AusNet Transmission Group Pty Ltd

AER Category Analysis
Regulatory Information Notice

2015 Regulatory Year Basis of Preparation

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1. Overview

This Basis of Preparation document supports the preparation and reporting of the 2015 Regulatory Year data presented in AusNet Transmission Group Pty Ltd's ("AusNet Transmission" or the "Company") reports entitled '2014-15 AusNet Services Category Analysis - Actual Information', '2014-15 AusNet Services Category Analysis - Estimated Information', '2014-15 AusNet Services Category Analysis - 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 category analysis benchmarking activities under the AER's Better Regulation program.

The immediate Australian parent entity of the Company is AusNet Services (Transmission) Ltd, a company incorporated in Australia, which, on 31 March 2015, was part of a listed stapled group trading as AusNet Services. On 18 June 2015, AusNet Services completed a legal entity restructure under which the existing stapled entities became wholly owned by a new listed company (AusNet Services Ltd). As a result of the restructure, the ultimate parent of the Company is AusNet Services Ltd.

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 7 March 2014 and other authoritative pronouncements of the AER.

Some information required in the reports is managed by the Australian Energy Market Operator ("AEMO"). AusNet Transmission, in conjunction with the AER, has identified within the Reports which data is maintained by AEMO and these cells have been left blank in the Reports. Therefore, AusNet Transmission has not provided any details in relation to the basis of preparation of these variables.

AusNet Transmission's 2015 Regulatory Year is the period 1 April 2014 to 31 March 2015 ("Regulatory Year"). All financial data included in the Reports is presented in Australian dollars. Non-financial data is stated as per the measures specified in the Reports.

The AusNet Services' Group owns and operates 3 regulated networks – an electricity distribution network, a gas distribution network, and an electricity transmission network. Employees of the AusNet Services Group work across the 3 regulated networks and there are shared costs and overhead and other corporate costs that cannot be directly allocated to a particular network. These costs are proportioned amongst AusNet Services' 3 regulated networks, as well as unregulated businesses, based on a quarterly Activity Based Costing ("ABC") survey process completed by all cost centre managers and in accordance with AusNet Services' Cost Allocation Methodology ("CAM").

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. 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.

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 AusNet Transmission's best estimate have 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 the reliability and accuracy of data available, have been taken into account in determining the best methodology to determine the estimates.

'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. Any information or allocation which has been calculated via the ABC survey process is considered actual information, as this is in accordance with the AER-approved CAM.

To the extent applicable, the information reported has been prepared in a manner consistent with the policies and methodologies applied in preparing the Annual Regulatory Accounts. There were no changes in Accounting Policies in the 2015 Regulatory Year (in comparison with the previous Regulatory Year) which had a material impact on the information presented.

The preparation methodologies and information sources adopted in the preparation of the Reports are set out below.

Contents

2.1 Expenditure Summary

Capital Expenditure ("Capex") reported is the capital costs and capital construction costs of operating the network and relates to prescribed transmission services only.

Operating Expenditure ("Opex") reported is the costs of operating and maintaining the network (excluding all Capex) and relates to prescribed transmission services only.

Table 2.1.1 Prescribed transmission services Capex (as incurred) and
Table 2.1.2 Prescribed transmission services Opex

The information reported was prepared using Capex and Opex data extracted from the Financial System. The expenditure in the Capex and Opex categorisations in Table 2.1.1 and Table 2.1.2 is mutually exclusive and collectively exhaustive.

The expenditure reported for the following categories relate to direct costs only and excludes expenditure on overheads -

- Replacement expenditure;
- Connections;
- Non-network;
- Vegetation management; and
- Maintenance.

Augmentation expenditure has been left blank as the required network augmentation information is captured by the Australian Energy Market Operator ("AEMO").

Replacement Expenditure and Connections Capex were reported on an 'as incurred' basis and are consistent with the data provided in Template 2.12 Input Tables. The data does not directly reconcile to Templates 2.2 Repex and 2.5 Connections respectively, as data in these Templates are reported on a 'project close' basis. Replacement Expenditure and Connections Capex in Table 2.1.1 is considered actual information as it is sourced from the Financial System.

Non-network Capex and Non-network Opex are consistent with the data provided in Template 2.6 Non-network. Total Non-network capex in Table 2.1.1 is considered actual information as it is sourced from the Financial System. Total Non-network Opex is considered estimated information due to requirement to apply an estimated Prescribed Transmission Services ("PTS") percentage to Motor Vehicle Opex.

Vegetation management Opex is consistent with the data provided in Template 2.7 Vegetation management. Maintenance Opex is consistent with the data provided in Template 2.8 Maintenance. Vegetation management and Maintenance Opex in Table 2.1.1 is considered actual information as it is sourced from the Financial System.

Using data extracted from the Financial System for the preparation of the 2015 Regulatory Accounts, capitalised network overheads and capitalised corporate overheads in Table 2.1.1, and network overheads and corporate overheads in Table 2.1.2 were calculated. The sum of these overheads tie to

Template 2.10 Overheads. All overhead amounts are considered actual information as they are sourced from the Financial System.

The 'balancing items' represent the differences between expenditure included in the Annual Regulatory Accounts which doesn't meet the definitions of data requested in the Category Analysis templates (for example, response capability projects); and expenditure included in the Category Analysis templates which are not required to be reported in the Annual Regulatory Accounts (for example, Connection projects).

Total Capex and Opex have been reported on an 'as incurred' basis. All expenditure has been presented in nominal dollars.

2.2 Repex

Replacement Expenditure ("Repex") is the non-demand driven Capex to replace an asset with its modern equivalent where the asset has reached the end of its economic life. Capex has a primary driver of replacement expenditure if the factor determining the expenditure is the existing asset's inability to efficiently maintain its service performance requirement.

Asset Failure (Repex) is the failure of an asset to perform its intended function safely and in compliance with jurisdictional regulations, not as a result of external impacts such as:

- extreme or atypical weather events; or
- third party interference, such as traffic accidents and vandalism; or
- wildlife interference, but only where the wildlife interference directly, clearly and unambiguously influenced asset performance; or
- vegetation interference, but only where the vegetation interference directly, clearly and unambiguously influenced asset performance.

It excludes planned interruptions.

Asset refurbishments/ life extension Capex is the non-demand driven Capex to restore an asset to its former functionality where the asset has reached the end of its economic life. The works undertaken must result in a material extension in the expected life of the asset.

The following definitions have been applied in the preparation of the data:

Asset Type	Definition
Transmission towers	These are vertically oriented assets that provide load bearing structural support for conductors or other lines assets. This also includes associated transmission tower support structures, insulators, earthing, footings, where these are replaced in conjunction with a transmission tower replacement project. It excludes any assets that are included in any other asset group.
Transmission Tower Support Structures	These are horizontally oriented structures and their components that provide support for conductors or other line assets to be located on a transmission tower and provide adequate clearances. This expenditure relates to that which TNSPs incur when transmission tower support structures are replaced independently of the transmission tower they are located on. This includes tower section, arms, insulators, earthing. It excludes any assets that are included in any other asset group.
Conductors	These assets have the primary function of transmitting power, above ground, within the transmission network. It excludes any assets that are included in any other asset category.
Single circuit configuration	A single circuit configuration is a transmission line that has one set of conductors that are operated as a single electrical circuit. However, for the purposes of this definition, where a line has been constructed as a multi-circuit line but operates as a single circuit line, it should be included as a multi-circuit line.
Multiple circuit configuration	A multiple circuit configuration is a transmission line that includes more than one electrical circuit.
Transmission cables	These assets have the primary function of transmitting power, below

	ground, between segments of the network. This includes the material primarily used to transmit the power and cable ends, joints, terminations and associated hardware and equipment (e.g. surge diverters, etc.), cable tunnels, ducts, pipes, pits and pillars. It excludes any assets that are included in any other asset group.
Substation switchbays	These are all assets used to provide switching within the substation and includes disconnect switches, circuit breakers, current transformers, voltage transformers and associated busbars and steelwork. It excludes any assets that are included in any other asset group.
Circuit breaker	A switch that can open under fault current conditions to protect equipment and electrical circuits from damage.
Gas Insulated Switchgear Unit	Enclosed gas insulated switchgear that may comprise circuit breakers, disconnectors, isolators, and other gas insulated components.
Substation power transformers	These are assets used to transform between voltage levels within segments of the network. This includes all its components such as the cooling systems and tap changing equipment. It excludes any assets that are included in any other asset group. For the avoidance of doubt, this does not include instrument transformers as defined in the National Electricity Rules.
Substation reactive plant	These are assets used to support the transfer of real power across the network. This includes reactors, synchronous condensers, shunt capacitors, static VAR compensators, dynamic VAR compensators. It excludes any assets that are included in any other asset group.
SCADA and Network Control and Protection systems replacement	Replacement expenditure associated with SCADA and network control hardware, software and associated IT systems. Includes replacement of protection and control systems and communication systems. This excludes all costs associated with SCADA and Network Control Expenditure that exist within gateway devices (routers, bridges etc.) at corporate offices. A protection system has the meaning prescribed in the National Electricity Rules.

Table 2.2.1 – Replacement Expenditure, Volumes and Asset Failures by Asset Category

Replacement expenditure and volumes have been provided for the prescribed standardised asset categories.

Capex and associated non-financial information has been reported against the Regulatory Year on a 'project close' basis.

Financial Information

Expenditure reported relates to costs directly attributable to replacement/refurbishment of the asset and excludes expenditures on Overheads. All Capex has been presented in nominal dollars.

Preparation Methodology:

Financial information was sourced from the Fixed Asset Register, Financial System, Annual Regulatory Accounts and its corresponding supporting workings.

A list of commissioned Replacement and Refurbishment assets was compiled from the workings supporting the Schedule 'Historic Capex by Asset Class (prescribed; incurred and commissioned)' within the 2015 Annual Regulatory Accounts. The data reported in the Annual Regulatory Accounts includes overheads. To derive the direct costs (only) of commissioned assets, a report was generated from the Fixed Asset Register which provided the overheads capitalised for each commissioned asset. These costs were subtracted from the amounts reported in the workings to the Annual Regulatory Accounts to calculate the direct cost of assets commissioned in the 2015 Regulatory Year.

The report from the Fixed Asset Register (discussed above) was used to identify the projects which the commissioned assets related to. These projects were reviewed to determine whether the overall projects were complete. Projects relating to connections were excluded as these projects are reported in Template 2.5 Connections. Additionally, an analysis of the projects which were excluded from previous years' Category Analysis submission (as they were ongoing) was performed to determine whether the projects were completed in the 2015 Regulatory Year.

It is noted 5 projects (totalling capex of $1.48 million) which were assessed as ongoing during the 2009 - 13 and 2014 submissions were actually completed and had not incurred expenditure during the 2015 Regulatory Year. As these projects had not been previously reported as closed, they are included in the 2015 Regulatory Year submission.

It is noted any projects that were listed as closed in the 2009-13 and 2014 submissions, but have subsequently incurred additional post-commissioning expenditure, have this additional expenditure disclosed in Template 2.2. However, the associated quantities have not been re-reported therefore some asset categories may show spend with no corresponding asset quantities in Template 2.2.

The workings to the Annual Regulatory Accounts allocated commissioned asset costs into the following categories – Secondary, Communications, Switchgear, Transformers, Reactive, Transmission Lines, Establishment, Network Switching Centre, Easements, Land and Non-system ("Financial Categories"). These classifications were used as a basis for allocating costs into the prescribed asset categories in Table 2.2.1.

For Financial Categories - Transmission Lines, Transformers, Switchgear and Reactive Plant, project business cases were reviewed by Subject Matter Experts ("SME's") in order to further disaggregate the costs into the prescribed asset categories. The quantity and type of assets replaced/refurbished by each project are analysed and matched against the AER asset category level.

Projects replacing single assets are allocated directly to the relevant AER asset category. In some cases, the replacement project includes a number of assets across different AER categories, and therefore, relative costs and quantities of each of the asset types are used to apportion the project costs across the relevant categories. The data provided is considered to be the best estimate Management can provide.

Estimated Information:

AusNet Transmission does not capture direct costs for replacement expenditure at the Asset Category level; therefore a methodology to estimate the direct costs and apportion these costs into the prescribed Asset Categories was developed – as discussed above. As the methodology was developed by suitable SMEs, information provided is considered Management's best estimate.

The data in Template 2.2 Repex is required to be disclosed on a financial project close basis. Financial project close does not always coincide with the commissioning of assets and the update of new asset data into the physical asset database due to various reasons, including delays in finalisation of project costs, and reopening of projects after initial commissioning of assets. Therefore it is possible for asset replacements to be reported in Table 2.2.1 and Table 2.2.2 based on the year of financial project close, whilst no corresponding assets are listed in the Template 5.2 Asset Age Profile for the corresponding year.

Non-Financial Information

For each standardised asset category, replacement volumes and cost data has been provided for the prescribed asset categories, for assets currently in commission. The corresponding age profile of these assets has been provided in Template 5.2 Asset Age Profile.

Replacement life is the probability distribution function parameterized by the mean and standard deviation of the expected time to replace the assets in the asset category.

An asset's economic life is the estimated period after installation of the asset during which the asset will be capable of delivering the same effective service as it could at its installation date. The period of effective service needs to consider the life cycle costs between keeping the asset in commission and replacing it with its modern equivalent. Life cycle costs of the asset include those associated with the design, implementation, operations, maintenance, renewal and rehabilitation, depreciation and cost of finance.

Replacement volumes by asset group level (in Table 2.2.1) are equal to the applicable replacement volume data (in Table 2.2.2). In some cases, the expenditure was for refurbishment or replacement of components and has been included as an 'other' category, e.g.:

- 'Tower' other includes insulators, electrical bonding and warning signs;
- 'Conductor' other includes extra steel installation costs; and
- 'Substation switchbays' includes replacement and refurbishment of the bus.

Preparation Methodology:

Using a combination of data from the Fixed Asset Register and a review of business cases by SMEs, the asset quantities are assigned to the respective AER asset category. Projects that refurbish the existing asset are captured in the "other" categories for Transmission Tower Support Structures, Conductors, Substation Power Transformers and Substation Reactive Plant.

Asset Failure data has been based on a list of Work Orders ("WO") extracted from the Asset Management System. These WO's related to unscheduled O&M maintenance, defects and O&M emergency works.

Work Orders are created in the Asset Management System when action is required to be performed on an asset. This includes routine inspections, maintenance activities, emergency work, unplanned work and corrective action. Each WO is connected to a specific asset in the Asset Management System.

The Asset Management System allows for a range of codes to be applied to each WO to identify the activities being conducted. The codes do not correlate exactly with the "Failure" definition provided by the

AER; however the data has been filtered based on a selection of codes that most closely align with the AER definition to produce an estimate of the failures during the period.

It has been assumed that a WO has been raised because an asset is not functioning correctly (and therefore constitutes a failure per the AER definition). A WO may result in the assets being repaired, reset or other action to restore function (without replacing the asset). A work order, however, does not provide this level of detail and it is therefore possible that a WO is raised but does not result in an asset being replaced. As a result there are instances where asset failures have been reported but there is no correlating 'replacement' expenditure.

Estimated Information:

All quantity data reported has an element of estimation in it due to the judgements made in order to match the AusNet Services' asset categories with the categories required by the AER. As these judgements were made by a suitable SME, these are considered Management's best estimates.

The failure data provided is based on WO's associated with an asset. These WO's indicate that there has been a need for maintenance work, but do not indicate whether the asset (or part of the asset) has been replaced or whether some other activity has addressed the issue.

In some cases (e.g. lines assets where the WO may be associated with a span of conductor), the actual maintenance work may have been required on components associated with that span which may not necessarily be the conductor itself, however, based on the data available, activities have been classified into the closest AER category.

Table 2.2.2 – Selected Asset Characteristics

The total volume of assets currently in commission and the replacement volumes of certain asset groups by specified aggregated metrics have been provided.

MVAr refers to reactive capacity.

Preparation Methodology:

Conductor material type:

'Conductor Material Type' for Asset Volumes Currently in Commission was extracted directly from the Asset Management System.

Conductor material type for replaced assets was provided by the Transmission Line SME based on the details of the specific Transmission line replacement projects carried out in the current reporting period. The quantities replaced have been entered into the final year of the project ('project close' basis).

Substation reactive plant:

AusNet Transmission maintains a database of reactive plant and a report is run on a monthly basis which provides a summary of all the Substation Reactive plant in the network. This report has been used as the basis for completing the reactive plant section of Table 2.2.2.

The total MVAr for all Capacitor Bank, Reactive and SVC items has been included in the table. Project details have been reviewed to determine which plant items were replaced/refurbished during the period and the MVAr details of these plant items have been included in the replacement columns of Table 2.2.2. Where the project included refurbishment of assets, additional rows have been added to the table to distinguish refurbishment of assets from replacement. The MVAr for the refurbished assets has been reported, however the expenditure may relate to refurbishment of components of the asset such as radiators, platforms etc. which do not directly impact the MVAr of the asset.

Estimated Information:

The data included for Conductors in Table 2.2.2 is considered actual information as it's directly from the Asset Management System.

The Substation Reactive plant data in Table 2.2.2 has been extracted directly from project documentation and the asset database information. Based on this, the information provided is considered 'actual information' as no estimation was required.

2.3 Augex

Table 2.3.1 — Augex asset data - Substations
Table 2.3.2 — Augex asset data - Lines
Table 2.3.3 — Augex data - total expenditure

The above tables have not been completed as the required network augmentation information is captured by AEMO.

2.5 Connections

Connections expenditure, connection rating and connection voltage have been reported for all Transmission Terminal Stations where complex connection projects have been installed. Data provided relates to prescribed connection services (as defined in the National Electricity Rules) only and excludes negotiated connection services and contestable works. AEMO connection projects have been excluded.

Expenditure reported is nominal direct Capex and excludes expenditure on Overheads and Capitalised Finance Charges. Capex and the associated non-financial information have been reported against the Regulatory Year on a 'project close' basis - i.e. against the year in which the project was completed.

Connection rating (MVA) is the normal cyclic rating and Connection voltage (KV) is the Nominal voltage.

Table 2.5.1 Expenditure on Connection Projects

Preparation Methodology:

Financial information was obtained from the Financial System.

A Capex report by project by year was generated. Using this report and supplementary information from the Financial System, total project life direct material costs and total project life direct labour costs were calculated for each project. The direct material costs reported were adjusted to remove the 'Capital Purchases' general ledger account which, based on reviews of material balances, has been assumed to be 'Contracts' in nature.

An assessment of each project was performed (in the Project Management System) by a relevant SME to determine whether projects met the prescribed definitions of Connections Projects. The relevant projects and the associated Direct Labour and Direct Material costs were disclosed in Table 2.5.1.

It is noted there are 9 projects disclosed which closed pre-2015. These projects have not been previously reported in Category Analysis submissions. These have been disclosed in the 2015 submission for completeness.

Estimated Information:

As the Financial System does not separately report the required Direct Material costs information, the Direct Material costs reported are considered 'estimated information'. As assumptions made by a suitable SME were applied in adjusting the Financial System report to remove 'Contract' related amounts, this is considered Management's best estimate of the required Direct Material costs based on the information available.

Direct Labour costs are considered actual information as information was extracted directly from the Financial System and no estimates were required.

Table 2.5.2 Description of Connection Projects

Preparation Methodology:

Information in relation to the Connection Voltage, Underground/Overhead and Year of Connection Project Completion was obtained from the Project Management, Stations Rating Systems and the Engineering Enquiry System.

The Regulatory Year each connection project was completed is noted in the column 'Year of Connection Project Completion'.

Information in relation to the Connections Rating for transformer connection projects, new switchyard bays and extensions, and protection changes and upgrades on feeders and lines were obtained as follows:

1. For transformer connection projects, the MVA rating of the transformer was used.
2. For new switchyard bays and extensions, the MVA rating of the bay was used.
3. In relation to projects involving distribution business connections, any augmentations done to existing protection schemes, and any feeder rearrangements, do not change the MVA ratings of the primary assets.

Table 2.5.2 only allows each project to be designated as either an 'Overhead' or 'Underground' connection. For projects which display both characteristics, an analysis was performed to determine which characteristic was more predominant; and the choice to allocate each project as either an 'Overhead' or 'Underground' connection was based on this predominance.

Estimated Information:

Information is considered actual information.

2.6 Non-network

Non-network expenditure reported relates to direct Opex and direct Capex costs only (i.e. only costs directly attributable to the prescribed expenditure categories) and excludes expenditures on Overheads. Capex and associated non-financial information has been reported against the Regulatory Year on an 'as incurred' basis. All Capex and Opex have been presented in nominal dollars.

Table 2.6.1 Non-network Expenditure

IT and Communications Expenditure

Non-network IT & Communications Expenditure which is directly attributable to IT and communications assets including replacement, installation, operation, maintenance, licensing, and leasing costs at corporate offices have been reported. All costs associated with SCADA and Network Control Expenditure that exists beyond gateway devices has been excluded.

Expenditure reported has been allocated between 'Client Devices', 'Recurrent' and 'Non-recurrent Expenditure'.

Client Devices Expenditure is expenditure related to a hardware device that accesses services made available by a server. Client Devices Expenditure includes hardware involved in providing desktop computers, laptops, tablets and thin client interfaces and handheld end user computing devices including smart phones, tablets and laptops.

Recurrent expenditure is all IT & Communications Expenditure that returns time after time, excluding any expenditure reported as Client Devices Expenditure. Temporally, expenditure that would be expected to be reasonably consistent from regulatory period to regulatory period would be recurrent expenditure.

Non-recurrent expenditure is all IT & Communications Expenditure that is not Recurrent expenditure excluding any expenditure reported under Client Devices Expenditure.

Non-network IT & Communications Expenditure has been split between Capex and Opex.

Preparation Methodology:

Opex:

Using data extracted from the Financial System for the preparation of the 2015 Regulatory Accounts, the total direct costs for IT and Communications Expenditure was calculated. Expenditure for non-regulated services was excluded (this was derived based on Activity Based Costing surveys for the 2015 Regulatory Year).

The total IT cost pool was then allocated between recurrent and non-recurrent operating costs based on an assessment of the nature of expenditure (for example Consultancy costs are considered non-recurrent in nature). This assessment was performed by a suitable SME.

Capex:

Data was obtained from the 2015 Annual Regulatory Accounts and the supporting workings files. A list of projects and the associated financial information (excluding overheads) was extracted from the working files. An appropriate SME performed an assessment of the nature of each of the projects (recurrent expenditure, non-recurrent expenditure or client device expenditure) and based on this assessment, the expenditure was classified into the prescribed categorisations in Table 2.6.1.

Estimated Information:

Opex and Capex:

Total IT and Communications Opex and Capex is actual information. Client Device expenditure is also actual information.

However, the allocation of expenditure between recurrent and non-recurrent was estimated based on judgement of the SME. Actual data could not be obtained as it's not separately captured in the Financial System. The allocation is considered Management's best estimate.

Motor Vehicles

Motor Vehicle Expenditure is all expenditure directly attributable to motor vehicles including: purchase, replacement, operation and maintenance of motor vehicles assets registered for use on public roads, excluding mobile plant and equipment. It excludes expenditure on vehicles not generally moved large distances on public roads under their own power.

The following definitions have been applied to determine the categorisation of motor vehicles:

Car	Cars are Motor Vehicles other than those that comply with the definition of Light commercial vehicle, Heavy commercial vehicle, or Elevated Work Platform. Motor Vehicles are any motor vehicle registered for use on public roads excluding motor vehicles not generally moved large distances on public roads under their own power (e.g. tractors, forklifts, backhoes, bobcats and any other road registered mobile plant).
Heavy Commercial Vehicle (HCV)	Heavy commercial vehicles (HCVs) are Motor Vehicles that are registered for use on public roads excluding Elevated Work Platform (HCVs) that: ➢ have a gross vehicle mass greater than 4.5 tonnes; or ➢ are articulated Vehicles; or ➢ are buses with a gross vehicle mass exceeding 4.5 tonnes.
Light Commercial Vehicle (LCV)	Light commercial vehicles (LCVs) are Motor Vehicles that are registered for use on public roads excluding Elevated Work Platforms that: ➢ are rigid trucks or load carrying vans or utilities having a gross vehicle mass greater than 1.5 tonnes but not exceeding 4.5 tonnes; or ➢ have cab-chassis construction, and a gross vehicle mass greater than 1.5 tonnes but not exceeding 4.5 tonnes; or ➢ are buses with a gross vehicle mass not exceeding 4.5 tonnes.

Elevated Work Platform (EWP - HCV)	Elevated Work Platform (EWP - HCV) are HCV's that have permanently attached elevating work platforms.
Elevated Work Platform (EWP - LCV)	Elevated Work Platform (EWP - LCV) are LCV's that have permanently attached elevating work platforms.

Preparation Methodology:

Opex:

For the 2015 Regulatory Year, a report was generated from the Fleet System showing the total motor vehicle expenditure. The report provides operating expenditure for each motor vehicle and specifies vehicle type. Vehicle types were aggregated into the prescribed categories in Table 2.6.1 to determine total Opex by vehicle type.

Using information from the 2015 Regulatory Accounts, a calculation of the percentage of total Operating Expenditure incurred in relation to the provision of PTS was performed. This percentage was applied to Motor Vehicle Opex to derive an estimate of PTS related Motor Vehicle Opex.

Capex:

A fixed asset additions list was generated in the Financial System (fixed asset register) which provided details of all motor vehicles acquired during the 2015 Regulatory Year. A motor vehicle report was generated from the Fleet System which provided additional information regarding the motor vehicle type of vehicles purchased. Using the additional Fleet System data, the fixed asset register information was allocated into the prescribed vehicle categorisations. Only vehicles relating to the Transmission business were included. This is considered actual information.

Estimated Information:

As the systems do not separately capture the motor vehicle operating expenditure which is directly related to the Transmission business' PTS related activities, the application of an estimated PTS expenditure percentage was required to be applied to the Motor Vehicle Opex. As the PTS percentage utilised is derived from the 2015 Regulatory Accounts, the calculation is considered Management's best estimation of the required information.

Buildings and Property Expenditure

Expenditure directly attributable to non-network buildings and property assets has been reported, including: the replacement, installation, operation and maintenance of non-network buildings, fittings and fixtures. It includes expenditure related to real chattels (e.g. interests in land such as a lease) but excludes expenditure related personal chattels (e.g. furniture).

Preparation Methodology:

Opex:

A detailed Income Statement report was extracted from the Financial System for the 2015 Regulatory Year's Buildings and Property cost centres. An analysis was performed of the general ledger accounts in the Income Statement to determine whether the costs incurred were in accordance with the Buildings and Property definition prescribed by the AER. Expenditure not directly attributable to the replacement, installation, operation and maintenance of non-network buildings, fittings and fixtures was excluded. The relevant costs were summed for the 2015 Regulatory Year and reported in Table 2.6.1.

Capex:

Project reports were generated from the Financial System (excluding overheads) using the relevant Buildings and Property work codes and cost codes. The reports were reviewed and expenditure on projects which met the definition of Buildings and Property expenditure were summed and reported in Table 2.6.1. Projects which did not meet the definition were included in 'Other Expenditure' as described below.

Estimated Information:

Information presented for both Capex and Opex was extracted from financial records. As such, there is no estimated information in relation to Buildings and Property non-network expenditure.

Other Expenditure

Other Expenditure consists of expenditure directly attributable to the following:

- Motor Vehicles which are not reported within Motor Vehicles Expenditure as per above (e.g. trailers)
- Buildings and Property which is not reported within Buildings and Property Expenditure as per above, such as personal chattels (e.g. furniture); and
- Other general assets.

Preparation Methodology:

When determining the Motor Vehicle expenditure which meets the AER prescribed definitions, 'other' motor vehicle expenditure was identified.

When determining the Buildings and Property expenditure which meets the AER prescribed definitions, 'other' building and property expenditure was identified.

Using data extracted from the Financial System for the preparation of the Annual Regulatory Accounts, other general assets information was calculated.

All expenditure reported relates to direct costs only.

Estimated Information:

All information is considered actual information.

Other Expenditure – Tools and Equipment

As $1 million or more (nominal) in capital expenditure has been incurred in the 2015 Regulatory Year for Tools and Equipment, this has been disclosed separately. Tools and Equipment relates to miscellaneous tools, equipment and office furniture.

Preparation Methodology:

Using data extracted from the Financial System for the preparation of the Annual Regulatory Accounts, total Tools and Equipment Expenditure was calculated. Expenditure reported relates to direct costs only.

Estimated Information:

The information provided is considered actual information as no estimates were required.

Table 2.6.2 Annual Descriptor Metrics – IT & Communications Expenditure

Employee Numbers

Employee numbers are the average number of employees engaged in prescribed transmission services work over the year scaled for time spent on prescribed transmission services ("PTS") work. This metric does not include labour engaged under labour hire agreements.

Preparation Methodology:

A report showing the number of full time employees and equivalents (by month) was generated in the HR/Payroll System. This report included information in relation to the 2015 Regulatory Year and provided Employee Numbers in total across all AusNet Services' businesses.

Using Activity Based Costing ("ABC") surveys, the headcount report was allocated between the Distribution (Electricity and Gas) businesses and the Transmission business. The Transmission business headcount was further allocated into employees involved in PTS related work based on ABC survey information. The ABC survey information is meant to capture the data of employees who do not work directly on projects. The information from ABC surveys has been applied to all employees in a cost centre, assuming that the survey results are applicable to employees who are directly involved in projects as well as those that are not directly involved in projects. The ABC surveys applied used information at 31 March 2015. The calculations performed derived an estimate of the average Employee Numbers for the 2015 Regulatory Year.

Estimated Information:

The data reported is considered estimated information due to the assumptions involved in the percentage allocations as described above. The information provided is considered Management's best estimate given the data available.

User Numbers

User numbers are defined as active IT system log in accounts scaled for prescribed transmission services use.

Preparation Methodology:

The Total User Numbers (across the AusNet Services businesses) was extracted from the domain IT system. Based on the overall outcome of the allocation of AusNet Services employees between Distribution and Transmission driven by ABC surveys as described under 'Employee Numbers' above, the User Numbers were similarly split between Distribution and Transmission.

The PTS percentage was then applied to the Transmission portion to derive an estimate of the PTS-related User Numbers. The PTS percentage allocation was the same as derived for 'Employee Numbers', based also on ABC Survey results.

Estimated Information:

While the Total User Numbers across the AusNet Services businesses is actual information, the subsequent split between Distribution and Transmission, and the allocation of the latter into PTS, are considered estimates based on ABC surveys. The data provided is considered Management's best estimate of the information required.

Client Devices

Device numbers are defined as the number of client devices scaled for prescribed transmission services use. Client Devices are hardware devices that accesses services made available by a server.

Preparation Methodology:

Information in relation to the number of laptops and desktop computers was obtained from ICT Desktop Support and is extracted from the Microsoft System Center Configuration Manager ("SCCM") system. The report provided the number of devices across the AusNet Services businesses.

Information in relation to handheld devices (smartphones and tablets) was obtained from a spreadsheet database maintained by AusNet Services' Telecommunications Coordinator, and filtered to ensure that the list reflected devices acquired on or before 31 March 2015.

The spreadsheet database was not designed for external reporting purposes and therefore has no built in reconciliations or consistency checks (because these are not required for the spreadsheet's current purpose). Whilst the methodology used is the best available, the smartphone and tablet numbers obtained are still considered an estimate due to uncertainty about the accuracy of the data relied upon.

The reports described above were summed to provide the total number of Client Devices across the AusNet Services businesses.

Using the same percentages applied in allocating 'Employee Numbers', average Client Devices were split between the Distribution and Transmission businesses and the PTS percentage was applied to the Transmission Client Devices.

Estimated Information:

Client device information is considered estimated information due to estimates involved in deriving handheld devices. Also, approximate percentages were applied to derive an estimate of the devices

owned by AusNet Transmission in relation to PTS. An estimate was required as the information is not separately captured by the business. The calculation performed is considered Management's best estimate of the required information.

Table 2.6.3 Annual Descriptor Metrics – Motor Vehicles

Average Kilometres Travelled

Preparation Methodology:

For the 2015 Regulatory Year, total yearly kilometres travelled per vehicle was obtained directly from the Fleet System. The report was filtered to exclude Distribution business vehicles and to exclude vehicles which did not meet the motor vehicle definitions prescribed by the AER. Total kilometres travelled per category was calculated then divided by the number of vehicles in each category to obtain the average kilometres travelled.

The average kilometers travelled per vehicle was scaled for PTS use. The percentage of PTS use that was applied was consistent with the 'Proportion of Total Fleet Expenditure Allocated as Regulatory Expenditure' as discussed below.

Estimated Information:

This information provided is considered estimated information due to the approximation of PTS use. The data provided is considered Management's best estimate of the information required.

Number Purchased, Number Leased and Number in Fleet

Preparation Methodology:

Number purchased is obtained from the financial system projects reports generated to prepare the Annual Regulatory Accounts. Vehicles which did not meet the prescribed Motor Vehicle definition were excluded.

The total number leased and total number in fleet as at 31 March 2015 was sourced from motor vehicle reports generated from the Fleet System. Using data compiled for the 2014 Category Analysis submission (sourced from the Fleet System) the total number leased and total number in fleet as at 31 March 2014 was extracted. A simple average was calculated to determine the average number leased and average number in fleet. Vehicles which did not meet the prescribed Motor Vehicle definition were excluded. For the 2015 Regulatory Year, 'number leased' is interpreted as number vehicles leased in fleet rather than the number of new leases entered into during the Regulatory Year (which was used for the 2014 Regulatory Year submission).

The number of vehicles in the fleet purchased, the number of vehicles leased in the fleet and the total number of vehicles in the fleet were scaled for PTS use. The percentage of PTS use that was applied was consistent with the 'Proportion of Total Fleet Expenditure Allocated as Regulatory Expenditure' as discussed below.

Estimated Information:

This information provided is considered estimated information due to the approximation of PTS use. The data provided is considered Management's best estimate of the information required.

Proportion of Total Fleet Expenditure Allocated as Regulatory Expenditure

Preparation Methodology:

The 'Proportion of Total Fleet Expenditure Allocated as Regulatory Expenditure' was calculated based on information contained in the Annual Regulatory Accounts. The percentage reported is the amount of Operating Costs relating to Prescribed Transmission Services divided by the total Operating Costs. This calculation was performed for the 2015 Regulatory Year.

Estimated Information:

The systems do not capture actual 'Proportion of Total Fleet Expenditure Allocated as Regulatory Expenditure' so an estimate was required to be determined. The percentages reported are considered to be estimated information as it has been assumed that the proportion of 'Total Fleet Expenditure Allocated to Regulatory Expenditure' is consistent with the proportion of Total Operating Expenditure Allocated to Regulatory Expenditure. The data provided is considered Management's best estimate of the information required, as the assumptions applied do not appear unreasonable.

2.7 Vegetation management

Vegetation management zones are segments of the transmission network distinguished from other vegetation management segments by material differences in recognised cost drivers.

An assessment of vegetation management zones has been performed taking into consideration areas where bushfire risk mitigation costs are imposed by legislation, regulation or ministerial order and areas of the network where other recognised drivers affect the costs of performing vegetation management work. The key driver of vegetation management costs across AusNet Services' businesses is the level of bushfire risk. The Transmission network vegetation management program does not separate high bush fire risk areas from low bushfire risk areas – as the vegetation management program is in accordance with the requirements of the Electrical Safety Regulations (for Transmission businesses). Based on this, one vegetation management zone has been identified within AusNet Transmission's network.

The Electrical Safety (Electric Line Clearance) Regulations impose a material cost on performing vegetation management works. The cost of compliance is consistent with the information reported in Table 2.7.2.

There are no self-imposed standards per AusNet Transmission's Vegetation Management program.

Route Line Length within Zone

Preparation Methodology:

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 does not include vertical components such as line sag. The length of each span is considered only once irrespective of how many circuits it contains. This is the distance between line segments.

Information in relation to route line length was obtained from the Asset Management System for the 2015 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 was calculated for the 2015 Regulatory Year.

The route line length reported in the 2014 Regulatory Year included length in relation to an asset not owned by AusNet Services. This has been removed from the 2015 Regulatory Year submission. Consistent with the process performed for the 2014 Regulatory Year submission, an extraction script was used on the Asset Management System to derive the easement segment lengths associated with each of the towers in a transmission line including the E000 starting segments (from the starting station rack structure (referred to as T000) to just before the first tower). The results were then manually reviewed to identify cases where there may be two or more towers of the same transmission line in the one easement segment. This check was performed to ensure the "tower-segment length" was only counted once in these situations when summing the values to calculate the total route length.

Estimated Information:

The information provided is considered actual information as data was obtained directly from the Asset Management System and no estimates were required.

Number of Maintenance Spans

The 'Number of maintenance spans' is the total count of spans in the network that are subject to active vegetation management practices in the 2015 Regulatory Year.

Preparation Methodology:

Information in relation to the total number of maintenance spans was sourced from work orders (PT1, PT30, PT90, PT180, PT365 and PT912) recorded in the Asset Management System, where each span is assigned to a work order. These types of work orders represent maintenance spans which require vegetation maintenance within a certain timeframe, that is, PT30 means vegetation maintenance is required within 30 days, PT 90 means vegetation maintenance is required within 90 days etc. The maintenance spans reported in the calculation are the spans which were actioned during the 1 April 2014 – 31 March 2015 period.

Estimated Information:

The information provided is considered actual information as no estimates were required.

Total Length of Maintenance Spans

Preparation Methodology:

The 'Total Length of Maintenance Spans' was calculated by using information from the Asset Management System.

The total number of maintenance spans (as above) was multiplied by the average length of a transmission span to provide an estimate of the 'Total Length of Maintenance Spans'.

The average length of a transmission span was calculated by dividing the route line length (per above) by the number of transmission towers. The number of transmission towers was obtained from a report extracted from the Asset Management System, which is inclusive of starting towers ("T000") and 89 intermediate towers; and exclusive of end towers ("T999") and towers not owned by AusNet Services.

Estimated Information:

The calculation performed assumes that there is one tower per maintenance span. Data provided is considered estimated information as it is not separately captured. This is considered the best estimate of the data requested.

In the Asset Management System, some towers may carry multiple voltages, each of which are counted as a separate span. However, for vegetation management purposes, this represents a singular span requiring vegetation works, regardless of the number of voltages on a singular tower.

Average Number of Trees per Maintenance Span

'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 are required to comply with AusNet Transmission's vegetation management 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. The information provided was estimated based on expert knowledge and is considered the best estimate based on the information available.

Length of Vegetation Corridors

A vegetation corridor is a tract of land along which vegetation is maintained in order to form a passageway along the route of a power line or lines that is free of vegetation encroachment into the asset clearance space. This does not include portions of the corridor where no managed vegetation exists or where vegetation is not managed.

Preparation Methodology:

The 'Length of Vegetation Corridors' was calculated by using information from the Asset Management System.

For the 2015 Regulatory Year, the total number of PT1, PT30, PT90, PT180, PT365 and PT912 vegetation maintenance spans was obtained.

This total was multiplied by the average length of a transmission span to provide an estimate of the 'Length of Vegetation Corridors'.

Estimated Information:

The data provided is considered estimated information as it is not separately captured. This is considered the best estimate of the information requested.

Average Width of Vegetation Corridors

The width of vegetation corridor is the total width of a vegetation corridor (the entire width of the tract of land along which vegetation is maintained).

Preparation Methodology:

The information provided has been estimated based on Transmission network data extracted from the Asset Management System. Using a sample of easement segments (where easement width information was available) the weighted average width per easement segment was calculated to provide an indicative average easement width.

Estimated Information:

It has been assumed that the easement widths in the sample are representative of the easement widths of all segments. The data provided is considered estimated information as it is not separately captured. This is considered the best estimate of the information requested.

Average Frequency of Cutting Cycle

The cutting cycle is the average planned number of years (including fractions of years) between which cyclic vegetation maintenance is performed within vegetation management zones. It has been assumed that cutting cycles are the same as maintenance span cycles (the planned number of years (including fractions of years) between which cyclic vegetation maintenance is performed).

Preparation Methodology:

Information in relation to the average vegetation maintenance span cycles was obtained from the Asset Management system and also per the vegetation management plan whereby 3 patrols are conducted per annum, with an aim to clear these segments on a 3 year cycle.

In the 2014 Regulatory Year, the variable was reported according to the number of patrols conducted per year instead of planned number of years between cyclic vegetation maintenance works.

Estimated Information:

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

Table 2.7.2 – Expenditure Metrics by Zone

Table 2.7.2 has been completed based on the one vegetation management zone identified above. Expenditure provided relates to direct costs, excluding overhead expenditure and has been presented in nominal dollars.

Preparation Methodology:

Vegetation Management expenditure is coded to specific project numbers that align to various vegetation management functions and is posted to AusNet Transmission's general ledger and projects ledger. To populate Table 2.7.2, expenditure for each vegetation management project in the 2015 Regulatory Year was extracted from the Financial System. This data extract was then subject to further analysis.

The information residing in Financial System does not align to the categories required in Table 2.7.2. A total amount for both 'Tree Trimming' and 'Vegetation Corridor Clearance' was allocated from the 'Mandatory Works' project number extracted. The allocation between 'Tree Trimming' and 'Vegetation Corridor Clearance' was based on an analysis of the suppliers of vegetation management services and

the relative costs incurred against suppliers of tree trimming services compared to corridor clearance services.

'Inspection', 'Audit' and 'Contractor Liaison Expenditure' were derived from the 'Management Labour' project number. The allocation of Management Labour to these three categories was based on the professional judgment of SME. The allocation was driven by an analysis of the time spent by employees involved in performing these activities.

The balance of costs (i.e. the difference between the total cost of the Financial System extract and the above categories) has been allocated to 'Other Vegetation Management Costs not Specified in Sheet'.

Estimated Information:

Due to the assumptions required to allocate expenditure from the project numbers into the categories prescribed in Table 2.7.2, the information reported is considered estimated information. As the allocations were performed by an appropriate SME, data provided is considered Management's best estimate based on the information available.

Table 2.7.3 – Descriptor Metrics Across All Zones – Unplanned Vegetation Events

Unplanned vegetation events are system outages and fire starts caused by either vegetation grow-ins or vegetation blow-ins/fall-ins.

Number of Fire Starts Caused by Vegetation Grow-Ins (NSP Responsibility);
Number of Fire Starts Caused by Blow-Ins and Fall-Ins (NSP Responsibility);
Number of Outages Caused by Vegetation Grow-Ins (NSP Responsibility); and
Number of Outages Caused by Blow-Ins and Fall-Ins (NSP Responsibility)

Preparation Methodology:

A review of information contained in the Incident Management System was performed. Based on this review, there have been no Fire Starts or Outages caused by vegetation grow-ins, blow-ins or fall-ins (AusNet Transmission responsibility) in the 2015 Regulatory Year.

Number of Fire Starts Caused by Vegetation Grow-Ins (Other Party Responsibility);
Number of Fire Starts Caused by Blow-Ins and Fall-Ins (Other Party Responsibility);
Number of Outages Caused by Vegetation Grow-Ins (Other Party Responsibility); and
Number of Outages Caused by Blow-Ins and Fall-Ins (Other Party Responsibility)

Preparation Methodology:

AusNet Transmission is responsible for all vegetation clearing in its network. Based on this, the above variables are not applicable and have been disclosed as zero.

2.8 Maintenance

Maintenance relates to operational repairs and maintenance of the transmission system, including testing, investigation, validation and correction costs not involving capital expenditure.

Table 2.8.1 – Descriptor Metrics for Routine and Non-Routine Maintenance

A 'Maintenance cycle' is the planned or actual duration between two consecutive maintenance works on an asset. An 'Inspection cycle' is the planned or actual duration between two consecutive inspections of an asset.

The 'Inspection cycle' and the 'Maintenance cycle' for each maintenance subcategory have been expressed as the number of years in the respective cycles. Where there are multiple inspection and maintenance activities, the cycle that reflects the highest cost activity has been reported.

Asset quantity information has been provided for the total number of assets (population) at the end of the 2015 Regulatory Year (for each asset category) and the number of assets inspected or maintained during the 2015 Regulatory Year (for each asset category).

Preparation Methodology:

	Asset Quantity at year end	Asset Quantity inspected/ maintained	Inspection Cycle (Years)	Maintenance Cycle (Years)
Transmission towers	Data reported for 'Asset Quantity at Year End' was sourced from Template 5.2 Asset Age Profile. For the 2015 Regulatory Year, 'Asset Quantity' was calculated as the cumulative sum of installed assets (the quantity currently in commission). Data provided is considered estimated information, based on assumptions and estimates included in preparing Template 5.2 Asset Age Profile.	This contains both actual and estimated information. Actual information for the number of towers climbed as this was extracted from work order information. Line patrols are conducted twice per year and the quantity of these inspections were estimated based on the quantity of assets reported in the template. Number of towers climbed and number of line patrols conducted were summed to provide the total asset quantity inspected/ maintained in the template.	Maintenance cycle and inspection cycle data was obtained from the AusNet Services' internal policy document 'PG 02-01-02 Summary of Maintenance Intervals – Transmission Plant Guidance and Information PGI-MTCE INTERVALS-T'. Data provided is considered actual information.	
Transmission support structures		Information provided has been calculated as 'Asset Quantity at Year End' divided by the 'Inspection Cycle' in years plus 'Asset Quantity at Year End' divided by the 'Maintenance Cycle' in years. This provides an estimate of the number of inspection and maintenance activities conducted. It is not possible to use work order data to count these activities as each work order covers multiple assets. The information provided is considered to be Management's best estimate, as it is assumed that actual maintenance performed is aligned with company policies		
Conductors	Sourced directly from the Geographical Information System. There have been no changes to route length; therefore the route length reported in Table 2.8.1 is consistent with the 2014 submission. Data is actual information.			
Transmission cables	Sourced from the Asset Management System in 2014 to report route length. There have been no changes to route length; therefore the route length			

	Asset Quantity at year end	Asset Quantity inspected/ maintained	Inspection Cycle (Years)	Maintenance Cycle (Years)
	reported in Table 2.8.1 is consistent with the 2014 submission. Data is actual information.	(and no non-routine maintenance was required).		
Substation switchbays (incl. Reactive plant)	'Asset Quantity' was calculated as the cumulative sum of installed assets (the quantity currently in commission) for the categories - 'Substation switchbays (incl. Reactive plant)' and 'Substation power transformers'. This is considered estimated information, based on assumptions and estimates included in preparing Template 5.2 Asset Age Profile.		Maintenance and inspection cycles have not changes since the 2014 submission was provided. Data provided in 2014 was based on the AusNet Services' internal policy document 'PG 02-01-02 Summary of Maintenance Intervals – Transmission Plant Guidance and Information PGI-MTCE INTERVALS-T'. Average maintenance cycle' is based on Class 1 (minor) maintenance works and 'Average inspection cycle' is based on the comprehensive yearly inspection of equipment (including scanning).	
Substation power transformers			Maintenance and inspection cycles have not changes since the 2014 submission was provided. Data provided in 2014 was based on the AusNet Services' internal policy document 'PG 02-01-02 Summary of Maintenance Intervals – Transmission Plant Guidance and Information PGI-MTCE INTERVALS-T'. 'Average maintenance cycle' is based on major maintenance works (Class 2 tap changer maintenance) and not minor maintenance (Class 1). Routine maintenance of all auxiliaries is scheduled every four years. 'Average inspection	

	Asset Quantity at year end	Asset Quantity inspected/ maintained	Inspection Cycle (Years)	Maintenance Cycle (Years)
			cycle' is based on the comprehensive yearly inspection of equipment (including scanning and oil testing).	
Substation property	For the 2014 submission, the number of 'Substation - Properties' was based on data contained in: >AusNet Services internal document 'PGI 67-01-01 List of Transmission and Sub-transmission Stations and Communication Sites'; >Asset Management Strategy 'AMS 20-55: Civil Infrastructures'; >Asset Management Strategy 'AMS 10-55 Civil Infrastructure, Terminal Stations'; and >Site information. The number of 'Substation Properties' has not changed since 2014 and therefore the same quantity has been included in Table 2.4.1 for the 2015 Regulatory Year. Information provided for 'Substation – Property' is considered estimated information as all civil infrastructure properties at one terminal station or zone substation have been assumed as one property. This assumption has been made as the AER's definition of 'Substation – Property' is not separately captured. For AusNet Services purposes, civil infrastructure properties include a large number of assets, such as buildings,		Inspection cycles have not changes since the 2014 submission was provided. Data provided in 2014 was based on the AusNet Services' internal policy document 'PG 02-01-02 Summary of Maintenance Intervals – Transmission Plant Guidance and Information PGI-MTCE INTERVALS-T'. This is considered actual information. Maintenance cycles reported in the 2014 submission was in error and has been corrected for the 2015 submission. The corrected figure is based on an estimated 120 maintenance activities carried out across all substation properties per year. This is considered estimated information.	

	Asset Quantity at year end	Asset Quantity inspected/ maintained	Inspection Cycle (Years)	Maintenance Cycle (Years)
	environmental systems, fire protection systems etc. Therefore Management's best estimate of 'Substation – Property' is to consider all civil infrastructure properties at one terminal station or zone substation to be classified as one property.			
SCADA & network control maintenance	Data reported for 'Asset Quantity at Year End' was sourced from Template 5.2 Asset Age Profile. This is considered estimated information based on assumptions and estimates included in preparing Template 5.2 Asset Age Profile. It is noted in the 2014 Regulatory Year submission, the SCADA & network control asset quantity at year end was sourced from a script run from the Asset Management System but was not reconciled to the Asset Age Profile.	This has been extracted from the Asset Management System therefore is considered actual information.	Information reported for 'Maintenance cycles' and 'Inspection cycles' was obtained from internal policies and the Asset Management System. It is noted that SCADA and Network Control assets are subjected to either the reported cycles or no cycles, as certain asset classes obtain no benefit from inspections or maintenance and use a 'run to failure' and 'life cycle' strategy. These are usually implicitly monitored via the availability of the end service; therefore do not require routine inspection or maintenance cycles. As per the RIN requirements, as there are multiple inspection and maintenance activities, the cycle that reflects the highest cost activity has been reported. This is considered actual information.	
Protection systems maintenance	Data reported for 'Asset Quantity at Year End' was sourced from Template 5.2 Asset Age Profile. For the 2015 Regulatory Year, 'Asset Quantity' was calculated as the cumulative sum of installed assets (the quantity currently in commission) for	The number of assets inspected or maintained was obtained from the Asset Management System based on work orders. The relevant work order data was extracted by selecting the "PROT" and "RELAY" classifications. The data was summed to derive the 'Asset Quantity Inspected/Maintained' for the 2015	Data provided was extracted from AusNet Services' internal policy document 'Summary of Maintenance Intervals – Transmission: Plant Guidance and Information PGI-MTCE INTERVALS-T' as the maintenance interval for Protection Schemes. Conventional technology is maintained on a 3 year cycle and newer	

	Asset Quantity at year end	Asset Quantity inspected/ maintained	Inspection Cycle (Years)	Maintenance Cycle (Years)
	the categories 'Protection & Control Infrastructure'. Current and voltage transformer volumes have not been included in the quantities reported. Data provided is considered estimated information, based on assumptions and estimates included in preparing Template 5.2 Asset Age Profile.	Regulatory Year. If 1 asset experienced both inspection and maintenance works during the Regulatory Year, it has been counted twice.	(digital) technology is maintained on a 6 year cycle. Certain asset classes obtain no benefit from inspections or maintenance and use a 'run to failure' and 'life cycle' strategy. A 3 year cycle has been reported based on the highest cost of the maintenance cycles. The inspection and maintenance cycles are the same for Protection System assets as inspection and maintenance is performed simultaneously.	

Average Age of Asset Group

Preparation Methodology:

The average age of each group of assets has been estimated based on the age profile, and asset lives from Template 5.2 Asset Age profile. The age of each asset is determined from the current year and the year of installation. The average age is a simple average of all the asset ages for all the assets in each group. No weighting has been applied to this average to account for differences in cost or type of asset.

The 'Average Age' information provided is considered estimated information as the lives used to calculate 'Average Age' in Template 5.2 Asset Age Profile was estimated and the age profile data is subject to a range of estimation as explained in section 5.2 below.

Table 2.8.2 – Cost Metrics for Routine and Non-Routine Maintenance

Maintenance expenditure (Opex only) has been provided for each of the prescribed maintenance categories. Opex has been presented in nominal dollars. Expenditure reported relates to Direct Costs only and excludes expenditures on Overheads.

Routine maintenance costs are costs of recurrent/programmed activities undertaken to maintain assets, performed regardless of the condition of the asset. Costs of activities are predominantly directed at discovering information on asset condition, and often undertaken at intervals that can be predicted.

Routine maintenance is activities to maintain asset condition and/or to maintain the capacity of the transmission system to transmit electricity, and where the activities are:

- routine in nature;
- indiscriminately carried out for a pre-defined set of assets; and
- scheduled to occur at pre-defined intervals.

Routine maintenance may include activities to inspect, survey, audit, test, repair, alter, or reconfigure assets.

Routine maintenance expenditure excludes costs of activities that are designed to increase or improve the capacity of the transmission system to transmit electricity, except where the increase or improvement is incidental to the maintenance of the transmission system. It also excludes costs associated with asset removal, asset replacement, new asset installation, vegetation management, and emergency response.

Non-routine maintenance costs are costs of activities predominantly directed at managing asset condition or rectifying defects. The timing of these activities depends on asset condition and decisions on when to maintain or replace the asset, which may vary over time.

Non-routine maintenance is activities to maintain asset condition and/or to maintain the capacity of the transmission system to transmit electricity, and where the activities are not routine in nature.

Non-routine maintenance expenditure excludes activities that are designed to increase or improve the capacity of the transmission system to transmit electricity, except where the increase or improvement is incidental to the maintenance of the transmission system.

Preparation Methodology:

Expenditure was extracted from the Financial System by work code for the 2015 Regulatory Year. The maintenance work codes (comprising seven work codes) were segregated from the non-maintenance work codes. The costs extracted excluded overheads, and any contestable amounts were also excluded (based upon the supporting workings to the 2015 Transmission Regulatory Accounts).

One of the seven work codes was allocated to routine maintenance. The other six work codes were allocated to non-routine maintenance. This allocation was derived based on an assessment of the nature of the work codes.

The work codes provide information on the type of maintenance (e.g. emergency, scheduled, unscheduled) but do not provide information on the assets being maintained. The Asset Management System contains more detailed information on the types of assets maintained in the form of 'Leadcraft' codes. The Leadcraft codes contain financial information, although historically this has not been reconciled to the general/projects ledgers. This has not been deemed necessary based on the historical use of Leadcraft data.

In order to report the costs in the categories required in Table 2.8.2, the costs derived from the work codes were allocated to the categories based on the Leadcraft expenditure allocations. That is, if 'Secondary' Leadcraft codes (i.e. Protection codes) comprised 8% of the total expenditure posted against Leadcraft maintenance codes, then 8% of the total cost at the work code level was allocated to Protection Systems Maintenance.

For transmission lines and substations categories, Leadcraft codes were further allocated into the asset sub categories based on volumes of assets inspected and maintained in the 2015 Regulatory Year. The exception is Transmission Cables – this expenditure was extracted directly from the Financial System therefore was not required to have a pro-rata allocation applied.

Estimated Information:

All financial information provided is considered estimated information, except for Transmission cables maintenance. AusNet Transmission does not internally report by the maintenance cost categories prescribed in Table 2.8.2. Work codes and Leadcraft codes are not set up to provide this level of detail.

The allocations to the asset categories ('Transmission lines', 'Substation Equipment and Property Maintenance', 'SCADA & Network Control Maintenance' and 'Protection Systems Maintenance') are considered estimates as they are derived by multiplying the total maintenance cost in the general ledger by the proportion of costs posted to the relevant Leadcraft codes.

The allocation between the 'Transmission lines' and 'Substation Equipment and Property Maintenance' asset sub categories is estimated information as the allocations were based on volumes of assets inspected and maintained and assumed the cost to inspect and maintain each of those assets are consistent. Estimates provided are considered Management's best estimates based on the information available.

2.10 Overheads

Overhead Expenditure is expenditure that cannot be directly attributed to a work activity, project or work order. It consists of labour, materials, contract costs and other costs.

Overheads have been disaggregated as Network Overheads and Corporate Overheads.

Table 2.10.1 – Network Overheads Expenditure

Overhead expenditure in Table 2.10.1 has been reported before it is allocated to services or direct expenditure and before any part of it is capitalised.

Network Overhead costs refer to the provision of management services and other related operational, network planning, asset management and compliance functions that cannot be directly associated with any specific operational activity (such as routine maintenance, vegetation management, etc.).

Network Overhead is the sum of expenditure for Maintenance Support, Network Monitoring & Control, and Asset Management Support.

- Maintenance Support expenditure relates to expenditure on activities and services that directly support field maintenance activities but are not directly attributable to working on an item of plant or equipment and aligns with the reported maintenance support expenditure in AusNet Transmission's Annual Regulatory Accounts.

- Network Monitoring & Control expenditure is expenditure associated with activities in operating and monitoring assets in the field and the control centre and aligns with the reported maintenance support expenditure in AusNet Transmission's Annual Regulatory Accounts.

- Asset Management Support expenditure is expenditure on operational activities and services associated with managing and developing the transmission network, and supporting the strategic development of the network, but not directly attributable to maintaining or operating the network. This expenditure aligns with the reported maintenance support expenditure in AusNet Transmission's Annual Regulatory Accounts.

Preparation Methodology:

Using information from the Financial System that was used to prepare the Annual Regulatory Accounts, Overheads Expenditure was classified into the prescribed categories in Table 2.10.1. In order to perform this allocation, expenditure information was extracted from the Financial System by cost ledger code and by division.

Expenditure presented in Table 2.10.1 is on a gross basis (inclusive of amounts capitalised). AusNet Transmission capitalises overhead expenditure that is directly attributable to bringing an asset to its intended in-service state. These indirect costs (to bring the asset to its intended in-service state) include labour costs of employees who do not complete timesheets. The amount of capitalised overheads was allocated to the prescribed categories based on the ABC Survey process undertaken in accordance with

the Cost Allocation Methodology. The capitalisation policy applied in the 2015 Regulatory Year has not materially changed compared to any of the Regulatory Years previously reported.

Estimated Information:

The data included in Table 2.10.1 has been extracted directly from the Financial System and Annual Regulatory Accounts. Based on this, the information provided is considered 'actual information' as no estimation was required.

Table 2.10.2 – Corporate Overheads Expenditure

Overhead expenditure in Table 2.10.2 has been reported before it is allocated to services or direct expenditure and before any part of it is capitalised.

Corporate Overhead costs refer to the provision of corporate support and management services by the corporate office that cannot be directly identified with specific operational activity. Corporate Overhead expenditure aligns with the reported expenditure in AusNet Transmission's Annual Regulatory Accounts.

Preparation Methodology:

Using information from the Financial System that was used to prepare the Annual Regulatory Accounts, Overheads Expenditure was classified into the prescribed categories in Table 2.10.2. In order to perform this allocation, expenditure information was extracted from the Financial System by cost ledger code and by division.

Expenditure presented in Table 2.10.2 is on a gross basis (inclusive of amounts capitalised). AusNet Transmission capitalises overhead expenditure that is directly attributable to bringing an asset to its intended in-service state. These indirect costs (to bring the asset to its intended in-service state) include labour costs of employees who do not complete timesheets. The amount of capitalised overheads was allocated to the prescribed categories based on the ABC Survey process undertaken in accordance with the Cost Allocation Methodology. The capitalisation policy applied in the 2015 Regulatory Year has not materially changed compared to any of the Regulatory Years previously reported.

Estimated Information:

The data included in Table 2.10.2 has been extracted directly from the Financial System and Annual Regulatory Accounts. Based on this, the information provided is considered 'actual information' as no estimation was required.

2.11 Labour

Labour costs reported relate only to costs incurred in the provision of prescribed transmission services ("PTS"). Costs have been allocated to PTS in accordance with the AER approved Cost Allocation Methodology in effect for the 2015 Regulatory Year.

Labour costs relating to labour hire contracts have been included within the classification levels. Labour used in the provision of contracts for both goods and services, other than contracts for the provision of labour (e.g. labour hire contracts) have not been reported.

Quantities of labour, expenditure, or stand down periods have not been reported multiple times across the labour categories. Where applicable, labour has been split between tables - for example, one worker may have half of their time allocated to corporate overheads and half of their time to network overheads.

The total cost of labour reported is equal to the total labour costs reported against the Capex and Opex categories listed in Template 2.12 Input Tables.

The following 3 categorisations have been applied -

1. Corporate Overhead costs - refers to the provision of corporate support and management services by the corporate office that cannot be directly identified with specific operational activity.

2. Network Overhead costs - refers to the provision of management services and other related operational, network planning, asset management and compliance functions that cannot be directly associated with any specific operational activity.

3. Direct Network Labour - includes workers who primarily undertake field work in their job. This includes:
    - Field tradespeople including workers working in field depots (e.g. fitters and turners and mechanics working in depots).
    - Apprentices training for work that would primarily be field work (i.e. irrespective of whether most of their current work or training is not undertaken in the field).

The below definitions have been applied in the preparation of Tables 2.11.1 and 2.11.2.

Labour Classification Level	Definition
Executive manager	A manager responsible for managing multiple senior managers. For example CEO, General Manager People and Safety, Finance & Treasury and Legal. Prior to the 2015 Regulatory Year, Executive Managers were employed by a related party entity. The associated labour costs incurred were reflected as a related party cost and were not a direct labour cost of AusNet Transmission. From 1 April 2014 (the beginning of the 2015 Regulatory Year), Executive Managers were employed by AusNet Transmission and the associated labour costs have been reported in Template 2.11.
Senior Manager	A manager responsible for managing multiple managers who each manage work teams and projects within the organisation. Prior to the 2015 Regulatory Year, some Senior Managers were employed by a related party entity. The associated labour costs incurred were reflected as a related party cost and were not a direct labour cost of AusNet Transmission. From 1 April 2014 (the beginning of the 2015 Regulatory Year), these Senior Managers were employed by AusNet Transmission and the associated labour costs have been reported in Template 2.11.
Manager	A manager responsible for managing teams of staff.
Professional	Professional workers who do not have a primary role as staff managers. These may include lawyers, accountants, economists etc.
Semi professional	Workers with some specialist training supporting fully trained professionals (e.g. draftsperson, bookkeeper etc.).
Support staff	Non-professional support staff not undertaking field work (e.g. clerical support, secretaries).
Intern, junior staff, non-field work apprentice	Interns, junior staff and apprentices undertaking non field work. All apprentices undertaking or training to undertake field work are reported under Labour Classification Level – Apprentice.
Skilled electrical worker	Fully qualified/trained electrical workers. This will include line workers, cable jointers, electrical technicians and electricians who have completed an apprenticeship.
Skilled non electrical worker	Skilled non electrical worker employed for their skill set. Examples are tradesmen who have completed an apprenticeship such as carpenters, mechanic, painters and arborists.
Apprentice	A field worker employed as part of a government accredited apprenticeship program. This includes all apprentices who will not primarily be working in offices once fully trained (e.g. apprentices training to become electrical workers, fitters and turners, plumbers, painters, mechanics and arborists).
Unskilled worker	Field workers with limited specialist training. This includes workers who

	have completed short courses with no other qualifications (e.g. labourer, arborist's assistant, traffic controller, meter reader).

Table 2.11.1 – Cost Metrics per Annum

A report was generated from the Payroll and Timesheeting Systems which provided information in relation to all employees required to submit timesheets and who charged time to transmission business projects and overhead labour costs for the transmission business (costs of employees not required to submit timesheets). The reports included details of labour costs, productive and non-productive hours, normal time/overtime/allowances and cost centre information. The yearly reports were compiled and, using data obtained from ABC surveys, scaled to reflect hours and costs relating to PTS work only. This compiled report is referred to hereafter as "Report 1".

A report was also generated from the Financial System showing the labour hire employee costs. The report included a number of credit balances representing the allocation of labour hire costs to overheads when the relevant purchase order is receipted. To accurately reflect total labour hire costs, only debit entries were accounted for (before reallocations). Based on cost centres, the report was scaled to reflect prescribed transmission services costs only. This report is referred to hereafter as "Report 2".

AusNet Transmission does not currently categorise employees in accordance with the prescribed categories. Therefore, using Report 1, employee 'categorisations' were derived based on a combination of job titles, cost centres and the AusNet Services organisational chart. Judgements were made by an appropriate SME when determining the categorisations. Employee 'classifications' were determined using positions held for each employee and the date the positions changed (with classifications being updated in the month in which the change occurred). The labour category was determined based on the employee classification and cost centre.

In relation to Report 2, employees and labour hire resources were assigned to an employee 'classification' and labour 'category' based on the cost centres used to code the labour expenditure. For cost centres with various employee classifications, the employee classification and labour category selected were based on the employee and labour category assigned to the majority of staff in that cost centre.

Based on the judgements made, all data presented in Table 2.11.1 and 2.11.2 is considered estimated information. All information reported in these tables is considered Management's best estimate, based on the information available.

Average Staffing Level ("ASL")

One ASL is a full-time equivalent employee undertaking prescribed transmission services work receiving salary or wages over the entire year. For avoidance of doubt, a full time employee equating to one full-time equivalent ("FTE") over the course of the year that spends 50% of their time on prescribed transmission services work is 0.5 ASL.

FTEs include all active full-time and part-time, ongoing and non-ongoing employees engaged for a specified term or task paid through payroll (part-time employees are converted to full-time equivalent based on the hours they work) and workers engaged under labour hire contracts.

Preparation Methodology:

For Report 1, the total PTS hours were divided by 1800 (reflecting the average annual hours worked - based on 48 weeks at 37.5 hours per week) to derive ASLs. For Report 1, the hours allocated to Transmission (as opposed to the other networks) are based on where the employee's employment contract is held. Therefore may not necessarily reflect the true hours spent on working on the Transmission network, but this is the best proxy available.

For Report 2, the total cost was divided by 1800 and also by the average unit rate (per employee classification) to derive ASLs. The rates applied were the average of the standard hourly rates based on employee classifications in the Payroll System. One standard rate has been applied per employee classification. As Report 2 uses timesheet data, this data provides a better reflection of the hours spent on the Transmission network (as opposed to hours spent on other AusNet Services' networks) compared to Report 1.

Estimated Information:

For all FTEs, ASLs were derived using an estimation of the total annual hours worked. For labour hire employees and non-timesheet employees, further judgements were made in relation to the standard hourly rates used, and hours effort attributed to the AusNet Services' networks. These judgements were made by an appropriate SME, therefore the data is considered Management's best estimate.

Total Labour Cost

'Total labour cost' is the total labour cost associated with the total ASLs in a given classification level. Labour costs are the costs of labour hire, ordinary time earnings, other earnings, on-costs and taxes and superannuation.

'Ordinary time earnings' means expenditure that was required under contracts of employment with AusNet Transmission and which constitutes ordinary time salaries and wages. It excludes expenditure required under contracts other than employment contracts, irrespective of whether or not the contract includes a labour component.

Other earnings, on-costs, and taxes mean expenditure:

- that was required under contracts of employment with AusNet Transmission; and
- which does not constitute employer superannuation contributions; and
- which constitutes:
- overtime; and/or
- staff allowances, including allowances for expenses incurred (e.g. meal allowances) and allowances for nature of work performed (e.g. special skills allowance, or living away from home allowance); and/or
- bonuses, incentive payments, and awards; and/or
- benefits in kind and corresponding compensation payments (e.g. housing, electricity or
- gas subsidies); and/or
- termination and redundancy payments; and/or
- workers compensation; and/or

- purchase of protective clothing for use by employees; and/or
- training and study assistance provided to employees; and/or
- taxes (payroll tax, fringe benefits etc.)

Preparation Methodology:

Information reported in relation to 'Total labour costs' was obtained from Reports 1 and 2, after PTS percentages were applied. The PTS percentages were derived by applying each cost centre's PTS percentage indicated in the ABC Survey Results to its labour costs, The ABC survey information is meant to capture the data of employees who do not work directly on projects. The information from ABC surveys has been applied to all employees in a cost centre, assuming that the survey results are applicable to employees who are directly involved in projects as well as those that are not directly involved in projects. The ABC surveys applied used information at 31 March 2015.

Given the requirement to reconcile Total Direct Labour Costs reported in Template 2.12 Input Tables to Template 2.11 Labour, an adjustment was made. The information contained in Report 1 was based on project data whereas the labour information in Template 2.12 was based on Payroll system data. The adjustment was calculated as the difference between the 2 data sources and was allocated on a pro-rata basis to all employee classifications in Table 2.11.1.

Estimated Information:

Based on the above, the information provided is considered estimated information. Data provided is management's best estimate of the information required based on the information available.

Average Productive Work Hours per ASL

'Average Productive Work Hours per ASL' is the average productive work hours per regulatory year per ASL in each classification level spent on prescribed transmission services work.

Productive work hours are hours worked undertaken by the employee/labour hire person's substantive job. Productive work hours include:

- Supervised on the job training including supervision of apprentices, mentoring and normal employee feedback and development.

- All normal work involved in undertaking the person's substantive job including time spent on meetings and travel between different work areas.

Non-productive work hours are work hours that are non-productive such as annual leave, sick leave, training course and sessions (that are more than supervised on the job training, mentoring and normal employee feedback and development) and other non-productive work hours.

Preparation Methodology:

For Report 1, information in relation to Productive work hours was included in the report data. 'Average Productive Work Hours per ASL' was calculated as Total Productive (PTS) hours divided by ASLs (engaged in PTS work).

For Report 2, 'Average Productive Work Hours per ASL' was calculated as the 'Total labour cost' divided by standard hourly rates and ASLs.

Estimated Information:

For labour hire employees and non-timesheet employees (included in Report 2), it has been assumed that all labour costs incurred relate to productive work hours only. Further judgements were made in relation to the standard hourly rates applied (as discussed previously above). These judgements were made by a suitable SME therefore considered Management's best estimate of the data required.

Stand Down Occurrences per ASL

Preparation Methodology:

'Stand down occurrences per ASL' is the average number of stand down periods per ASL in each classification level over the year.

A stand down period is where an employee, or worker employed under a labour hire contract, can't start a scheduled shift that would involve prescribed transmission services work at normal ordinary time wages due to prior work at the organisation (for example, due to not having sufficient time off between work shifts).

No stand down occurrences has been captured in AusNet Transmission's Payroll System. Based on the nature of operations, stand down occurrences are considered rare and not material to the business.

Table 2.11.2 – Extra Descriptor Metrics for Current Year

Average Productive Work Hours per ASL – Ordinary Time

'Average Productive Work Hours per ASL – Ordinary Time' is the average productive work hours in the 2015 Regulatory Year per ASL in each classification level spent on PTS work that are 'Ordinary time earnings'.

Preparation Methodology:

For Report 1, information in relation to normal (ordinary) time is available. 'Average productive work hours per ASL – ordinary time' was calculated as total normal time divided by ASLs. It is noted (per the ASLs section above); Report 1 has limitations in reflecting the true hours worked on the Transmission network, therefore impacts the calculation of these variables, but is the best proxy available.

For labour hire employees and non-timesheet employees included on Report 2, 'Average productive work hours per ASL – ordinary time' was calculated as 'Total labour cost' divided by the standard rates.

Estimated Information:

For labour hire employees and non-timesheet employees, it has been assumed that labour costs incurred relate to ordinary time only. Further assumptions were applied in relation to the standard hourly rates used (as discussed previously above). These judgements were made by a suitable SME therefore considered Management's best estimate of the data required.

Average Productive Work Hours Hourly Rate per ASL – Ordinary Time

'Average Productive Work Hours Hourly Rate per ASL – Ordinary Time' is the Regulatory Year's average productive work hours (spent on prescribed transmission services) hourly rate per ASL for each classification level that are 'Ordinary time earnings'.

The average hourly rate for the year is calculated by reference to the average number of hours paid as 'Ordinary time earnings' for the year and includes costs that are ordinary time salaries and wages in the year.

Preparation Methodology:

For Report 1, this metric was calculated as the productive, normal labour cost divided by productive normal hours. This was then reduced by an estimated percentage of on-costs. The on-cost percentage used was the 2015 percentage applicable to Victorian employees (where the majority of employees are based). The percentage applied was obtained from the Payroll System. It is noted (per the ASLs section above); Report 1 has limitations in reflecting the true hours worked on the Transmission network, therefore impacts the calculation of these variables, but is the best proxy available.

For Report 2, this metric was calculated as the 'Total Labour cost' divided by (average productive hours multiplied ASLs). This was then reduced by the percentage of on-costs (as discussed above).

Estimated Information:

The on-cost percentage applied was estimated based on payroll information for Victorian employees. One standard percentage has been applied across all AusNet Transmission employees. This is considered Management's best estimate of the data required.

Average Productive Work Hours per ASL – Overtime

'Average productive hours per ASL – Overtime' is the average overtime hours for the 2015 Regulatory Year paid per ASL for each classification level spent on prescribed transmission services. Overtime hours are paid productive work hours that are not 'Ordinary time earnings'.

Preparation Methodology:

For Report 1, information in relation to overtime is available. The 'Average productive work hours per ASL – overtime' was calculated as total productive overtime hours divided by ASLs.

For Report 2 all labour hire employees' and non-timesheet employees' time is considered ordinary time. Based on this, no 'Average productive hours per ASL – Overtime' calculation was performed.

Estimated Information:

For labour hire employees and non-timesheet employees (included in Report 2), it has been assumed that all labour costs incurred relate to ordinary time only. This is considered Management's best estimate of the data required.

Average Productive Work Hours Hourly Rate per ASL – Overtime

'Average Productive Work Hours Hourly Rate per ASL' is the 2015 Regulatory Year's average productive work hours (spent on prescribed transmission services) hourly rate per ASL for each classification level including labour costs that related to productive overtime hours that are not 'Labour Costs – ordinary time earnings'.

The average hourly rate is calculated by reference to the average number of productive work hours paid as overtime and includes costs that are overtime salaries and wages in the year.

Preparation Methodology:

For Report 1, this metric was calculated as the productive, overtime labour cost divided by the productive overtime hours. This was then reduced by the 2015 on-cost percentage of on-costs for Victorian employees. The percentage used was extracted from the Payroll System.

For Report 2 all labour hire employees' and non-timesheet employees' time is considered ordinary time. Based on this, no 'Average Productive Work Hours Hourly Rate per ASL – Overtime' calculation was performed.

Estimated Information:

The on-cost percentage applied was estimated based on payroll information for Victorian employees. One standard percentage has been applied across all AusNet Transmission employees.

For labour hire employees and non-timesheet employees (included in Report 2), it has been assumed that all labour costs incurred relate to ordinary time only.

These assumptions used to compute the data is considered Management's best estimate.

2.12 Input tables

Information reported in Template 2.12 Input Tables relates to direct costs for Prescribed Transmission Services. Data reported excludes overheads and is presented on an 'as incurred' basis in accordance with the response to issue number 125 on the AER Issues Register. Contract Costs are presented inclusive of any applicable Related Party Contract Cost and Related Party Contract Margin.

The summation of Direct Materials, Direct Labour, Contract Costs and Other Costs for each category reconcile to total expenditure amounts reported in each of the respective templates (with the exception of Template 2.2 Repex and Template 2.5 Connections, due to these templates being on a 'project close' basis).

All information was sourced from the Financial System.

Direct Costs

Preparation Methodology:

Vegetation Management

The GL accounts used to prepare Template 2.7 Vegetation Management were mapped into the cost categories required based on information from the Financial System.

Routine and Non-Routine Maintenance

The information was sourced from the Financial System. A report was generated which allocated the costs reported in Template 2.8 Maintenance into the cost categories required.

The total Direct Materials, Direct Labour, Contract Costs and Other Costs were allocated across the prescribed maintenance categories based on the cost profile of the same categories reported in Template 2.8 Maintenance.

Overheads

The GL accounts in the Reports used to prepare Template 2.10 Overheads were mapped into the cost categories required based on information from the Financial System.

Augmentation

Data in the Augmentation category is blank as the required network augmentation information is captured by AEMO. This is consistent with Template 2.3 Augex.

Connections

Costs incurred for all Connection projects for the 2015 Regulatory Year were extracted from Financial System Reports. These costs were mapped into the cost categories required based on information from the Financial System.

Template 2.5 Connections captures expenditure for projects which were closed during the 2015 Regulatory Year; and expenditure reported per project is the total of all expenditure incurred over the entire project life. However, the input tables capture all costs incurred in the 2015 Regulatory Year, regardless of whether a project has closed during the Regulatory Year. Therefore, the total expenditure between the two templates does not directly reconcile.

Replacement

Costs incurred for all Replacement ("Repex") projects for the 2015 Regulatory Year were extracted from Financial System Reports. The allocation of the total costs into the Repex categories (based on a 'project close' basis) was determined based on the percentage allocation of costs from Template 2.2 Repex. It was noted the percentage of closed SCADA network control and protection systems was significantly higher than the historical trend per previous submissions. Therefore a proxy for this asset category was used, based on Financial System Reports for 2015 Regulatory Year commissioned assets.

Template 2.2 Repex captures expenditure for projects which were closed during the 2015 Regulatory Year; and expenditure reported per project is the total of all expenditure incurred over the entire project life. However, the input tables capture all costs incurred in the 2015 Regulatory Year, regardless of whether a project has closed during the Year. Therefore, the total expenditure between the two templates does not directly reconcile.

Non-Network Expenditure

Information was sourced from the Financial System and underlying workings to Template 2.6 Non-Network.

Estimated Information:

The information provided in relation to Replacement is considered estimated information due to the percentage allocation applied to categorise the data.

The Routine and Non-Routine Maintenance information is estimated information based on judgements made to allocate expenditure between Routine and Non-Routine Maintenance in Template 2.8.

Information provided in relation to Motor Vehicles is considered estimated information as the application of PTS on Motor Vehicle opex is estimated (consistent with Template 2.6).

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

Related Party Costs and Margin

Preparation Methodology:

For the purpose of completing Template 2.12 Input Tables, a 'Related Party Contract' is defined as a finalised contract between AusNet Transmission and a Related Party for the provision of goods and/or Services. A Related Party is defined within the RIN instructions. Based on this definition, SGSP (Australia) Assets Pty Ltd ("SGSPAA"), which includes both Jemena and Zinfra, is identified as a related party which provides the provision of services to AusNet Transmission.

Related Party Costs were obtained from the Financial System for the 2015 Regulatory Year. Using the workings to the Annual Regulatory Accounts, Related Party Costs were allocated into the categories required.

In relation to Replacement, the Related Party Costs were allocated across the various Replacement sub-categories based on the percentage allocations applied to the total direct costs.

Related Party Margins have been estimated based on an analysis of contracts currently in place with Related Parties. The judgements and resulting estimates were made by an appropriate SME.

Estimated Information:

The allocation of Related Party costs and margins for the Replacement sub-categories was estimated using the same percentage applied to allocate the direct costs.

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

5.2 Asset age profile

For each prescribed asset category, the age profile for assets currently in commission has been provided. Data reported corresponds with the replacement volumes and cost data in Template 2.2 Repex. Where required, additional rows have been added to Table 5.2.1 to ensure all assets are reported and asset refurbishments are captured.

Economic life is the estimated period after installation of the new asset during which the asset will be capable of delivering the same effective service as it could at its installation date. The period of effective service considers the life cycle costs between keeping the asset in commission and replacing it with its modern equivalent. Life cycle costs of the asset include those associated with the design, implementation, operations, maintenance, renewal and rehabilitation, depreciation and cost of finance.

'Installed assets – quantity currently in commission by year' is the number of assets currently in commission and the year they were installed.

Table 5.2.1 – Asset Age Profile

Preparation Methodology:

Information was sourced from the Asset Management System. The information extracted from the Asset Management Systems is current data as at May 2015. This is due to the Asset Management Systems being 'live' databases. System limitations prevent asset reports being run at specific (historic) points in time. Additionally, it is noted that the Asset Management System data has been subject to data cleansing over the Regulatory Years and is subject to continuing reviews.

The AusNet Transmission asset categories do not directly align with the prescribed AER asset categories. In order to populate Table 5.2.1, engineering judgement has been applied to align assets in the required categorisations. Where AusNet Transmission identified assets that are significantly different to the asset categories prescribed by AER, the 'Other' categories are populated.

In the 2015 Regulatory Year, there was a change to the methodology for the grouping of Voltage Transformers within the Substation Switchbays Asset Group. CVTs were included with VTs to give a total of 1,211 assets. This number is greater than the total VT's reported in the 2014 Regulatory Year as CVT's were grouped within the 'Other' Category.

AusNet Services has reviewed the allocation of asset EGI codes held in AusNet Services' asset management systems into the AER categories reported in RIN Table 5.2.1, and has made some changes to better align with the modified RIN definitions and additional EGI codes introduced by AusNet Services since previous reports. Hence the information may vary from that reported in previous years.

The quantity of assets included in age profile for each year has been determined based on the month and year of installation to provide the number of assets installed by financial year. Assets with no installation date in the Asset Management System or an installation date of 1901 (which is a default for an unknown installation date) have been included in the age profile in the final year (1910/11) in Table 5.2.1.

The Economic Life for each asset has been based on the 'Asset Life Evaluation' contained in AusNet Services' 'Asset Management Strategy AMS 10-101'. The AER asset categories have been aligned with

AusNet Transmission's asset categories to populate the required Economic Life information. Refer to Table 1 below.

AMS 10-101 includes a range around the Expected Asset Life. For the purposes of populating Table 5.2.1, it has been assumed that the asset life can be represented by a Normal distribution and that the range between 'Earliest Life' and 'Latest Life' in AMS 10-101 represents two standard deviations around the mean. To calculate one standard deviation the 'Earliest Life' has been deducted from the 'Latest Life' and the result divided by 2.

It has been assumed that the Economic Life of Refurbished assets mirrors the Economic Life and Standard Deviation provided for the corresponding AER Replacement asset category. This is an estimate as it is not possible to provide an accurate Economic Life for the collection of refurbishment projects included.

Table 1: Expected Life and Standard Deviation Match to AMS 10-101

Asset Category	Asset Type	AER Category Match	Earliest Life	Expected Life	Latest Life	Technical Life	One standard deviation
AIS Switchbay -Air Blast CB	500kV DMF		40	**43**	45	55	**2.5**
	220kV DLF		40	**43**	45	55	**2.5**
	220kV DCF/DCVF		40	**45**	50	55	**5**
	220kV AT (CGE)		40	**43**	45	55	**2.5**
AIS Switchbays - Minimum Oil CB	220 - 330		35	**40**	45	42-60	**5**
	330kV HPF		35	**40**	45	42-60	**5**
	220kV HPF		35	**40**	45	42-60	**5**
	220kV HLR		35	**40**	45	42-60	**5**
	66kV HPF		35	**40**	45	42-65	**5**
	66kV OS10		45	**48**	50	42-65	**2.5**
	66kV HKEYC		44	**46**	50	42-65	**3**
	66kV HLR		35	**40**	45	42-65	**5**
AIS Switchbay Bulk Oil CB	220kV JW420		40	**43**	45	42-60	**2.5**
	220kV JW419		40	**45**	50	42-60	**5**
	66kV LG4C		40	**45**	50	42-65	**5**
	22kV 345GC	Switchbays =< 33KV CB	45	**48**	50	42-65	**2.5**
AIS Switchbay SF6 CB	AVERAGE OF ALL SF6 CB	Switchbays >33KV CB, BUS, RACK, CVT and Surge Diverters	35	**40**	45	42-55	**5**
	500kV HPL		35	**40**	45	42-55	**5**
	500kV FA4		35	**40**	45	42-55	**5**
	500kV 3AT5		35	**40**	45	42-55	**5**
	330kV LTB		35	**40**	45	42-60	**5**
	330kV HPL		35	**40**	45	42-60	**5**
	275kV FXT15		35	**40**	45	42-60	**5**
	220kV 3AQ1EE		35	**40**	45	42-60	**5**
	220kV 3AS2		35	**40**	45	42-60	**5**
	220kV 3AQ2E1		35	**40**	45	42-60	**5**
	220kV LTB		35	**40**	45	42-60	**5**
	220kV HPL		35	**40**	45	42-60	**5**
	220kV FL245		35	**40**	45	42-60	**5**
	220kV FXT14		35	**40**	45	42-60	**5**
	66kV EDF SKF		35	**40**	45	42-65	**5**
	66kV S1-72.5		35	**40**	45	42-65	**5**
	66kV HGF		35	**40**	45	42-65	**5**
AIS Disc bay	All		35	**45**	55		**10**

Table 1: Expected Life and Standard Deviation Match to AMS 10-101 (continued)

Metal Enclosed Switchgear	22kV 22L42T Bulk Oil Indoor		50	**53**	55		**2.5**
	220kV SF6 Dead Tank Outdoor	Substation Switchbays - Air Insulated Isolators/earth switch	40	**45**	50		**5**
Switchbay (AIS) - Reactive	Capacitor switch	Transformer - Other: Diverter Switches	15	**20**	25		**5**
	Reactor switch		15	**20**	25		**5**
GIS Bays	500kV Outdoor	Substation Switchbays - GIS MODULE: 330 - 500 kV	35	**40**	45		**5**
	220kV Indoor	Substation Switchbays - GIS MODULE: 0 - <330 kV	45	**50**	55		**5**
Current Transformers - single phase, oil insulated	Tyree	Average used for transformer types: VT and CT	27	**33**	39	45	**6**
	Brown Boveri		36	**42**	48	45-50	**6**
	ASEA		40	**47**	54	30-45	**7**
	ABB		24	**30**	37	30-45	**6.5**
	Other		38	**44**	50	30-50	**6**
				40			**6**
Capacitor Bank	Pre 1970	Used for all Reactive Plant (SVCS, Capacitors, Oil Filled Reactors)	35	**40**	45	40	**5**
	Post 1970		30	**35**	40	40	**5**
Synchronous Condenser	Machine w/o refurbishment	Reactive Plant: OTHER <=33 KV SYNC CONDENSER	32	**34**	35		**1.5**
	Auxiliary Equipment		32	**34**	35		**1.5**
	Refurbished (rotor, auxiliaries and stator re-wedge)		45	**47**	50		**2.5**
Insulators - Pilkington and Doulton			35	**40**	45	30-90	**5**
Insulators - Ceramic			40	**50**	60	30-90	**10**
Insulators - Polymeric			20	**30**	40	30-90	**10**
Fittings (including dampers & spacers)			40	**60**	70	30-80	**15**
Steel Overhead Ground wire			40	**50**	65	30-80	**12.5**
ACSR Conductor (& ground wire)		Conductors (GROUND WIRE SPAN) and OTHER BY - Infrastructure: Earth Grid.	35	**60**	70	30-804	**17.5**
Towers		Transmission Towers and Support Structures (ALL) Lighting Pole Other Poles & Towers	60	**70**	85	60-1004	**12.5**
HV and EHV Power Cable		Conductors (ALL)	40	**60**	70	30-804	**15**
	Average of PROT and CONTROL	Used for SCADA - Control equipment, infrastructure, relays, neutral earth compensators, generators and motors, compressors, metering					
Protection & Control Scheme	(A1) Electro-mechanical with continuous moving parts e.g. RI		22	**29**	34		**6**
	(A2) Electro-mechanical with occasionally moving parts		26	**32**	36		**5**
	(A3) Electro-mechanical with electro-magnetic operation		29	**35**	39		**5**
	(B2) Analogue electronic based mainly on solid state discrete components		18	**24**	28		**5**
	(B3) Analogue electronic device using discrete comp.s & integrated circuits		17	**23**	27		**5**
	(C1) Hybrid analogue/digital device		12	**19**	23		**5.5**
	(C2) Hybrid analogue/digital device		13	**21**	25		**6**
	(D1) Digital device incoming signals converted to digital form		13	**19**	23		**5**
Station Control Platform	Analogue		30	**35**	45		**7.5**
	Screen based (1st generation PC Based)		10	**14**	16		**3**
	Integrated digital platform		10	**14**	16		**3**
Energy Metering	1st generation units		6	**10**	12		**3**
SCADA	Station RTUs (B2)		18	**24**	28		**5**
	Station RTUs (B3)		19	**23**	29		**5**
	Station RTUs (D1)		13	**19**	23		**5**
Control Centre	Master SCADA system		10	**12**	15		**2.5**
	Host computer equipment		2	**3**	5		**1.5**
DC Supplies	Batteries (pasted plate)	SCADA - Other: Batteries	13	**15**	16		**1.5**
	Home lighting		4	**5**	7		**1.5**
	Battery Chargers (Early Analogue)		20	**24**	30		**5**
	Battery Chargers (Digital Control)		10	**15**	20		**5**
	Average of all Communications	Used for SCADA - Communications Assets		**24**			**5**
Equipment	Analogue Channel Equipment and associated frames		5	**9**	10		**2.5**
	Digital (SDH & PDH) Multiplex, Channel equipment & associated frames		6	**10**	11		**2.5**
	Digital (DSL) Metallic Line Equipment		7	**11**	12		**2.5**
	Optical (SDH & PDH) Line Equipment (Terminal, repeater & Amplifiers)		5	**9**	10		**2.5**
	New Power Line Carrier		11	**15**	16		**2.5**
	Radio & Antenna Equipment and Associated Feeder Equipment		6	**10**	11		**2.5**
	Telephone Exchange Equipment		6	**10**	11		**2.5**
Cables	Underground Metallic		24	**35**	40		**8**
	Underground Optical Cable		29	**35**	40		**5.5**
	Optical ADSS Cable		12	**18**	20		**4**
	OPGW Cable		27	**35**	40		**6.5**
Remote Site	Towers		60	**70**	85		**12.5**
	Establishment		40	**45**	50		**5**

Estimated Information:

Estimates and assumptions have been applied to align the AusNet Transmission asset categories with the prescribed AER asset categories and to provide age profile information in relation to Refurbished Assets. These assumptions have been outlined above. Additionally, the information is considered estimated information as it was extracted from a 'live' database in May 2015. The information provided in Table 5.2.1 is considered Management's best estimate of the data required based on the information available.

5.3 Maximum Demand at Network Level

Table 5.3.1 — Raw and Weather Corrected Coincident Maximum Demand at Network Level

The above table has not been completed as the required information is owned and maintained by AEMO.

5.4 Maximum Demand and Utilisation at Spatial Level

Table 5.4.1 — Non-Coincident and Coincident Maximum Demand

The above table has not been completed as the required information is owned and maintained by AEMO.