data is maintained by AEMO. SPI PowerNet has reported this information to the AER separately in a Consolidated report. SPI PowerNet notes that no procedures have been performed to verify the information provided by AEMO and no certification is provided on the information. SPI PowerNet has also not provided any details in relation to the basis of preparation of these variables.

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2. Revenue

Prescribed Transmission Services Revenue ("Revenue") is measured at the fair value of the consideration received or receivable, net of the amount of Goods and Services Tax payable to the taxation authority. Revenue is recognised as the services are rendered and is reported inclusive of incentive scheme penalties and rewards. Total Revenue is disaggregated by chargeable quantity and also by type of connected equipment.

The accounting policies adopted by SPI PowerNet in relation to Revenue have not materially changed during any of the Regulatory Years covered by the Reports.

Table 2.1 Revenue grouping by Chargeable Quantity

Revenue reported has been classified into the Chargeable Quantity which most closely reflects the basis upon which the revenue was charged to customers. Where it has been determined that Revenues cannot be allocated to the specified chargeable quantities in TREV0101 to TREV0109, Revenue has been reported against 'Revenue from other Sources' (TREV0110). Additionally gross proceeds from the sale of assets which relate to Prescribed Transmission Services have been included in 'Revenue from other Sources' (TREV0110).

Preparation Methodology:

Data obtained from the Annual Transmission Customer Charges schedule, SPI PowerNet's internal Transmission Revenue Tracking Tool and information from the financial system was allocated into the required categories as determined by the customer. These customers are clearly identifiable in the Annual Transmission Customer Charges schedule, which includes Prescribed Services revenue (i.e. revenue included in SPI PowerNet's revenue cap, plus Group 3 revenue).

Revenue from the Australian Energy Market Operator, gross proceeds from the sale of assets and Easement Tax have been included in 'Revenue from Other Sources' (TREV0110).

Table 2.2 Revenue Grouping by Type of Connected Equipment

Revenue reported has been classified into the Type of Connected Equipment. Gross proceeds from the sale of assets which relate to Prescribed Transmission Services has been included in 'Other Revenue' (TREV0205).

Preparation Methodology:

Data obtained from the Annual Transmission Customer Charges schedule, SPI PowerNet's internal Transmission Revenue Tracking Tool and information from the financial system was allocated into the required categories based on the nature of the revenue.

Revenue from the Australian Energy Market Operator, gross proceeds from the sale of assets and Easement Tax was allocated to 'Other Resources' (TREV0205).

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

The penalties or rewards from the service target performance incentive scheme ("STPIS") or efficiency benefit sharing scheme ("EBSS") have been reported based on the year that the penalty or reward was applied, not the year in which it was earned. The penalties or rewards from the schemes applied by previous judicial regulators that are equivalent to the STPIS or EBSS schemes have been reported against the applicable scheme category.

Preparation Methodology:

Information used in the preparation of Table 2.3 has been sourced from the Australian Competition and Consumer Commission ("ACCC") Final Decision 2003/04-2007/08 Transmission Revenue Reset, AER Final Determination 2008/09-2013/14 Transmission Revenue Reset, AER STPIS Determinations (data is extracted and included in SPI PowerNet's internal Transmission Revenue Estimator Tool) and the Post Tax Revenue Model.

STPIS:

Revenue attributable to the Performance Incentive scheme (the historical equivalent to STPIS) was obtained from the AER STPIS Determinations for each Regulatory Year.

EBSS:

Revenue in relation to the Efficiency Glide Path schemes (equivalent scheme to EBSS) has been categorised as 'EBSS' for the purposes of this Report. For the 2006 to 2008 Regulatory Years, the Glide Path factor as per the ACCC Final Decision was obtained and the associated revenue smoothed based on the 'smoothed revenue profile' applied for Revenue recognition purposes in the respective Regulatory Years.

For the 2009 to 2013 Regulatory Years, the Glide Path factor as per the AER determination was obtained and the associated nominal revenue calculated (adjusted for indexation and smoothed based on the 'smoothed revenue profile' applied for each Regulatory Year).

Estimated Information:

The EBSS data provided is considered 'estimated' information due to the assumptions included in the preparation methodology. It has been assumed that Efficiency Glide Path Revenue (and Revenue derived under the historically equivalent scheme) was collected in accordance with the allowance or penalties prescribed for the applicable 5 year Revenue determination period.

The information provided is considered Management's best estimate of EBSS based on the information available as the data is not able to be separately captured.

3. Operating Expenses

Operating Expenses ("Opex") are the costs of operating and maintaining the network (excluding all capital costs and capital construction costs) and relate to prescribed transmission services.

The SP AusNet Group owns and operates 3 regulated networks – an electricity distribution network, a gas distribution network, and an electricity transmission network. Opex that is incurred for a particular network is allocated directly to that network. Overhead costs that cannot be directly allocated to a particular network are proportioned amongst SP AusNet's 3 regulated and unregulated networks via a quarterly Activity Based Costing survey process completed by all cost centre managers and in accordance with SP AusNet's Cost Allocation Methodology ("CAM").

The accounting policies adopted by SPI PowerNet in relation to Opex have not materially changed during any of the Regulatory Years covered by the Reports.

Table 3.1 Opex categories: Table 3.1.1 Current opex categories and cost allocations

In Table 3.1.1, Opex has been reported for all Regulatory Years in accordance with the Annual Reporting Requirements (specifically the line item presentation of Opex) in the 2013 Regulatory Year. There have not been any material changes in the CAM across the Regulatory Years covered by the Reports, as such no changes have been made pertaining to changes in cost allocation methodologies.

For the 2009 to 2013 Regulatory Years, information in Table 3.1.1 is consistent with information in Table 3.1.2 as the presentation of Opex in the Annual Regulatory Accounts from 2009 to 2012 was consistent with the 2013 Regulatory Year.

For the 2008 Regulatory Year, Maintenance Opex has been restated in accordance with the Annual Reporting Requirements applicable from the 2009 to 2013 Regulatory Years.

For the 2006 to 2007 Regulatory Years, Opex categories and allocations have been restated in accordance with the Annual Reporting Requirements applicable from the 2008 to 2013 Regulatory Years.

Preparation Methodology:

The supporting information for the Opex categories in Regulatory Years 2006 and 2007 was not readily available to be transposed into the Opex categories applicable from the 2008 Regulatory Year. Therefore, the average Opex split for each line item (where actual data is known) over the 2008 to 2013 Regulatory Years has been calculated and applied to the 2006 to 2007 Regulatory Years.

In the 2008 Regulatory Year, Maintenance Opex was not required to be disclosed in the categories prescribed in the 2009 to 2013 Regulatory Years. The category allocation of the total 2008 Maintenance Opex (variables DOPEX0101-DOPEX0103) was estimated using the average Maintenance Opex split for each line item over the 2009 to 2013 Regulatory Years.

Estimated Information:

The Opex categorisations for the 2006 and 2007 Regulatory Years have been estimated to be consistent with the average allocation splits across the 2008 to 2013 Regulatory Years. Similarly, the categorisation of 2008 Maintenance Opex (variables DOPEX0101-DOPEX0103) was estimated to be consistent with the average Maintenance Opex allocation splits across the 2009 to 2013 Regulatory Years.

These are considered to be Management's best estimates as SPI PowerNet's operations have been largely stable from the 2006 Regulatory Year, with no significant changes in operations.

Table 3.1 Opex categories: Table 3.1.2 Historical opex categories and cost allocations

Opex categories and allocations have been presented in accordance with the requirements of the CAM, the Annual Regulatory Accounts and the Annual Reporting Requirements that were in effect for the individual Regulatory Year. Opex reconciles to historical Opex for Prescribed Transmission Services as disclosed in the Annual Regulatory Accounts.

Preparation Methodology:

The line items and figures were sourced from the historical Opex templates of the respective Regulatory Year's Annual Regulatory Accounts.

Table 3.2 Provisions

Provisions are recognised when SPI PowerNet has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation, and the amount of the provision can be measured reliably. Provisions are not recognised for future operating losses.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the relevant reporting date, taking into account the risks and uncertainties surrounding the obligations. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

For all Regulatory Years, financial information on provisions for Prescribed Transmission Services has been reported in accordance with the requirements of the CAM and the Annual Regulatory Accounts that were in effect for the relevant Regulatory Year.

Provisions have been separately presented based on the nature of the provision and allocated between an Opex component and a capex component based on the classification of the underlying cost associated with the provision. Financial information on provisions reconciles to the reported amounts for provisions in the Annual Regulatory Accounts for each Regulatory Year.

Preparation Methodology:

For all the Regulatory Years, total movements in provisions were obtained from the Annual Regulatory Accounts and supplemented with information from the financial system to derive provision amounts.

Estimated Information:

For the Provision for Employee Entitlements, the split between the Opex component and the Capex component was estimated. This was required as this data is not separately captured in the financial system.

To determine the proportion of these provisions that should be applied to Capex, SP AusNet has used the results from its quarterly capitalised overheads model which calculate the proportion of labour costs to be capitalised. The quarterly capitalised overheads model uses results from the quarterly Activity Based Costing surveys which provide the percentage split of management effort between all of SP AusNet's regulated and unregulated networks as well as between Opex and Capex.

For the 2006 to 2007 Regulatory Years, the results from the quarterly capitalised overheads model were not readily available. Therefore, the average Capex labour ratio over the 2008 to 2013 Regulatory Years have been applied to the 2006 to 2007 Regulatory Years as SPI PowerNet's operations have been largely stable from the 2006 Regulatory Year, with no significant changes in its operations.

For Provision for Employee Entitlements, there is an increase in the provision associated with the passage of time. This increase has not been shown as it is not considered material.

4. Assets (RAB)

The Regulated Asset Base ("RAB") values have been prepared and reported as per SP AusNet's interpretation of the AER instructions set out in Section 4 of the RIN Instructions and Definitions ("RIN I&Ds").

Consistent with the instructions outlined in the RIN I&DS, the AER Final Decision SP AusNet Transmission determination 2014–15 to 2016–17 (and specifically the published roll forward model) has been used as the basis for the RAB values (for the 2009 to 2013 Regulatory Years) as this is the latest AER Decision to incorporate actual information. Information has also been taken from the AER Final Decision SP AusNet Transmission Determination 2008–09 to 2013–14 to allow the completion of the 2006 and 2007 Regulatory Years in the templates.

The accounting policies adopted by SPI PowerNet in relation to capex (the only regulatory accounting input into the RAB) have not materially changed during any of the Regulatory Years covered by the Reports.

Table 4.1 Regulatory Asset Base Values

The RAB values have been prepared and reported as per SPI PowerNet's interpretation of the AER instructions set out in Section 4 of the RIN I&Ds.

Preparation Methodology:

Information was sourced from the AER Final Decision SP AusNet Transmission Determination 2008–09 to 2013–14, the AER Final Decision SP AusNet Transmission determination 2014–15 to 2016–17 and Annual Regulatory Accounts.

The AER Final Decision SP AusNet Transmission determination 2014–15 to 2016–17 roll forward model has been used as the basis for the RAB Values (for the 2009 to 2013 Regulatory Years) as this is the latest AER Decision to incorporate actual information. This model incorporates actual data up to and including the 2013 Regulatory Year and has been reconciled to the Annual Regulatory Accounts for all Regulatory Years.

The roll forward model RAB:

- includes the effects of an adjustment performed in the 2008 Regulatory Year to account for the higher capex, foregone return on capex on over-expenditure during the 2003 to 2007-08 regulatory control period and the roll in of prescribed augmentation assets. This adjustment is outlined in the AER Final Decision SP AusNet Transmission Determination 2008–09 to 2013–14. SPI PowerNet does not consider this adjustment to be a revaluation (and therefore to be excluded) as defined in the instructions; and
- directly makes an adjustment for the overspend in 2008 Regulatory Year, adjusts for foregone return and the roll in of prescribed augmentation assets in the 2013-14 year. The effects of this adjustment will not appear until the economic benchmarking information for the 2014 Regulatory Year is provided.

Additions reported in Table 4.1 have been presented net of asset disposals and customer contributions.

Table 4.2 Asset value Roll forward

The disaggregated RAB values have been prepared and reported as per SPI PowerNet's interpretation of the AER instructions set out in Section 4 of the RIN I&Ds.

Over the relevant Regulatory Years (excepting the 2006 and 2007 Regulatory Years), SPI PowerNet has recorded assets in the RAB and in the Annual Regulatory Accounts in asset classes that allow a direct attribution into the AER's economic benchmarking RAB Asset classes. The exception is that there is no split in the transmission RAB between overhead and underground assets. The existing disaggregated RAB consists of the following asset categories

- Lines
- Transformers
- Switchgear
- Reactive
- Establishment
- Secondary
- Communications
- Land
- Easements
- Inventory
- IT
- Vehicles
- Premises
- Other (non-system)

That is, for each category above, Opening value, Inflation addition, Straight line depreciation, Regulatory depreciation, Actual additions (recognised in RAB), Disposals and Closing value for overhead transmission asset value is generated.

For the 2007 Regulatory Year and earlier, non-system assets were not disaggregated in the accounts. Therefore, a pro-rata disaggregation has been performed consistent with that used to establish the opening RAB for the 2009 Regulatory Year and embedded in the AER's approved Roll forward model for the 2008-09 to 2013-14 regulatory control period. The percentage split used is outlined below.

IT	74%
Vehicles	8%
Other	17%
Premises	1%

Preparation Methodology:

Information was sourced from the AER Final Decision SP AusNet Transmission determination 2014–15 to 2016–17, Annual Regulatory Accounts and the Asset Allocation Spreadsheets used for determining Transmission Customer Charges were used to escalate the cable valuation from SKM *Final Report Valuation of Victorian ESI Transmission and Distribution Assets*.

Each line of the RAB information Opening value, Inflation addition, Straight line depreciation, Regulatory depreciation, Actual additions (recognised in RAB), Disposals and Closing value for overhead transmission asset value is aggregated as per the table below:

Benchmarking Asset Classes	**RAB Asset Classes**
Overhead transmission assets (wires and towers/poles etc)	Towers and Conductors*
Underground transmission assets (cables, ducts etc)	*BTS to RTS Cable
Substations, switchyards,	Switchgear Transformers Reactive Establishment Land
Easements	Easements
Other assets with long lives (please specify)	Secondary Communications Premises other
Other assets with short lives (please specify)	Inventory IT Vehicles

Engineering assessments were used as the basis for determining the aggregation of the RAB Asset Classes into the prescribed Benchmarking Asset Classes.

To determine the split between overhead and underground assets, SPI PowerNet estimated the depreciated replacement cost for its one (only) underground asset (the BTS-RTS cable) at the end of 2013 Regulatory Year and subtracted it from the RAB for Towers and Conductors. The replacement cost was established from the 1994 SKM *Final Report Valuation of Victorian ESI Transmission and Distribution Assets,* escalated to 2013 dollars. The regulatory life of the cable is 60 years and it has been assumed that overheads of 12.5% were capitalised as part of asset cost. To Roll-back the RAB for underground assets, it was assumed that the inflation and depreciation of the underground transmission assets maintained was proportional to the RAB share.

All additions relate to overhead transmission assets.

Table 4.3 Total disaggregated RAB asset values

Preparation Methodology:

The total disaggregated RAB values are taken directly from Table 4.2 and are calculated as the average of the opening and closing RAB values from Table 4.2.

Table 4.4 Asset lives

Preparation Methodology:

For measures TRAB0901, TRAB903, TRAB1001 and TRAB1003, the data was calculated based on assets held as per the Asset Management System. These measures were completed based on unit rates and asset lives applied on a per asset basis utilising data supplied for the Transmission Revenue Reset ("TRR") submitted in 2012/2013. An internal document AMS 10-101 Asset Life Evaluation defines the useful lives utilised.

For variables TRAB0902 and TRAB1002 (Underground), asset lives for the single asset in this category were calculated based on the Asset Allocation Spreadsheet used for determining Transmission Customer Charges used to escalate cable valuation from SKM *Final Report Valuation of Victorian ESI Transmission and Distribution Assets*. For variables TRAB0902 and TRAB1002 (Underground), the Service Life and Residual Service Life are for the RTS-BTS Cable based on its installation date and estimated service life.

For variables TRAB0904, TRAB0905, TRAB1004, and TRAB1005 the AER's Final Roll Forward Model ("RFM") for the 2014-17 Victorian Transmission Determination was taken to accurately reflect the lives of the assets in these categories. For these variables, the weighted average service life and weighted average residual service life were calculated based on Standard Lives and Remaining lives from the AER's RFM.

Estimated Information:

For variables TRAB0901, TRAB903, TRAB1001 and TRAB1003 the Weighted Average Remaining Service Lives and Weighted Average Service Lives calculated for the 2012 year were reported for all Regulatory Years on the basis that the weighted average lives are not expected to materially change over this time period. 2012 information was used as the 2012 AER approved Repex Model (which was built in 2013) was utilised as it provided the best available data.

As per the RIN I&Ds Section 4.4, the data was prepared using replacement costs and expected lives of assets: the weighted average service life of each category was set out as per Equation 1 contained in the AER I&Ds.

Where an assets unit rate was not supplied for the TRR; a reasonable estimate was established on available unit rates for similar plant and scaled based as a percentage of the original unit rate.

For variables TRAB0904, TRAB0905, TRAB1004, and TRAB1005, the weighted average service life and weighted average residual service life were calculated based on each asset category's share of the 2014

Opening RAB. The allocation of RAB categories to Benchmarking Categories was consistent with the Table in Section 4.2 above.

5. Operational Data

Table 5.1 Energy delivery

The data relevant to Table 5.1 is maintained by AEMO.

Table 5.2 Connection point numbers

Preparation Methodology:

The *2013 Main Transmission System* diagram was used to determine the number of entry points in 2013. This was then rolled backwards using the commissioning dates of the major entry point augmentations over the previous 8 years.

The *2013 Main Transmission System* diagram was used to determine the number of exit points for the Extra High Voltage customers in 2013. This was then rolled backwards using the commissioning dates of the major exit point augmentations over the previous 8 years.

The Asset Allocation spreadsheets (used for transmission pricing) were used to determine the High Voltage (66kV and below) exit points. The spreadsheets show the number of feeders at terminal stations at the end of the preceding calendar year. Negotiated and contestable assets and feeders not owned by SP AusNet were excluded. This will be significant as there a material number of 22kV feeders which are owned by the distribution companies. These numbers were then used to set the number of exit points at the start and end of each calendar year. Prior to 2008 these spreadsheets were not maintained with sufficient accuracy to allow these calculations to be performed. However, given the slow system growth at the time, it has been assumed that the HV exit feeders remained unchanged over 2005-06 to 2007-08.

Estimated Information:

Significant judgment has been required to interpret the *2013 Main Transmission System* diagram and filter the Asset Allocation spreadsheets. Furthermore, it is known that the Asset Allocation spreadsheets have not been perfectly maintained. Therefore, it is considered that the numbers reported are estimates only. The numbers reported are considered Management's best estimate based on the information available.

Table 5.3.1 Annual system maximum demand characteristics – MW measure and Table 5.3.2 Annual system maximum demand characteristics – MVA measure

The data required for Tables 5.3.1 'Annual system maximum demand characteristics – MW measure' and Table 5.3.2 'Annual system maximum demand characteristics – MVA measure' is maintained by AEMO.

Table 5.3.3 Power factor

Preparation Methodology:

'Average overall network power factor conversion between MVA and MW' (TOPSD0301) was calculated by dividing 'Transmission System coincident maximum demand' in MW (TOPSD0101) by 'Transmission System coincident maximum demand in MVA' (TOPSD0201).

The data required for TOPSB0101 and TOPDS0201 is maintained by AEMO.

Estimated Information:

The information provided in Table 5.3.3 is considered estimated information as it was calculated based on data provided by AEMO and is not materially dependent on information recorded in SPI PowerNet's records used in the normal course of business.

The information provided is considered Management's best estimate based on the data available.

6. Physical Assets

Table 6.1.1 Overhead network length of circuit at each voltage and Table 6.1.2 Underground cable circuit length at each voltage

The overhead network length of circuit at each voltage level has been reported. The network length of circuit is the circuit length (measured in kilometres) of lines in service. A double circuit line counts as twice the length. Length does not take into account vertical components such as sag.

The underground cable circuit length at each voltage level has been reported. The underground cable circuit length is the circuit length (measured in kilometres) of lines in service.

Preparation Methodology:

The 2013 information was directly sourced using a query script run in the Asset Management System.

Estimated Information:

It has been assumed that the overhead network length of circuit and the underground cable circuit lengths for the 2006 to 2012 Regulatory Years are consistent with the 2013 information. This is considered Management's best estimate as there have not been any significant changes to the assets during this period.

Table 6.1.3 Estimated overhead network weighted average MVA capacity by voltage class and Table 6.1.4 Estimated underground network weighted average MVA capacity by voltage class

Weighted average capacities have been reported for both the overhead and underground network for each of the listed voltage classes. The data provided is based on weighted average carrying capacities under normal circumstances taking account of limits imposed by thermal ratings. Voltage drop considerations have not been taken into account as SPI PowerNet does not have access to information on the carrying capacity of Victorian transmission lines that are limited due to voltage stability.

Preparation Methodology:

Data for all Regulatory Years was sourced from the Asset Management System for each span of transmission circuit. The Asset Management System holds records including the conductor voltage ("Volts"), current rating ("Amps") and line length in kilometres ("length") for each section of line.

The weighted average was calculated based on the following methodology:

Line 1: (length * Volts * Amps) + Line 2: (length * Volts * Amps) + Line 3: (length * Volts * Amps) etc.
(Line 1 length + Line 2 length + Line 3 length etc.)

For three phase lines each group in the numerator has also been multiplied by √3.

Estimated Information:

The carrying capacities included in the above weighted average calculation assume all assets have summer peaking Maximum Demands.

The information provided for all Regulatory Years is considered estimated as the calculation performed is not in accordance with the definition of weighted average capacities provided by the AER. As discussed above, capacity voltage drop considerations have not be taken into account due to the unavailability of this data. It is further noted that a significant number of lines in Victoria (at all voltage levels) are limited due to voltage stability.

It has been assumed that the overhead network length of circuit and the underground cable circuit lengths for the 2006 to 2012 Regulatory Years are consistent with the 2013 information. This is considered management's best estimate as there have not been any significant changes to the assets during this period.

The information provided is considered Management's best estimate based on the information available.

Table 6.1.5 Installed transmission system transformer capacity and Table 6.1.6 Cold spare capacity

Transformer capacity involved in the prescribed transformation levels has been reported. The transformer capacities reported in Table 6.1.5 are inclusive of Cold Spare Capacity which has been separately disclosed in Table 6.1.6. Data presented relates to assets providing Prescribed Transmission Services.

For each category, the summation of normal assigned continuous rating has been reported (including forced cooling or other capacity improving factors where relevant). Assigned ratings have been determined by the nameplate rated. Only regulated transformers (included in the Regulatory Asset Base) have been included. Step-up transformers at generation connection locations have been excluded. Oil insulated or cooled reactors and station service transformers which provide auxiliary AC and DC for secondary systems in terminal stations have also been excluded.

Preparation Methodology:

Data for both in-service and disposed-of transformers was extracted from the Asset Management System for all time periods. Data extracted included name plate data, installation dates and disposal dates. A review and analysis of the information was performed and based on this, the extracted data was supplemented and confirmed with information from transformer instruction manuals and subject matter experts.

For variable TPA0504 'Transformer capacity for directly connected end–users owned by the end–user' SPI PowerNet has used nameplate ratings records held in its own asset management systems and verified them where possible with AEMO. Nonetheless, these ratings are valid only under certain assumptions with regards to cooling equipment. As SPI PowerNet has no direct knowledge of the cooling equipment installed by these end users, these ratings should be considered estimates only.

An additional variable TPA0506 has been included for installed transformer capacity for 'Special Purpose Transformers' which are not captured in the pre-existing categories in Table 6.1.5.

7. Quality of Service

'Outage' means 'loss of connection' rather than loss of supply by a connected system or customer. To allow summation into an overall Average Circuit outage rate, both numerator (number of Events with defined circuits unavailable per annum) and denominator (Total number of defined circuits) have been provided as well as the calculated percentage rate for each item.

The parameter variables TQS0101 to TQS02 have been provided based on a calendar year (from 1 January 2006 to 31 December 2013) as STPIS performance reporting is undertaken on a calendar year basis.

Table 7.1.1 Service Parameter 1 – Average Circuit Outage rate.

Preparation Methodology:

Assets and outage data is recorded in the Asset Management System and periodically included in internal reports and also AER submissions. The reports from the Asset Management System were reviewed and amended to align with requested information (e.g. unregulated asset information excluded).

The reported 'Number of lines fault outages' (TQS0102) and 'Number of defined lines' (TQS0103) was used to calculate the 'Lines outage rate – fault' percentage (TQS0101).

The reported 'Number of Transformer fault outages' (TQS0105) and 'Number of defined Transformers' (TQS0106) was used to calculate the 'Transformers outage rate - fault' percentage (TQS0104).

The reported 'Number of Reactive plant fault outages' (TQS0108) and 'Number of defined reactive plant' (TQS0109) was used to calculate 'Reactive plant outage rate - fault' percentage (TQS0107).

The reported 'Number of defined lines' (TQS0103) and 'Number of Lines forced outages' (TQS0111) was used to calculate the 'Lines outage rate – forced outage' (TQS0110).

The reported 'Number of defined Transformers' (TQS0106) and 'Number of Transformers forced outages' (TQS0113) was used to calculate the 'transformer outage rate – forced outage' (TQS0112).

The reported 'Number of defined reactive plant' (TQS0109) and 'Number of reactive plant forced outages' (TQS0115) was used to calculate 'Reactive plant outage rate – forced outage' (TQS0114).

Data presented relates to assets providing Prescribed Transmission Services.

Table 7.1.2 Service Parameter 2 – Loss of supply event frequency – number in ranges specified

The loss of supply event frequency thresholds of 0.05 and 0.30 system minutes per annum have been applied based on the AER Transmission Network Service Provider ("TNSP") STPIS. The loss of supply event frequency thresholds have not changed across the Regulatory Years.

Preparation Methodology:

The required parameters were obtained from the AER TNSP STPIS. Information reported was based on data reported in the annual AER Transmission Service Standard Compliance Reports which was ultimately sourced from the Asset Management System.

Table 7.1.3 Service Parameter 3 – Average outage duration

Preparation Methodology:

Data was extracted from the Asset Management System, from annual submissions made to the AER and from information provided to the AER at the time of recent Transmission Revenue Reset ("TRR").

Average Outage Duration was derived by performing a simple average calculation of the total number of minutes for outages divided by the number of outages. This calculation was performed for each Regulatory Year.

Table 7.1.4 System Parameter 4 – Proper operation of equipment – number of failure events

Preparation Methodology:

'Failure of protection system' (TQS0119) and 'Incorrect operational isolation of primary or secondary equipment' (TQS0121): Information on system incidents was extracted from the Asset Management System. A detailed analysis was performed of this information for each Regulatory Year and based on this review, the relevant data requested was captured and summed.

'Material failure of Supervisory Control and Data Acquisition ("SCADA") system' (TQS0120): Information in relation to material SCADA failures was obtained directly from AEMO.

Estimated Information:

The number of material failures of SCADA system (TQS0120) is considered estimated information as it is based on data provided by AEMO and is not materially dependent on information recorded in SPI PowerNet's records used in the normal course of business.

In relation to 'Incorrect operational isolation of primary or secondary equipment' (TQS0121), Incorrect operational isolation is defined in the AER TNSP STPIS as incidents "irrespective of whether an outage occurred". SPI PowerNet does not capture incidents where no outage results. Based on this, the number of incidents of Incorrect operational isolation of primary or secondary equipment which resulted in an outage has been used as a proxy for the data requested. Therefore, the information provided is considered estimated information.

The data provided is considered Management's best estimate based on the information available.

Table 7.2 - Market Impact Component

Quality of services is reported in accordance with the definitions specified in the December 2012 TNSP STPIS (version 4) document per the AER RIN Instructions and Definitions.

Preparation Methodology:

Data reported for the 2011 to 2013 Regulatory Years was sourced from AEMO's Markets Management System using software packages (e.g. Ezi View provided by Global Roam).

The data was initially filtered to exclude 'NIL' and other abnormal constraints. Outages caused by SPI PowerNet were then manually identified.

During the 2006 to 2010 Regulatory Years, Market impact component data was historically captured and reported in accordance with the AER electricity transmission network service providers STPIS (version 2). For the 2011 Regulatory Year, the market impact component was captured and calculated under both version 2 and version 4 of the TNSP STPIS. To derive an estimate of the market impact component under version 4 for the 2006 to 2010 Regulatory Years, the percentage difference in the 2011 data between version 2 and version 4 was calculated and applied to the 2006 to 2010 Regulatory Years.

Estimated Information:

The data provided for the 2006 to 2010 Regulatory Years was estimated by calculating and applying the percentage difference in the 2011 data between version 2 and version 4 of the TNSP STPIS to the 2006 to 2010 Regulatory Years.

The information provided for the 2013 Regulatory Year is estimated information as the measure is not yet reviewed and approved by the AER.

The estimated information provided is considered Management's best estimate based on the data available.

Table 7.3 System losses

'System losses' (TQS03) was calculated as the difference between electricity inflows and outflows as a percentage of electricity inflows.

Electricity inflows is the total electricity inflow into the transmission network including from generation, other connected Transmission Network Service Providers ("TNSPs") at the connection point, and connected Distribution Network Service Providers ("DNSPs") as measured by revenue meters.

Electricity outflows is the total electricity outflow into the networks of connected distribution network service providers, other transmission networks and directly connected end-users as measured by revenue meters.

Preparation Methodology:

Data metering systems collect and process energy metering data for all terminal stations. At each terminal station, the total cumulative received energy (inflows) and transferred energy (outflows) in Watt hour ("Wh") associated with connections are collected and recorded in Data Metering Systems. Using this information, the System Loss percentage was calculated for each Regulatory Year. Information captured and reported relates to both the Regulated and Unregulated Network.

Estimated Information:

Estimated data has been provided for the 2006 to 2008 Regulatory Years as actual information was not captured during this period. System Loss data for the 2006 to 2008 Regulatory Years was estimated as equaling the same System Loss percentage as in the 2009 Regulatory Year (being the earliest year the data was captured). This is considered by Management to be the best estimate of the 2006 to 2008 System Losses which aligns to the definitions provided by the AER in the Instructions and Definitions.

8. Operating Environment

8.1 Terrain factors

Total number of vegetation maintenance spans (TEF0101)

'Total number of maintenance spans' is the total count of spans in the network that are subject to vegetation management practices in the relevant Regulatory Year.

Preparation Methodology:

Information in relation to the total number of vegetation maintenance spans was sourced from work orders recorded in the Asset Management System (where each span is assigned to a work order).

Prior to the 2013 regulatory year, information was not recorded in the system in a consistent manner. Therefore, for the 2009 to 2012 Regulatory Years, the data was estimated by applying percentage reductions to the 2013 actual information. The percentages applied were derived based on information of spans actioned in the applicable Regulatory Years.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

Average vegetation maintenance span cycle (TEF0102)

Maintenance span cycle refers to the planned number of years (including fractions of years) between which cyclic vegetation maintenance is performed for the relevant area.

Preparation Methodology:

Information in relation to the average vegetation maintenance span cycles was obtained from the Vegetation Management system and also per the vegetation management plan whereby 3 patrols are conducted per annum.

Average number of trees per vegetation maintenance span (TEF0103)

The 'Average number of trees per maintenance span' includes only trees that require active vegetation management to meet its vegetation management obligations during a 3 year cycle. It excludes trees that only require inspections and no other vegetation management activities required to comply with the SPI PowerNet's vegetation obligations.

Preparation Methodology:

The information provided was estimated based on expert knowledge and field experience managing vegetation around transmission assets. An estimate was required as the data requested is not captured in any form in existing systems or reports. This information is considered Management's best estimate.

The data provided excludes information in relation to vegetation management of saplings (during a 3 year cycle) as this information is not able to be estimated.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

Average number of defects per vegetation maintenance span (TEF0104)

Defects are any recorded incidence of noncompliance with the vegetation clearance standard. This also includes vegetation outside a TNSP's standard clearance zone that is recognised as hazardous vegetation and which would normally be reported as requiring management under inspection practices.

Preparation Methodology:

The information for the 2013 Regulatory Year was estimated by running a report from the Asset Management System to show the number of vegetation maintenance spans actioned due to defects (which required action within 30 days) in 2013. Defects on a vegetation maintenance span are recorded as one, regardless of the number of defects on the span. The number of spans actioned was divided by the number of vegetation maintenance spans to derive an estimate of the required information.

The data for the 2009 to 2012 Regulatory Years was estimated using the 2013 data, scaled back based on the knowledge of experts and field experience managing vegetation around transmission assets. This information is considered Management's best estimate.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

Tropical Proportion (TEF0105)

Tropical spans are the approximate total number of urban and rural Maintenance Spans in the Hot Humid Summer and Warm Humid Summer regions as defined by the Australian Bureau of Meteorology Australian Climatic Zones map (based on temperature and humidity). There are no Tropical Spans in SPI PowerNet's Maintenance Spans.

Standard Vehicle Access (TEF0106)

Standard vehicle access refers to areas which are serviced through made roads, gravel roads and open paddocks (including gated and fenced paddocks). It excludes areas only accessible by a two wheel drive vehicle.

Preparation Methodology:

Information in relation to Standard Vehicle Access was estimated as the total amount of lines in kilometers patrolled via a maintained access track (which generally runs down the centre of the easement). The data is based on tracks built for 4WD vehicle access all year round. This measure does not take into account tracks or private roads needed to access tracks or easements. It also does not take

into consideration open paddock access as this is determined by the weather conditions at the time of access. The estimate provided is considered Management's best estimate of the information required based on the data available.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

Altitude (TEF0107)

Altitude is the route line length 600 meters above sea level.

Preparation Methodology:

Information in relation to altitude was obtained by reviewing profile drawings and PLS-Cadd line terrain models to identify levels for tower bases at the start and end of route sections above 600 meters above sea level.

Bushfire Risk (TEF0108)

Bushfire risk is the number of Maintenance Spans in high bushfire risk areas.

Bushfire risk was estimated using data extracted from the equipment records recorded in the Asset Management System. The relevant spans were identified using the fire rating values assigned to towers on easement segments. This assessment was performed based on how the tower/easement segment is currently rated, not the ratings in previous years. Fire rating values are determined using information from the Country Fire Authority.

It has been assumed that the date when the spans were created aligns with the date when the span was commissioned. This is considered Management's best estimate of bush fire risk spans based on information available.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

8.2 Network characteristics

Route line length (TEF0201) and Total number of spans (TEF0204)

The route line length is the aggregate length in kilometers of lines, measured as the length of each span between poles and/or towers, and where the length of each span is considered only once irrespective of how many circuits it contains. This is the distance between line segments and does not include vertical components such as line sag.

Information in relation to Route line length and total number of spans was obtained from the Asset Management System for the 2013 Regulatory Year. Data was extracted from the equipment record together with the original creation date (assumed consistent with installation date) and asset disposal

dates (where applicable). Based on these records, route line length and total number of spans was calculated for the 2013 Regulatory Year. For all other Regulatory Years, Route line length and Total number of spans was estimated to be consistent with the 2013 Regulatory Year data.

Estimated Information:

Refer to discussion above in relation to estimates and assumptions applied.

Variability of dispatch (TEF0202) and Concentrated load distance (TEF0203)

The data relevant to TEF0202 and TEF0203 is maintained by AEMO.

Table 8.3 Weather stations

Weather station data (including the weather station number, post code, suburb/locality) has been provided for all weather stations in SPI PowerNet's service area.

Where weather data from a weather station is considered relevant to the management of the network, the weather station has been identified as material.

Preparation Methodology:

Data was extracted from the Bureau of Meteorology website. All weather stations have been identified as not material as SPI PowerNet does not perform any network management activities which require information from weather stations.