



Better regulation

Explanatory statement

**Final regulatory information notices to collect
information for category analysis**

March 2014

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Shortened forms

Shortened term	Full title
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Augex	Augmentation (capital) expenditure
Capex	Capital expenditure
CP/PC	CitiPower/Powercor
DNSP	Distribution network service provider
ENA	Energy Networks Association
Guideline	Expenditure Forecast Assessment Guideline
JEN	Jemena Electricity Networks
HV	high voltage
kW	Kilowatt
kVa	Kilovolt-amps
LV	Low voltage
MED	Major event day
MVA	Megavolt ampere
MW	Megawatt
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NSP	Network service provider
Opex	Operational expenditure
PoE	Probability of exceedance
Repex	Replacement (capital) expenditure
RIN	Regulatory information notice
RIO	Regulatory information order
SCADA	supervisory control and data acquisition
STPIS	Service target performance incentive scheme
TNSP	Transmission network service provider

Summary

The Australian Energy Regulator (AER) is undertaking the Better Regulation program of work to deliver an improved regulatory framework, which focuses on promoting the long term interests of electricity consumers. A key element of this program was the development of an enhanced approach to assessing the forecast expenditures proposed by electricity network service providers (NSPs) under the National Electricity Rules (NER). This approach has been encapsulated in our Expenditure Forecast Assessment Guideline (the Guideline) which was published on 29 November 2013.¹ The Guideline sets out the various assessment techniques we will employ to determine efficient expenditure allowances and the information we require from NSPs to do so.

A key element of the Guideline is a standardised approach to assessment, supported by standardised datasets. The first of these datasets will allow us to conduct benchmarking, trend and driver-based assessments at the disaggregated activity or expenditure category level (referred to as "Category Analysis"). The second dataset will comprise of inputs, outputs and environmental factors involved in service delivery, allowing us to analyse the efficiency of NSPs over time and compared to their peers at an aggregated level (referred to as "Economic Benchmarking").

This explanatory statement outlines the specific data requirements for Category Analysis contained in the final Regulatory Information Notices (RINs) the AER has now issued on electricity NSPs. Data templates for category analysis are contained in the following RINs, which differ depending on whether a particular NSP is about to submit a regulatory proposal:

- RINs issued on Ausgrid, Essential Energy, Endeavour Energy, ActewAGL, TransGrid and Transend, collecting information relevant to our assessment of forecast expenditures under the NER, as well as benchmarking reports. The data and requirements relating to these templates are referred to here as the "**Reset RINs**".
- RINs issued on other DNSPs and TNSPs requesting this same category expenditure data, however only for the most recently completed five regulatory years. The data and requirements relating to these templates are referred to here as the "**Category Analysis RINs**".

While the requirements (for the category data) in each type of RIN are essentially the same, there are several instances where the two sets of RINs diverge (aside from collecting historic and forecast information) including differences between requirements for DNSPs and TNSPs, which are explained throughout in this document.

The need for Category Analysis data

Information collected for category analysis will be used for:

- undertaking analysis of trends in disaggregated expenditures, which are expected to be explained in relation to the volume of work undertaken, the presence (or absence) of environmental factors including changing legal obligations, the scale of the business as well as variances in drivers over time such as demand and asset age/ condition
- examining differences in costs incurred on comparable activities undertaken by NSPs (i.e. cross sectional benchmarking) which will again reveal the presence of various explanatory variables

¹ Available here: <http://www.aer.gov.au/node/18864>

- using the above analysis to form views on where forecast expenditure allowances and components thereof proposed by NSPs appear reasonable and in accordance with the NER criteria. The analysis will allow a better targeting (for example, through our "first pass" approach²) of more intrusive and costly assessment techniques that have characterised the AER's past assessments. The refinement of category based data through discussions with affected NSPs over time will further inform such expectations
- publication of trend and benchmarking analysis in annual benchmarking reports in order to generally improve dissemination and greater awareness amongst interested stakeholders on NSP performance, with the aim of enabling network users to better engage in the process of determining regulated network prices and revenues
- through all of the above, allow the AER to take a more pro-active stance in regulating network businesses and make better decisions on efficient expenditure allowances.

Consultation approach and key outcomes

Consultation on Category Analysis began in December 2012 with the release of the AER's issues paper on the Guideline. Following a series of stakeholder workshops, indicative data requirements were suggested to stakeholders in the form of templates released in August 2013 with the publication of the draft Guideline. The explanatory statement accompanying the draft Guideline contained an appendix of over 70 pages discussing the proposed assessment approach and data requirements for each individual expenditure category. Following this we sought initial feedback from all NSPs in the form of an informal survey as well as in joint meetings in several capital cities. We also hosted more in-depth bilateral meetings and sought further material from all NSPs on specific elements of the templates. A workshop, bilateral meetings and follow-up discussions were held following the issuing of the draft RINs in November, in addition to the receipt of written submissions in mid-January.

Overall we have gone beyond NEL requirements in terms of the significant consultation undertaken prior to issuing the draft RINs in November, providing staff level views on the likely content of draft and final RINs, and also in terms of issuing detailed explanatory statements with the RINs. We similarly acknowledge and are very appreciative of the way in which all NSPs have spent considerable effort in providing constructive input and allowed access to subject matter experts within their organisations during consultation and hope to build on this process into the future. Notable examples include Ergon Energy (who organised to have over 20 subject matter experts talk directly with AER officers on individual templates), Transend and TransGrid, who raised and discussed over 70 individual questions with AER staff on the draft RINs.

At each stage of consultation, the AER has carefully considered matters raised by NSPs and worked to minimise the scope of information required and the likely cost of compliance on NSPs. The Draft RIN (as acknowledged by NSPs) was a marked improvement upon the indicative templates released in August, and the final RIN represents further refinements to reflect the matters raised. In recognition of the need to significantly improve our approach to expenditure assessments, and at the urging of customer representatives, we have been persistent in pushing the benefits and importance of obtaining category analysis data from NSPs. At the same time, we have been sensitive to NSP concerns and views the likely costs of collecting particular data are likely to be greater than the benefits of having these data. In several cases we have omitted what may be important explanatory variables from the final RIN templates in anticipation that the need for this information will become clearer after initial datasets are presented and discussed with stakeholders in the coming year.

² Explained in more detail in section 2.3 of the Guideline.

Ultimately, however, the compliance burden of the final templates will not be insignificant and will differ across NSPs given the transition to a new, nationally consistent reporting framework, which is seen of particular significance and will be developed further over time. We are satisfied that overall this burden will be considerably outweighed by the benefits flowing from such a framework.

In terms of specific issues leading into the final RIN, we received 16 formal submissions on the draft RIN which collectively raised the following major issues:

- The timeframe allowed for NSPs to submit data was unreasonably short, and inconsistent with the timeframes allowed for economic benchmarking information (particularly where category data requirements were more extensive).
- The drafting of statutory declaration forming part of the RIN, in relation to requiring assurances that actual information was excessive and went beyond corresponding audit assurances for these data.
- Varied but general concerns that NSPs, in being compelled to estimate historic information, would effectively be misleading the AER or providing information that was not sufficiently robust for the purposes of expenditure assessment.

Our full responses to these issues are set out in the next chapter, however in summary:

- We consider the due date for RIN responses, including audit reports, of 31 May is reasonable, noting that NSPs have had full visibility of the category templates since November (and August in some cases). The reporting burden associated with almost every data template has reduced since this time. While we recognise the volume of remaining data requirements are not insignificant, we reiterate the importance of obtaining a full dataset in time to conduct transparent assessments and undertake further discussions with the sector prior to releasing issues papers for the NSW/ACT reviews (in July) and benchmarking reports (in September).
- We have not amended the wording of the statutory declaration. Obtaining assurances over information submitted is of paramount importance. The assurances for estimated information (which did not raise concerns) require NSPs to use best endeavours and be transparent in their assumptions or judgements. For actual information, we consider it reasonable for company officers to attest, to the best of their knowledge, that this information is true and accurate, given it (by definition) cannot be dependent upon potential alternative methods of calculation.
- The robustness of submitted data will be subject to further discussions with NSPs at the time it is processed and will no doubt be a key consideration as part of the AER's future expenditure assessments. NSPs will also have the opportunity to outline concerns over estimation methods and resulting data in their bases of preparation, which will be published alongside their data submissions. The quality of information is expected to improve over time, and we note that current concerns around generating estimates are not uniform across the templates or NSPs.

We have also identified and addressed a long list of clarifications and amendments put to us by NSPs in the following sections of this explanatory statement.

Next steps

We will publish the information received in response to these RINs and engage with stakeholders in conducting analysis of this standardised data from around mid-2014. Our first formal consideration of

this analysis will be in the form of our issues paper³ released as part of the NSW/ACT and Transend reviews around July 2014. Similar to our current process in publishing performance reports⁴, we will give NSPs an opportunity to comment on benchmarking results before we prepare and publish our first annual benchmarking report in September 2014.

Over the medium term, with visibility of NSP data and our assessment techniques, we expect our analysis of expenditures will inform, and be informed by, analysis and modelling conducted by interested parties, including NSPs and consumer representatives. Ultimately the major output of this analysis will be to rigorously test the expenditure proposals put to us by NSPs at the time of each reset, as required by the NER. More broadly, and in conjunction with our separate (but related) dataset for economic benchmarking, this work will assist in a greater engagement and understanding of the different drivers and other influences affecting the expenditures of NSPs across the NEM.

We have been mindful of issues around providing clear instructions on the preparation of data, including through appropriate definitions and requesting transparency on how NSPs have prepared data. This clarity and transparency is critical in allowing NSPs and other stakeholders to understand potential issues in comparability and analysis of the category data. We welcome further discussion on defining terms and recognise this will be an ongoing process that may result in refinement to the data requirements over the medium term.

Table 1 lists the key dates relating to data for upcoming resets and the 2014 benchmarking report. RINs and related processes relating to NSPs submitting regulatory proposals after May 2014 are not listed.

Table 1 Milestones for category analysis data requirements

Date	Milestone
7 March 2014	Issue final RINs
31 May 2014	RIN responses due
June 2014	Data published on AER website
July 2014	Publication of AER issues paper(s) for next round of resets
September 2014	Publication of AER benchmarking report(s)
November 2014	Publication of draft decisions for NSW/ACT NSPs and Transend

³ NER clauses 6.9.3(b) and 6A.11.3(b) require the AER to publish an issues paper 40 business days after the receipt of the NSP's proposal. While this is not required under transitional arrangements for these next resets, we consider such issues papers to be a valuable step in the reset process and intend to publish them outside of the NER requirements.

⁴ NER clause 8.7.4.

1 General issues

This chapter summarises our key justifications for issuing the Final Category Analysis RIN and associated templates, including:

- the satisfaction of NEL requirements in issuing the RINs, including whether the information is reasonably necessary for the AER
- considerations around data quality and the use of estimated information in the context of these assessments
- the timeframes for submitting data
- our decision on seeking particular assurances over the information to be submitted by NSPs
- other considerations around the process of gathering and using category analysis data.

Issues raised in relation to the individual category templates are dealt with in the remaining chapters of this explanatory statement.

1.1 Satisfaction of NEL requirements

1.1.1 AER position

Appendix D of the RINs contains our considerations on compliance with NEL requirements.

In summary, under section 28F(1) of the NEL we are satisfied that serving RINs on NSPs to collect category analysis information is reasonably required for the AER to perform its functions under the NER and the NEL. In satisfying ourselves of this, we have had regard to the factors listed in section 28F(2), namely the matters to be addressed by serving the RINs, and the likely costs incurred by an efficient NSP in complying with the RIN.

The specific functions the RIN is intended to address/ allow us to perform are:

- publish annual benchmarking reports for DNSPs and TNSPs under the NER
- determine efficient capex and opex allowances for NSPs, having regard to matters including actual expenditures, expenditures of the efficient NSP and the most recent benchmarking report

Secondary to these prescribed functions, the publication of data contained in the RINs will assist stakeholders engage in the AER's expenditure assessment processes.

We recognise the incremental burden faced by NSPs in the form of new reporting arrangements in the RINs. In particular, there are likely to be some one-off costs in establishing or modifying reporting systems to enable the preparation and maintenance of the data required in the RINs. In accordance with good regulatory practice, we have sought to minimise this burden and have worked closely with NSPs to reduce the scope and depth of the data templates while ensuring our general objectives in expenditure assessment are not materially compromised.

1.1.2 Reasons for AER position

Is the information reasonably required by the AER?

The need for category analysis information has been communicated repeatedly throughout consultation on the Guideline and RINs.

Category analysis forms a major part of the Guideline and in the AER's future assessments of efficient capex and opex. The assessment approaches for each expenditure category were contained in separate appendices to the explanatory statements accompanying the draft and final Guidelines, with information requirements specified in general form in the Guidelines for transmission and distribution. Conceptual frameworks specific to each category, namely the identification of key drivers and expenditure classifications, were developed in consultation with NSPs and other stakeholders in category-specific workshops in the first half of 2013, and were further refined in subsequent consultation following the draft Guideline and the release of indicative data templates in August 2013.

As with each of these previous consultation documents, we have sought to provide a clear justification for data requested in each template of the final Category Analysis RIN in this Explanatory Statement. This notwithstanding, several NSPs considered the purpose of the information requested in the draft RIN was not adequately articulated, namely:

- The NSW DNSPs (commenting on their draft Reset RIN, which included the category analysis templates) did not consider Appendix D to their RIN was sufficient, particularly why the information was required in their regulatory proposal⁵
- Ergon Energy similarly stated that there was insufficient explanation in the RIN of why or how the specific information requested was relevant to the AER's approach to benchmarking and category analysis (as articulated in the draft RIN Explanatory Statement and associated Guideline documentation)⁶
- SA Power Networks (SAPN) considered that the reasons for requiring the current disaggregated category information and the intended utility of that information had not been clearly established or enunciated by the AER⁷
- Farrier Swier Consulting (on behalf of Grid Australia) also considered that the ultimate purpose of the RIN was not made sufficiently clear or precise in the Explanatory Statement accompanying the draft RIN, suggesting that the associated Guideline provided a more precise description and the context of the information requirements.⁸

Aside from these comments, most NSPs indicated at least a general understanding of the AER's intentions and justifications for requesting the information in the draft RIN. Grid Australia generally accepted that additional information, presented in a consistent manner, would be helpful to the AER's task of assessing expenditure forecasts and to undertake benchmarking.⁹ SP AusNet also indicated an understanding of the role of the information requested in facilitating expenditure benchmarking under the AER's Better Regulation program. Powerlink understood and accepted the AER's intended purpose of requesting information in the draft RIN, while CitiPower/Powercor (CP/PC) were

⁵ NSW DNSPs, *Submission on draft reset RIN*, 17 January 2014, p. 2.

⁶ Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p. 4.

⁷ SA Power Networks, *Submission on draft category analysis RIN*, 17 January 2014, p. 2.

⁸ Grid Australia, *Submission (Farrier Swier report)*, 22 January, pp. 4-5.

⁹ Grid Australia, *Submission on draft category analysis RIN*, 17 January, p. 2.

supportive of the AER seeking quality information to improve its decision making and in developing data and benchmarking techniques.¹⁰

What many NSPs questioned was the usefulness of the information as a result of the need to estimate it and the resulting impact on data quality (addressed below).¹¹

In developing the Guideline, we considered it unhelpful and overly prescriptive to be definitive on the precise use or impact of particular techniques, including category analysis information, as they relate to assessing and determining expenditure allowances. The information collected for category analysis will be used for several techniques, predominantly benchmarking, trend analysis and predictive modelling for repex and augex. The discussions with the sector over the last 12 months have tended to characterise the use of techniques in ways such as "informative" and "determinative". Our position, which has been put consistently throughout consultation, is that the use of or weight placed on particular techniques will ultimately depend on an assessment of the strength of that particular technique at the time of making determinations under the NER. These are encapsulated in the 'assessment principles' specified in section 2.5 of the Guideline (transmission and distribution).¹² The value of collecting information for a particular technique is not diminished if we refrain from stating, a priori, that a technique will be used in a deterministic manner.

Energex and Jemena Electricity Networks (JEN) suggested it would be sufficient (in light of the additional burden of completing the category analysis RINs) to only use data for economic benchmarking and previous annual reports in the AER's benchmarking reports or to inform the next round of price reviews.¹³ We do not consider this information to be sufficient for the stated objectives of performing assessments of efficient expenditures, including as supported by annual benchmarking reports. While the scope of benchmarking reports is undefined in rules 6.27 and 6A.31 of the NER, we are not inclined to undertake the minimum data collection and analysis possible to satisfy these requirements and focus only on economic benchmarking techniques. The insertion of this obligation on the AER was a key decision by the AEMC in recognition that benchmarking was previously lacking the AER's assessment and would be critical for consumers wishing to engage more effectively in the assessments of efficient expenditures.¹⁴ In any case, the sufficiency of economic benchmarking techniques to arrive at a robust view of relative expenditures has been (and continues to be) questioned by NSPs. More importantly, assessing efficiency at the whole of firm level, supported by analysis at the disaggregated category or driver level, is a key and desirable feature of the assessment framework in the Guideline and distinguishes this framework from previous efforts, including by jurisdictional regulators. We are also concerned at JEN's suggestion of (at least in the short term) relying on information collected annually from jurisdictional-specific data templates, as these non-standardised datasets have been the primary impediment for the AER in conducting more consistent benchmarking to date.

Several NSPs also questioned the need for detailed supporting information to accompany RIN responses, including information relating to accounting policies, reconciliation sheets and supporting

¹⁰ Powerlink, *Submission on draft category analysis RIN*, 17 January 2014, p. 3; SP AusNet Distribution, *Submission on draft category analysis RIN*, 17 January 2014, p. 1.

¹¹ ElectraNet, *Submission on draft category analysis RIN - Attachment*, 17 January 2014, p. 2; SA Power Networks, *Submission on draft category analysis RIN*, 17 January 2014, p. 2.

¹² AER, *Explanatory Statement - Expenditure Forecast Assessment Guideline*, November 2013, pp. 86-90; AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, section 2.5, pp. 15-6.

¹³ Energex, *Submission on draft category analysis RIN*, 17 January 2014, p. 1; JEN *Submission on draft category analysis RIN*, 17 January 2014, p. 6.

¹⁴ AEMC, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services*, Final Rule determination, 29 November 2012, pp. 25-26.

data sheets.¹⁵ This is addressed in the following chapter regarding accounting reconciliations and supporting information.

Costs of providing the information and matters to be addressed

In accordance with good regulatory practice we have sought to minimise the scope and cost of data requirements in light of the intended use and purpose of gathering that data. In various areas the final RINs reflect numerous refinements in light of NSP concerns regarding the significant cost burden involved, and also in recognition that further refinements to data requirements are likely to be considered in future years once data are collected and analysed in regulatory decisions.

During consultation we prompted NSPs to quantify the likely cost of compliance with the draft RINs, in terms of person-hours taken to provide certain information and expenditures. Many NSPs were unable to do this, however this does not detract from their view that the costs would be substantial.

In direct response to NSP submissions regarding the usefulness of information, and also calls to take a step by step approach (and hence defer collection of some data)¹⁶, we have reduced the scope of data requested in the following major areas relative to the draft RINs:

- removing labour cost tables from direct cost categories
- acceptance of DNSP proposed materiality thresholds for providing information for augmentation projects
- removing requirements to provide maximum demand data for high voltage (HV) feeders and subtransmission lines, for weather corrected historical data and for adjustments (such as load transfers)
- reducing the amount of non-network expenditure and volume data
- refinements to asset categories in replacement capital expenditure (namely the grouping of pole top structures)
- removal of various volume data for standard connections
- simplification of accounting reconciliations and information to support these.

In other areas we have resisted NSP suggestions to reduce or remove particular data requirements, given the importance of those particular data for assessing material expenditures, including:

- estimations of the number of maintenance spans, and average number of trees per span, relevant to vegetation management
- the general standardisation and number of asset categories for replacement capex modelling
- costs for standardised components of large augmentation projects (particularly for TNSPs).

¹⁵ Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p. 4;

¹⁶ Transend, *Submission on draft reset RIN – Attachment*, 17 January 2014, p. 2; Grid Australia, *Submission*, 22 January, p. 1.

1.2 Quality and use of estimated information

1.2.1 AER position

We are comfortable that NSPs on the whole will be able to provide information that is of use to the AER in its assessment of efficient capex and opex. NSPs and other stakeholders will have an opportunity to comment on the robustness of information presented in the templates, the resulting analysis and conclusions drawn from that analysis, in accordance with the principles outlined in the Guideline.

1.2.2 Reasons for AER position

Many amendments to the templates for the final RIN address areas where NSPs expressed concern around data quality and the need to make assumptions or allocations to provide data.

For the remaining elements of the RINs, we note that the need to estimate information and their expressed ability to do so using secondary or supporting information differs across NSPs and across expenditure categories.

As per the draft RIN, NSPs are required to submit a "basis of preparation" which includes explanations of the following for all inputs:

- the source from which the information was obtained
- the methodology used to provide the required information, including any assumptions made
- the circumstances where actual information could not be provided and hence where an estimate was made
- why any estimate provided was the best estimate, given available alternative estimation methods.

The basis of preparation will need to be in sufficient detail to be compliant with the RIN. Otherwise NSPs are encouraged to consider the use of this supporting information by stakeholders and the AER in considering the ability to rely on this information in developing benchmarking reports and other analysis at the time of regulatory determinations. That is, where NSPs are concerned around the quality of information they are providing, it is in their interest to provide full transparency on how specific data were generated for the consideration of all stakeholders and the AER. This will also aid NSPs in presenting information (for example, against the Guideline's assessment principles) in support of any views that different estimation methods give rise to incomparable data and undermine the AER's benchmarking analysis.

For these reasons, we have not accepted the suggestions by many NSPs to provide exclusions or allow non-compliance for various aspects of the RIN. For example:

- United Energy Distribution (UED) considered NSPs should not be required to provide information that is not in existence and cannot be objective derived from existing information¹⁷
- JEN recommended that NSPs only be required to submit "reasonable estimates" rather than "best estimates" in certain circumstances¹⁸

¹⁷ UED, *Submission on draft category analysis RIN*, 17 January 2014 submission, p. 2.

¹⁸ JEN, *Submission on draft category analysis RIN*, 17 January 2014, p. 4.

- CP/PC recommended the AER establish a process where NSPs could seek exemptions from being required to submit estimates where there is no basis on which to do so¹⁹
- The NSW DNSPs submitted that the RIN should provide for a reasonable excuse to not provide information where the NSP can demonstrate the data is unreliable or misleading²⁰

The ENA (supported by many NSPs) considered that NSPs should not be required to provide information that is not in existence and cannot be objectively derived from existing information.²¹ We agree with this position however disagree with general statements made by some NSPs that it would be "impossible" to derive estimated data from existing information. In discussions with relevant subject matter experts in the course of consulting on the RINs, these general claims have typically given way to there being at least one method of estimation being possible. We expect NSPs to simply approach the estimation process on a best endeavours basis. Concerns about the use of the information this generates will be addressed by NSPs and other stakeholders applying appropriate scrutiny as it is presented and if relied upon by the AER.

Related to this, we are also not convinced by suggestions that NSPs would be better able to complete the templates with more visibility over the AER's intended use of the data. We have stated in previous consultation that the use of the information is not a relevant consideration in complying with the templates. This notwithstanding, the use of particular data has been outlined clearly, and we have provided clear guidance in terms of definitions and other instructions in the RIN. Further responses to specific points of clarification leading to the final RIN are outlined in the following chapters on each template.

1.3 Timing issues

1.3.1 AER position

The RINs require NSPs to provide full and audited datasets by 31 May. We consider this is a reasonable timeframe given the scope of data required in the final RINs and the importance of the information in the AER's determination processes in mid to late 2014.

We have amended the ongoing obligation provisions in the final RIN to allow NSPs time to establish processes to gather and submit actual information, and have also made provision for data that will, by their nature, always be estimated.

1.3.2 Reason for AER position

As communicated throughout consultation on the Guideline over 2013, our intention with respect to category analysis data is to align consultation and the issuing of RINs to meet the timeframes for the upcoming resets for NSW/ACT NSPs and Transend. Specifically, all data for category analysis purposes will be submitted to the AER by 31 May, alongside regulatory proposals for these NSPs. These timeframes will ensure that the AER, as well as interested stakeholders, has a full set of category analysis data from all NSPs in order to inform views of efficient expenditures allowances for the upcoming round of resets. Our decision reflects consideration of the work involved for NSPs in complying with the final RIN, and that NSPs have had sufficient advance notice of the likely data requirements involved and have acted on this knowledge.

¹⁹ CitiPower/Powercor, *Submission on draft category analysis RIN*, 17 January 2014, p. 3.

²⁰ NSW DNSPs, *Submission on draft reset RIN*, 17 January 2014, p. 3.

²¹ ENA, *Submission on draft category analysis RIN*, 17 January 2014, p. 3.

DNSPs unanimously expressed strong concerns over the 31 May deadline given the volume of information requested in the draft RIN templates as well as supporting information. Several proposed to provide unaudited information by this date, with audit reports (and presumably revised datasets) up to two months later. The NSW DNSPs proposed to extend the due date for submissions (including audit reports) a full two months beyond the AER's due date, reflecting the additional requirements associated with the reset RINs. Several NSPs highlighted that the AER had afforded more time for them to submit information and audit reports for economic benchmarking data, which was less burdensome than the draft category analysis RINs.

In response to these concerns and proposals, we highlight:

- There would be an unacceptable risk to the AER's upcoming determination process to receive information, including revised audited information, later than the 31 May submission date. Due to recent changes to the NER and transitional arrangements, there is an unprecedented bottleneck of determinations to be made in late 2014. In a time/resource constrained environment, the AER, NSPs and other stakeholders require sufficient opportunity to view and process datasets that have been subject to audited and other quality assurances.
- Related to this first point, we note NSP concerns over the robustness of estimated category analysis data, and hence the need to carefully examine these data prior to forming a view on whether and how to rely on them in determinations of efficient expenditure.
- The timeframes regarding the economic benchmarking RINs were also driven by the need to have information in time for the next round of determinations.
- NSPs have had visibility of the AER's likely information requirements since August 2013 with the release of indicative data templates. Based on these templates, many NSPs undertook analysis of their existing data systems to identify where information was not available and hence would need to be estimated. We consider that NSPs, from this point, would have naturally begun considering how such information could be prepared.
- The most detailed of the information templates, namely asset profile and replacement volume data required to populate the repex model with over 200 rows, has not changed materially since August 2013. Several DNSPs have been providing the AER with detailed repex information in annual reports.
- Further visibility of refined templates, with significant reductions in the scope of data required from the indicative templates, was provided ahead of issuing the draft RIN in late November.
- From early January, AER staff began meeting with NSPs to provide their views on further changes to the templates in response to NSP submissions and questions. Aside from numerous email correspondence and phone conversations with each NSP, AER staff hosted many face to face meetings with NSPs where (in one instance) over 70 individual items were discussed and staff level guidance was provided. These discussions have led to further refinement of data requirements.
- On 14 February, AER staff circulated a document of over 100 pages containing responses to issues raised in written submissions and bilateral meetings, thus providing a comprehensive (albeit staff level) view of changes between draft and final RINs. Associated templates were also provided to NSPs on 26 February.

- We generally understand (based on their comments) that NSPs began populating the templates (and in some cases had engaged auditors) well ahead of receiving the final RIN given the 31 May deadline.

Overall we note that almost every change from the draft to final RIN was a reduction in the scope of information requested and in particular cases (namely maximum demand, non-network expenditure and labour cost information) these reductions were substantial and at the suggestion of NSPs. These reductions, rather than an extension of time (which, as noted above, would create unacceptable risks for the upcoming round of determinations) should go a significant way to addressing NSP concerns over the due date for providing information.

Regarding compliance with the RIN in coming years, SAPN raised the prospect that it may take several years for NSPs to establish data capture systems that would enable them to report "actual" information rather than estimates (see discussion below regarding this distinction).²² It also noted that it may always be appropriate to provide estimates of certain data. We agree with this view and have amended provisions relating to the ongoing reporting obligations on NSPs such that actual information is now to be provided for regulatory years from 2015-16 (2015 for NSPs on calendar years), and have identified data that would always be estimated.

1.4 Auditing and certification requirements

1.4.1 AER position

The final category analysis RIN requires the same assurances as per the draft RIN and the RINs recently issued for economic benchmarking data.

All requested (historic) data must be audited. We require reasonable (positive) assurance on actual financial information and negative assurance on all other information. The audit standard for estimated financial information is ASRE 2405 and actual financial information is ASA 805. The audit standard for non-financial information is ASAE 3000. A NSP can use suitably qualified non-financial auditors to audit non-financial information if the AER currently allows this for the non-financial information the NSP reports annually.

The draft RINs require NSPs to prepare bases of preparation for historical information reported in their RIN responses. The basis of preparation outlines how a NSP prepared its response to the RIN and in doing so complied with the requirements of the RIN. To assist NSPs in doing this this, we developed instructions (as an appendix to the RIN) on how to complete (and comply with) the RIN templates and the requisite bases of preparation. Bases of preparation will be published alongside responses to the RINs.

The statutory declaration requires an officer of the NSP to say, to the best of their knowledge, information and belief, that (in addition to being prepared in accordance with the RIN) actual information is true and accurate, and that all other information reflects the NSP's best estimate.

1.4.2 Reasons for AER position

Obtaining audit assurances and certifications over the quality of historic information provided by NSPs will be an important element in conducting category analysis and more generally in using data to inform and determine efficient expenditure allowances.

²² SAPN, *Submission on draft category analysis RIN*, 17 January 2014, p. 7.

Forecast category data provided to us in the reset RINs must also be reconciled to regulatory proposals and the NSPs' internal planning documents. It must also reconcile to any models that NSPs provide as part of the regulatory process or used to justify their proposals. We may not accept, or may place low weight on, information sources that we find to be irreconcilable or inaccurate.

For annual reporting RINs for some NSPs we currently allow qualified non-financial auditors (such as engineering firms) to review non-financial information. Consistent with our stance on data collected for economic benchmarking, and in the interests of RIN compliance and cost minimisation for NSPs, we will continue to allow NSPs to use suitably qualified non-financial assurance practitioners to audit non-financial information where this is currently the case for annual reporting, provided the assurance practitioner meets the requirements of ASAE 3000.

As noted previously, we will not publish audit reports provided on the RIN responses. It is sufficient that RIN responses are independently audited and reviewed and NSPs provide the reports to us.

A key feature of the RINs and related auditing requirements is the NSP's basis of preparation. This is expected to provide transparency for the AER and other stakeholders looking to understand how data are prepared. This includes addressing potential issues around the need to estimate data and impacts on comparability across NSPs and over time.

We recognise that the requirement to provide sign-off on actual information as "true and accurate" is a higher standard than applied in recent annual reporting for most NSPs. This reflects the significant time and effort we have spent in revising expenditure reporting requirements and the increased importance of this information in future expenditure assessments.

The different audit requirements and certifications for "actual" and "estimated" data were developed in consultation with NSPs and their auditors in late 2013 in the context of the economic benchmarking RIN. In particular, higher standard around actual information reflects that this information would not be subject to potential judgements or multiple methods of calculation in the same way as estimated information, as reflected in the RIN definition:

Information presented in response to the Notice whose presentation is Materially dependent on information recorded in [NSP's] historical accounting records or other records used in the normal course of business, and whose presentation for the purposes of the Notice is not contingent on judgments and assumptions for which there are valid alternatives, which could lead to a Materially different presentation in the response to the Notice.

In other words, by our own definition, there is only one materially suitable or possible way to present "actual information".

Many NSPs objected that the statutory declaration requires an officer to attest that actual information is "true and accurate". Their concerns were largely based on the corresponding audit requirement not providing the same level of assurance on actual (financial) information, namely whether or not this information was presented fairly in accordance with the RIN requirements and the NSP's basis of preparation. NSPs recommended the phrase "true and accurate" in the statutory declaration be amended to "true and fairly presented" or similar wording. SAPN considered that the requirement for a statutory declaration was unnecessary in addition to audit requirements, and stated that the content of

any statutory declaration could not be determined by the AER.²³ The NSW DNSPs also suggested that NSPs should have the ability to develop their own statutory declaration.²⁴

We are not persuaded by the NSPs' recommendations or arguments:

- The distinctions between actual and estimated information were developed in consultation with NSPs and their auditors on the economic benchmarking RIN.²⁵ NSPs are now required to comply with the statutory declaration accompanying this RIN with contains the same drafting as the category analysis RINs. We expect the quality assurance processes employed by each NSP over economic benchmarking data would be identical to that for the category analysis RINs.
- Like the economic benchmarking RINs, the statutory declaration provides for appropriate qualifications (e.g. limited to knowledge of that officer) which reflect what assurances would be possible and reasonably expected of the particular officer.
- We would be concerned if, in light of these qualifications and our definitions, NSPs would be unable to assure us and other stakeholders of the accuracy of their "actual information".
- There is no reason why the audit requirements must align with the certification in the statutory declaration. Including a statutory declaration in the RIN, in addition to auditing requirements, is standard AER practice and is intended to ensure NSPs have turned their minds to establishing internal assurance processes rather than relying solely on auditing sign-offs.
- Some of the concerns expressed appear to be based on a misunderstanding that the "true and accurate" certification applied to estimated data²⁶ or all financial information.²⁷
- Based on the degree of concerns raised by NSPs about having to provide estimated information, we understand the scope of actual information provided in response to the RINs is likely to be small.

1.5 Other general issues

RIN compliance

As we did when issuing the draft RINs and RINs for category analysis, we highlight for the close attention of NSPs that we will be carefully considering their compliance with each element of the RIN. In particular:

- NSPs must complete all input cells in the templates. The templates clearly mark which cells require input and which are calculated. NSPs must enter a value into the cell that corresponds to the unit required. NSPs must not input 'N/A' or similar – this will amount to non-compliance.
- Exceptions to this are limited circumstances where data are not applicable to a NSP or not required by us. The instructions and definitions document and the templates clearly identify the variables that fall into this 'not applicable/not required' category. A NSP may, for these data only, black out the cells rather than input information.

²³ SAPN, *Submission on draft category analysis RIN*, 17 January 2014, p. 8.

²⁴ NSW DNSPs, *Submission on draft reset RIN*, 17 January 2014, p. 4.

²⁵ AER, *Explanatory Statement - Regulatory information notices to collect information for economic benchmarking*, November 2013, p. 20.

²⁶ United Energy, *Submission on draft category analysis RIN*, p. 2.

²⁷ SP AusNet, *Submission on draft category analysis RIN*, p. 5.

There may be other input cells that a NSP considers do not apply to it. For these cells, the NSP must nevertheless provide an input, even if that input is '0'. For these cells, NSPs should consider the variable as a question and the input they are providing as a response to the question. For example, if a NSP incurs expenditure on a certain activity but does this entirely with in-house resources, the NSP can still provide a logical answer to the question "how much expenditure was incurred on contract costs for that activity?" by inputting '0'.

It would not, however, be logical to answer the question "what is the weather adjusted non-coincident maximum demand at the zone substation level?" with '0' because maximum demand (weather adjusted or not) cannot logically be 0.

Further, this also means that NSPs must not enter '0' because they consider it would be difficult or burdensome to provide the information if a variable warrants a non-zero response.

In order to comply with the RINs, a NSP must provide estimates for some variables. In such circumstances, NSPs must provide their best estimates and explain how they produced the estimate. Compliance with the RIN requires NSPs to genuinely consider their method of estimation is the best available to it and to explain, in its basis of preparation, how it produced the estimate.

This basis of preparation will be of paramount importance to stakeholders wishing to understand any issues in how NSPs have generated data, particularly in considering benchmarking results affected by these data and estimation methods. The additional public scrutiny applied to these bases of preparation should provide a degree of discipline on NSPs to make these documents clear and comprehensive, as well as ensure they have made genuine efforts to use the best available method of estimating data where this is required. We reiterate that while NSPs will be required to generate estimates in some cases, where they use best endeavours to do so we do not anticipate compliance issues.

We are aware that we have not taken action against NSPs that have not provided certain data requested in RINs issued in the past. We also recognise that there may be a need to refine definitions and liaise with NSPs in providing clarifications to the RIN requirements, and note NSP concerns at having to generate estimates and the difficulties this may entail. However, obtaining a full set of data to furnish techniques as set out in our Guideline is a key priority for the AER and we will take a dim view of NSPs who have not taken sufficient and genuine steps to comply with the RINs.

Issues register

We will not be publishing or maintaining a general issues register for NSPs completing the RINs given this may result in non-compliance. NSPs are obliged under the NEL to provide the data requested in the RINs by the due date, and their responses should not depend on the AER's further guidance or instructions. That said, NSPs will be welcome to contact us via expenditure@er.gov.au while completing the RINs should they require clarification.

Use of data by AEMO

TransGrid expressed concerns over the AER sharing unit price and similar project cost information with AEMO.²⁸ In particular, it considered a potential conflict of interest may arise within AEMO where this information (exchanged with the AER for the purposes of assisting in regulatory determination processes) were used inappropriately by AEMO in its procurement functions, for example, in identifying margins implicit in tendered works. TransGrid proposes that the AER share information

²⁸ TransGrid, *Submission on draft reset RIN*, 17 January 2014, pp. 2-3.

with AEMO on the condition that AEMO has in place appropriate internal ring-fencing arrangements and safeguards on the disclosure of that information to third parties.

As TransGrid is aware, the AER's sharing of information with AEMO is done under legislative provisions that we consider provide for appropriate controls over the use and protection of that information. Specifically, AEMO is a body legally authorised to receive confidential information from the AER subject to any conditions the AER imposes. We impose the condition on AEMO that the information must be treated by AEMO as confidential and must not be published, redistributed or reproduced in an identifiable fashion.

Miscellaneous issues

Submissions also raised various minor issues, to which our responses are listed here:

- UED asked the AER to release its Economic Benchmarking model²⁹— although not related to the category RINs, the AER released an illustrative model for economic benchmarking techniques last year for stakeholder consideration. We recognise this is not a fully functioning model however there is no equivalent set of excel templates/ equations or handbooks of the type issued for the AER's repex and augex models. Functioning models for economic benchmarking depend on the analysis of actual data and the generation of specific functional relationships from this analysis. We intend to publish our first analysis and the results of applying economic benchmarking techniques around the time we release issues papers for the upcoming reviews in NSW/ACT/Transend (approximately June/July). This "model" is expected to be amended and improved in the subsequent consultation.
- UED also requested that the draft RIN and accompanying explanatory statement be amended to clarify it is required to report against calendar years, covering 2009 to 2013³⁰— we confirm this is correct. As per the draft RIN, the final RIN specifies that calendar years are applicable in the case of Victorian DNSPs
- SP AusNet also stated it would be helpful if the data labels in its RIN templates were amended to reflect calendar rather than financial years³¹— the option for DNSPs to select either calendar or other regulatory years has been provided for in the DNSP templates.
- Ergon requested clarification on how the RIN drafting allows it to be superseded in the case a RIO (consolidating all reporting arrangements) is issued at a later date³²— we acknowledge that the drafting of the RIN itself does not accommodate such a change, however the NEL (Schedule 2 section 20) gives the AER power to amend or repeal regulatory information instruments
- Ergon also considered it inappropriate that the AER appeared to be consulting on the content of Reset RINs to apply to all DNSPs as part of the category analysis RIN consultation³³— we do not fully understand this concern given we are consulting with all NSPs at the same time on the content of the category templates, which are a subset of the Reset RINs. It may be the case that this current consultation may pre-empt the content of future reset RINs in relation to category analysis information. However this is considered desirable, given the benefits of having consistent datasets, and is otherwise a design feature of the Guideline.

²⁹ UED, *Submission on draft category analysis RIN*, 17 January 2014, p. 3.

³⁰ UED, *Submission on draft category analysis RIN*, 17 January 2014, p. 1.

³¹ SP AusNet (distribution), *Submission on draft category analysis RIN*, 17 January 2014, p. 5.

³² Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p. 8.

³³ Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p. 5.

- Energex sought several general clarifications applicable to several RIN templates:³⁴
 - where expenditure on demand side management would be reflected— we consider that these costs would be appropriately listed as a separate item in the network overheads template
 - the meaning of cell shading— this is explained in the instructions to the final RIN templates
 - thresholds to apply to material contracts— this has been clarified in the RIN definitions.

We have also restructured the data tables in each template to make them generally compatible with database and MS excel functionality. In comparison to the draft RIN templates, we have:

- protected sheets to minimise manipulation by NSPs
- moved some tables (namely labour and input costs) to separate worksheets
- clearly identified instances where NSPs have discretion to insert new rows
- expanded some tables horizontally which detracts from visual amenity but will assist in automated/ program based data extraction (i.e. which depend on the number and identification of columns rather than rows being fixed).

Expected process of data validation and analysis

Following publication of NSP data, we will begin a process of collating and testing various benchmarking and trend metrics. The first formal publication of our analysis using this information will be with the issues paper to be released during the NSW/ACT/Transend process, expected in late July.

Prior to this, we intend to liaise with NSPs on any data anomalies, claims over confidentiality and also consider any enforcement action for instances of non-compliance with the RINs.

The progressive use and consideration of this information with NSPs and other stakeholders from the time of its publication will assist in scrutinising estimation methods used by NSPs. This will assist us in forming views on the robustness of information used and the degree on which the AER can rely upon it in assessments and determinations. Revisions to data may be requested at this point. The adequacy of the templates is also likely to be considered as a result of these discussions. Experience with this type of information in the UK context suggests that there is a tendency to expand benchmarking information templates (at the behest of regulated entities) to capture business-specific cost drivers and adjustments.

We will also be examining the impact of other environmental factors through economic benchmarking techniques, and generally expect NSPs to furnish us with evidence of any exogenous factors affecting their costs in the context of assessing efficiency. We note CP/PC's suggestion that the responsibility of identifying these factors is jointly the responsibility of the AER and NSPs, however reiterate that NSPs are in a unique situation to understand and provide evidence of their own situation.

³⁴ Energex, *Submission on draft category analysis RIN*, 17 January 2014, p. 3.

2 Reconciliations and summary sheet

This section explains the expenditure summary sheet of the draft RINs. These sheets provide an overview of the expenditure data.

2.1 AER Position

The summary sheet combines aggregated data from other templates with inserted data to provide a complete table of the NSP's total capex and opex, including across the major service classifications, including dual function assets where relevant.

We require NSPs to reconcile the aggregated expenditure reported in our category templates with expenditure reported in both their regulatory accounts and their statutory accounts. For the purposes of such reconciliation, expenditure that is reported multiple times in different templates (for example opex on items in the non-network template) needs to be identified in a separate worksheet, with a balancing item inserted in template 2.1. Potential double counting of expenditures is expected to be only an issue for items reported in the non-network and overheads template.

The need for a balancing item also arises in the case of capex items which are reported on a "project close" basis whereas the total capex reported in template 2.1 is to be on an as-incurred basis. The different timing assumptions around recognising capex arises for TNSPs but also higher value projects reported in the augex template 2.2 for DNSPs. Again, this balancing item must be identified and explained in a separate worksheet.

Corresponding summary tables in other templates, which were to be linked to template 2.1, have been deleted. NSPs will be required to demonstrate compliance with the RINs reconciliation instructions through appropriate amendments to templates. Many templates are subject to manipulation in accordance with RIN instructions, hence providing linked summary calculations to template 2.1 would be infeasible.

We have inserted or amended the RIN instructions regarding reconciliations and other accounting framework issues, including:

- simplification of provisions around compliance with cost allocation methods, including (in the reset RINs) continuation of the request to recast historic information in accordance with current approved CAMs
- not requiring detailed worksheets demonstrating calculation of data in the templates
- clarifying that only financial information must reconcile to regulatory and statutory accounts, and which financial information.

2.2 Reasons for AER position

The benefit in having balancing items that ensure total capex and opex values equal to data in the NSPs regulatory accounts is to avoid confusion when stakeholders seek a "single source of truth" in examining aggregated data. We frequently hear concerns from user representatives in trying to conduct their own analysis from published data, who encounter lack of comparability for various reasons, including expression of information in real and nominal terms, updates from NSPs or rulings from Tribunal decisions.

The need for balancing items relating to the double counting of costs is expected to be resolved over the medium term as we are able to appreciate the presence of certain costs that potentially fall under more than one general category definition. At present we consider it more important to try and identify costs such as vehicle expenditure as a single "bucket" while at the same time not wanting to impose detailed cost apportionment methods across all NSPs.

Regarding other accounting framework issues, we have responded to NSP comments that the drafting of RIN instructions was vague or resulted in unreasonably onerous requirements, mostly stemming from terminology that was borrowed from the recent economic benchmarking RINs.

NSP submissions and our responses to matters regarding RIN template 2.1 are listed in table 2.1 below. Other minor amendments to template 2.1 of the reset RINs have been made in the context of the opex assessment approach.

Table 2.1 Detailed issues and responses - reconciliation and summary tables

Template number	Description of data/ cells	NSP comments	AER Response
2.1		<p>Ergon submission:</p> <ul style="list-style-type: none"> ▪ Instructions inappropriately note requirements for reconciliation to the PTRM and RFM. ▪ The AER is prescribing the categories and sub-categories of expenditure that should be reported as direct cost, and is expecting data in this template to represent a NSP's total capex and opex based on information reported in other template sheets. In circumstances, where a DNSP treats a cost as a direct expenditure, and this cost cannot be correctly allocated to one of the AER's categories, confirmation is sought as to AER expectations for reporting of costs, to ensure total expenditure is captured. ▪ The non-network expenditure category potentially includes opex however does not appear to be reflected in the Opex tables within the Expenditure Summary and Reconciliation template. ▪ Cells in this sheet would best be directly linked to the forecast category expenditure sheets, as relevant by the AER before issuance of a final RIN template. <p>SP AusNet submission: There is no 'Connections' category included under Standard Control Opex. It is requested that this be included for reconciliation purposes.</p> <p>Energex submission:</p> <ul style="list-style-type: none"> ▪ The expenditure summary is unlikely to reconcile to the statutory and regulatory accounts due to the remapping of cost category required by the AER. ▪ The classification of services set out in the spreadsheet is inconsistent with the classifications applied to Energex services, that is, connection and metering services are classified as SCS. This section should be amended to allow for the accurate summary of services. 	<p>Instructions regarding PTRM and RFM have been removed.</p> <p>We recognise that prescribing the summation of expenditures in other tabs and linking these to the summary sheet (2.1) will not be feasible/ practical, given:</p> <ul style="list-style-type: none"> ▪ differences in service classifications in different jurisdictions ▪ inability to prescribe in formulaic terms summation of categories which are subject to potential double counting of expenditures (predominantly non-network and overheads) ▪ the expression of capex may not align to data expressed in the Regulatory and Statutory Accounts ("as-commissioned" and "as-incurred") ▪ various templates are subject to manipulation by NSPs (e.g. insertion of rows for asset/ project types) making summation difficult for reconciliation purposes. <p>The RIN instructions require values in the summary sheet to be reconciled to Regulatory Accounts at the total capex and opex level by service classification (rather than for each variable as instructed in the draft RIN). This reconciliation will be requested in separate worksheets to be submitted with the RIN.</p> <p>The summary sheet contains a balancing item which is expected to be limited to reconciling capex items (e.g. as-commissioned to as-incurred), and to net out instances of double counting costs across the AER's categories. The balancing item is not intended to be a "catch all" for businesses facing difficulties in complying with the RIN, and we will be closely examining this in terms of NSP compliance as</p>

CP/PC submission:

- without a balancing item, it is not possible to reconcile RIN variables with costs reported in the Statutory and Regulatory Accounts
- Note differences between service classifications between jurisdictions
- Connections inappropriately appear in both ACS and SCS summary tables (with respect to Victorian arrangements)

it relates to the definitions and instructions that apply to each category of expenditure.

Data provided for the category RINs (historic information) will need to reflect the approved CAM and related arrangements in place for that particular year. For reset RIN purposes, and consistent with AER practice, historic data will need to be presented/ recast in accordance with the NSP's current approved CAM.

3 Demand forecasting

This section discusses the data requirements contained in templates 5.3 and 5.4 (for distribution) and 4.2 and 4.3 (for transmission).

3.1 AER Position

The Category Analysis RIN requires historical information only. The Reset RIN requires historical and forecast information.

DNSPs undergoing a distribution determination must describe the relationship between demand data specified in this section and demand data they provide for the augex model (see section 4.1.2).

In addition to the standardised data requested in the templates, the Reset RIN requires NSPs to provide models used to produce their demand forecasts. DNSPs must also provide supporting documentation and data, including inputs, assumptions and sensitivity analysis.

Detailed issues and our responses to matters raised in consultation are contained in Table 3.1 below.

3.1.1 System level maximum demand

We require NSPs to provide the following data for system level maximum demand in megawatt (MW) terms:

- raw maximum demand (historical)
- weather corrected maximum demand at 10 per cent and 50 per cent probability of exceedance (PoE), if the NSP produces such data (historical and forecast)
- embedded generation, if the NSP records or estimates such data.

3.1.2 Spatial maximum demand

We require NSPs to provide the following data for spatial maximum demand in MW and megavolt amperes (MVA):

- non-coincident and coincident raw maximum demand (historical), adjusted for switching and temporary load changes from major customers, and capacity for the following network segments:
 - connection points (transmission)
 - subtransmission substations and zone substations (distribution)
- weather corrected maximum demand at 10 per cent and 50 per cent PoE, if the NSP produces such data (historical and forecast)
- embedded generation downstream of the network segment, if the NSP records or estimates such data.

3.2 Reasons for AER position

We are collecting the demand data in the RIN to facilitate our demand forecast assessments, which are a direct input into our assessment of augex forecasts. Obtaining the information described above

with the NSP's proposal will ensure we can focus on assessing demand forecasts, and minimise the need for requesting such information, during determinations.

Further, obtaining historical demand data annually will enable us to understand trends in demand, capacity investment and utilisation in the years leading up to determinations. This would assist in performing more targeted investigations and assessments during the determination.

The following describes some of the more substantial changes we have made following consultation on the draft RINs.

System level maximum demand in MW measure only

The Category Analysis RIN and Reset RIN require only MW data for network coincident maximum demand. The draft RINs required NSPs to provide network coincident maximum demand for both MW and MVA measures.

We collect network coincident maximum demand to enable analysis of system level demand patterns in each NSP's network. For example, it would enable us to perform preliminary top-down demand forecasting as preparation for regulatory determinations.³⁵ Collecting network coincident maximum demand using only the MW measure still enables us to perform such analysis, and significantly reduces the information requirements on NSPs.

Spatial demand

The Category Analysis RIN and Reset RIN require maximum demand information only for the following network segments:

- connection points (transmission)
- subtransmission substations and zone substations (distribution)

The draft RINs required DNSPs to provide maximum demand information for subtransmission lines and HV feeders. The draft RINs also required NSPs to provide maximum demand information for other network segments if they used such information to prepare augex forecasts.

Maximum demand is particularly important in augmentation considerations for connection points and zone substations. It is not as important a driver for lines augmentations given the capacity for switching and transfers, hence contingency conditions are the more common considerations. We therefore consider the spatial maximum demand information requested in the final RINs is fit for our purposes: that is, to analyse demand and utilisation patterns in the networks, and to perform preliminary forecasting in preparation for regulatory determinations and for the purposes of annual benchmarking reports.

If NSPs use demand forecasts for other network segments as inputs to their augex forecasts, we expect NSPs to provide such information with their regulatory proposals. Hence, we would assess such information at the time of the regulatory determination.

Weather correction

The Category Analysis RIN and Reset RIN require NSPs to provide historical weather corrected maximum demand (for 10 and 50 per cent PoE) only if it calculated such figures. If the NSP has not

³⁵ AER, *Better regulation: Explanatory statement: Expenditure forecast assessment guideline*, November 2013, p. 177.

historically calculated weather corrected demand, it may estimate this figure or shade the template cells black. In contrast, the draft RINs required NSPs to provide historical (on top of forecast) weather corrected maximum demand for both 10 and 50 per cent PoE.

We have, however, stated our expectation that NSPs would weather correct maximum demand figures in future, consistent with best practice demand forecasting.³⁶

Raw adjusted maximum demand

The Category Analysis RIN and Reset RIN require NSPs to provide 'raw adjusted maximum demand' in the spatial demand templates (regulatory templates 4.3 and 5.4 for transmission and distribution, respectively). This is maximum demand measured at the specified network segment, but adjusted for temporary switching and for temporary load changes from major customers. This adjustment depicts the maximum demand for that segment when it is in 'system normal' conditions and is more representative of the demand patterns and utilisation levels for that network segment.

The draft RINs required NSPs to provide 'raw unadjusted maximum demand' ('raw adjusted maximum demand' without the adjustment for temporary switching and temporary load changes from major customers). The draft RINs also required data on 'Adjustments' at the time of maximum demand—that is, switching, transfers, block loads and embedded generation. We consider the effect of transfers and block loads are implicit in spatial demand patterns, and that detailed consideration of their effects is more appropriate during a regulatory determination. We have therefore removed these as separate line items. We have kept the requirement to provide embedded generation information (downstream of the specified network segment). Embedded generation data provides visibility on underlying demand, which is more appropriate for modelling purposes.

³⁶ AER, *Better regulation: Explanatory statement: Expenditure forecast assessment guideline*, November 2013, p. 177.

Table 3.1 Detailed issues and responses - maximum demand

Template / paragraph number	Description of data/cells	NSP comments	AER Response
5.3 (DNSP)	Maximum demand – Network – years reported	<p>CP/PC (p. 8) and SP AusNet (p. 3) stated the draft RIN indicates data is required for a 9 year period. At the draft RIN workshop it was clarified data beyond five years were optional to provide. The final RIN template should make this explicit and cells should be shaded differently.</p> <p>SP AusNet stated it does not have supportable demand data prior to 2009 (for network level and spatial level MD). The data no longer resides in the systems from which it was extracted at the time (p.3).</p>	<p>NSPs will be required to provide 5 years of historical demand information in the final RIN templates.</p> <p>The draft RINs required only 5 years of historical demand information, consistent with the rest of the category templates. Providing information for the preceding 4 years, as set out in the draft RIN templates, was optional. We erased the optional 4 years of historical demand information from the final RIN templates to avoid confusion.</p>
5.3 (DNSP) 4.2 (TNSP)	Maximum demand – Network – MVA measure	<p>SAPN stated it can provide coincident maximum demand in MW but not MVA. SAPN cannot derive a meaningful MVA figure from MW (e.g. using a power factor) at a system level (although it can at a spatial level).</p> <p>SAPN agree MVA measures trigger augmentation at a spatial (connection point) level, but not at the system level. SAPN suggested removing the requirement to provide network level demand in MVA (pp. 10–11).</p> <p>Ergon Energy (Ergon) made a similar submission (attachment).</p> <p>TransGrid stated maximum demand in MVA at an aggregate level is not an appropriate measure for transmission networks, as it takes into account reactive power (MVAR). Reactive power, in addition to that consumed by loads, is used in transmission networks to control power flows and voltage levels, and is generated and absorbed throughout the network in doing so. Therefore, an aggregate measure of maximum demand in MVA is not considered to provide meaningful information (as distinct from maximum demand in MW, which is the more appropriate for transmission networks) (attachment 1).</p>	<p>The final RINs require only MW data for network coincident maximum demand.</p> <p>The draft RINs required NSPs to provide network coincident maximum demand for both MW and MVA measures. We removed the requirement to provide network maximum demand in MVA in the final RINs.</p> <p>The final RINs collect network coincident maximum demand to enable analysis of system level demand patterns in each NSP’s network. For example, it would enable us to perform preliminary top-down demand forecasting as preparation for regulatory determinations. Hence, the final RINs enable analysis in time series format, rather than for benchmarking purposes, as in the economic benchmarking RIN, which collects system level maximum demand in MW and MVA.</p> <p>System level demand analysis and forecasting is better able to incorporate macroeconomic and policy factors compared to</p>

		Transend (attachment) and ElectraNet (attachment) submitted similar statements.	spatial level maximum demand. Hence, reconciling top-down with bottom-up demand forecasts is considered good demand forecasting practice. We consider network coincident maximum demand using the MW measure only is sufficient for this purpose.
4.2 & 4.3 (TNSP)	MD – network and spatial – raw values for forecasts	Transend stated there are no raw values for estimated and forecast maximum demand. All maximum demand values are PoE based forecast values. The AER should reconsider the need for this data (attachment).	We modified the colour-coding in the final RIN templates to make it clear NSPs are not required to input values in the ‘Estimate’ and ‘Forecast’ columns for raw maximum demand. As we discuss below, the final RIN will collect ‘raw adjusted demand’ (measured demand adjusted for temporary switching and for temporary load changes from major customers), rather than raw demand, unadjusted for temporary switching and for temporary load changes from major customers.
5.3 (DNSP)	Maximum demand – Network – summation to network demand	Ergon interpreted the technique employed is similar to the Economic Benchmarking RIN, in that it asks for transmission connection point values summated to system level. There may be differences between other published data and data in the Category Analysis RIN (seasonal differences and native demand needs to be clarified) (attachment).	We confirm the final RIN templates will require DNSPs to provide network coincident maximum demand as transmission connection point maximum demands summated to the system level. This is consistent with the data request and definitions in the final RIN templates and the economic benchmarking RIN.
5.3 (DNSP) 4.2 (TNSP)	MD – Network – temperature correction	CP/PC stated they will need to rely on external forecasters and likely some assumptions to provide network total temperature corrections (p. 8). Powerlink stated it will only be able to reliably report weather correction to 10% and 50% PoE going forward. No historical weather correction will be provided (appendix, p. 3).	Consistent with the economic benchmarking RIN, the final RINs require NSPs to provide historical weather corrected demand only where it has calculated such figures. We amended the final RIN templates and the instructions to the final RINs to be consistent with the requirements of the economic benchmarking RINs, with the option for NSPs to provide this information initially, then making it mandatory from 2015.
5.3 (DNSP)	MD – Network – winter and summer MD	Energex sought clarification on the input into cells for summer/winter peaking. Energex assumes the input is either 'summer' or 'winter' (p. 15).	We will add the following instruction in the final written RINs: For the ‘Winter/Summer peaking’ line item, the NSP is to indicate the season in which the raw maximum demand occurred by

				entering 'Winter' or 'Summer' as appropriate.
4.2 & (TNSP)	4.3 MD – network & spatial – timing	Transend stated Tasmania has winter maximum demand which generally occurs in June, July or August. Hence the forecast information is derived in calendar years. We recommend the AER allow Transend to provide winter maximum demand by calendar year (attachment).		<p>We will add the following instructions in the final written RINs:</p> <p>Where the seasonality of a NSP's maximum demand does not correspond with the form of its regulatory years, the NSP must explain its basis of reporting MD in their Basis of Preparation.</p> <p>For example, a NSP may forecast expenditure on a financial year basis but forecast MD on a calendar year basis because it bases expenditure forecasts on winter MD. This NSP would state that it reports MD on a calendar year basis and describe, for example, the months that it includes for any given regulatory year.</p>
4.2 & (TNSP)	4.3 MD – network – AEMO's role in Victoria	<p>SP AusNet (p. 3) and Grid Australia (p. 3) noted AEMO's role in Victoria.</p> <p>The AER needs to obtain data from AEMO in relation to its TNSP functions in Victoria, including transmission planning for the shared network and demand forecasting. AEMO should provide the same level of information for its Victorian operations as other TNSPs. In the interests of transparency, the AER should clarify this matter.</p>		<p>We modified the final RIN to SP AusNet to reflect the Victorian arrangements with regard to demand forecasting.</p> <p>We will also liaise with AEMO to collect information pertaining to its role in demand forecasting in Victoria.</p>
4.2 & (TNSP)	4.3 MD – network – provision of direct connect loads only	ElectraNet stated it understands it is only required to provide this data for direct connect loads not distribution loads which will be provided by SAPN, as per bilateral discussions. The AER will need to confirm in the final explanatory statement and data collection template (attachment).		<p>We understand TNSPs rely on and/or collaborate with DNSPs to produce maximum demand forecasts for connection points. SAPN staff informed us they provide ElectraNet only with demand forecasts, not actual demand. They noted ElectraNet should have this data on their own SCADA systems. More generally, we understand from consultation with other NSPs that DNSPs do not provide historical connection point (and system level) maximum demand as a matter of course to TNSPs. Further, TNSPs keep and maintain historical maximum demand data for connection points (and at the system level). We will therefore require all TNSPs to provide historical maximum demand data at the connection point and system levels for the final RINs.</p> <p>We will also require all TNSPs to provide forecast maximum demand data at the connection point and system levels for the final reset RINs. Due to the staggered timing of regulatory</p>

determinations, a TNSP's regulatory determination may not coincide with the DNSPs' regulatory determination. In addition, we will require spatial demand coincident to system level maximum demand. A TNSP's system level maximum demand may not coincide with a DNSP's, particularly in cases where multiple DNSPs connect to a TNSP's network.

5.4 (DNSP)	Maximum demand – spatial – weather correction for coincident MD	CP/PC stated they do not temperature correct co-incident maximum demand as it is time consuming and provides no value. Non-coincident demand drives expenditure and these are the demand levels that require temperature correction. Coincident factors are obtained without temperature correction, so there is no requirement to temperature correct spatial maximum demand at transmission connection, zone substation, subtransmission line and HV feeder levels. CP/PC strongly requested the AER to delete the requirement for coincident loading temperature correction (p. 8).	As noted above, consistent with the economic benchmarking RIN, the final RINs now require NSPs to provide historical weather corrected demand only where it has calculated such figures. We have amended the final RIN templates and the instructions to the final RINs to be consistent with the requirements of the economic benchmarking RINs.
5.4 (DNSP)	MD – spatial – weather correction and provision of demand information for feeders	<p>The NSW DNSPs (p. 6) and SAPN (p. 11) stated they do not weather correct demand at the feeder level.</p> <p>SAPN stated they intend to produce 50% PoE forecasts at the feeder level in the future.</p> <p>CP/PC stated it can provide 50% PoE weather (temperature) correction only for non-coincident zone substations, and only back to 2010 for Powercor Australia and back to 2006 for CitiPower (p. 8).</p> <p>CP/PC have no data relating to 10% and 50% PoE weather correction for non-coincident distribution feeder loadings (pp. 8–9).</p> <p>CP/PC stated it has not captured data relating to each HV feeder coincident maximum demand levels, so cannot provide this information (p. 9).</p>	<p>The final RINs require DNSPs to provide demand data for subtransmission substations and zone substations. Hence, the final RINs do not require DNSPs to provide maximum demand information for HV feeders, and distribution substations.</p> <p>Similarly, the final RINs for TNSPs require spatial demand data only for connection points.</p> <p>If NSPs use demand forecasts for other network segments as inputs into their expenditure forecasts, we would expect NSPs to provide such information as part of their regulatory proposals. Hence, we would assess such information at the time of the regulatory determination.</p> <p>Maximum demand is particularly important in augmentation considerations for connection points and zone substations. It is not as important a driver for lines augmentations given the capacity for switching and transfers. We therefore consider the spatial maximum demand information we require through the final RINs is fit for our purposes: that is, to analyse demand and utilisation patterns in the networks, and to perform preliminary forecasting in preparation for regulatory determinations and for the</p>

purposes of annual benchmarking reports.

5.4 (DNSP)	MD – spatial – subtransmission lines	<p>SAPN (p. 11) and CP/PC (pp. 8–9) stated demand on subtransmission lines are not forecast in the same way as substations (i.e. collect load readings and temperature correcting accordingly). Modelling techniques are used to determine the timing of constraints based on connection point forecasts.</p> <p>CP/PC stated the critical process is temperature correction of the zone substation actuals to prepare the zone substation forecasts, then applying zone substation diversity factors to provide the subtransmission line forecast (pp. 8–9).</p> <p>JEN stated it does not historically calculate maximum demand on subtransmission lines, as the focus for network planning is zone substation maximum demand and HV feeder maximum demand. JEN recommends providing maximum demand only at the zone substation level (non-coincident and coincident) and at HV feeder level (non-coincident only) (p. 8).</p>	<p>As discussed above, the final RINs require DNSPs to provide demand data for subtransmission substations and zone substations. The final RINs do not require DNSPs to provide maximum demand information for subtransmission lines.</p>
4.3 (TNSP)	MD – spatial – weather correction for connection points	<p>Transend stated historical weather corrected 10% and 50% PoE data for connection points are not available. It can derive this data for each connection point, but with a considerable amount of effort. Transend recommended the AER reconsider the need for this data (attachment).</p> <p>Powerlink stated it has around 100 individual customer load connection points. Powerlink considers it would be excessively onerous to require weather correction for demand at each connection point. This includes data going forward as well as historically (appendix, p. 3).</p> <p>ElectraNet stated it does not maintain historic temperature corrected data and is not aware of an applicable normalisation methodology (attachment).</p>	<p>Consistent with the economic benchmarking RIN, the final RINs now require NSPs to provide historical weather corrected demand only where it has calculated such figures.</p>
5.4 (DNSP)	MD – spatial – providing different MD measures	<p>SAPN stated SCADA on HV feeders and some zone substations is typically measured in Amps. It will need to make assumptions on the power factor to provide the information requested (p. 11).</p> <p>Transend stated it does not produce MVA forecasts for connection points but derive it based on assumptions about future power factors. It can provide MVA values at (each connection point) based on estimated power factors (attachment).</p>	<p>TNSPs/DNSPs are required to provide, using best endeavours, estimates of maximum demand information where they do not keep and maintain particular information requested in the final RIN templates, for example, by applying a power factor conversion as an approximation based on best engineering estimates.</p>

		ElectraNet stated it does not currently record transmission system non-coincident demand on an MVA basis, but can provide on an MW basis. The MVA reporting requirement will require changes to its reporting systems. ElectraNet can assume a power factor but no audit assurance would apply. Extensive analysis is expected to be required to provide this information at the connection point level (attachment).	
5.4 (DNSP)	MD – spatial – amount of data	The NSW DNSPs (p. 9), ActewAGL (p. 2), JEN (p. 8) and Ergon (attachment) stated the data requirements are excessively burdensome and they would not have some of the historical data requested.	We consider the amendments to the final RINs discussed in this table address NSPs' concerns about the volume of data for spatial maximum demand. The final RINs require information that we reasonably require to meet our obligations under the NER (in particular, the assessment of demand forecasts during regulatory determinations, and for the purposes of the annual benchmarking reports).
5.4 (DNSP)	MD – spatial – definition of subtransmission substation	<p>CP/PC stated it will assume the AER considers subtransmission substation to be a terminal station connection (p. 9).</p> <p>Energex sought clarification on assets that are and are not included under the definition of subtransmission substation (p. 15).</p>	<p>A terminal station connection is a subtransmission substation if it is consistent with the definition (of subtransmission substation) in the final written RIN. We have included the following instruction for clarification:</p> <p>DNSP must input the rating for each element in each network segment. For tables 5.4.1 and 5.4.2, rating refers to normal cyclic rating.</p> <p>DNSP must provide the seasonal rating that corresponds to the time of the raw adjusted maximum demand. For example, DNSP must provide the summer normal cyclic rating of the network segment if the raw adjusted maximum demand occurred in summer.</p> <p>Where DNSP does not keep and maintain rating information (for example, where the TNSP owns the assets to which such ratings apply), it may estimate this information or shade the cells black.</p> <p>Regarding assets included within a subtransmission substation, we have included the following paragraph in the subtransmission substation definition for guidance:</p> <p>As a guide, assets included within a subtransmission substation include all equipment, buildings, structures, civil works and other</p>

assets that are located permanently within the substation boundary fence; but excluding the landing spans of incoming or outgoing overhead lines, and excluding incoming or outgoing cables and associated cable terminations (cables includes all power, communications and control cables).

We have similarly provided guidance regarding the assets to be included in zone substations and distribution substations.

5.4 (DNSP) MD – spatial substation ratings – For connection point substations ratings, SAPN requested further guidance on ratings (summer/winter/normal/emergency). SAPN suggested summer normal ratings be used. SAPN proposed firm delivery capacity (i.e. N-1) be used. SAPN is not responsible for connection point capacity, and equally, ElectraNet must abide by reliability requirements designated by ESCOSA within the transmission code according to agreed forecasts provided by SAPN to ElectraNet (p. 11).

We intend to use ratings information to assess and monitor utilisation levels of the specified segments in a NSP's network. We consider the normal cyclic rating is appropriate for this purpose.

Regarding winter and summer ratings, we have added the following instructions:

TNSP/DNSP must input the rating for each element in each network segment. Rating refers to normal cyclic rating.

TNSP/DNSP must provide the seasonal rating that corresponds to the time of the raw adjusted maximum demand. For example, TNSP/DNSP must provide the summer normal cyclic rating of the network segment if the raw adjusted maximum demand occurred in summer.

Where TNSP/DNSP does not keep and maintain rating information (for example, where the TNSP owns the assets to which such ratings apply), it may estimate this information or shade the cells black.

5.4 (DNSP) MD – spatial Adjustments – Energex will not be able to provide historical switching data as a large number of switchings are undertaken each year and not recorded. Energex proposed removing the requirement to report switchings (p. 15).
4.3 (TNSP) Energex stated it will be extremely burdensome to provide data on historical transfers and will require estimates. Energex proposed removing the requirement to

With the exception of embedded generation, the RINs no longer require NSPs to provide data on the individual 'Adjustments' line items. 'Raw adjusted maximum demand' already accounts for the effects of switching (and temporary changes to the load of major customers). NSPs must not adjust raw demand data for transfers because they, in effect, change the 'system normal conditions' for a particular network segment.

report transfers (p. 15).

CP/PC (p. 9) and Energex (p. 15) sought clarification on the definition and threshold for block loads.

Transend stated the connection point forecasts takes into account embedded generation, transfers and permanent switchings. It recommends the AER consider deleting the request of all adjustments (embedded generation, block loads, switching, transfers and other adjustments (attachment).

Powerlink does not record (and is unable to reliably record) load switching and transfers performed on customer networks. In addition to DNSPs, some non-DNSP customers (e.g. Aurizon) have their own electricity networks between Powerlink connection points and can shift load to suit operational needs (appendix, p. 3).

We acknowledge consideration of block loads and transfers is important in the analysis and forecasting of maximum demand. One of our purposes for collecting maximum demand information is to perform relatively high level analysis and forecasting of demand patterns to prepare for regulatory determinations, and for use in annual benchmarking reports.

We consider the requirement to provide 'raw adjusted maximum demand' will enable us to perform robust assessments of demand patterns and utilisation in a NSP's network. We consider more detailed analysis of block loads' and transfers' effects on maximum demand is more appropriately performed during a regulatory determination. From consultation with NSPs, adjusting spatial maximum demand to system normal conditions is standard practice for forecasting purposes. Hence, the final RINs are fit for our purposes and significantly reduce regulatory burden compared with the draft RINs.

For spatial maximum demand, the final RINs require NSPs to provide 'raw adjusted maximum demand', which we define as:

Raw unadjusted maximum demand that is adjusted to system normal conditions. TNSP/DNSP must adjust to system normal conditions by accounting for (temporary) switching relevant to the network segment, and for temporary load changes from major customers (such as temporary closure of major industrial customers). TNSP/DNSP must not adjust maximum demand data for (permanent) transfers, block loads or embedded generation.

The term, 'raw', refers to demand data that has not undergone weather correction.

For the avoidance of doubt, we also inserted a definition for 'raw unadjusted maximum demand':

Actual maximum demand as measured by the TNSP/DNSP at the specified network segment. This must not include any adjustments for factors such as switching, temporary load changes from major customers, transfers, block loads or

embedded generation.

The term, 'raw', refers to demand data that has not undergone weather correction.

Accounting for embedded generation is important because it enables measurement of the underlying demand in a NSP's network. We consider underlying demand would have more robust relationships with macroeconomic and policy factors used in assessing and forecasting system level demand as we discussed previously.

We added the following instruction for regarding embedded generation data:

TNSP/DNSP must provide inputs for 'Embedded generation' if it has kept and maintained historical data for embedded generation downstream of the specified network segment and/or if it accounts for such embedded generation in its maximum demand forecast.

TNSP/DNSP must allocate embedded generation figures to the appropriate element of the network segment under system normal conditions (consistent with the definition of raw adjusted maximum demand).

TNSP/DNSP must describe the type of embedded generation data it has provided. For example, TNSP/DNSP may state that it has included scheduled, semi-scheduled and non-scheduled embedded generation in the tables for connection points. In this example, we would be able to calculate native demand by adding these figures to the raw adjusted maximum demand figures.

If TNSP/DNSP has not kept and maintained historical data for embedded generation downstream of the specified network segment, it may estimate the historical embedded generation data or shade the cells black.

5.3 (DNSP)	Maximum demand – Network – transferred	Ergon requested direction on how DNSPs should treat transferred customers. Ergon has transferred a number of large customers to the TNSP. Due to the nature	Transfers of customers out of a NSP's network have a similar effect as block loads on load profiles. That is, a transfer of a large
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customers

of these transfers this can be significant in Ergon's system maximum demand. In order to account for this in the forecast, Ergon routinely adjusts its load history to reflect its current customer base only. Ergon accounts for this in subsequent submissions of the RIN (attachment).

Ergon recommended there are two sets of historical metered data that should be stated. The first is actual metered data as registered by the network; the second is historical data using only the current data base that is metered data adjusted for current customers. These adjusted actuals are used for the network forecast and would provide consistency across RINs. Annual and seasonal data differences need to be identified.

customer out of a NSP's network would see lower demand for the relevant network segments (all else being equal).

We do not consider it is necessary for NSPs to provide historical metered data adjusted for current customers for the purposes of the RINs, where analysis of maximum demand patterns is at a relatively high level. We consider it is more appropriate to analyse the effects of such transfers on maximum demand (and the method for accounting for such transfers in producing demand forecasts) during a regulatory determination.

5.3 (DNSP)

Maximum demand – Network – definition of raw demand

Ergon sought confirmation that data provided is to be raw, without adjustments (as per discussions in Bilateral meetings). Appendix E (Principles and Requirements) paragraph 8.12 'Note on Adjustments' was not clear in this regard (attachment).

As we noted above, the final RINs now require NSPs to provide 'raw adjusted maximum demand' in regulatory templates 4.3 and 5.4 of the final RINs for TNSPs and DNSPs, respectively, rather than 'raw unadjusted maximum demand'.

5.4 (DNSP)

MD – spatial –assets no longer in the network

Ergon sought confirmation with regards to assets that no longer exist. There would be significant issues with establishing a previous network state and then reporting on its load (attachment).

We require NSPs to provide 'raw adjusted maximum demand', which is raw maximum demand adjusted to system normal conditions. For a given regulatory year, we require NSPs to report maximum demand information for all assets in existence in the relevant network segments for that year.

For example, a DNSP must report maximum demand information for all of the zone substations in its network for a given regulatory year. If one of those zone substations is de-commissioned the following year, the DNSP no longer has to report maximum demand for that zone substation. Where load for that substation is transferred to other zone substations, it would result in new normal system conditions for the receiving zone substations.

We have added the following instruction to clarify this position:

TNSP/DNSP must insert rows into the tables for each component of its network belonging to that segment. TNSP/DNSP must note instances where it de-commissions components of its network belonging to that segment in the basis of preparation.

4.3 (TNSP)	MD – spatial – other spatial levels	Powerlink stated each emerging network limitation has its own unique spatial definition and it is not possible to provide this information in a way that would meet the requirements of the draft RIN (appendix, p. 3).	<p>As discussed previously, the final RINs for TNSPs now require TNSPs to provide spatial maximum demand information only for transmission connection points.</p> <p>We recognise each emerging network limitation has its own unique spatial definition because of network configuration. We consider such information is relevant when assessing particular sections of the network in more detail, such as when assessing forecast expenditure for specific areas of the network. We consider such assessments are more appropriate during a regulatory determination.</p>
5.4 (DNSP)	MD – spatial – no SCADA in some substations	SAPN stated for substations which do not have SCADA, actual demand values are not available. SAPN intends to roll-out SCADA to all substations progressively over the next regulatory control period, subject to AER approval. Data availability will improve over the next regulatory control period (p. 11).	<p>NSPs are required to input estimates of maximum demand information where it does not keep and maintain raw unadjusted maximum demand for certain areas its network. We inserted the following clarifying instruction for the demand tables:</p> <p>If TNSP/DNSP cannot use raw unadjusted maximum demand as the basis for the information it provides, it must describe the methods it employs to populate the maximum demand tables.</p>
5.4 (DNSP)	MD – spatial – definition of ‘coincident’ demand	SAPN stated coincident and non-coincident actual demands are requested but it is not explicitly stated what each asset’s readings are coincident to. SAPN proposed that connection point readings be coincident to the date/time of the relevant year’s State peak demand, while substations and sub-transmission lines readings will be coincident with relevant connection point peak demand, and feeder readings will be coincident with their relevant zone substation peak demand – rather than all coincident with the State peak. SAPN sought confirmation whether this was the intention (p. 11).	<p>The intention for requesting coincident spatial maximum demand is to reconcile spatial demand to network demand. Network demand forecasting can better incorporate macroeconomic and policy drivers.</p> <p>However, we understand not all NSPs record and/or maintain spatial maximum demand coincident to the system maximum demand. We have therefore added the following instructions:</p> <p>If TNSP/DNSP does not record and/or maintain spatial maximum demand coincident to the system maximum demand, TNSP/DNSP must provide spatial maximum demand coincident to a higher network segment. TNSP/DNSP must specify the higher network segment to which the lower network segment is coincident to.</p> <p>For example, if TNSP/DNSP does not maintain maximum demand</p>

				data for zone substations coincident to the system maximum demand, TNSP/DNSP may provide maximum demand data coincident to the connection point. In this example, TNSP/DNSP would specify the relevant connection point in the basis of preparation.
5.4 (DNSP)	MD – spatial formatting	–	Ergon requested the AER consider format changes to the spatial MD templates as the current format is difficult to navigate and populate (attachment).	<p>We made the following amendments in the final RIN templates:</p> <ul style="list-style-type: none"> ▪ removed line items with embedded formulas ▪ removed merged cells ▪ removed or minimised instances of blank rows and/or columns <p>Compared to the draft RIN templates, these changes allow for easier population by NSPs and easier storage and use by the AER.</p>
Schedule 1 – paras 5.2(a) & 5.3	Demand models		<p>TransGrid stated AEMO provides state demand for NSW and the DNSPs provide connection point forecasts. TransGrid does not have access to the models used by these external parties and will be unable to provide them (attachment 1).</p> <p>Transend stated the load forecast model is owned by NIEIR, who will not be releasing the forecasting model to Transend or AER (attachment).</p>	We consider visibility of models used to forecast demand, and subsequently used as inputs to expenditure forecasts, is vital to a transparent, efficient and fair regulatory process. NSPs should therefore endeavour to provide such models to support their regulatory proposals.
Schedule 1 – para 5.2(c)	Weather data	normalised	TransGrid stated it understands AEMO does not publish weather normalised data. TransGrid is uncertain whether it can meet the requirements of paragraph 5.2(c) (attachment 1).	Consistent with the economic benchmarking RIN, the final RINs now require NSPs to provide historical weather corrected demand only where it has calculated such figures. We amended the final RIN templates and the instructions to the final RINs to be consistent with the requirements of the economic benchmarking RINs, as discussed previously.

4 Augmentation capex

This section discusses the data requirements contained in templates 2.3 and 2.4 (for distribution) and 2.3 (for transmission).

4.1 AER Position

4.1.1 Augex project data

Templates 2.3 of the RINs require NSPs to provide historical expenditure and other information on the major components that comprise individual augmentation projects above a materiality threshold. The Reset RIN also requires NSPs to provide the same data for forecast augex projects.

We will collect information for projects grouped by network segment. Broadly speaking, network segments are 'lines' and 'substations'. For each augex project, we require NSPs to provide information regarding individual projects above the materiality threshold, including:

- nature of the augmentation (for example, new substation establishment, or substation upgrades)
- project trigger (for example, demand growth, voltage issues or reactive power issues)
- major expenditure components and volumes, such as:
 - transformers for substations (equipment expenditure only, excluding installation costs)
 - overhead lines (equipment expenditure only, excluding installation costs)
 - installation expenditure (labour)
 - civil works.

We request less detail for lower cost, higher volume augmentations in distribution networks. For augmentation on HV feeders, distribution substations and LV feeders, we require expenditure and other information aggregated into the respective network segments, rather than for individual projects. Materiality thresholds also apply for the provision of physical data (such as km of line added), except for distribution substations.

The Reset RIN requires NSPs to provide information supporting their augex forecasts. NSPs must provide discussion and documentation detailing their consideration of non-network solutions as alternatives to augex. Such documentation should describe:

- the terms and conditions the NSP specified to non-network solution providers
- factors the NSP considered in deciding on the augex project, rather than non-network (or other network) solutions, as the efficient solution, including net present value (NPV) analysis.

Detailed issues and our responses to matters raised in consultation are contained in table 4.1 below.

4.1.2 Augex model

The Reset RIN (template 2.4) requires DNSPs to provide data and other information to populate the augex model. The Reset RIN does not require TNSPs to provide information for augex modelling.

The augex model requires information for all 'segments' in a DNSP's network. Segments represent typical planning components: that is, lines and substations of various types. We will collect information for each segment of a DNSP's network, including:

- voltage, and primary type of area supplied by the segment
- capacity and utilisation at each network segment
- utilisation thresholds, where utilisation above these thresholds triggers augmentation
- maximum demand forecasts for each network segment
- capacity factors
- unit costs (\$ per kVA added).

DNSPs must provide the documentation and models that detail its procedure for estimating capacity factors and unit costs.

DNSPs must also describe the relationship between the demand forecasts it proposes for the augex model and the demand forecasts it uses to develop its augex forecast (see section **Error! Reference source not found.**).

4.2 Reasons for AER position

The Category Analysis RIN and Reset RIN collect augmentation expenditure information that we consider necessary to undertake a rigorous assessment of NSPs' augex forecasts. The information the NSP provides will provide information on the major expenditure components that comprise augex projects. For DNSPs, we will also collect information to enable the application of the augex model. In combination with demand forecast assessments (see section **Error! Reference source not found.**) and detailed project reviews, this information will assist in forming a view on whether the augex component of a NSP's capex forecast meets the NER criteria.³⁷

The Category Analysis RIN and Reset RIN incorporate findings from consultation on the draft RINs. Table 4.1 details our responses to more detailed issues from consultation. Sections 4.2.1 to 4.2.3 discuss more substantial amendments arising out of consultation.

4.2.1 Materiality thresholds for lower levels of the distribution network

The final RINs for DNSPs specify the following thresholds for augex on lower levels of the distribution networks:

- HV feeders: \$0.5M
- LV feeders: \$50k

We have considered these materiality thresholds in light of the number of projects captured across NSPs of different sizes, the resulting expected burden involved and the usefulness of the information collected (and not collected) as a result.

³⁷ NER, clauses 6.5.7 and 6A.6.7.

For HV and LV feeders, the final RINs no longer require information on 'Towers/poles added' and 'Towers/poles upgraded'. The final RINs now require only physical data for 'Circuit km added' and 'Circuit km upgraded'. We have inserted a requirement to report these physical data for overhead lines and underground cables given the significantly different costs involved.

For distribution substations, we note that implementing a materiality threshold to gather physical data (MVA) would skew the information obtained given the differences in costs between different types of substations. As an alternative, we have instead requested the total number added or upgraded of each type of substation (namely pole mounted, ground mounted and indoor).

4.2.2 Removal of 'Other expenditure – contracts' column

Certain tables in regulatory template 2.3 in the draft RINs included the 'Other expenditure - contracts' column for augmentation projects with total expenditure above a materiality threshold. From consultation, NSPs notified us that they have varying procurement and contracting practices with regard to augex projects. NSPs raised the question of where to include expenditure that can be allocated to 'Other expenditure - contracts' and another expenditure item (for example, 'Installation' or 'Other expenditure - Civil works').

The intention of regulatory template 2.3 is to collect expenditure and other information for the major components that comprise augmentations (for projects with total expenditure above the specified materiality threshold). We removed the 'Other expenditure – Contracts' column to avoid confusion as described in submissions from NSPs.

Regulatory template 2.3 provides us with information on contracting practices in the 'All related party contracts' and 'All non related party contracts' columns.

4.2.3 Capex-capacity table

The draft reset RIN for DNSPs included instructions regarding information we require for the 'capex-capacity table', which is supposed to collect expenditure and capacity information for network segments. Table 2.4.6 of the draft RIN templates was intended to be the 'capex-capacity table'. We inadvertently omitted the columns that collected expenditure information from table 2.4.6 of the draft RIN templates. We consider it is important to collect this information to better understand the results of the model. We amended table 2.4.6 to collect expenditure information as we originally intended.

Table 4.1 Detailed issues and responses - augmentation capex

Template paragraph number	Description of data/cells	NSP comments	AER Response
2.3 (DNSP)	Augex project data – project triggers	<p>NSW DNSPs (p. 6) and Energex (p. 8) requested guidance on how to deal with multiple project triggers (for example if the project was driven partly by voltage issues and partly by asset condition issues).</p> <p>NSW DNSPs stated it assumed costs and volumes would be allocated on a proportionate basis to align with allocation of total expenditure by driver. This would mean that the same project would be reported in multiple sheets (albeit on an allocated basis) (p. 6).</p>	<p>The final written RIN contains the following clarifying instructions:</p> <p>For ‘Project trigger’, choose the primary trigger for the project from the drop down list. Describe secondary triggers in the basis of preparation. Where there is no primary trigger (among multiple triggers), choose ‘Other – specify’ and describe the triggers in the basis of preparation.</p> <p>NSPs must not separate information on projects based on project triggers. Rather projects must be separated if they encompass more than one segment of the network: for example, where a project includes augmentation works on a subtransmission line and a zone substation.</p>
2.3 (DNSP)	Augex project data – labour costs	NSW DNSPs (p. 6) and Ergon (attachment) commented they do not report at a job category level for operational purposes. NSW DNSPs propose removing table 2.3.7 (p. 6).	Information requirements relating to labour for the augex category has been removed from regulatory template 2.3 (Augex project data). See further details below in relation to labour tables.
2.3 (TNSP)	Augex project data – Line ID clarification	Transend asked whether line ID refer to the physical transmission line identifier or circuit identifier. Transend has both as some circuits swap between different tower lines as a consequence of different augmentations over time (attachment).	<p>The intention for requiring Line ID is to enable easy identification of the assets subject to augmentation works. We consider circuit identifier(s) better meets this intention. The final written RINs have added the following instruction for clarification:</p> <p>For ‘Line ID’, input the DNSP’s/TNSPs identifier for the circuit(s) subject to augmentation works under the Project ID. This may be the circuit name(s), location and/or code.</p>
2.3 (TNSP), Para 7.2(e)	Augex project data – Lines	This clause requires that ‘each row should represent data for an augmentation project for an individual circuit’. For double circuit lines, Powerlink proposed to halve the costs and put equal values against each	The intention of table 2.3.2 of regulatory template 2.3 for TNSPs is to collect expenditure and other information for the major components that comprise augmentations of lines, rather than individual circuits,

(TNSP)	circuit (appendix, p. 2).	<p>above the specified materiality threshold. We therefore amended this clause as follows:</p> <p>Each row should represent data for all circuits of a given voltage subject to augmentation works under the Project ID.</p> <p>We made a similar amendment in the instructions for table 2.32 of regulatory template 2.3 for DNSPs.</p>
2.3 (TNSP)	<p>Augex project data – insertion of rows</p> <p>Powerlink described its understanding of how it would enter rows in tables 2.3.1 and 2.3.2 to represent the different network segments subject to augmentation works under the Project ID. Powerlink then stated 'project overheads will be allocated on a reasonable basis' (appendix, p. 1).</p>	<p>We consider Powerlink's submission on how it would enter rows in tables 2.3.1 and 2.3.2 is largely consistent with the instructions from the draft written RIN. In the final RIN, we have added additional clarifying instructions that reflect Powerlink's submission.</p> <p>However, we require that only direct expenditure (no overheads) be inputted into all the tables in regulatory template 2.3 for TNSPs and DNSPs. The final RINs include instructions for the avoidance of doubt.</p>
2.3 (DNSP)	<p>Augex project data – materiality thresholds for HV feeders, distribution substations and LV feeders</p> <p>CP/PC (p. 6), Energex (p. 7), SAPN (attachment, p. 2), SP AusNet (SPA) (p. 3), and Ergon Energy (Ergon) (attachment) proposed a range of materiality thresholds for lower levels of the network:</p> <ul style="list-style-type: none"> ▪ HV feeders: \$0.5M - \$1M ▪ Distribution substations: \$50k - \$100k ▪ LV feeders: \$50k <p>Aurora proposed a threshold that equates to the top 20 per cent of projects (p. 2).</p>	<p>The final RINs for DNSPs specify the following thresholds for augex on lower levels of the distribution networks:</p> <ul style="list-style-type: none"> ▪ HV feeders: \$0.5M ▪ LV feeders: \$50k <p>We have considered these materiality thresholds in light of the number of projects captured across NSPs of different sizes, the resulting expected burden involved and the usefulness of the information collected (and not collected) as a result.</p> <p>For HV and LV feeders, the final RINs no longer require information on 'Towers/poles added' and 'Towers/poles upgraded'. The final RINs now require only physical data for 'Circuit km added' and 'Circuit km upgraded'. We have inserted a requirement to report these physical data for overhead lines and underground cables given the significantly different costs involved.</p>

			For distribution substations, we note that implementing a materiality threshold to gather physical data would skew the information obtained given the differences in costs between different types of substations. As an alternative, we have instead requested the total number added or upgraded of each type of substation (namely pole mounted, ground mounted and indoor).
2.3 (DNSP) 2.3 (TNSP), Para 7.2(c) (TNSP)	Augex project data – Separate commissioning of project components	SAPN (attachment, p. 2) and SPA (p. 2) noted large projects spanning more than one regulatory year will have components that may be commissioned in separate years. For example, a large project may have a 66kV line component, and substation works and transformers commissioned in separate years. Does the AER want what is commissioned within the reportable time period or only the entire project cost? Paragraph 7.2(c) requires as commissioned expenditure data. Transend stated its total expenditure forecast on an as incurred basis (as required by the AER). The value in this sheet will not agree with the total expenditure forecast. Most transmission line projects traverse at least two financial years so the potential discrepancies between years could be very large. Transend recommended the AER specify expenditure for worksheet 2.3 to be provided on an as incurred basis consistent with expenditure forecast requirements (attachment).	We changed the requirement to report augex project costs (above the materiality threshold) from an ‘as commissioned’ basis, to a ‘project close’ basis. This is intended to account for instances where components of a project have separate commissioning years and to account for post-commissioning expenditure that is counted as part of the augex project. The final written RINs define ‘project close’ as: When the project account(s) are closed off at the completion of the project.
2.3 (DNSP)	Augex project data – reconciliation of individual project data with as incurred data	Ergon interprets reporting in table 2.3.6 is required on an as incurred basis. Clarification is required if this is to include all open projects as well as commissioned projects (as reported in table 2.3.1 to 2.3.5, on an as commissioned basis). Inclusion of open projects would not allow for reconciliation of tables 2.3.1-2.3.5 to 2.3.6 (attachment). Energen noted augex in the RIN will not reconcile with that reported in the annual RIN. This is because the RIN requires augex reported on an as commissioned basis, while the annual RIN requires it on an as incurred basis (p. 7).	As we noted previously, the final RINs require NSPs to report expenditure for augex projects above the materiality threshold on a ‘project close’ basis. DNSPs must report all augex incurred for the relevant year in table 2.3.6 in regulatory template 2.3 for DNSPs, regardless of whether the expenditure relates to open or closed projects. TNSPs must report similarly for table 2.3.3 in regulatory template 2.3 for TNSPs. The final RINs do not require NSPs to formally reconcile expenditure provided on a ‘project close’ basis with those provided on an ‘as incurred’ basis, such as expenditure reported in table 2.3.6 in regulatory template 2.3 for DNSPs.

2.3 (TNSP)	Augex project data – Land and easements	Powerlink stated it has easement and land projects separate to the construction project. For large augmentations, where Powerlink has a separate land/easement project, Powerlink proposed to provide a separate row in tables 2.3.1 or 2.3.2 for the easement/land project with:	We have added the following instruction regarding this issue:
		<ul style="list-style-type: none"> ▪ internal labour costs identified as Other Direct costs; and ▪ contract costs identified under Other Expenditure Costs directly attributable to the land purchase or easement compensation payments will be totalled in the Land Easements columns. These costs will include legal, stamp duties and cost of purchase or easement compensation payments (appendix, p. 1). 	If TNSP/DNSP records land and easement projects and/or expenditures as separate line items for regulatory purposes, select 'Other – specify' from the 'Project type' drop down list and note 'Land/easement expenditure' in the basis of preparation.
			TNSP/DNSP must input expenditure directly attributable to the land purchase or easement compensation payments in the 'Land purchases' and 'Easements' columns, respectively. These costs include legal, stamp duties and cost of purchase or easement compensation payments.
			TNSP/DNSP must input other expenditure attributable to land purchases and easements in the 'Other expenditure – Other direct' column.
			We have also added the following clarifying instruction:
			Expenditure inputted under the 'Land and easements' columns is mutually exclusive from expenditure that appear in the columns that sum to the 'Total direct expenditure' column. In other words, the 'Total direct expenditure' for a particular project must not include expenditure inputted into the 'Land and easements' columns.
2.3 (DNSP)	Augex project data – Land and easements column	Energex seeks clarification on the treatment of land divestments (pp. 7 & 8).	DNSPs must not include land divestments in regulatory template 2.3 of the final RIN for DNSPs. Similarly, TNSPs must not include land divestments in regulatory template 2.3 of the final RIN for TNSPs.
2.3 (DNSP)	Augex project data (definition of substation normal cyclic rating)	Applying the AER definition of 'substation normal cyclic rating', CP/PC will use the highest transformer nameplate rating (generally with forced cooling) which are in accordance with Australian Standards for transformer rating (p. 6).	<p>The final RINs define 'normal cyclic rating (for substations)' as:</p> <p>The maximum peak loading based on a given daily load cycle that a substation can supply each day of its life under normal conditions resulting in a normal rate of wear. TNSP/DNSP must provide its definition(s) of 'normal conditions'.</p>
			We have included the following instruction in the final written RINs for

completeness:

TNSP/DNSP must provide its definition(s) of 'normal conditions'.

2.3 (DNSP)	Augex project data – gifted assets	Energex has no visibility over costs of gifted capex developments. At best, Energex could provide estimates of what a similar project might cost but this would have limited value as a benchmark. Energex proposes excluding gifted assets (p. 8).	The final RINs include the following instructions regarding gifted assets (relating to augex project data): DNSP/TNSP must not include information for gifted assets.
2.3 (TNSP)	Augex project data – clarification regarding civil works expenditure	Transend and Powerlink requested clarification on civil works. Powerlink stated it is unclear whether work relating to clearing and access for the transmission line should be included as civil works or contracts. These works typically include vegetation clearing, access track establishment, creek crossings, installing culverts and drainage, and benching for tower pad preparation. Powerlink proposes to include these costs as Other - civil works (appendix, p. 2). Transend stated in the case of transmission support structures much of the installation costs are civil works. Transend contracts all civil works so which column of 'Other expenditure' in table 2.3.1 do they go (attachment)?	The intention of regulatory template 2.3 for TNSPs and DNSPs is to collect expenditure and other information for the major components that comprise augmentations (for projects with total expenditure above the specified materiality threshold). From consultation, NSPs have varying procurement and contracting practices with regard to augex projects. We removed the 'Other expenditure – Contracts' column to avoid confusion as described in submissions from NSPs. Regulatory template 2.3 collects contract information under the 'All related party contracts' and 'All non related party contracts' columns. Note that the expenditure figures inputted into the 'All related party contracts' and 'All non related party contracts' columns do not contribute to the column that calculates the total direct expenditure on an augex project ('Total direct expenditure'). DNSP/TNSP must record all contract expenditure for augex projects under the 'All related party contracts' and 'All non related party contracts' columns. DNSP/TNSP must then allocate such contract expenditure to the appropriate 'Plant and equipment expenditure and volume' and 'Other expenditure' columns. For example, if a non-related party contract involves expenditure on civil works, DNSP/TNSP must record that expenditure under the 'All non related party contracts' and 'Other expenditure – Civil works' columns.

This is consistent with the intention of regulatory template 2.3 as described above.

2.3 (TNSP)	Augex project data – Towers civil works	Transend assumed the column 'Other expenditure - civil works' excludes civil works associated with towers (as schedule 1 explicitly states that civil works should be included with tower costs). If so, what additional civil costs might be included? Might this be construction of access tracks, crane pads (attachment)?	<p>We included the following instruction for table 2.3.2 of regulatory template 2.3 (for both TNSPs and DNSPs) further clarity:</p> <p>As a guide, expenditure a TNSP/DNSP may input under 'Other expenditure – Civil works' includes (but is not limited to) construction of access tracks, construction pads and vegetation clearance.</p> <p>Note, vegetation clearance for regulatory template 2.3 relates only to activities required to enable the augex project. It must not include vegetation clearance works TNSP/DNSP performs outside of the augex project such as access track maintenance and vegetation management.</p>
2.3 (DNSP)	Augex project data – inability to provide civil works expenditure	Energex cannot consistently and reliably disaggregate 'Other expenditure' because civil works are not identified separately in estimates. While some contracts may include disaggregate expenditure, this level of disaggregation is not possible for all projects (p. 7).	DNSPs may input estimates of augex project information where it does not keep and maintain particular information requested in the final RIN templates.
2.3 (DNSP)	Augex project data – safety as a driver	<p>Based on the most recent workshop, SPA stated its understanding that it is intended for businesses to include safety-driven expenditure in the augex tab. For SP AusNet, safety-driven expenditure is a significant expenditure category. It is unclear at this stage, whether this is significant to the AER's data set and category benchmarking activity (pp. 2–3).</p> <p>However, consideration will need to be given to the treatment of safety driven augex in augex modelling.</p>	<p>We have included 'Safety' and 'Environment' as project triggers in regulatory template 2.3 for both TNSPs and DNSPs.</p> <p>As specified in the instructions, NSPs can describe secondary drivers of augex projects in the basis of preparation.</p> <p>More generally, NSPs can choose 'Other – specify' from the 'Project trigger' drop down list if the trigger for a project is not included in the drop down list.</p> <p>NSPs must not use project triggers as the basis for including expenditures in regulatory template 2.3 for TNSPs and DNSPs. For example, safety-driven expenditures that do not meet the definition of augmentation must not be included in regulatory template 2.3. TNSPs/DNSPs would include such expenditure in another, more appropriate category. We have included the following instruction to</p>

			avoid any doubt: TNSP/DNSP must include only projects related to augmentation of the network.
2.3 (TNSP)	Augex project data – major contracts – non related party	Powerlink stated it is unclear whether this includes plant procurement contracts. Powerlink proposes to include the costs of the major contract associated with the project in this column. These costs would also be recorded in other columns, i.e. the plant and equipment columns or Other expenditure - contracts column (appendix, p. 2).	As we discussed above, the final RINs no longer contain the 'Other expenditure – Contracts' column.
2.3 (TNSP)	Augex project data – colour coding	Transend stated there are no instructions regarding colour coding/data entry (for example, yellow cells as opposed to grey cells). The AER should clarify in paragraph 1.1 basic entry requirements with reference to cell colour and ensure consistent formatting across sheets (attachment).	We have amended the instructions and corresponding colour coding to clarify which cells require data input from NSPs.
2.3 (TNSP)	Augex project data – AEMO's role in Victoria	SPA (pp. 2–3) and Grid Australia (p. 3) noted AEMO's role in Victoria. The AER needs to obtain data from AEMO in relation to its TNSP functions in Victoria, including transmission planning for the shared network and demand forecasting. AEMO should provide the same level of information for its Victorian operations as other TNSPs. In the interests of transparency, the AER should clarify this matter.	We will modify the final RIN to SP AusNet to reflect the Victorian arrangements with regard to transmission network planning and demand forecasting. We will also approach AEMO to collect information pertaining to its role in transmission network planning and demand forecasting in Victoria.
2.4 (DNSP)	Augex model	NSW DNSPs stated they do not currently undertake weather correction at the feeder level so it would need to be estimated. They would need to develop this process (p. 6).	DNSPs may input estimates of maximum demand information where it does not keep and maintain particular information requested in the final RIN templates.
2.4 (DNSP)	Augex model	NSW DNSPs stated network reconfiguration, particularly at the distribution level, will mean sections of feeder will change from one feeder to another (p. 6).	The augex model provides flexibility for the DNSP to specify the network configuration appropriate for modelling purposes. For example, the DNSP may utilise the configuration under 'system normal' conditions, that is, adjusting for temporary switching and temporary load changes of major customers.
2.4 (DNSP)	Augex model	NSW DNSPs noted appendix G of the draft RINs defines 'distribution' as referring to 22kV and below. However, NSW DNSPs have 33kV distribution	We changed the definition of distribution substation to include 33KV transformers used to transform down to LV. We also changed our

feeders. Some of these also serve as subtransmission feeders due to the number of customers on them (p. 10).

definition of HV feeder (as currently it is capped at 22kv) and make it at or below 33KV. However, it will exclude any lines used for sub transmission from the definition.

As stated in page 9 of the augex model handbook, the augex model 'allows the network to be constructed from various network segments, each with their own set of planning parameters. This allows some level of disaggregation to capture different augmentation circumstances that could affect benchmarking.'

We have included the following clarifying instruction for cases where a DNSP's assets do not exactly match the definitions of network segments in the final reset RIN:

If an asset of DNSP does not exactly match the definitions in appendix G, DNSP should include the asset in the table that most closely reflects its primary nature. DNSP must clearly label such assets and note such assets in the basis of preparation.

For example, DNSP would include information for 33kv distribution feeders in table 2.4.2, if appropriate, and clearly label the nature of that particular feeder.

5 Replacement capex

This section discusses the replacement capex (repex) data requirements contained in templates 2.2 and 5.2 (for distribution) and 2.2 and 4.1 (for transmission).

Our repex and asset age profile worksheets collect data on replacement / failure volumes, unit costs and age profile for standardised asset categories.

5.1 AER Position

We have made minor amendments to the repex data requirements from the draft RINs. Notably, following consultation with NSPs we:

- provided NSPs with guidance on generating data to the required quality
- amended our definition of repex, clarifying the scope of capex captured in the category
- clarified the concept of an asset's economic life
- included definitions and instructions to account for refurbishments/life extensions capex
- refined our definition of asset failure
- simplified labour data requirements and moved these to a separate worksheet (as discussed in section 13)
- made minor amendments to asset groups/category specifications and definitions.

For each standardised asset category, NSPs must provide 5 years of historical replacement volumes/unit cost data and the age profile of the asset categories currently in commission. When an NSP submits its Reset RIN it must provide volumes and unit costs both for this historic period and the forecast period. We note that given the nature of the networks the asset groups/categories vary between transmission and distribution.

Detailed issues and our responses to matters raised in consultation are contained in Table 5.1 below.

5.2 Reasons for AER position

NSPs must report data that allows us to apply the techniques set out in the Guideline.³⁸

The data requirements included in the final RINs are specifically relevant to considering benchmarks, performing trend analysis and other modelling of historical and expected replacement expenditure. Our data requirements are largely driven by developing inputs to the repex model. Age based replacement modelling is used by all NSPs in some form and many NSPs currently report age and replacement cost information to the AER on an annual basis. In standardising our dataset across all NSPs, the reporting burden may rise in having to conform to new categories, which may be more or less detailed than those currently used by each NSP. However, we do not consider mapping historic information to these new categories, or in configuring reporting arrangements for forecast data, to be particularly difficult for NSPs. The benefits of developing standardised categories will come from a

³⁸ AER, *Better Regulation, Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013; AER, *Better Regulation, Expenditure Forecast Assessment Guideline for Electricity Transmission*, November 2013; AER, *Better Regulation, Explanatory Statement Expenditure Forecast Assessment Guideline*, November 2013.

significantly deeper dataset from which to identify and compare instances of different expected lives and replacement costs on comparable assets.

Replacement capex has typically been the second biggest category of expenditure after augmentation capex in the previous cycle of revenue/price reviews. However, for at least some future reviews we expect it to become a more significant area of expenditure by NSPs and therefore a primary focus for the AER. It is noteworthy for example that some NSPs are making claims that aging and deteriorating assets will be of continuing and greater focus for their capital programs given the likelihood of lower expected levels of augmentations as a result of the flatter demand growth over the foreseeable review period.

In submissions and bilateral discussions on the draft RINs, NSPs views centred on areas where data provision is difficult, whether it is fit for purpose and areas needing clarification. The major issues raised and our consideration of these is set out below.

Ability to provide data

Throughout consultation NSPs noted a mismatch between their asset registers and financial records. Aligning these to provide the back-cast data will require estimation techniques and allocations with future capture requiring substantial modifications to internal data systems and business practices. We acknowledge that NSPs must apply methodologies to bridge the data currently held in their information systems to provide the historical unit costs required for the final RINs. Any estimation needs to be explained, justified and fully transparent and provided in the basis of preparation.

We acknowledge collecting the data in the future will mean modification to existing data capture systems. We have considered the costs of changes to NSPs systems when developing the data requirements. Several NSPs provided the function codes or cost centres used in their accounting systems. These were particularly beneficial in determining current data capture practices. In light of this information our approach has been to minimise changes to existing systems across the NEM while still collecting the information necessary to conduct the techniques contained in the Guideline.

Where possible, we aimed to align our data requirements with the records NSPs either did or were expected to keep in order to manage their assets in accordance with good industry practice.

Scope of replacement expenditure

Several NSPs required clarification on circumstances where expenditure is replacement rather than the other expenditure categories. In particular the NSW DNSPs, SP AusNet, Energex and ElectraNet noted that their data systems do not distinguish asset installations between replacement and augmentation.³⁹

NSPs initiate capex for a variety of reasons, we consider capex is replacement when the primary driver of the expenditure is non-demand driven and the asset is unable to efficiently maintain its service performance requirement. We have included the below definition for determining the primary driver of expenditure and incorporated this into the definition of replacement expenditure.

Primary driver:

The factor or cause leading directly to a decision to incur capex, categorised by the expenditure categories.

³⁹ NSW DNSPs, *Submission on draft reset RIN*, 17 January 2014, p.5. SP AusNet, *Submission on draft category analysis RIN (distribution)*, 17 January 2014, p.2. Energex, *Submission on draft category analysis RIN*, 17 January 2014, p.5-6. ElectraNet, *Submission on draft category analysis RIN - Attachment*, 17 January 2014.

Replacement expenditure:

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.

Economic life of an asset

In bilateral discussions, NSPs required clarification on the terms 'economic life' and 'standard life'.

In developing the draft RINs we included the term economic life in our definition of replacement expenditure. Without providing a specific definition we noted that economic life is determined by the age, condition, technology or environment of the existing asset. We note the term 'standard life' is interchangeable with the term 'economic life'. In the final RINs we have replaced references to 'standard life' with 'economic life'.

We have included the below definition for economic life:

Economic life:

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.

NSPs noted that it is inappropriate for the AER to prescribe the methodology to generate the mean and standard deviation of an asset category's economic life as required for repex modelling.⁴⁰ We have removed the prescription that NSPs derive the mean and standard deviation from the asset population. The methodology NSPs deploy to derive the mean and standard deviation must be included in the basis of preparation and we have added instructions in the RIN to this effect.

In further consultation some NSPs sought guidance on the appropriate methodology for generating the mean and standard deviation economic life. While we are not prescribing the approach we could offer NSPs the following guidance. As the above definition of economic life states, the period of effective service for an asset requires considering the life cycle costs of keeping an asset in commission and replacing it with its modern equivalent. For example, consider an NSP managing its fleet of transformers. A certain type and aged transformer is at high risk of functional failure, depending on the asset type the NSP likely has the following capital strategies:

- Run to failure
- Replace the transformer prior to functional failure (remove from network and install a new asset)
- Refurbish the asset to materially alter its life

⁴⁰ Energex, *Submission on draft category analysis RIN*, 17 January 2014, p.14. ElectraNet, *Submission on draft category analysis RIN - Attachment*, 17 January 2014. Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p.26.

The NSP assesses the costs of each of these options by doing an NPV analysis on these options. The economic life of the asset would be the assumption that goes into this analysis of the period of effective service the NSP anticipates the replacement asset would provide. This assumption is the mean economic life, if based on historical effective service periods the NSP should be able to provide a corresponding standard deviation. Absent of this, we note in the guide to the repex model, a proxy often used is the square root of the mean.⁴¹

Treatment of asset refurbishments/ life extension capex

Energex and TransGrid noted a need to clarify how to account for asset refurbishments or life extension works.⁴² Where an NSP considers the asset categories are not adequate/ complete it is free to insert rows to provide for other assets in accordance with the methodology prescribed in the RIN. This applies for asset refurbishments/ life extension works. We have included a definition for asset refurbishments / life extension works as below:

Asset refurbishments/ life extension capex:

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.

We have also included instructions on how NSPs must report this expenditure. Similar to including asset categories in addition to those specified, NSPs must insert a row and specify the applicable asset for which the refurbishment data applies.

Asset failure definition

The NSW DNSPs, TransGrid and SAPN were unclear on the scope of 'asset failures' requested in the draft RIN and required clarification on whether this covers conditional or functional failures.⁴³ The NSW DNSPs noted that a "conditional" failure is when an asset has exceeded its minimum technical specification (for example a pole inspection reveals residual strength is less than that specified). An equivalent example of a "functional" failure is when a pole physically fails (i.e. falls down). CP/PC in its submission noted that asset failure data has evolved over time and therefore the numbers in different years will vary depending on the system and processes in place.⁴⁴

Asset failure data provide a high level indicator of the asset management practice of an NSP. Comparing NSPs, a higher average failure rate, controlling for asset age, indicates a more 'run to failure' approach.

We consider that conditional failure rates will be biased by individual NSPs' specific criteria. This is susceptible to policy changes across time. For this reason NSPs must report "functional failures" to provide a reasonable point of comparison. We have amended the definition of asset failure as below to reflect this distinction:

Asset Failure (Repex):

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

⁴¹ AER, *Electricity network service providers, Replacement expenditure model handbook*, November 2013, p.19.

⁴² Energex, *Submission on draft category analysis RIN*, 17 January 2014, p.5. TransGrid, *Submission on draft category analysis RIN*, 17 January 2014, p.6.

⁴³ SA Power Networks, *Submission on draft category analysis RIN –Attachment*, 17 January 2014, p.1. NSW DNSPs, *Submission on draft reset RIN*, 17 January 2014, p.5. TransGrid, *Submission on draft reset RIN*, 17 January 2014, p.6.

⁴⁴ CitiPower/Powercor, *Submission on draft category analysis RIN*, 17 January 2014, p.5.

- 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.

Excludes planned interruptions.

Simplified labour data requirements

Throughout consultation NSPs consistently noted difficulty providing the data required for the labour tables included across the draft RIN templates. While many submitted concerns in the context of the repex templates, these were generic across the draft RINs. For a more detailed discussion of this issue see section 13.

NSPs raised several other issues across the repex asset category specifications and definitions. Table 5.1 below provides our consideration of these issues.

Table 5.1 Detailed issues and responses – Replacement expenditure

Template paragraph number	Description	NSP comments	AER views
<p>CA Written RIN –</p> <p>for DNSPs Appendix E p. 27</p> <p>for TNSPs Appendix E p. 25</p>	<p>Expenditure on auxiliary works</p>	<p>NSPs required clarification on allocating expenditure for replacing assets that supplement the primary plant’s replacement.</p> <p>Transend raised this in its submission, noting a need for more clarity of where to allocate repex costs to the electrical equipment categories or other. (Submission attachment p.1)</p>	<p>We consider NSPs decide to replace an asset after assessing the lifecycle costs of all available options to meet the network need. Implicitly this involves deriving life-cycle cost estimates and proceeding with the lowest cost option. When determining the replacement expenditure to report, NSPs should include all expenditure directly attributable to replacing the asset category.</p>
<p>Template 2.2/5.2 for DNSPs & 2.2/4.1 for TNSPs</p> <p>CA written RIN –</p> <p>for DNSPs Appendix F p. 68</p> <p>for TNSPs Appendix F p.52</p>	<p>Missing asset groups</p> <p>SCADA, Network control and protection assets for distribution</p> <p>IT & Communications for transmission</p>	<p>Throughout consultation NSPs questioned the merit/logic of SCADA, network control and protection assets and IT being in non-network rather than replacement expenditure.</p> <p>CP/PC noted in its submission that separating Protection relays, SCADA and Network control from replacement expenditure is different from its annual RIN. It strongly requests that the AER maintain the Annual RIN categories, given the Businesses’ systems have been developed to report based on the Annual RIN. (Submission p.5)</p> <p>Similarly Ergon Energy in its submission expresses concern about duplicating reporting efforts noting discrepancies from the annual reporting RIN. Particularly that there is very little substation plant, no instrument transformers, protection or control assets. (Submission p.17)</p> <p>In bilateral discussions, Transend sought clarification on accounting for repex on protection and control devices applying to each asset category.</p>	<p>In the explanatory statement to the draft RINs we noted that replacement expenditure excludes expenditure associated with replacement of communications, IT assets for transmission and SCADA and protection assets for distribution.</p> <p>However in reflection of views of the NSPs we consider it is appropriate to add these groups back into repex and remove them from non-network:</p> <p>SCADA, Network Control and Protection systems: <i>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. Protection systems has the meaning prescribed in the National Electricity Rules</i></p> <p>For DNSPs we have included the following asset categories for SCADA, Network Control and Protection in the repex and asset age profile data requirements:</p> <p>Field devices: <i>This includes old fashioned electromechanical relays and modern digital relays that incorporate many functions. This includes field devices such as relays, Remote Terminal Unit, Program Logic Controllers, Data storage, communication interfaces, and local</i></p>

master stations.

Local network wiring assets: Assets that connect sensors, current and voltage transformers and other status indicators to the field devices.

Communications network assets: Network assets which facilitate the communication of SCADA, Network Control and Protection systems assets beyond the gateway devices (routers, bridges etc.) at corporate offices.

Master station assets: Includes those network assets dedicated communication devices, front end processors, data servers, master station servers, control room HMIs including wall mounted large screens.

For TNSPs, given the relatively heterogeneous nature of SCADA, Network Control and Protection Systems assets we consider it appropriate that TNSPs have discretion to apply its own asset categories. TNSPs must provide replacement unit costs and asset age profile data as prescribed by the instructions for regulatory template 2.2 and regulatory template 4.1

We have amended the final RIN templates to reflect this change.

Template 5.2 Replacement life In bilateral discussions Ausgrid required clarification on the
for DNSPs & definition missing definition of replacement life.
4.1 for TNSPs

CA written
RIN –

for DNSPs
Appendix F p.
66

for TNSPs
Appendix F
p.51

In the draft RINs we did not include a definition of the term “replacement life” as it is not explicitly in the draft RINs data requirements.

The guide to the repex model discusses Replacement life, referring to it as a probability distribution function (i.e. the mean and standard deviation).⁴⁵ Given that in the final RINs we require the mean and standard deviation of each asset category we have Included a definition for replacement life.

Replacement life: Probability distribution function parameterized by the mean and standard deviation of the expected time to replacement of the assets in the asset category.

⁴⁵ AER, *Electricity network service providers, Replacement expenditure model handbook*, November 2013, p.10.

<p>Template 2.2 for DNSPs & TNSPs</p> <p>CA written RIN –</p> <p>for DNSPs Appendix F p. 64</p> <p>for TNSPs Appendix F p.51</p>	<p>Commissioning substantially different assets</p>	<p>In bilateral discussions, NSPs required clarification on the treatment of instances when an asset replacement involves commissioning a substantially different asset.</p>	<p>NSPs must document instances when there are significant changes in the modern equivalent assets. NSPs must report this expenditure against the installed asset. For example if an NSP replaces a pole mount transformer with a kiosk mounted transformer the costs and volumes should be reported against the kiosk-mounted transformer category). Determining that this is replacement expenditure requires considering whether the new asset performs the same network function to meet the same network capacity requirement, that is, it is non-demand driven.</p>
<p>Template 2.2 for DNSPs & TNSPs</p>	<p>Labour tables data provision</p>	<p>Throughout consultation NSPs consistently noted difficulty providing the data required for the labour tables included across the draft RIN templates.</p>	<p>The NSPs concerns on the labour tables are not isolated to repex and apply across the draft RINs. For a more detailed discussion of this issue see section 13.</p>
<p>General issue</p>	<p>Inconsistency between annual reporting RIN and draft RINs</p>	<p>Throughout consultation NSPs have noted several inconsistencies between NSPs annual reporting requirements and the data requirements in the draft RINs.</p> <p>In submissions, both Ergon Energy and CP/PC expressed concerns that even subtle differences between the annual reporting RIN and the draft RIN can effectively duplicate NSPs reporting requirements. (CP/PC Submission p.5, Ergon Energy p.8)</p>	<p>To apply our assessment techniques for repex we needed to develop standardised categories of assets for which we can compare and identify different asset lives and unit costs.</p> <p>We acknowledge that differences between the draft RIN data requirements and NSPs existing annual RIN reporting obligations will require NSPs to adapt their reporting systems.</p> <p>We note that NSPs previous annual reporting obligations require asset installation data providing asset life and unit cost information. NSPs had discretion over the asset categories it reported this asset installation information against. To compare NSPs effectively we consider it necessary to prescribe the categories NSPs report.</p> <p>In developing the standardised asset categories we have balanced NSPs' existing reporting</p>

				obligations against technical determinants of asset life and unit cost necessary to provide meaningful benchmarks.
General issue	The AER disregarded ENA responses to the straw-man categories	Energex in its submission considered that the AER had disregarded proposed asset categories provided by the ENA during consultation.(Submission p.6)		<p>In consultation for the draft expenditure forecast assessment guideline we circulated a straw-man with the repex asset categories for consultation. Both the ENA and Grid Australia provided responses on what it considered to be appropriate categories for both distribution and transmission respectively.</p> <p>In publishing the draft explanatory statement to the expenditure forecast assessment guideline we included detailed tables providing the ENA's views and how the AER considered the ENA views. The ENA submission was particularly beneficial in determining the appropriate material types for poles and the rating bands for transformers (noting there are slight differences to avoid assets falling on the boundary of categories). We consider it was useful in framing the DNSPs collective views.</p>
Template 2.2/5.2 for DNSPs & 2.2/4.1 for TNSPs	Balancing item needed for estimation errors	CP/PC in its submission raised a need for a balancing item. It noted the asset categories do not have sufficient breadth to capture the total replacement costs across each network business. (Submission p.5)		<p>We consider the provision to include an “other” asset group, sub-categorisation of existing asset categories and “PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY” provisions allow sufficient flexibility for NSPs to categorise their replacement expenditures appropriately.</p> <p>We have included instructions on the process and circumstances for classifying expenditure under these provisions. We note NSPs must report replacement / failure volumes, unit costs and age profile for asset categories it reports.</p>
CA written RIN – Appendix E - Basis of preparation	Ambiguity of allocations/estimation techniques	In bilateral discussions CP/PC noted that back-casting unit costs on the basis of allocating internal accounting cost centres will produce highly variable results depending on assumptions applied. For example, “the costs for replacing a defective pole will be allocated to one pole replacement function code. All associated costs such as replacement of associated cross arms, insulators, HV surge diverters, and sometimes a transformer, are included in the pole replacement function code”.		<p>We acknowledge that NSPs' historical unit cost information does not align perfectly with the repex asset categories.</p> <p>In situations where NSPs are required to estimate information the RIN requires them to outline the methodology applied to generate estimates. NSPs must demonstrate how it deemed the methodology appropriate compared with available alternatives. Instances where the availability and level of disaggregation of source data produces vastly different estimates, the NSP should demonstrate how it considered this.</p>
Template 2.2/5.2 for DNSPs & 2.2/4.1 for	Expenditure 'as incurred' or 'as commissioned'	In consultation, SP AusNet Transmission and Transend noted that it was unclear what period to attribute repex to when it occurs across multiple periods. Guidance on whether to record expenditure against the year the project “is		TNSPs must report repex data against the year of project close.

<p>TNSPs</p> <p>Written RIN –</p> <p>for DNSPs Appendix E p. 27</p> <p>for TNSPs Appendix E p. 25</p>	<p>commissioned” or when the expenditure “is incurred” is needed. (SP AusNet Transmission Submission p.2 and Transend Submission p.1)</p>	<p>DNSPs must report repex data as expenditure as-incurred.</p>	
<p>Template 2.2 for DNSPs & TNSPs</p>	<p>Feeder type classifications</p>	<p>Ausgrid noted in consultation that assets which operate at a sub-transmission level can service many different feeders and feeder types. It suggested removing sub-transmission assets from the aggregated asset group data by feeder type.</p>	<p>We consider a key driver of the cost of replacing an asset is its location on the network. We would anticipate that assets in geographically remote segments of the network would encounter extended travel costs to service its assets. Conversely a NSP with a highly dense network would have higher traffic management or other civil costs.</p> <p>For poles, overhead conductors and underground cables we consider location materially affects unit costs and NSPs must report aggregated asset volumes by feeder type.</p> <p>The feeder type definitions align to those used for the STPIS. We acknowledge that assets operating at sub-transmission voltage serve multiple feeders. Therefore NSPs must report asset volumes by feeder excluding sub-transmission assets. –</p> <p>We have amended the feeder type definitions.</p>
<p>Template 5.2 for DNSPs & 4.1 for TNSPs</p> <p>CA written RIN –</p> <p>for DNSPs Appendix F p. 56</p> <p>for TNSPs</p>	<p>Asset age profile</p>	<p>In its submission SP AusNet Distribution noted that it does not configure its data systems to record asset age profile data. (Submission p.2)</p> <p>SP AusNet distribution also provided a workbook which categorised the difficulty that they would have in providing each data item in the RIN.</p> <p>The majority of the asset age profile data requirements are determined to be complex to provide (i.e. they would be estimate based on formula, standard parameters or other source) with the exception of service lines, switchgear and</p>	<p>We consider asset management systems in line with good industry practice would include recording installation dates for assets on the network. These records would provide the source data to make allocations and manipulate the data to generate the age profile data for the asset categories.</p> <p>We note that the age profile data is required to forecast replacement volumes. In the repex model we apply a normal distribution for which the mean and standard deviation of the assets economic life is applied to the existing inventory of assets. Therefore NSPs must provide the installation year of each asset currently on the network.</p> <p>We have refined the definition for the term “INSTALLED ASSETS -> quantity by year” as</p>

Appendix F p.50		public lighting which are of significant difficulty. (Workbook attached to submission)	follows:
		ElectraNet and Transend required clarification on the term "INSTALLED ASSETS -> quantity by year". Notably whether this data is the age profile of the current inventory of assets or installation volumes by year, regardless of whether the asset is still in commission. (ElectraNet Submission Attachment and Transend Attachment to Submission pp.6-7)	INSTALLED ASSETS -> QUANTITY CURRENTLY IN COMMISSION BY YEAR: <i>The number of assets currently in commission and the year they were installed</i> On this basis it is inappropriate to differentiate asset age profile data by the original driver.
		Energex cited difficulty in providing the data on the basis of not being able to differentiate the original driver of the asset installation (i.e. condition based, augmentation, failure or storm events/flooding).(Submission p.14)	
Template 2.2/5.2 for DNSPs	Poles/ Pole top structures	Energex in its submission required clarification on whether steel towers should be included in steel poles. (Submission p.14)	We consider, on the basis of the definition poles asset group, this group would include steel towers in so much as those assets "provide structural support for overhead conductors or other lines assets." Poles are categorised according to their highest operating voltage to take account for height and strength requirements which might be different for a "pole" or "tower".
CA written RIN –		The NSW DNSPs noted that for poles it would need to allocate expenditure at a sub-transmission voltage level because costs are not booked on a voltage basis. (Submission p.5)	We note that NSPs are free to sub-categorise the poles asset categories to highlight differences between assets that have the same highest operating voltage.
for DNSPs Appendix F p. 64			We acknowledge that some NSPs will need to use estimation techniques and apply allocations to provide the data in accordance with the asset categories.
			Further, we consider the issue identified below by TNSPs regarding Steel towers/Tower structures is relevant to Poles/ Pole-top structures groups in distribution. We have amended the group definitions as follows:
			Poles: <i>These are vertically oriented assets that provide load bearing structural support for overhead conductors or other lines assets. This also includes associated pole top structures, such as cross-arms and insulators where these are replaced in conjunction with a pole replacement project It excludes other pole mounted assets that are included in any other asset group, notably pole mounted substations and pole mounted switchgear such as links, fuses, air break switches etc.</i>
			Pole top structures: <i>These are horizontally oriented structures and their components that provide support for overhead conductors and related assets to be supported on a pole and provide adequate clearances. This relates to expenditure incurred when a pole top structure</i>

is replaced independently of the pole it is located on. This includes cross-arms and insulators. It excludes any pole mounted assets that are included in any other asset group, notably pole mounted substations and pole mounted switchgear such as links, fuses, air break switches etc.

Further, we have made minor amendments to align the voltage classifications to those in the overhead conductors asset group.

<p>Template 2.2/4.1 for TNSPs</p> <p>CA written RIN –</p> <p>for TNSPs Appendix F p. 52</p>	<p>Steel Towers / Transmission Tower Support Structures:</p>	<p>In consultation, Transend and TransGrid considered the asset group names “Steel towers” and “Tower structures” with their definitions did not adequately differentiate which assets fall into each groups.</p> <p>Transend suggested that based on their definitions 'Steel Towers' would be better renamed as 'Support Structures' and 'Tower Structures' would be better renamed as Structure Accessories'. (Submission p.7)</p> <p>TransGrid suggested that differentiating the definitions on the basis of including/excluding assets which are primarily for load bearing purposes is appropriate. (Submission p.6)</p>	<p>We agree and have amended the group names and definitions as follows:</p> <p>Transmission Towers: <i>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.</i></p> <p>Transmission Tower Support Structures: <i>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.</i></p>
<p>Template 2.2/5.2 for DNSPs</p>	<p>Pole top structures</p>	<p>In bilateral discussions, several NSPs noted difficulty in providing data for the simple and complex asset categories within the pole top structures asset group.</p>	<p>We consider the simple/complex asset categories provided an indication of network complexity when benchmarking NSPs. That is, an NSP with relatively more complex pole top structures would indicate more deviations in the distribution network and all other things being equal it would face higher costs in replacing its pole top structures.</p> <p>On the basis of recent consultation we have revised our position and consider splitting the pole-top structures by voltage will impose minimal collection burden on NSPs and will allow us to draw meaningful benchmarks for an asset group which typically involves material levels of expenditure.</p> <p>We have amended the Final RIN templates accordingly.</p>
<p>Template 2.2/5.2 for</p>	<p>Overhead</p>	<p>The NSW DNSPs noted that for overhead conductors detailed information is available on volumes and asset</p>	<p>We acknowledge that some NSPs will be required to use estimation techniques and apply</p>

DNSPs	conductors	<p>failures by voltage and type but it would need to allocate expenditure at a sub-transmission voltage level because costs are not booked on a voltage basis. (Submission p.5)</p> <p>In bilateral discussions JEN noted overhead conductors are an example where allocations and assumptions would be required. JEN captures expenditure using activity based costing, however it is not able to distinguish demand driven replacement from non-demand driven replacement. JEN considered it would be able to derive the total assets "replaced" in a period but this volume may not align with the AER's definition of replacement. JEN described some of the methodologies it had applied to derive similar reporting requirements in the past, noting that these involved subjective judgements</p> <p>SAPN in its submission noted that it does not capture the length (km) of overhead conductors replaced, as failures of these assets are localised. However, it does capture the number of overhead conductor failures.(Submission p.1)</p>	<p>allocations to provide the data in accordance with the asset categories.</p> <p>We consider volumes of material types allow us to anticipate each NSPs propensity for conductor replacement. We consider that a conductor of the same age but different material type can have a significant difference in asset life. There are a vast number of conductor material types across and within networks beyond those we included in the draft.</p> <p>We have amended the data requirements to provide each NSP the discretion to report this data in accordance with the material types on its network.</p>
<p>Template 2.2/5.2 for DNSPs & 2.2/4.1 for TNSPs</p> <p>CA written RIN –</p> <p>for DNSPs Appendix F p. 70</p> <p>for TNSPs Appendix F</p>	<p>Underground cables/ Transmission cables</p>	<p>The NSW DNSPs noted the definition of underground cables makes no reference to cable termination pillars. Noting that underground cables were included as part of the underground cable network in previous RINs. (Submission p.5)</p> <p>Similarly in bilateral discussions, Ausgrid sought clarification on accounting for expenditure on replacing the pits and pillars for an underground cable. Particularly whether this is included in the cost build-up for the underground cables categories or included as an "other" category.</p> <p>SAPN in its submission noted that it does not capture the length (km) of underground cables replaced, as failures of these assets are localised. However, it does capture the number of underground cables failures. It further queried</p>	<p>We have amended the underground cables definition as follows:</p> <p>Underground cables: <i>These assets have the primary function of distributing power, below ground, within the distribution network. This includes cable ends, joints, terminations and associated hardware and equipment (e.g. surge diverters, etc.), cable tunnels, ducts, pipes, pits and pillars. It excludes any pole mounted assets that are included in any other asset group.</i></p> <p>Transmission cables: <i>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.</i></p> <p>We acknowledge that some NSPs will need to use estimation techniques and apply</p>

p.52

why there is a mismatch between the volume normalisation data requirements for overhead conductors and underground cables (i.e. overhead conductors collects volumes by material type).(Submission p.1)

allocations to provide the data in accordance with the asset categories.

We consider variance in overhead conductor material type which drives different rates of replacement does not apply to underground cables.

<p>Template 2.2/5.2 for DNSPs</p>	<p>Transformers</p>	<p>The NSW DNSPs noted that kiosks and pole transformers include switchgear and other equipment. If these are to be separated out it would need to be done on an allocation basis. Civil construction costs would need to be allocated as they are part of the overall building costs.(Submission p.5)</p> <p>SP AusNet distribution noted in its submission that it has no work code for transformers so cannot distinguish expenditure on this category. (Submission p.2)</p> <p>Energex noted that it does not specifically record replaced MVA is unknown for distribution transformers and possibly power transformers. It further noted that guidance on the treatment of refurbished assets for Ground /outdoor transformers is required. (Submission p.6)</p>	<p>We acknowledge that some NSPs will need to use estimation techniques and apply allocations to provide the data in accordance with the asset categories.</p> <p>We consider that to manage its assets in a manner consistent with good industry practice NSPs must record the MVA replaced for transformers on its network.</p>
<p>Template 2.2/5.2 for DNSPs & 2.2/4.1 for TNSPs</p> <p>CA written RIN –</p> <p>for DNSPs Appendix F p. 62 & 65</p> <p>for TNSPs Appendix F</p>	<p>Switchgear/ Substation & switchbays</p>	<p>In consultation several NSPs noted that the AER needs to provide definitions for the function type definitions (i.e. fuse, circuit breaker etc.).</p> <p>In its submission Energex noted that clarification is required regarding how to treat distribution substations, that is whether LV and HV switches should be separated or combined.(Submission p.5)</p> <p>The NSW DNSPs noted difficulty in differentiating load-break and non-load break switches. It proposed replacing it with a definition of Permanent Switch - A purpose built switch such as an Isolator, Air Break Switch or enclosed switch that can be operated to switch the network without the use of tools. For the purposes of this definition only operating sticks are</p>	<p>Following consultation we consider that defining switch function by operational purpose is more appropriate than prescribing particular switch types. In any case we consider classifying switch functions on the basis of voltage will determine the applicable switch type.</p> <p>We have amended the function types to be as follows:</p> <p>Fuse: <i>A device used in distribution networks that can break electrical connection of a load from a supply when current exceeds specified value and duration. For the purpose of replacement expenditure classification, switches that incorporate a fuse (fuse switches) are classified as switch. This includes all fuses within the network, both within and outside substations.</i></p> <p>Switch: <i>A switch used to make and break connection of one section of the network from another for the purposes of enabling access to the network, or for managing the configuration of the network. Examples include isolator switches, fuse switch, drop-out links,</i></p>

not considered tools.(Submission p.5)

links, air break switches, earthing switches, low voltage links, links within LV pillar, underground link boxes etc. For clarification, this does not include circuit breakers.

Circuit breaker: *Automatic switches that provide system protection functions by opening a network connection and breaking fault current. This includes reclosers*

<p>Template 2.2/5.2 for DNSPs</p>	<p>Service lines</p>	<p>In bilateral discussions, Ausgrid considered it would have difficulty identifying the end user of some of the service lines categories. Ausgrid noted that the load type in the zone is reportable but in certain instances distinguishing the customer type would be difficult.</p>	<p>We acknowledge that NSPs will need to use estimation techniques and apply allocations, such as allocating customers from billing systems, to provide the data in accordance with the asset categories.</p>
<p>Template 2.2/5.2 for DNSPs</p>	<p>Public lighting</p>	<p>UED queried why luminaires (i.e. globes) are included in the repex model as it seems more appropriate to expense these, noting that it does not have asset installation information for these assets</p>	<p>In accordance with our guidelines the AER considers public lighting is an asset group for which the repex model can reliably forecast volumes. NSPs must report expenditure only relating to capex incurred for public lighting assets in template 2.2. Instances where an NSP expenses these assets as operating expenditure will be reflected by the difference in total public lighting replacement reported in template 4.1 and that contained in template 2.2. Template 4.1 captures all expenditure both capex and opex.</p>

6 Connections and customer-initiated works

This section outlines the data requirements in templates 2.5 and 4.1 to 4.4 for DNSPs and template 2.4 for TNSPs of our RIN templates for customer-initiated works.

6.1 AER Position

Section 6.2 describes the information requirements regarding connections, metering, public lighting, fee-based and quoted services of the category analysis RIN and Reset RIN. The Category Analysis RIN requires historical information only. The Reset RIN requires historical and forecast information.

We have altered the reporting requirements of the category analysis RIN, giving consideration to the cost and benefit of collecting information, to minimise the regulatory burden by:

- removing the requirement to report distribution substation volumes by capacity groupings for connection services, and instead, requiring the total MVA of distribution substations installed for distribution networks;
- adding the requirement to report expenditure for augmentation of HV and LV feeders for distribution networks;
- removing the requirement to report connections by CBD, Urban and Rural locations for distribution and transmission networks;
- removing the requirement to report km's of cabling for public lighting services for distribution networks; and
- adding metering service categories to account for remote metering activities for distribution networks.

Additionally, in considering responses from NSPs in submissions and bilateral meetings, the final RIN clarifies the basis of costs to be reported for connections and customer-initiated works in respect of:

- reporting of gross expenditure;
- expenditure reported on project completed basis; and
- reporting of fee-based and quoted services.

Detailed issues and our responses to matters raised in consultation are contained in table 6.1 and table 6.2 below.

6.2 Reasons for AER position

6.2.1 Connections

Reporting of distribution substations and augmentation

To the extent that distribution substations are installed and augmentations undertaken in complex connections projects, they represent a significant portion of the connection cost. There is therefore a net benefit in capturing information on the costs for connections.

We note that reporting volumes of distribution substations by capacity groupings, as per the draft RIN, would be difficult a difficult exercise for DNSPs. Furthermore, the capacity groupings requested would

not sufficiently distinguish distribution substations for a standardised measure of the substation's cost for benchmarking purposes. Instead, we propose that DNSPs report MVA-added, volume and expenditure for all distribution substations installed for complex connection projects. This will allow us to calculate a dollar per MVA measure, which can be used as a standardised metric to measure the relative cost incurred by DNSPs to install distribution substations across the NEM. The volume of substations installed is needed to measure the scale of complex connection projects. Similarly, reporting of augmentation (km added and expenditure) will allow us to benchmark dollar per km added as a standardised benchmarking metric and measure the scope of works for complex connection projects.

Reporting connection works by CBD, Urban and Rural locations

We have deleted the categories of CBD, Urban and Rural from the connections descriptor metrics as these can be inferred from customer number data being reported as part of the economic benchmarking RIN.

6.2.2 Public lighting

We determined that there was not a net benefit in collecting cabling (km) data for public lighting services. Cabling does not represent a material portion of the public lighting cost to justify a separate benchmark metric. We therefore deleted the cabling descriptor metric for public lighting services from the RIN templates.

6.2.3 Metering

We have included remote meter reading and remote re-configuration services in the metering template of the RIN. These services are currently only undertaken by Victorian DNSPs which utilise the communications capability of remotely-read interval (type 4) meters. Other services which exist as part of type 4 meters with communications functionality, such as remote energisation, de-energisation and re-energisation are expected to be reported as fee-based services. These classifications of remote activities will provide consistency for comparison against equivalent, non-remote services, allowing us to assess the benefits of utilising the communications capability of type 4 meters for both metering and fee-based services.

6.2.4 Fee-based and quoted services

The RIN template gives discretion to DNSPs to report costs and volume for the fee-based and quoted services they provide. We require DNSPs to report the services consistently with the services as listed in the annual tariff schedules of the relevant year. Having costs and volumes reported this way will allow us to compare the charges to customers with the actual cost of the services. DNSPs should also provide a description of the activities involved in each service. We consider these reporting requirements provide an appropriate level of transparency to consumers as to the costs of fee-based and quoted services, including across DNSPs (where they are comparable).

6.2.5 Expenditure requirements

DNSPs are required to report expenditure in gross terms for connections, metering, public lighting, fee-based and quoted services. That is, expenditure which is not netted for customer contributions. Having expenditure reported in gross terms allows us to assess and benchmark the underlying cost that an NSP incurs in performing services without potential distortions arising due to the capital contributions policy of the NSP.

The RINs require TNSPs to report expenditure and volumes for services on a project completed basis for historical and forecast services.

Table 6.1 Detailed issues and responses – Connections (Transmission)

Template number	Description of data/cells	NSP comments	AER Response
2.4	2.4.1 (Clarify estimation of connection costs)	SP AusNet asked the AER to confirm whether it requires only prescribed connection service costs to be reported. (Submission, p. 3).	As stated in our draft category analysis RIN, we consider that TNSPs should only provide data in relation to prescribed connection services. This excludes negotiated connection services.
	2.4.1 (Clarify estimation of connection costs)	SP AusNet asked if expenditure should be reported on an “as incurred” or “as commissioned” basis, and whether expenditure capture should be captured for contestable connection works (Submission, p. 3).	We require TNSPs to report expenditure on a project completion basis i.e. against the year in which the project was completed, regardless of when it commenced. Data for contestable works should not be reported.
2.4	2.4.1 (Clarify estimation of connection costs)	ElectraNet noted that the cost of connections will vary for reasons other than the works being performed in an urban, rural or CBD area, such as the connection purpose and size. (Bilateral meeting)	We have removed the requirement for TNSPs to report connection projects by urban, rural and CBD locations. We acknowledge ElectraNet’s point that the location of a connection as either urban, rural or CBD would provide limited insight into the project cost.

Table 6.2 Detailed issues and responses – Connections (distribution)

Template number	Description of data/cells	NSP comments	AER Response
2.5	2.5.1 (Reporting distribution substation volumes)	<p>Energex noted it cannot provide historical asset volumes for distribution substations with specific capacities and augmentation of LV and HV line. Energex also considered that reporting MVA added would involve a similar cost to reporting volume of distribution substations by capacity type. (Bilateral meeting)</p> <p>Aurora considered it difficult to report number of distribution substations and augmentation kms for different connection types. It may be able to report MVA added for distribution substations. Aurora confirmed that it would be able to report MVA added for distribution substations installed. Aurora also confirmed that it could report augmentation (kms) and augmentation (MVA added). (Bilateral meeting)</p>	<p>We took into consideration Energex’s and Aurora’s comments and comments made by other DNSPs at workshops in relation to reporting volumes against asset types used in connection services. In considering the cost and benefit of collecting this data for benchmarking analysis, we condensed the descriptor metrics for distribution substations to the following measures for residential, commercial/industrial, embedded generation and subdivision connections:</p> <ul style="list-style-type: none"> ▪ MVA added ▪ Volume of distribution substations installed ▪ Total cost of distribution substations installed
2.5	2.5.1 (CBD/Urban/Rural classification)	<p>Aurora asked whether it is appropriate to map existing community data to the CBD, urban, rural long/short AER classifications, and this should be considered in light of Aurora’s STPIS definitions of CBD, urban, rural long/short which are different to the AER’s. (Bilateral meeting)</p> <p>CP/PC noted they do not categorise connections by feeder type (assuming this means CBD/Urban/Rural) and noted they will have to make an arbitrary allocator. (Submission, p. 6)</p>	<p>We have deleted the categories of CBD, Urban and Rural from the connections descriptor metrics. We consider that connection volumes in CBD, Urban and Rural locations can be inferred from the change in customer numbers, which is being reported as part of the economic benchmarking RIN.</p>
2.5	2.5.1 (Specific questions on estimating descriptor metrics)	<p>Energex sought clarification for “distribution substation installed”, namely whether this should include shared transformers in response to connection request and also dedicated transformers. (Submission, p. 8)</p> <p>Energex asked if supporting work i.e. preparing customer agreements for rooftop solar should be counted in cost of embedded generations. (Submission, p. 8)</p> <p>Energex does not undertake works on subdivision projects, this is undertaken by developers. This category should not apply to Energex.</p>	<p>The definitions of complex connections listed in appendix F of the draft category analysis RIN to provide guidance about which assets should be included in estimating connection project costs. Additionally, a definition of connections expenditure has been added to the final RIN to distinguish between augmentation and connections expenditures:</p> <p>Connections expenditure definition</p> <p>The costs to establish new connection assets and upgrades to existing connections assets necessary to meet customer requests for connection</p>

(Submission, pp. 8–9)

services. This excludes alterations to existing connection assets. Where connection assets are services are defined in the NER.

We require DNSPs to report direct costs in template 2.5 of the category analysis RIN – see definition of direct cost in appendix F of the draft category analysis RIN. Also, see definition for overheads in appendix G of the final category analysis RIN. Supporting work which cannot be directly attributable to a project such as back office activities i.e. customer agreements should be reported as overhead expenditure:

Overheads definition:

Expenditure that cannot be directly attributed to a work activity, project or work order. Consists of labour, materials, contract costs and other costs. Overheads can also be referred to as ‘shared costs’ (e.g. in the NSPs’ Cost Allocation Method documents).

2.5	2.5.1 (Specific questions on estimating descriptor metrics)	SAPN proposed to report the associated costs to establish transformers within the “installation of substation” category and considered categories of distribution substations should be expanded to include 33/0.4 kV and possibly 66/0.4 kV transformers. (Bilateral meeting and Submission, p. 2)	We expect DNSPs to include all directly related costs involved in establishing distribution substations within the connections category. For example this would include the cost of the transformer, civil works, earthing, pole and associated cross arms, switchgear, surge diverters, etc. We have removed the requirement on DNSPs to report the volume of distribution substations installed for given capacity ranges. Instead, DNSPs are required to report the total MVA added for distribution substations installed. This will avoid having to separately report distinct transformer types with unique features.
2.5	2.5.1 (General difficulties in estimating descriptor metrics)	ActewAGL noted it cannot practically provide all data in respect of MVA added and HV/LV line added as a result of connections. (Submission, p. 2) SP AusNet noted it can only populate any of the fields in table 2.5.1 with large assumptions. (Submission, p. 3) Energex does not have a complete data set for embedded generation metrics for 2008/09 and 2009/10. Data can be sourced for descriptor metrics but would be resource intensive. (Submission, pp. 8-9)	We will accept estimates of the metrics of connections services. DNSPs should disclose its estimation method in the basis of preparation.

NSW DNSPs noted they do not currently report connections by CBD/Urban/Rural categories but could be estimated. Underground/overhead connections would need to be estimated from materials information. Project reporting does not record transformer capacity but could be estimated using materials expenditure data. (Submission, pp. 6–7)

NSW DNSPs also noted that net circuit length added and MVA added could be estimated using GIS data. Subdivision connection metrics not reported or forecast on the s basis presented in RIN templates. Information could be procured if new reporting system was developed. (Submission, p. 7)

Aurora noted it cannot report underground and overhead connections. (Submission, p. 2)

CP/PC can only undertake high-level mapping for the connections function codes to the draft category RIN templates. (Submission, p. 6)

Ergon do not currently report connections by feeder type. (Submission, p. 19)

SAPN cannot report embedded generation connections by underground or overhead. (Bilateral meeting and Submission, p. 3)

2.5	2.5.2 (Reporting expenditure related of contestable services)	NSW DNSPs noted that contestable works are not undertaken, the only costs reported would relate to contestability support and interfacing with non-contestable network (i.e. inside zone substations and distribution substations). (Submission, p. 7)	We only require DNSPs to report expenditure data for activities which are non-contestable.
2.5	2.5.2 (General difficulties in estimating connections expenditure)	Ergon do not report connection data by embedded generation, complex or simple connection categories. Ergon will need to undertake a high level of estimation to apportion costs into these categories. (Submission, p. 19)	We will accept estimates of the metrics of connections services. DNSPs should disclose its estimation method in the basis of preparation.
2.5	2.5.2 (Specific questions in estimating connections expenditure)	SAPN proposed to interpret 'new connections' to include upgrades of existing connections (because of load increases) but exclude supply alterations (i.e. relocations) where no load increase exists (Bilateral meeting and Submission, pp. 2–3)	We confirm that upgrades are included and alterations excluded from reporting of connections expenditure. Extensions in relation to large connections should be captured as per guidance provided in complex connections definitions in the draft category

SAPN asked if augmentation of shared network as a result of large customer connections should be included in connection expenditure categories. SAPN's interpretation is that extensions will be reported under connections and augmentation of shared network under augmentation. (Bilateral meeting and Submission, pp. 2–3)

SAPN suggested the template for connections expenditure should distinguish expenditure between standard control, alternative control and negotiated services. Negotiated services are funded through customer contributions and should be reported as gross connections expenditure. Excluding negotiated connections expenditure would result in a large step change in connections expenditure requirements when changes to NECF alter the mix of standard control and negotiated services expenditure. (Bilateral meeting and Submission, pp. 2–3)

SAPN noted that embedded generation connections are no different to a connection upgrade except for meter upgrade. (Bilateral meeting and Submission, p. 3)

analysis RIN. Augmentations to the shared network should be excluded from connections expenditure categories and recorded under augmentation – Additionally, a definition of connections expenditure has been added to the final RIN to distinguish between augmentation and connections expenditures:

The costs to establish new connection assets and upgrades to existing connections assets necessary to meet customer requests for connection services. This excludes alterations to existing connection assets. Where connection assets are services are defined in the NER.

We have not required DNSPs to distinguish between standard and alternative control and negotiated services. We consider that benchmarking analysis should be conducted to determine the efficiency of DNSPs' delivery of services. The classification of expenditure as either capex or opex and either a standard or alternative control service should not bear relevance on the efficiency or quality of services. In the reconciliations sheet, DNSPs can total capex and opex for alternative and standard control connections and customer-initiated services. Additionally, we expect that DNSPs will distinguish expenditure on connections and customer-initiated services between capex, opex, standard and alternative control services in their regulatory proposals and accompanying detailed forecast models, as DNSPs have done in past regulatory determinations. Gross connections expenditure would capture the negotiated elements of connection works. We agree with SA Power about including negotiated elements of connection services (i.e. capturing the gross cost to the DNSP as we've stated elsewhere).

We acknowledge that meter upgrade/inspection cost is included in embedded generation connection cost. (See definition of simple embedded generation connection low voltage in appendix F of the final category analysis RIN).

2.5	2.5.2 (General statements about estimating connections expenditure)	<p>SP AusNet noted it can provide some estimation of costs for simple and complex connection categories. (Submission, p. 3)</p> <p>NSW DNSPs noted that</p> <ul style="list-style-type: none"> ▪ connections expenditure is not readily classified as simple, complex 	We will accept estimates of expenditure against the connections categories in the category analysis RIN. DNSPs should disclose its estimation method in the basis of preparation.
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LV/HV categories. The classification could be derived

- subdivision connections are not reported or forecast on this basis.
- Embedded generation connections are not forecast on this basis. (Submission, p. 7)

2.5	2.5.2 (expenditure by simple and complex connection categories)	JEN noted it would be time intensive to align JEN's existing reporting of connections projects to the AER's of definitions of simple and complex connections categories. (Bilateral meeting)	We explained that some categories are directly translatable from existing data collected under JEN's work codes, such as the simple connections category. JEN staff undertook to further consider how these work codes could be mapped to our connection categories.
2.5	2.5.3 (Error in labelling of input and contract costs)	JEN asked what is the definition of "major contracts" listed in table 2.5.3.(Bilateral meeting)	We acknowledge that the labelling in this table is an error and should capture all contract costs, not only for major contracts. We will amend table 2.5.3 to reflect no distinction between major and minor contracts.
2.5	2.5.3 (General statement of reliability in estimating input and contract costs)	Ausgrid noted that a major system change undertaken in 2008/09 may mean data for that year is less reliable. (Submission)	We will accept estimates of the expenditure and metrics of connections services. DNSPs should disclose its estimation method in the basis of preparation.
2.5	2.5.4 (Reconciliation of connection services)	JEN sought clarity of the purpose of table 2.5.4 in the category analysis section of the RIN. (Bilateral meeting)	Table 2.5.4 was intended to provide a reconciliation of all expenditure separately classified as standard and alternative control with the expenditure recorded in table 2.5.1.
2.5	2.5.5 (General difficulty in addressing labour cost tables)	NSW DNSPs noted that the breakdown of labour costs by skill level is not undertaken at program level. (Submission, p. 7)	See separate section on labour cost tables.

Table 6.3 Detailed issues and responses – Public lighting services (distribution)

Template number	Description of data/ cells	NSP comments	AER Response
4.1	4.1.1 (Difficult to estimate cabling metric)	<p>Ergon does not report descriptor metrics and would have to make assumptions when estimating kms of cabling. (Submission, pp. 24–25)</p> <p>CP/PC do not record length of cables installed in conjunction with a customer request. (Submission, p. 7)</p> <p>SP AusNet cannot estimate cabling (kms) for installation, replacement and maintenance. (Submission, p. 3)</p>	We determined that the cost outweighs the benefit in collecting cabling (kms) data for public lighting services. We therefore deleted the cabling descriptor metric for public lighting services from the RIN template.
4.1	4.1.1 (General difficulties in estimating descriptor metrics for assets not owned)	<p>Aurora does not report volumes for public lighting assets that it does not own. This is typically steel poles dedicated to public lighting which are owned by customers (councils). (Bilateral meeting)</p> <p>Aurora can report volumes of public lighting assets that it owns. This includes kms of cabling used for public lighting. (Bilateral meeting)</p>	We require DNSPs to disclose these calculations in the basis of preparation.
4.1	4.1.1 (Specific difficulties in reporting descriptor metrics)	<p>Ergon noted that GSLs are not applicable to public lighting customers, although customer complaints are recorded. Time to rectify public lighting assets is not available.</p> <p>Ergon also considered that definitions of replacement and maintenance need to be appropriately defined so as to delineate activities which may not clearly be distinguished as either repair or replacement. (Submission, pp. 24–25)</p>	<p>We consider that GSL data should not be reported, where a GSL scheme does not exist for the relevant service. We expect that service quality data is required to benchmark the cost of services for DNSPs to account for varying levels of service quality.</p> <p>We will accept estimates of the time taken to rectify public lighting services. Ergon should disclose its estimation method in the basis of preparation.</p> <p>As guidance to distinguish replacement and maintenance expenditures, DNSPs should refer to the definitions of replacement capex and maintenance expenditure in the final RIN. Additionally, DNSPs may also take guidance from the definitions of light replacement and light maintenance in the draft category analysis RIN:</p>

Light maintenance definition

The maintenance cost associated with the repair and inspection of the following public lighting assets on a major or minor road:

- Luminaires
- Brackets
- Lamps
- Poles dedicated to public lighting services; and
- Underground or overhead cabling dedicated to public lighting services.

Light maintenance should include the operational repairs and inspection of the public lighting assets, not including capital expenditure.

Light replacement definition

The replacement on a major or minor road of any of the following public lighting assets:

- Luminaires
- Brackets
- Lamps
- Poles dedicated to public lighting services; and
- Underground or overhead cabling dedicated to public lighting services.

Light replacement should be estimated as the replacement of public lighting assets with their modern equivalent, where the public lighting assets have reached the end of their economic life.

4.1	4.1.1 (Reporting descriptor metrics for assets not on treatment of contributed light installations. (Submission, p. Energex has type 1 and 2 public lighting. Clarification needed on treatment of contributed light installations. (Submission, p.	We are only seeking to collect information in relation to gross expenditure (that is not netted for customer contributions). To the extent that Energex is performing an installation of equipment that it does not own, we would expect Energex to report the
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	owned)	12)	cost of this type of installation.
4.1	4.1.1 (Estimating descriptor metrics for negotiated services)	SAPN noted that public lighting services are classified as negotiated and therefore should be excluded from cost reporting. (Submission, p. 5)	We will not require DNSPs to report information for public lighting services classified as negotiated services.
4.1	4.1.1 (Appropriate assumptions for estimating descriptor metrics)	<p>CP/PC cannot provide average age of residential and main road lights. (Submission, p. 7)</p> <p>CP/PC assumed routine maintenance for main road lights as major road patrols and all other costs as non-routine maintenance. (Submission, p. 7)</p> <p>CP/PC also assumed residential road lights are all lights other than a major road light. (Submission, p. 7)</p> <p>CP/PC noted it was likely to assume routine maintenance for residential lights as all costs associated with bulk change lamps and per cells as required by public lighting code and all other costs as non-routine maintenance. (Submission, p. 7)</p>	<p>We do not require DNSPs to report average age of lights relating to main and minor road lights in table 4.1 of the public lighting category analysis RIN template. This was a category which appeared in table 5.2 of the draft category analysis RIN – see separate section on repex.</p> <p>Maintenance for public lighting as per the tables in worksheet 4.1 does not distinguish between routine and non-routine maintenance expenditure. The distinction between routine and non-routine maintenance included in worksheet 2.7 has been defined in appendix F of the final category analysis RIN.</p> <p>We consider that expenditure for public lighting services on main and minor roads to be classified in accordance with the definitions of major and minor roads listed in the draft RIN.</p> <p>We will accept estimates of the number of new lights and poles associated with new customer requests and bulk replacement and installation programs. CP/PC should disclose its estimation method in the basis of preparation.</p>
4.1	4.1.1 (General difficulties in estimating descriptor metrics)	<p>SP AusNet cannot estimate number of poles maintained. (Submission, spreadsheet)</p> <p>SP AusNet noted some estimation was required to populate light installation categories. (Submission, spreadsheet)</p> <p>SP AusNet noted that estimation would be particularly required for 2008/09 and 2009/10 years. (Submission, spreadsheet)</p> <p>CP/PC do not record number of new lights with each customer</p>	We will accept estimates of expenditure and metrics against the connections categories in the category analysis RIN. DNSPs should disclose its estimation method in the basis of preparation.

request. (Submission, p. 7)

CP/PC do not record number of new public light poles installed in conjunction with a customer requesting a new light. (Submission, p. 7)

4.1	4.1.2 (Clarification of gross versus net expenditure)	JEN noted that a portion of cost recovery for public lighting services was made through customer contributions, so asked how this should be reflected in the category analysis templates (Bilateral meeting)	The final RIN specifies that the cost data collected reflects DNSPs' gross expenditures. That is, expenditure which is not netted for customer contributions.
4.1	4.1.2 (General difficulties in estimating descriptor metrics)	Ergon does not report public lighting expenditure in the format requested in the AER's category analysis templates, and some assumptions will need to be made to estimate data. (Submission, p. 25)	We intend to have unit costs reported in same way as prices listed in annual tariff proposals. This provides transparency to consumers as to the costs of public lighting services.
4.1	4.1.2 (General difficulties in estimating descriptor metrics)	Aurora can report unit cost for installation, replacement and maintenance of public lighting services. Capex costs associated with assets not owned by Aurora are not recorded and excluded from unit rate calculations. (Bilateral meeting)	Aurora (and DNSPs generally) will need to confirm which asset types (i.e. poles, cabling, luminaires and lights) are included unit cost calculations for installation, replacement and maintenance public lighting services. Disclosure of these calculations can be made in the basis of preparation.
4.1	4.1.2 (General difficulties in estimating descriptor metrics)	Ergon does not separately capture repair and replacement expenditure. Estimation and apportionment required to calculate values. (Submission, p. 25) SP AusNet noted that some estimation would be required to report expenditure data for years 2008/09 and 2009/10, but that all other years can be reported. (Submission, spreadsheet)	We will accept estimates of the time taken to rectify public lighting services. DNSPs should disclose their estimation methods in the basis of preparation.

Table 6.4 Detailed issues and responses – Metering services (distribution)

Template number	Description of data/cells	NSP comments	AER Response
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4.2	4.2.1 (Double-counting of meter types)	Ergon noted that CT/direct connect meter categories may be some combination of single/multi-phase. Ergon suggested that the AER's categories could be re-cast so as to avoid overlapping information being reported. (Bilateral meeting)	We acknowledge that CT and direct connect meters may be some combination of single and multi-phase. However, the template requires DNSPs to report the volume of the meter population which is either CT or direct connect meters; and separately the volume of the meter population which is either single or multi-phase. For example, for a given meter population of 100, 60 meters are CT connected and 40 meters are direct connected; and for the same meter population of 100, 20 are single-phase and 80 are multi-phase.
4.2	4.2.1 (Network control assets not captured in metering template)	Ergon noted that the category analysis RIN did not contain categories to capture the cost of ripple and load control receivers. (Bilateral meeting)	We consider that ripple and load control receivers are primarily concerned with activities related to metering services. As such, this expenditure should be reported as part of the meter cost. For older meters, DNSPs may elect to separately disclose the cost of ripple and load control receivers to explain the cost of the meter, in the basis of preparation. For new meters where ripple and load control receivers are integrated into meter assets, we expect the cost of receivers to be reflected in the meter purchase cost and not separately reported.
4.2	4.2.1 (Location of metering works not included in template)	Ergon noted that metering cost will be affected by location of metering works in either urban or rural locations (Bilateral meeting)	The economic benchmarking RIN requires DNSPs to report the number of customers by CBD, Urban and Rural locations. This will provide an indication of the location of meters and allow us to take this into account when assessing the cost of metering services.
4.2	4.2.1 (Accounting for replacement of meter type 6 with type 4)	Ergon noted that it was planning to undertake large-scale replacement of type 6 meters with type 4 meters in an effort to automate a number of field work activities. It asked how will this non like-for-like replacement be reflected in the templates (Bilateral meeting)	<p>We expect DNSPs to report metering expenditure and metrics against the meter type category which reflects the meter asset's use. For example, a type 4 meter (capable of remote meter reading) which does not utilise its communications functionality, and is used as a type 6 (manually-read) meter, would have associated expenditure and metrics reported against the type 6 meter category. For guidance, definitions of meter types 4, 5 and 6 have been added to the RIN:</p> <p>Meter type 4 definition</p> <p>A remotely read interval meter with communications functionality that is:</p> <p>designed to transmit metering data to a remote location for data collection; and does not, at any time, require the presence of a person at, or near, the meter for the purposes of data collection or data verification (whether this occurs manually as a walk-by reading or through the use of a vehicle as a close proximity drive-by reading), including, but not limited to, an interval meter that transmits metering data via direct dialup, satellite, the internet, general packet radio service, power line carrier, or any other equivalent technology.</p>

			<p>Meter type 5 definition</p> <p>A manually read interval meter that records interval energy data, that is not a remotely read interval meter.</p> <p>Meter type 6 definition</p> <p>A manually read accumulation meter which measures and records electrical energy in periods in excess of a trading interval.</p>
4.2	4.2.1 (Accounting for unique meters' costs)	<p>Aurora noted that the vast majority of its meters are type 6. Aurora has 30,000 PAYG meters classified as type 6 which are dissimilar to other type 6 meters. Aurora suggested that these meters have their own meter type category. (Bilateral meeting)</p> <p>Aurora has some type 4 meters. Meter types 1-4 are contestable under Tas market rules. (Bilateral meeting)</p>	<p>We accept that Aurora's metering assets may be different to other DNSPs' metering assets. Aurora should disclose the unique characteristics of their metering assets and explain how these characteristics affect the cost of metering services in the basis of preparation.</p> <p>We acknowledge that type 4 metering services are currently contestable in Tasmania. However, those type 4 meters installed (capable of remote meter reading) which are used as type 6 (manually read) meters, should have expenditure and metrics reported against the type 6 meter category.</p>
4.2	4.2.2 (Classification of metering services)	<p>NSW DNSPs suggested that metering expenditure should distinguish between SCS and ACS. Some meters purchased before 2014 can be used as type 1-4 which are contestable in NSW. (Submission, p. 7)</p> <p>NSW DNSPs noted that the metering template does not account for refurbished meter volumes. (Submission, p. 8)</p> <p>NSW DNSPs noted no type 6 meters have been purchased during the period. (Submission, p. 8)</p> <p>NSW DNSPs noted that the definition of type 5 meters are interval meters irrespective of whether they are installed on a type 5 or 6 NEM site. (Submission, p. 8)</p> <p>NSW DNSPs noted that the definition of type 6 meters defined as accumulation meter only. These can be</p>	<p>We have not required DNSPs to distinguish between standard and alternative control and negotiated services. We consider that benchmarking analysis should be conducted to determine the efficiency of DNSPs' delivery of services. The classification of expenditure as either capex or opex and either a standard or alternative control service should not bear relevance on the efficiency or quality of services. In the reconciliations sheet, DNSPs can total capex and opex for alternative and standard control connections and customer-initiated services. Additionally, we expect that DNSPs will distinguish expenditure on connections and customer-initiated services between capex, opex, standard and alternative control services in their regulatory proposal and accompanying detailed forecast models, as DNSPs have done in past regulatory determinations.</p> <p>We expect DNSPs to report metering expenditure and metrics against the meter type category which reflects the meter asset's use. For example, a type 4 meter (capable of remote meter reading) which does not utilise its communications functionality, and is used as a type 6 (manually-read) meter, would have associated expenditure and metrics reported against the type 6 meter category.</p> <p>Expenditure associated with preparing refurbished meters to be re-deployed and installed should be reported as part of meter installation and not as meter maintenance— see the</p>

	<p>installed on a contestable site (type 1-4) meaning some activities such as routine maintenance are not part of regulatory determination. (Submission, p. 8)</p> <p>NSW DNSPs were unable to separate meter tests among meter type 5 and 6. Some allocation needed to estimate separate calculations. (Submission, p. 8)</p> <p>NSW DNSPs noted there was some overlap between sample meter testing service categories and ancillary service categories. (Submission, p. 8)</p> <p>NSW DNSPs noted there was no separation of sample meter testing expenditure for meter types 5 and 6. Over 2009–14 reporting will not be separated. (Submission, p. 8)</p> <p>NSW DNSPs noted that scheduled meter read means routine meter read including associated costs of data processing. (Submission, p. 8)</p> <p>NSW DNSPs noted that special meter reads are classified as a fee-based service. (Submission, pp. 8–9)</p>	<p>amended definition of meter installation in the final RIN which includes meter refurbishment:</p> <p>New meter installation</p> <p>Has the meaning of metering installation as prescribed in the National Electricity Rules and should also include the expenditure associated with deploying refurbished meters in new meter installations.</p> <p>DNSPs are only required to report cost data in relation to regulated services.</p> <p>We accept that some estimation may be required to allocate metering maintenance expenditure into meter type 5 and 6 categories. DNSPs should disclose their estimation method in the basis of preparation.</p> <p>Scheduled meter reads have been defined in appendix F of the draft category analysis RIN. We expected data processing would be separately reported in the “other metering” category – see definition in appendix F of the final category analysis RIN. To the extent that the meter data processing cost cannot be separately reported, DNSPs should disclose that scheduled meter reads are inclusive of data processing costs in the basis of preparation.</p> <p>We expect special meter reads to be reported in the metering template to list data in a way which is better presented for benchmarking analysis. When performing any reconciliation exercise, we will recognise that special meter reads are classified as a fee-based service.</p>
<p>4.2</p> <p>4.2.2 (Reporting of metering services in a competitive environment)</p>	<p>Ergon noted it may claim confidentiality over some metering services provided in a competitive environment. (Submission, p. 25)</p>	<p>We only expect DNSPs to report expenditure data in relation to regulated services, otherwise we will consider claims over confidential information in accordance with the AER’s Confidentiality Guideline.</p>
	<p>4.2.2 (Specific questions about the definition and cost reporting of metering services)</p> <p>Energex noted that the meter type 5 is irrelevant for Qld NSPs. (Submission, p. 13)</p> <p>Energex sought further clarification for meter maintenance. I.e. includes refurbishment. Energex mostly does replacement work not refurbishment. (Submission, p. 13)</p> <p>Energex asked if “other metering” should include both</p>	<p>We consider that where meter categories do not apply to DNSPs, they should populate the relevant cells of the RIN template with values of zero.</p> <p>Expenditure associated with preparing refurbished meters to be re-deployed and installed should be reported as part of meter installation and not as meter maintenance– see the amended definition of meter installation in the final RIN which includes meter refurbishment:</p> <p>New meter installation</p>

network metering (located on poles) and revenue metering. Previously only revenue metering has been reported and Energex is proposing to only keep providing revenue metering, only. (Submission, p. 13)

Has the meaning of metering installation as prescribed in the National Electricity Rules and should also include the expenditure associated with deploying refurbished meters in new meter installations. We expect the “other metering” category to include costs relating to data collection and audit in order to be compliant with AEMO’s metrology procedure – see the definition of “other metering” which has been added to appendix F of the final category analysis RIN:

Other metering category definition

The costs of performing metering services which are not already included in the following meter services:

- Meter purchase
- Meter testing
- Meter investigation
- Scheduled meter reading
- Special meter reading
- New meter installation
- Meter replacement
- Meter maintenance

Costs for meter data services (as defined in the NER), which apply to meter types 4–7 should be reported in the meter associated works category.

Energex will be expected to report expenditure related to revenue metering and network metering. We only expect DNSPs to provide cost data in relation to regulated services.

4.2.1/4.2.2 (Classification of meter services)

SAPN provides meter services classified as alternative control and negotiated. SAPN only proposed to report alternative control expenditure. This includes for meter types

We have not required DNSPs to distinguish between standard and alternative control and negotiated services. We consider that benchmarking analysis should be conducted to determine the efficiency of DNSPs' delivery of services. The classification of expenditure as either capex or opex and either a standard or alternative control service should not bear relevance on the efficiency or quality of services. In the reconciliations sheet, DNSPs can

14. (Submission, p. 5)

CP/PC were unclear whether information includes both standard control and alternative control or just alternative control services. (Submission, p. 7)

SAPN noted that type 5 meter provision are all negotiated distribution services, and so proposed to report zero volume and expenditure against these meters. (Submission, p. 5)

SAPN noted special meter reading is a negotiated service, so proposed not to report this information. (Submission, p. 5)

total capex and opex for alternative and standard control connections and customer-initiated services. Additionally, we expect that DNSPs will distinguish expenditure on connections and customer-initiated services between capex, opex, standard and alternative control services in their regulatory proposal and accompanying detailed forecast models, as DNSPs have done in past regulatory determinations.

We only expect DNSPs to report cost data in relation to regulated services.

4.2.1 (Basis to report meter numbers)	SAPN asked whether the template should be populated with meter numbers as at 30 June of every year (Submission, p. 5)	We expect meter numbers to be calculated as the average meter numbers per annum. That is, closing balance of meter numbers plus opening balance of meter numbers, divided by two.
4.2.2 (Specific questions about the definition and cost reporting of metering services)	SAPN sought confirmation that data should exclude costs of managing the service contract and the cost of handling, manipulating and storing energy data provided by meter reads. (Submission, p. 5)	We expect the “other metering” category to include costs relating to data collection and audit in order to be compliant with AEMO’s metrology procedure – see the definition of “other metering” which has been added to appendix F of the final category analysis RIN. DNSPs should disclose their estimation method in the basis of preparation.
	SAPN assumed that the number of new meter installations corresponds to number of new connections. (Submission, p. 5)	Other metering category definition
	SAPN sought confirmation that it could estimate the installation cost of meters and labour/vehicle component will be transferred from customer connections to this category. (Submission, p. 5)	The costs of performing metering services which are not already included in the following meter services: <ul style="list-style-type: none">▪ Meter purchase▪ Meter testing▪ Meter investigation▪ Scheduled meter reading▪ Special meter reading

- New meter installation
- Meter replacement
- Meter maintenance

Costs for meter data services (as defined in the NER), which apply to meter types 4–7 should be reported in the meter associated works category.

It is a reasonable assumption that new meter installations will correspond with new connections.

We confirm that SA Power's approach of separating the installation cost of meters from connections is appropriate and accords with the estimation guidance provided in the definitions of the draft category analysis RIN.

	4.2.4 (Questioning reconciliation table)	CP/PC asked what is the point of the reconciliation table in 4.2.4, namely does it include costs just related to metering services. (Submission, p. 8)	The table has been deleted.
	4.2.2 (General difficulties estimating meter service costs)	<p>SP AusNet cannot provide volume data for scheduled meter reading, special meter reading. (Submission, spreadsheet)</p> <p>SP AusNet noted that some estimation is required for meter testing, meter investigation and meter maintenance for years 2008/09 and 2009/10. (Submission, spreadsheet)</p> <p>CP/PC do not report expenditure for meter testing, meter investigation and meter maintenance. (Submission, p. 8)</p> <p>Ergon noted that asset management and financial systems are not equipped to report data in metering categories of the category analysis RIN. (Submission, p. 25)</p> <p>Ergon noted metering costs are reported as a bundled category and an allocation will have to be made to AER categories. (Submission, p. 25)</p>	We accept that estimation may be required to report some metering activity expenditure. DNSPs should disclose their estimation method in the basis of preparation.

CP/PC noted it would be difficult to obtain volumes for current transformers and CT connected meters for all meter categories. (Submission, p. 8)

<p>4.2.4 (General difficulties estimating meter service costs)</p>	<p>SP AusNet noted that some estimation would be required for years 2008/09 and 2009/10. (Submission, spreadsheet)</p>	<p>We accept that some estimation may be required to report some metering activity expenditure. DNSPs should disclose their estimation method in the basis of preparation.</p>
<p>4.2.1 and 4.2.2 (Make RIN specific to smart meters)</p>	<p>UED made the following observations of the metering section of the category analysis RIN:</p> <ul style="list-style-type: none"> ▪ Remove reference to type 5 and 6 meters, which attract minimal expenditure since AMI roll-out. ▪ How should the 300-400 meters for large customers consuming more than 160 MWh be represented? ▪ Be amended to represent remote metering activities ▪ Not request information which is currently being provided as part of regulatory processes. <p>(Bilateral meeting)</p>	<p>We considered whether UED was currently still incurring costs and undertaking activities in relation to manually read type 5 and 6 meters. Its 2012 annual RIN suggests that UED is still incurring expenditure and performing activities which are material enough to be considered as part of benchmarking analysis in relation to type 5 and 6 manually-read meters.</p> <p>The meters used for large customers consuming more than 160 MWh per annum are unregulated. As such, we would not require UED to report cost data for unregulated meter services.</p> <p>DNSPs are not expected to populate data for categories of services they do not provide. That is, where no costs or volumes are incurred a zero should be entered into the relevant field of the category analysis RIN template. We have included remote meter reading and remote re-configuration activities into the categories of services listed in the metering template of the category analysis RIN to represent the activities undertaken by Victorian DNSPs which utilise the communications capability of remotely-read interval (type 4) meters. Other activities which exist as part of interval meters with communications functionality, such as remote energisation, de-energisation and re-energisation are expected to be reported as fee-based services. This classification of remote activities will allow us to assess the efficiency benefits of utilising the communications capability of type 4 meters.</p> <p>We maintain that the category analysis RIN is a first step towards a consistent national reporting framework for DNSPs across the NEM. Consistency in reporting is necessary to allow benchmarking of DNSPs' service quality and efficiency. Where some information requirements of the RIN are similar to existing information already reported by some DNSPs, this same data is not currently being reported by other DNSPs. As such, we require that DNSPs uniformly provide the same information as per the category analysis RIN.</p>

Table 6.5 Detailed issues and responses – Fee-based and quoted services

Template number	Description of data/ cells	NSP comments	AER Response
4.3	4.3.1 (Provide guidance on estimation of energisation/de-energisation and re-energisation)	Aurora sought clarity on the definition of energisation, de-energisation and re-energisation. Aurora explained that its current practice was to define a change in customer at a single premises to be both a de-energisation and a re-energisation. (Bilateral meeting)	For guidance we point to the definitions of energisation, de-energisation and re-energisation in appendix F of the draft category analysis RIN and appendix F of the final category analysis RIN.
4.3/4.4	4.3.1/4.4.1 (General issues reporting fee-based and quoted services expenditure)	<p>Ergon noted it was investigating ability to populate template, and a high level of estimation and apportionment is required. Extraction direct from current systems is not expected. (Submission)</p> <p>Aurora has only just started to provide services classified as quoted services since 2013. (Bilateral meeting)</p> <p>Energex cannot provide data for years 2008/09 and 2009/10 due to reclassification of services. (Submission, pp. 13–14)</p> <p>Energex noted that energisation is not a fee-based service for it. (Submission, p. 13)</p> <p>CP/PC noted that assumptions need to be made to estimate volumes for 2009 and 2010 for other miscellaneous fee based services. (Submission, p. 8)</p>	<p>We accept that some estimation may be required to report some fee-based and quoted services expenditures. DNSPs should disclose their estimation method in the basis of preparation.</p> <p>We expect DNSPs to list the fee and quoted services as per their annual tariff proposals. This provides transparency to consumers as to the costs of fee-based and quoted services.</p>

4.3.5 (Difficult to calculate reconciliation table)	Energex does not have dedicated staffing team for fee based services and will be difficult to breakdown cost. Data could be generated if multiple assumptions are made. (Submission, p. 13)	See separate section on labour cost tables.
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4.3.1/4.4.1 and 4.3.2/4.4.2 (Classification of fee-based and quoted services)	SAPN noted that most fee-based services are classified as negotiated and will not be reported. (Submission, p. 5)	We will not collect information for fee-based and quoted services classified as negotiated services.
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4.3.1 (Specific questions on estimating fee-based service costs)	<p>CP/PC asked whether this only includes alternative control services. (Submission, p. 8)</p> <p>CP/PC asked:</p> <ul style="list-style-type: none"> ▪ how de-energisation, re-energisation and energisation differed from new meter installation category specified in table 4.2.2? ▪ does common fee based activities mean common to all DNSPs? ▪ do miscellaneous fee based services mean all alternative control services other than energisation, de- energisation and re- energisation? (Submission, p. 8) 	<p>We consider that fee-based services are typically classified as alternative control services in Victoria. To the extent that there is some overlap between the provision of fee-based services with standard control services, we expect fee-based services to be reported separately. The category analysis templates have been amended to allow DNSPs to distinguish fee-based services between standard and alternative control services.</p> <p>We expect DNSPs to separately report energisation, de-energisation and re-energisation expenditure and metrics separately from metering activities, as per the definitions in appendix F of the final category analysis RIN.</p> <p>Common fee-based services are those common to all DNSPs, which include energisation, de-energisation and re-energisation. Miscellaneous fee-based services are all other services which are not common fee-based services.</p>
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4.3.1/4.4.1, 4.3.3/4.4.3, 4.3.5/4.4.5	4.3.2/4.4.2, 4.3.4/4.4.4, SP AusNet cannot provide volume and total cost information for de-energisation and re-energisation. (Submission, spreadsheet)	We expect DNSPs to list the fee-based and quoted services in the RIN templates as per their annual tariff proposals of the relevant year. This provides transparency to consumers as to the costs of fee-based and quoted services. We accept that some estimation may be required to report some metering activity expenditure. DNSPs should disclose their estimation method in the basis of preparation.
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7 Non-network expenditure

Template 2.6 (for distribution) and 2.5 (for transmission) of the RINs set out the information NSPs must provide in relation to non-network expenditures. The templates break up non-network expenditure into the following categories:

- IT & Communications Expenditure
- Motor Vehicles Expenditure
- Property & Buildings Expenditure
- Other Expenditure.

7.1 AER Position

The templates request expenditure to be broken down into capex and opex, recurrent versus one-off, as well as supporting information on the volume of activities, such as numbers of vehicles and IT devices.

The main issues raised by NSPs on the draft RIN and our responses are as follows:

- Generally these templates were identified as an area where the volume of information was disproportionate to the amount of expenditures being examined and we have made various reductions to the amount of information requested.
- SCADA and Network Control expenditure has been removed from the non-network template and will be captured in direct/ network categories (e.g. repex and maintenance).
- Various volume data would be difficult to capture or define and so we have sought to limit our focus on key metrics for some subcategories.

Detailed issues and our responses to matters raised in consultation are contained in table 7.1 below

7.2 Reasons for AER position

We have consulted with NSPs regarding their ability to provide information requested in the final RINs and consider it to be readily available or relatively simple to estimate. The incremental cost of preparing this information should not be high, however we have still sought to limit the volume of data requested in light of the materiality or heterogeneous nature of some types of non-network expenditures.

The non-network templates only now require NSPs to split expenditure between recurrent and non-recurrent expenditure for non-client device related IT and Communications expenditure. In response to NSP feedback, we have sought to clarify this distinction. The materiality of this expenditure warrants the collection of this additional information with respect to IT and Communications expenditure not related to client devices. We have also retained disaggregation for client devices which, pending the impact of large, once-off costs, should be related to the number of IT users, employees of the NSP and the number of devices themselves.

We have retained the separate reporting of motor vehicle expenditure against different vehicle types and reporting the numbers of vehicles against each type.

The reporting of both capex and opex across non-network categories is intended to allow an examination of expenditure trends and also to benchmark total expenditure across NSPs. Either capital or operating expenditure and procurement methods may change through time. We consider that reporting of both capital expenditure and operating expenditure in this template should not create undue burden.

We are wary that, without clear definitions, NSPs may consider expenditure on non-network items to be incurred in the delivery of direct costs, including repex and maintenance, depending on their approaches to capitalisation and cost allocation. Our definitions clearly indicate which items should be captured under these different headings. There are, however, some instances where we have deliberately requested data on non-network items that will also be captured in overheads. While this does not affect our assessment, it must be identified for reconciliation purposes and for reporting expenditures in template 2.1 (see section 2 for a further discussion).

For items captured in the "non-network—other" category, we require items to be individually listed where the sum of capex exceeds \$1M (nominal) over the most recent 5 regulatory years.

Table 7.1 Detailed issues and responses - non-network expenditure

Template number	Description of data/ cells	NSP comments	AER Response
2.14	General	<p>Energex:</p> <p>Clarification is sought regarding the term “class of asset”. It is assumed that this refers to assets disaggregated by each of the tables, that is, “Client Devices Expenditure” is a class of asset.</p> <p>Energex seeks clarification of the terms included in this template. Energex considers the template reference to “Non Network Expenditure” relates to the expenditure on Non System assets (i.e. Fleet, Tools, Property), whereas within the tables the reference to Non-Network (i.e. Non Network Vehicles) relates to the predominant underlying use of the asset.</p> <p>Energex questions the relevance of making and assessment of the prudence and efficiency of historical IT investment. Whilst the assessment of prudence and efficiency based on business cases is important for a Submission RIN where expenditure is being assessed, these projects have already been through due process and assessed as beneficial</p> <p>The split between SCS and ACS will reflect the allocation to services on the basis of direct expenditure on these services consistent with Energex’s Approved CAM</p> <p>(Submission, p.11)</p> <p>Transend:</p> <p>Capex disposals -it is unclear if this is the price we sold the asset at auction or the WDV or some other measure. It is unclear why this measure is included in expenditure worksheets. Transend would question the value of providing this information and recommends it be removed from the templates. Asset disposals are reflected in the regulatory asset base rather than in expenditure proposals. Alternatively, Transend recommends the instructions or the definitions be updated</p>	<p>Clauses 10.13 and 10.14 of Appendix E where “class of asset” appeared were intended to limit the opex information collected in relation to Other Non-network assets. However, these clauses of the RIN have been removed as no opex information is now required to be reported in relation Other Non-network expenditure.</p> <p>Non Network Expenditure in the draft RIN related to non system assets with the exception of SCADA and Network Control assets which have now been removed from this template. We have removed the distinction between network vehicles and non network vehicles within the template which was referring to the underlying use of the asset.</p> <p>We intend using historical expenditure for benchmarking and assessing forecasts.</p>

to provide clarity of what is to be included for capex disposals. (Submission, p.2)

2.14	IT & Communications definitions	<p>SP AusNet Transmission; SP AusNet Distribution:</p> <p>Seek clarity on definition for user numbers and number of devices e.g. is this the total on hand including handheld devices? (Submission, p.4, Submission, p.4)</p> <p>SAPN:</p> <p>We note the requirement to breakdown expenditure by client devices and other recurrent and non-recurrent expenditure. We do not report expenditure on this basis and are unsure of the intent. We expect to have further discussions with the AER as to what to report in these categories. (Submission, attachment, p.4)</p>	<p>User numbers is defined in the RIN. It is based on active user accounts scaled for standard control services usage (for DNSPs) and prescribed transmission services usage (for TNSPs)</p> <p>Total client devices include hand held devices (e.g. phones).</p> <p>We have refined our definitions of recurrent and non-recurrent expenditures.</p>
2.14	Building and Property definitions	<p>Ergon:</p> <p>In relation to Buildings and Property Expenditure it is not clear as to what is to be categorised as a 'Capex Disposal'. Is this expected to represent a total of the revenue obtained from disposing of all land (and applicable buildings) in the property portfolio during that period. The volume of data associated with explaining volume/cost drivers, especially non-recurrent, is exceptional. There is no clear guideline on the level of detail which is expected of Ergon Energy. Substantial supporting documentation may be required to provide this information in a more easily readable and understood format. The alternative is hundreds of columns itemising a program of work. The breakup between labour, materials, and contractual costs (including relevant margins) are not recorded holistically and cannot be provided by Ergon for Building and Property expenditure. (Submission, p.20)</p> <p>SAPN:</p> <p>Could the AER please confirm whether an Internal Labour direct cost break down is separately required for Property or should just be included in the table headed "All Other Non-Network expenditure categories", noting there are separate internal labour tables for IT & Comms and SCADA & Network control. (Submission, attachment, p.4)</p>	<p>Building and property disposal income has been removed from the non-network template. However, all regulatory disposals are still required to be reported in aggregate (e.g. in the RFM and PTRM).</p> <p>The template no longer splits up building and property expenditure by recurrent and non-recurrent expenditure.</p> <p>Cost drivers for building and property expenditure no longer need to be reported in the non-network template. However, we note that NSPs revenue proposals must still support the forecast expenditure proposed.</p> <p>Building and property capex should only include fixtures, chattels (such as furniture) should be in other non-network.</p> <p>We are still requiring NSPs to report all opex for buildings and property incurred on standard control services (for DNSPs) and prescribed transmission services (for TNSPs). However, NSPs may make reasonable assumptions to estimate costs not directly recorded in their systems.</p>

SP AusNet:

Buildings & Property (2.14 Non-network) e.g. is there an expectation that 'Other Capex' in the Regulatory Accounts agrees to the total of 'MV Capex' and 'Building & Property Capex'? Should Buildings & Property capex encompass categories such as Office Equipment? (Submission, p.4)

2.14	SCADA and Network Control definition	<p>Ergon:</p> <p>AER acknowledged in recent discussions a lack of definition as to what constitutes SCADA & Network Control assets. Further clarification in drafting of the RIN is requested in this regard. (Submission, p.20)</p> <p>Transend:</p> <p>Having SCADA, network control IT and communications, protection and control in Non-network distorts the Network/Non-Network proportions and creates financial mapping issues. No businesses categorise SCADA and Network Control assets as proposed by the AER. Make classification and treatment of SCADA/Protection and Control/ Network IT/Network Communications consistent across repex and maintenance and include them in Network not Non-Network. Non-network should only include business support IT and business communication (telephones). (Submission, p.2)</p> <p>SCADA & Network Control -Does telecommunications reside within this area. If so, does it include telecommunications for operational voice, SCADA and teleprotection. AER clarify whether telecommunications is expected to be included with SCADA and Network Control. Recommend to move SCADA, Network Control, telecommunications assets and costs to Network category.</p> <p>Powerlink: SCADA categorisation will differ from that used in Powerlink's current regulatory reporting. (Submission, p.3)</p> <p>TransGrid:</p> <p>Make classification and treatment of SCADA/Protection and Control/ Network IT/Network Communications consistent across repex and maintenance and include them in Network not Non-Network. Non-network should only include business</p>	<p>The definition of smart meter has been revised to only include meters remotely read interval meter with communications functionality. Expenditure related to smart meters is now collected under metering expenditure in the regulatory templates</p> <p>SCADA and Network control capex expenditure is now reported in repex and augex with the exception of any SCADA and Network Control expenditure related to smart meters. It includes telecommunications capital expenditure incurred as a result of SCADA and Network control works. Common costs shared between the SCADA and Network Control Expenditure and IT & Communications Expenditure categories incurred on standard control services (for DNSPs) and prescribed transmission services (for TNSPs) with no dominant driver related to either of these expenditure categories should be reported in Non-network IT & Communications Expenditure.</p> <p>We acknowledge that expenditure classifications in the templates may vary from the classifications used for current regulatory reporting.</p>
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			support IT and business communication (telephones).	
2.14	Motor Vehicle definitions	Energex:	<p>The split between SCS and ACS will reflect the allocation to services on the basis of direct expenditure on these services consistent with Energex's Approved CAM (Submission, p.11)</p> <p>SAPN:</p> <p>There is confusion in relation to providing Motor Vehicle expenses. Details of capital and operating vehicle costs are sought in the 'Non-Network Expenditure' tab of the regulatory template, but confusion exists about whether such costs are to be included in the other expenditure categories.</p> <p>We also note that various definitions of expenditure categories provided in Appendix F of the draft Category Analysis RIN provide for motor vehicle costs as direct costs (for example, Distribution substation equipment and property maintenance, Overhead asset inspection, Pole top, overhead line and services maintenance).</p> <p>Vehicle expenses assigned to expenditure activities in accordance with the CAM will include both Motor Vehicle and Non-Network Other Expenditure as defined in the Category Analysis RIN. Costs for vehicles such as backhoes and cranes are assigned to work when utilised at the standard hourly rate for that type of vehicle.</p> <p>Clearly vehicle expenses are as much an input cost to a category of work as labour costs and should be reflected in expenditure category costs. We would propose that vehicle costs are reported in the 'Other' component of direct costs for each expenditure category. Costs will be provided in the 'Non-Network Expenditure' tab of the template as requested but we would net off these costs to avoid duplication for the purposes of reconciliation and audit. (Submission, p.12)</p> <p>Operating expenses – as detailed in the CAM, our costing is based on full absorption. Therefore, the cost of operating the fleet i.e. fuel, registration, insurance, maintenance is charged as a direct cost to Opex and Capex categories for e.g. supply restoration via standard rates for individual vehicle types. Given that, the question then is whether the AER want us to report the Opex cost by each of</p>	<p>DNSPs and TNSPs should only report expenditure in relation to Standard Control Services (for DNSPs) and Prescribed Transmission Services (for TNSPs) in the Non-network template. This is consistent with our volume descriptor metrics for IT & Communications Expenditure and Motor Vehicle Expenditure. Splitting of expenditure between SCS and ACS for the purpose of completing the template should be in line with the approved CAM for the given regulatory year.</p> <p>Operating costs related to vehicles must be reported in both the Non-network sheet and the overheads sheet/s.</p> <p>As vehicle expenditure is a direct cost associated with direct work categories, we are now requiring the estimated costs in direct expenditure categories to include estimated motor vehicle expenditure directly related to the work.</p> <p>Businesses will be required to demonstrate that historical total capex and total opex reconcile to regulatory accounts and this is consistent with expenditure reported across templates.</p> <p>NSPs may separately report the vehicle component of expenditure in the direct costs for each expenditure category if they choose to do so for reconciliation or other purposes.</p> <p>Non Network Expenditure in this RIN template relate to non system assets with the exception of SCADA and Network Control assets which have now been removed from this template. We have removed the distinction between network vehicles and non network vehicles within the template which was referring to the underlying use of the asset.</p>

the Asset Reporting Categories specified for e.g. Cars; EWPs?

Could the AER please confirm that capex disposals relates to sale proceeds as opposed to disposal cost; and

Could the AER please confirm whether an Internal Labour direct cost break down is separately required for Vehicles or should just be included in the table headed "All Other Non-Network expenditure categories", noting there are separate internal labour tables for IT & Comms and SCADA & Network Control. (Submission, attachment, p.4)

CP/PC:

The definition for Non-network Motor Vehicle expenditure relates to all expenditure that is not network motor vehicle expenditure. However, Table 2.14 request expenditure for both network and non-network motor vehicle expenditure. (Submission, p.7)

2.14	Recurrent versus non-recurrent definition	<p>Energex:</p> <p>It will be difficult to accurately identify historical recurrent versus non-recurrent expenditure items through systems, therefore to obtain actual data would require the resource intensive tasks of reviewing source documents. It is therefore proposed that the disaggregation into recurrent and non-recurrent be excluded.</p> <p>Clarification is sought regarding the definition of recurrent and non-recurrent expenditure, and/or the maximum length of the recurrence cycle that should apply. (Submission, p.11)</p> <p>Transend:</p> <p>Difficult to determine from the definitions what is recurrent versus non-recurrent. Provide clarification/definition on recurrent and non-recurrent in consultation with businesses. (Submission, p.2)</p> <p>CP/PC:</p>	<p>We will only require NSPs to separate recurrent from non-recurrent expenditure for the purposes of non client device IT & Communications expenditure.</p> <p>For estimating historical IT & Communication expenditure that is recurrent versus non recurrent, NSPs may use estimates transparently based on current recurrent expenditure and changes in known cost drivers.</p> <p>Recurrent is being used in the context of ongoing and recurring time and time again. Temporally, we consider if expenditure would be expected to be reasonably consistent from regulatory period to regulatory period, taking into account volume and unit cost drivers, it is recurrent. For example, repex categories with large enough numbers of assets to require consistent replacement from regulatory period to regulatory period would be "recurrent expenditure". We also expect most opex would be recurrent expenditure as it would be reasonably consistent from regulatory period to regulatory period. The definition has been clarified in line with this. Non recurrent expenditure is likely to include</p>
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		<p>The Businesses are unclear on the definition of IT recurrent expenditure. There is no indication around the timeframe of recurrent expenditure. Recurrent IT expenditure is not a standard IT categorisation and therefore will have to be manually allocated.</p> <p>The Businesses are unclear on the definition of opex building and property recurrent expenditure. The Businesses advise the AER define opex motor vehicle expenditure as 'opex – building maintenance/facilities/buildings', 'opex – lease costs' and 'opex recurrent other' (Submission, p.7)</p>	<p>projects, particularly major projects, that are one off and not ongoing in nature (e.g. major IT or Communications systems upgrades). We accept some projects and programs will require manual allocation of expenditure between recurrent and non-recurrent.</p>
2.14	General	<p>SP AusNet Transmission; SP AusNet Distribution:</p> <p>In relation to 'Non-Network Expenditure - IT & Communications Expenditure', we have current year information available in relation to users of our systems and devices; however do not keep historical records regarding user numbers.</p> <p>Operating expenditure on buildings and property is not separately captured by our systems. Some estimates can be generated for recurring expenditure such as rental costs and rates. However, other expenditure such as rates & levies, maintenance and nonrecurring costs are not separately available. (Submission, p.4, Submission, pp. 3-4)</p> <p>Ergon:</p> <p>Ergon Energy would like to bring to the AERs attention an apparent duplicate requirement to report maintenance (opex) costs which are requested in both (2.14) Non-network and (2.7) maintenance template tables. (Submission, p. 20)</p> <p>CP/PC:</p> <p>The Businesses advise the 2.9 Overheads and 2.14 Non-network worksheets should include an AMI column. The Businesses fleet management system does not provide the Draft Category RIN motor vehicle categories. The amount of time required to populate the motor vehicle worksheets is not relative to the motor vehicle expenditure materiality. (Submission, p.7)</p> <p>Transend:</p> <p>Data requirements seem extensive given the total dollars of vehicles and</p>	<p>Where NSPs do not have direct records in their systems of the information required in templates, they must provide estimates based on transparent assumptions.</p> <p>Where opex is required in the non-network template it will be recorded twice (in both the non-network category and the relevant opex category). Where this is required this is intentional to allow us to have total standard control services expenditure (for DNSPs) and prescribed transmission services expenditure (for TNSPs) in the non-network template. However, given this double recording, NSPs will need to show that the total capex and opex across templates taking this duplication into account reconciles to regulatory accounts.</p> <p>DNSPs (TNSPs) should only report expenditure related to standard control services (prescribed transmission services) in the Non-network templates. Expenditure related to AMI should now be reported in the metering template.</p> <p>To reduce the regulatory burden we have significantly reduced the information required in the non-network template. Where NSPs do not have actual information to complete templates, they are required to transparently estimate it.</p>

non-network buildings. The data for vehicles will have to be collected by analysing many different records. AER consider a targeted approach to assessment if areas of concerns are identified based on total vehicle and building costs. IT and vehicles are currently not separately reported as network or non-network costs (Submission, p.2)

2.14	Motor Vehicle expenditure	<p>SP AusNet Transmission; SP AusNet Distribution:</p> <p>Expenditure on motor vehicles is not considered material business expenditure for SP AusNet. Fleet activities are outsourced and the fleet service provider does not have the data available for the complete 5 year period. Internal records are available for total motor vehicle expenditure however there is no reliable basis on which to estimate the network and non-network split and then further estimate the disaggregation by motor vehicle type. (Submission, p.4, Submission, p.4)</p> <p>Ergon</p> <p>Ergon's operations fleet vehicles are used for SCS and ACS purposes, as well as for unregulated purposes.</p> <p>Estimation and apportionment will be required in this regard, given significant difficulty in sourcing from our system, and care will be required to avoid duplication via other activities input (e.g. in fleet opex).</p> <p>Of note, Ergon does not record kilometres travelled by service classification, or by regulated versus unregulated work activities. Hours of use are booked against jobs and potentially job cost records may provide service classification and work activity (regulated, unregulated) desegregations. However, the AER had indicated this was not an appropriate method – further investigation is therefore required. (Submission, p.20)</p> <p>Energex:</p> <p>The proceeds of disposals are classified as unregulated revenue therefore, in the absence of further direction Energex proposes to report disposals in this worksheet.</p> <p>Energex's reporting systems do not distinguish between Network and Non-Network</p>	<p>We are now not requiring the separation of network from non-network vehicles. We consider the defined vehicle sub categories should provide a reasonable separation of operational vehicles being used to do work on the network from corporate vehicles. We consider this should materially lessen the reporting burden associated with the template.</p> <p>We no longer require revenue from the disposal of regulated motor vehicles to be reported in the non-network template.</p> <p>We have not added a separate category for crane borers.</p> <p>NSPs are now only required to report high level motor vehicle descriptor metrics related to use on standard control services work (DNSPs) and prescribed transmission services work (TNSPs). In lines with this, DNSPs and TNSPs should only report expenditure in relation to Standard Control Services (for DNSPs) and Prescribed Transmission Services (for TNSPs) in the Non-network template.</p> <p>In submitting forecast expenditures at the time of the reset, NSPs would be expected to provide additional information to support their proposals as they considered required.</p>
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vehicles but rather by vehicle category. The definition of “Network Motor Vehicles Expenditure” fails to provide a clear explanation to enable a distinction from Non-Network Vehicle Expenditure. The definition “supporting the operation, development, maintenance and management of the network” generally represents all activities undertaken by a NSP. As Energex’s systems do not distinguish vehicles by function, to do so would require significant resource intensive process to review and classify all vehicle costs. Given that Energex believes that any vehicle relative to “Non-Network Vehicles Expenditure” would most likely be reported only in the “car” category, Energex proposes to report all other vehicle categories as “Network Vehicles Expenditure”

Energex propose to use the following additional motor vehicle category with the below definition: Crane Borers (HCV) are motor vehicles that have permanently attached crane borers that would be HCVs but for the exclusion of crane borers from the definition of HCV. Measures should be per EWP (HCV) (with tonnage per definition for ‘Heavy Commercial Vehicle (page 43)). It is Energex’s preference that the Crane Borers are treated as a separate category same as EWPs. Energex believes there is a distinct driver for this category that warrants separation. All other definitions relative to motor vehicles should be modified to reflect this additional category. (Submission, pp.11-12)

Transend:

The worksheets include forecasts for non-financial items such as km travelled by vehicle and numbers of client devices. It is unlikely that these values will provide meaningful data for the AER and given a base year forecasting approach for such costs it is also likely to be unnecessary for assessing the forecasts of these costs. Transend recommends forecasts of these non-financial items be removed from the templates. (Submission, p.2)

TransGrid:

TransGrid proposes the following cost driver metrics:

- Opex metric = total annual km/annual opex total
- Capex capital = no. of vehicles purchased/total capital cost
- Capex disposals = no. of vehicles disposed/total disposal value

(Submission, p.6)

2.14 SCADA and Network Control Expenditure

Ergon:

Ergon understands that the AER's approach to applying the terminology of 'non-network' to SCADA Control Systems and Network Communication asset classes is based on past practice, primarily influenced by the Victorian model.

Ergon considers that disaggregating expenditure into Smart Meter and Non-Smart Meter categories is not appropriate for DNSPs outside of the state of Victoria (i.e. a government mandate of smart meters is unlikely to eventuate in Queensland in the next regulatory control period).

Ergon questions if it would be appropriate to have an additional worksheet to allow reporting of Network costs for items such as SCADA and Network Control expenditure. This worksheet could also allow incorporation of Network Operations Costs to ensure all of Ergon's opex costs are reported.

The AER acknowledged reporting on Protection assets has not been specified. The AER advised Protection asset information may be reported in (2.2) Repex - stating they would need to determine and notify Ergon if they require multiple reporting of this information

(Submission, p.20)

SAPN:

The table requests expenditure split between "smart meter" and "non-smart meter" installations. We are unclear of the purpose of this distinction and whether any SCADA and Network Control expenditure occurs under "non smart meter". We suggest referring to meter types (1-4,5,6,7 etc.) may be preferable. We currently interpret non-smart meters as types 6 and 7 (and potentially type 5) expenditure but expect non SCADA and Network expenditure would occur with no smart meters. (Submission, attachment, p.5)

SCADA and Network Control expenditure has been deleted from non-network sheets. In conjunction with this change:

- SCADA and Network Control expenditure (not including any expenditure directly related to smart meters) has been added into the repex template
- Augmentation SCADA and Network Control expenditure should be reported in augex template where relevant. However, where SCADA and Network Control expenditure is incurred as part of a general augmentation project (i.e. not a project specifically aimed at SCADA and Network Control), it does not need to be reported separately and should simply be reported as part of the expenditure of that project in accordance with the augex regulatory template instructions
- SCADA and Network Control expenditure related to Smart Meters should be reported in the template covering metering.
- opex cost related to SCADA and Network control should be recorded against the relevant opex categories.
- Protection asset capex and opex should be reported under the relevant direct expenditure categories.

2.14	Other	<p>Energex:</p> <p>Consistent with clause 10.12 and 10.13 of the Principles and Requirements, and where Energex considers there is an appropriate distinct driver for the expenditure it will dis-aggregate costs within the "Other Expenditure" category to relevant sub categories (submission p. 12)</p>	<p>We are now not requiring NSPs to identify cost drivers in the template in relation to Other Expenditure. However, where expenditure on any given type of asset exceeds a set threshold over the course of the regulatory period they will be required to report the expenditure on that type of asset on a separate line in the template. However, we note that NSPs revenue proposals must still support the forecast expenditure proposed.</p>
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8 Vegetation management

Template 2.6 (transmission) and 2.7 (distribution) of the RINs will be used to collect information on the scale of work and costs associated with a NSP's vegetation management work program.

8.1 AER Position

We require NSPs to provide us with disaggregated information concerning their vegetation management activities, outcomes and drivers. The information we will collect has not changed substantially from the data we proposed to collect as indicated in the draft Category Analysis RIN. The main issues raised by stakeholders and our position on the issues are as follows:

- Recording the average number of trees per maintenance span – we will request this data as we require a measure of tree density.
- Recording access track clearance expenditure – we now request total access track maintenance data, this has been moved to the maintenance tab.
- Recording outages and fire starts caused by vegetation – we now also request data where the vegetation is managed by other responsible parties.
- Disaggregating data by urban, rural and sub transmission – we no longer request DNSPs provide the metrics of their network disaggregated by sub-transmission.

Detailed issues and our responses to matters raised in consultation are contained in table 8.1 and table 8.2 below.

8.2 Reasons for AER position

Average number of trees per maintenance span

We consider it is important to collect data on the average number of trees per maintenance span as we require a tree density measure. Tree density is a significant driver of tree trimming costs; we require an approximation of tree density so we can determine the scale of work performed when benchmarking costs. We would expect that a NSP that has more vegetation across their network would incur greater costs to clear it to appropriate levels, all else equal. We consider that the average number of trees per maintenance span is an appropriate measure to indicate tree density.

A number of NSPs submit that they would have to estimate this data and there would be measurement issues.⁴⁶ The instructions in the draft Category Analysis RIN laid out some methods to estimate trees per maintenance span; and these instructions remain in the final Category Analysis RIN. Energex submitted that a variety of sampling and estimation methods could lead to perceived variances that do not actually exist.⁴⁷ We recognise issues in generating data for the average number of trees per maintenance span. We require approximations of tree density to provide a broad indication of the amount of tree trimming work NSPs are required to do. As an example, we would expect that a NSP who cuts 20 trees on average per span would have lower costs than a NSP who cuts 60 trees per span; but may have similar costs to a NSP who cuts 25 trees per span. We do not

⁴⁶ TransGrid, *Submission on draft reset RIN*, 17 January 2014, p.7; Energex, *Submission on draft category analysis RIN*, 17 January 2014, p.9; SA Power Networks, *Submission on draft category analysis RIN –Attachment*, 17 January 2014, p.3; ElectraNet, *Submission on draft category analysis RIN - Attachment*, 17 January 2014; Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p.20; Transend, *Submission on draft reset RIN –Attachment*, 17 January 2014, p.3.

⁴⁷ Energex, *Submission on draft category analysis RIN*, 17 January 2014, p.9.

consider that any potential variances of estimates due to methodology of the number of trees per span would be significant enough to impact its use for informative purposes, however, will consider this when analysing NSP data.

We have provided a definition of a tree in the final Category Analysis RIN. As no definition was provided in the Economic Benchmarking RIN we recognise that some NSPs may already have estimated the average number of trees per maintenance span using their own definition of a tree. We will liaise with NSPs to determine if they can continue to use their own definition of a tree to provide data for the Category Analysis RIN or upcoming Reset RINs. We have requested that NSPs who had not already collect data on trees for the Economic Benchmarking RIN use the definition provided in the Category Analysis RIN to populate both RINs.

We maintain our view that in conjunction with tree density, tree growth rates are a significant driver of vegetation management costs. We will likely consider changes in the growth and density of vegetation using Normalised Difference Vegetation Index (NDVI) data, and rainfall data both sourced from the Bureau of Meteorology. We will review the explanatory power of this data in future and consider if more data needs to be collected from NSPs.

Collecting access track clearance expenditure

A number of NSPs said they do not collect data on vegetation clearance from access tracks; some NSPs would need to make assumptions in order to provide the data.⁴⁸ Transend submit that rather than collect the vegetation clearance costs of access track maintenance, we include access track maintenance costs in the maintenance template.⁴⁹ Transend said they hire contractors to engage in all required maintenance of access tracks, including vegetation management. We consider that collecting total access track maintenance costs is appropriate; as we will have visibility total access track clearance maintenance costs, rather than just one aspect of it. The reliability of the data should also improve as NSPs will need to make fewer assumptions to provide total access track maintenance expenditure, rather than the vegetation clearance costs. NSPs may provide this data as an 'other maintenance activity' in the maintenance tab if the NSP considers that these costs are material.

Outages and fire starts caused by vegetation

JEN submit that we consider the party that is responsible for managing the vegetation that caused the outage rather than capturing the specific cause of an outage.⁵⁰ We recognise that a NSP may not be responsible for an outage that we may have incorrectly attributed responsibility to the NSP operating the network. We have added 'other responsible parties' as an additional sub-category to interruptions to supply in recognition of this issue. We agree with JEN that other responsible parties such as municipal councils and private land owners also have vegetation management obligations, particularly around urban distribution lines.

We still request data on the specific cause of an outage (grow-in or blow-in/fall-in). We consider it is important as it provides an indication of the effectiveness of a NSP's vegetation management program. As an example, a low number of outages caused by grow-ins but a significant number of outages caused by blow-ins might suggest the NSP is meeting their vegetation clearance

⁴⁸ TransGrid, *Submission on draft reset RIN*, 17 January 2014, p.7; ElectraNet, *Submission on draft category analysis RIN - Attachment*, 17 January 2014; Ergon Energy, *Submission on draft category analysis RIN*, 17 January 2014, p.20; Transend, *Submission on draft reset RIN –Attachment*, 17 January 2014, p.3.

⁴⁹ Transend, *Submission on draft reset RIN –Attachment*, 17 January 2014, p.3.

⁵⁰ JEN, *Submission on draft category analysis RIN*, 17 January 2014, p.7.

requirements, but there is potential to improve vegetation management practices by targeting the clearance of hazard trees.

We do not request that outages or fire starts caused by vegetation managed by other responsible parties be captured by specific cause.

Disaggregating data by urban, rural and sub transmission

Energex submit that to reduce the burden in providing data for the Category Analysis RIN, we should ensure consistency with the data collected in the Economic Benchmarking RIN, allowing NSPs to leverage data already provided. Energex propose we use the urban and CBD (one combined metric), and rural disaggregation used in the Economic Benchmarking RIN, rather than collect data by urban, rural and sub-transmission. We have changed the geographical split of the data we request in line with Energex's submission; therefore we no longer request network metrics by sub-transmission from DNSPs. We do not consider that combining CBD and urban into one metric will significantly affect the metrics provided (e.g. maintenance spans) as those DNSPs that operate within a CBD would perform minimal vegetation management work. When we consider vegetation management expenditure on sub-transmission lines, we will pro-rata the information from other data provided.

Table 8.1 Detailed issues and responses - Vegetation management

Page/ para number	Description of data/ cells	NSP comments	AER response
pp.30-31 DNSP RIN, p.29 TNSP RIN	Paragraphs 12.1-6 (DNSP), 11.1-6 (TNSP) – Instructions on veg management	Transend interpreted these instructions as requiring them to apply multiple geographical zones to their network when providing vegetation management data. (p. 3).	NSPs can have only one vegetation management zone if they consider it wouldn't indicate differences in costs or differences in drivers of those costs across their network.
p.31 DNSP RIN, p.29 TNSP RIN	Paragraph 12.2 (DNSP), 11.2 (TNSP) – Instructions on veg management	SAPN seek clarification on this paragraph: "Each contiguous area nominated by DNSP as a vegetation management zone." (pp. 3-4).	This is a typo, both RINs should read: Each contiguous area nominated by a NSP is a vegetation management zone.
pp.31-32 DNSP RIN, p.30 TNSP RIN	Paragraph 12.12 (DNSP), 11.12 (TNSP) – Instructions on veg management	Ergon seek clarification that Lidar results can be used in their estimation of the overage number of trees per span. (p. 20).	Lidar is already listed in the instructions as a potential method of estimating trees per span.
N/A	Route line length within vegetation management zone	Transend recommends the following be defined: "Route length within zone" is the total line length, i.e. parallel lines are treated as separate spans. (p. 3).	We do not consider that parallel lines should be treated as separate spans. We expect that the presence of parallel lines across a NSP's network will be reflected in wider vegetation management corridors. Therefore we consider that the metric 'average width of vegetation corridor'—which we will also collect—will account the cost differential posed by the presence of parallel lines, and route length should not need to specify that parallel lines are treated as separate spans.
N/A	Definitions section – Average number of trees per	Submissions from NSPs including Transend and TransGrid consider a definition for average tree per	We will use the definition given in the economic benchmarking RINs for average number of trees per

<p>maintenance span</p>	<p>maintenance span needs to be provided. Transend (p. 3), TransGrid (p. 7).</p> <p>Transend recommends that this is defined to make the following clear:</p> <ul style="list-style-type: none"> - the "Average no of trees per Maintenance Span" includes the removal of large individual trees in a span as well as the broad slashing of small diameter but dense vegetation across entire spans (1000+ trees per span). (p. 3). 	<p>maintenance span:</p> <p>The estimated average of the number of trees within the NSP's vegetation Maintenance Spans. This includes only trees that require active vegetation management to meet its vegetation management obligations. This excludes trees that only require Inspections and no other vegetation management activities required to comply with the NSP's vegetation obligations.</p> <p>We will also add this definition of a tree:</p> <p>Tree: for the purposes of calculating the average number of trees per span, a tree is a perennial plant (of any species including shrubs) that is:</p> <ul style="list-style-type: none"> ▪ equal to or greater in height than 3 metres (measured from the ground) in the relevant reporting period; and ▪ of a species which could grow to a height such that it may impinge on the vegetation clearance space of power lines. <p>This definition of a tree should make it clear that we are not interested in the density of saplings (defined as trees below 3 metres in this case), only of relatively well grown trees that have the potential to encroach on the vegetation clearance space. We require an approximation of the density of well grown trees as density is a significant driver of vegetation management costs.</p>
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<p>p.40 DNSP RIN, pp.49-50 TNSP RIN</p>	<p>Definitions section –cutting cycles</p>	<p>Transend noted that definition for cutting cycles includes references to vegetation work done in urban and rural areas. (bilateral meeting).</p> <p>Aurora said they undertake fire mitigation cutting cycles, involving a specific inspection and maintenance program each year, which they do not consider to be cyclic vegetation clearing. They suggest that the data on average frequency of cutting cycles exclude fire mitigation cuts. (p. 2).</p>	<p>We will remove references to urban and rural in the TNSP definition as we do not propose to disaggregate data on this basis from TNSPs.</p> <p>We want fire mitigation cutting cycles and other legislated regular cutting cycles included in the calculation of a cutting cycle. We would expect NSPs to include information on what their legislated cutting cycles are in the basis of preparation.</p> <p>We consider costs associated with legislated inspections and cuts also need to be considered as there may be relationships between work done on a legislated cycle or on an optimal cutting cycle.</p>
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<p>p.57 DNSP</p>	<p>Definitions section – vegetation</p>	<p>TransGrid asked for clarity on the definition of vegetation corridor, for</p>	<p>Our new proposed definition:</p>
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RIN, p.50 TNSP RIN	corridor	<p>example is it bare earth, grass to earth or something else. (p. 7).</p> <p>Transend recommended that this is redefined to make the following clear:</p> <p>"Km of Vegetation corridors" is based on wayleaves which may contain a number of lines. i.e. total corridor length will be less than route length. It does not include deep gullies etc. were no management is undertaken. (p. 3).</p> <p>Ergon suggests the definition is clarified – considering that there is a risk reporting spans and corridors may lead to duplication of results. (p. 20).</p> <p>In consultation Ergon asked if vegetation corridors apply only in rural areas and if corridor refers to km of line. (bilateral meeting).</p>	<p>Vegetation corridor: a tract of land along which vegetation is maintained in order to form a passageway along the route of a power line or lines (e.g. a shared corridor) that is free of vegetation encroachment into the asset clearance space. This does not include portions of the corridor where no managed vegetation exists (e.g. grassland or heathland) or where vegetation is not managed (e.g. deep gullies/valleys where no vegetation management is undertaken). For clarity, the form of tenure, or lack of tenure, over the corridor are not relevant to the existence of a vegetation corridor.</p> <p>Addressing TransGrid's question, this definition would mean the exact height or exact degree of clearing of the managed vegetation is irrelevant, as long as it doesn't encroach within the required tree clearance margins.</p> <p>The vegetation corridor refers to the length of the managed land below the lines, rather than the length of the line itself.</p> <p>We would expect vegetation corridor clearance would occur predominantly in rural areas but we also request data on corridors in urban areas (if any), to gain an understanding of the costs of vegetation corridor clearance in these areas.</p>
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p.51 TNSP RIN	Definitions section – width of vegetation corridor	<p>TransGrid asked for clarity on the definition of the width of the vegetation corridor. (p. 7)</p> <p>Transend recommended that this is redefined to make the required width the total width rather than half the width, to account for multiple lines per corridor. (p. 3).</p>	<p>We have provided a new definition based on Transend's recommendation:</p> <p>Width of vegetation corridor: the total width of a vegetation corridor. For clarity, the total width refers to the entire width of the tract of land along which vegetation is maintained.</p> <p>Defining the width of a vegetation corridor as the entire width of the slashed section rather than the width of the pole to one edge of the slashed section is more appropriate, considering there may be multiple poles or poles of varying diameter along a width of the corridor, which would lead to inaccurate responses under the previous definition.</p>
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p.57 DNSP RIN, p.50 TNSP RIN	Definitions section – vegetation management	<p>Ergon suggests that the definition of vegetation management remove the reference to expenditure at the beginning as the definition relates to activities. (p.</p>	<p>We will amend the definition as per Ergon's advice.</p>
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General	Definitions of vegetation management activities under 2.6.4	Ergon seek further clarification (or further examples) on all proposed activities, including ground clearance. (p. 20).	<p>We have added or amended some definitions to provide further clarity; vegetation corridor is covered above, other new definitions are:</p> <p>Tree trimming/cutting/pruning: the activity of cutting back trees or other vegetation to remove dead or living parts so as to prevent parts of the tree or vegetation from growing into, falling onto, or blowing onto electricity assets.</p> <p>Audit: Auditing of vegetation management activities (e.g. tree trimming, tree removal, herbicide application, etc.) following vegetation maintenance works in order to confirm the quality and/or extent of the vegetation management activities undertaken.</p> <p>Access track: a path that enables vehicular or foot access to an NSP's assets. Where applicable this includes associated pavement, drainage, security (e.g. gates, fences) and animal control devices (e.g. cattle grid). For the purposes of this definition the NSP must have a responsibility for the maintenance of the access track and the form of tenure, or lack of tenure, over the maintenance access track is not relevant.</p> <p>Hazard tree: a tree that is reasonably considered to be unhealthy, unstable, or in a condition where it is reasonably likely for the tree, limbs or branches to contact electricity assets.</p>
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Table 8.2 Detailed issues and responses - Vegetation management template

Template number	Description of data/ cells	NSP comments	AER response
2.6	2.6.4 Veg management costs by activity – access track clearance	NSPs including Transend, TransGrid, ElectraNet and Ergon state in their submissions that they face difficulties in providing access track clearance data. Transend said that vegetation on access tracks as part of civil maintenance. They suggest including these costs within template 2.7. Transend (p.3),	We will make changes in accordance with Transend's submission. Rather than collect expenditure of the removal of vegetation from access tracks (which most NSPs don't split out) we will now collect total access track maintenance expenditure in the maintenance template. NSPs may provide this data as an 'other maintenance activity' in the maintenance tab if the NSP considers that these costs are material.

TransGrid (p. 7), ElectraNet (Table submission), Ergon (p. 20).

2.6	2.6.4 Veg management costs by activity – urban/rural split	Energex noted that in the economic benchmarking RIN we request data on some relevant vegetation metrics by 'urban and CBD', and 'rural'. For CA, we currently propose to collect similar data by sub transmission, urban and rural. Energex seek consistency in the data we request. (p. 9).	<p>We will make changes in accordance with Energex's suggestion, grouping CBD with urban and collecting rural.</p> <p>We will no longer collect data from DNSPs by sub-transmission. When we consider vegetation management expenditure on sub-transmission lines, we will pro-rata the information from other data provided.</p>
2.6	2.6.3 Vegetation management metrics – average number of trees per maintenance span	<p>Most NSPs comment that this would have to be estimated.</p> <p>TransGrid considers that trees per span is often immaterial to clearance costs, particularly where slashing and mulching machinery is used. (.p 7).</p> <p>Energex considers that due to the likely variance in estimation methodologies, the AER should engage a contractor to undertake the estimation work themselves. This is to ensure that we don't assess expenditure based on perceived variances that don't actually exist. (p. 9).</p> <p>Transend suggested that the AER could collect this data on a per hectare basis. (bilateral meeting).</p>	<p>See also comments on the definition of average number of trees per maintenance span in the Vegetation Management written RIN table.</p> <p>NSPs are required to provide their best estimate. Suggested methods of estimation are provided in the RIN instructions. This same information (albeit not by management zone) is requested in the economic benchmarking RIN.</p> <p>We consider the average number of trees per maintenance span is a useful measure to consider tree density. Having some indication of tree density along a NSPs maintenance span is vital as tree density is a significant cost driver of tree trimming costs.</p> <p>Cost is driven by the density of the vegetation being managed and the area of the land being managed – we are capturing both. Businesses with a low cost per area maintained at a given vegetation density would be more efficient than a business with a higher cost per area maintained at the same (or similar) vegetation density.</p> <p>The immateriality of tree density to clearance costs assumes a particular approach to maintenance of the vegetation management corridor. We need to be able to compare these different approaches – hence we need both density and area metrics.</p> <p>We will collect data by length and width rather than by hectare as it will allow us to consider both dimensions of a vegetation corridor and examine any differences is corridor width that way.</p>
2.6	2.6.3 Vegetation management metrics -	Transend suggests that vegetation maintenance around communication	We will make changes in accordance with Transend's submission, and make it clear that we are not

	general	sites should not be included in the transmission line metrics. (p. 3).	after vegetation management work around communication sites.
2.6, 6.3	6.3.1 Interruptions to supply – vegetation blow-ins and grow-ins (outages and fire starts)	<p>JEN suggests that the AER focus on collecting information on the party responsible for the vegetation that causes the outage, rather than capturing the outage by specific cause. (p. 7).</p> <p>SAPN state that they don't collect outages or fire starts by these causes and request that they be removed. (p. 6).</p> <p>Energex propose to continue to collect data according to their current annual RINs, which has vegetation as a cause, but doesn't have the proposed sub-causes. (pp. 15-16)</p>	<p>We will incorporate JEN's comment into template as well, recognising that the NSP themselves may not be directly responsible for some outages. We will continue to collect outages by cause (grow-ins and blow-ins/fall-ins) as well as the number of fire starts.</p> <p>NSPs will be provided the option to not provide this data initially if they do not collect it, but it will be required in future years.</p>
2.6	2.6.3 Vegetation management metrics – width of vegetation corridor.	Not raised by NSPs	Width of vegetation corridors was not collected in DNSP draft RIN, on the view that vegetation corridor clearance would be less significant for DNSPs than it is for TNSPs. This view has changed, however we will consider the need for this information in potential future refinements to the RIN.
2.6	Data that is not collected, and would need to be estimated or provided at cost.	<p>TransGrid has not historically recorded number of trees per maintenance span, does not current record length of vegetation corridors, which would require a span-by-span review. Also don't record information on access tracks. (p. 7).</p> <p>Energex does not record the number of maintenance spans, or the average number of trees per</p>	<p>NSPs are required to provide their best estimate.</p> <p>We recognise that NSPs are exempt from providing a full series of historical data on some environmental variables such as the number of maintenance spans in the economic benchmarking RIN if they did not already collect it. This relates to the circumstances around model specification and use of environmental variables. Category analysis involves more direct trend and per unit benchmarking hence individual volume and cost variables are relatively more important, and so we consider this data is required for each historical year.</p>

maintenance span. (p. 9).

SAPN does not have data on hazard tree clearance, ground clearance, number of trees per maintenance span, and outages or fire starts by either vegetation grow-ins or blow-ins. (p. 3).

Transend does not collect data by span, average number of trees per maintenance span, and doesn't collect data on vegetation maintenance of access tracks. (p. 3).

ElectraNet cannot readily provide number of maintenance spans, trees per maintenance span and km of access tracks. They noted that they were exempt from providing this backcast data for the economic benchmarking RIN. (Table submission).

Ergon has limited data on access tracks and assumptions will need to be made. Average number of trees per span will need to be estimated. They also do not collect data on outages or fire starts by vegetation grow-ins or blow-ins, only by a singular vegetation cause. (pp. 20, 28-31).

SP AusNet will need to estimate the average number of trees per maintenance span. (Table submission).

9 Maintenance

This section discusses the maintenance opex data requirements contained in template 2.8 (for distribution) and template 2.7 (for transmission).

Our maintenance worksheets collect data on routine and non-routine maintenance opex, inspection and maintenance cycles, asset quantities and average age for standardised asset categories.

9.1 AER Position

For each standardised asset category, NSPs must provide five years of historical maintenance expenditure. We note that given the nature of the networks the asset groups/categories vary between transmission and distribution.

We have made amendments to the maintenance data requirements from the draft RINs. Following consultation with NSPs we:

- clarified data requirements for the inspection and maintenance cycles per asset category
- clarified the requirement for average age and asset quantity for each asset category
- will allow NSPs discretion to add rows for asset subcategories if these are material.

In submissions and consultations, NSPs also raised other issues regarding asset category specifications and definitions, and we have made minor amendments based on these.

Detailed issues and our responses to matters raised in consultation are contained in Table 9.1 below.

9.2 Reasons for AER position

Inspection/ Maintenance cycles

The draft Category Analysis RIN required data for inspection and maintenance cycles for each asset maintenance activity. These data would be taken into account when comparing average maintenance costs across NSPs. For example, a NSP might inspect its poles more frequently during the five-year regulatory period compared to another NSP who does this less frequently, therefore leading the first NSP to incur a higher annual average cost for pole inspection.

In consultation with NSPs, they commented that the data requirement for inspection and maintenance cycles should be clarified. They explained that individual assets within the same asset category in the RIN template have significantly varying inspection/maintenance cycles. Also, for some assets, there could be multiple maintenance cycles corresponding to different maintenance tasks, for example, intrusive versus non-intrusive maintenance works. The cycles could vary for the different asset types depending on a number of factors such as criticality, environmental zone (bushfire risk), locality, asset age, type of inspection (ground, aerial or climbing inspection), or the type of technology (e.g. self-monitoring protection systems versus non-self-monitoring). The NSPs were concerned with the usability of the cycles data or were uncertain if meaningful cycles data could be provided.

We have considered the NSPs' views and believe that cycles data are necessary for normalising average maintenance costs when comparing these across NSPs. However, we have made the following changes and have indicated these in the RIN instructions and templates:

- the template will have separate columns for Inspection Cycles and Maintenance Cycles

- NSPs will have discretion to further break down asset subcategories to relate specific assets with their inspection/maintenance cycles
- for each asset subcategory, NSPs can give an average measure based on the highest-value asset in the subcategory
- for multiple inspection/ maintenance activities on that particular asset, the cycle is to reflect the highest cost activity
- adding asset subcategories to indicate cycles does not require also breaking down the corresponding dollar expenditures.

We recognise that prescribing further asset subcategories to provide cycles data would add to the NSPs' reporting burden, and the above changes to the draft RIN will minimise the reporting burden and allow the provision of meaningful data.

Average age and asset quantity for each asset category

During consultation, NSPs noted that the maintenance subcategories consist of different assets, and that assets can consist of elements of varying ages due to varying replacement dates of components. Other NSPs stated that with their historical records, they have little or no data available on the average asset ages.

We will allow NSPs to calculate the average age for the asset category based on the highest-value asset in the category, for example, in the case of poles, this will be the poles and not the pole top structures such as the cross-arms, insulators, and switches, as these structures/components could be younger.

NSPs also sought clarity on the asset quantity and unit of measure for each asset category. We clarified in the final RIN that, for each asset category, we require two asset quantities:

- the number of assets actually inspected/maintained during the year, and
- the total number (population) of assets at year end.

The basis for these quantities is the highest-value asset in the category.

In the same way, the unit of measure for each asset category refers to the highest-value asset in the category. For example, for 'pole, overhead lines and service lines maintenance', the unit of measure is the number of poles. The average age and asset quantities for this asset category should also be based on poles.

NSP's discretion to add asset subcategories

The draft Category Analysis RIN required maintenance data for asset groups at a high-level, cognisant of the reporting burden on NSPs and to mirror the high-level asset categories for replacement expenditure. However, in consultation, NSPs sought clarity on whether they can add rows in the maintenance template or create new asset subcategories to enable them to provide the maintenance data. For example, they queried whether they could add the following:

- for distribution switchgear maintenance - separate rows for switchgear within substations and those outside substations

- other distribution maintenance activity - new rows for pole-mounted voltage regulators and capacitors
- for transmission substations - new rows for auxiliaries required to operate a substation (i.e. fault response, battery maintenance, etc.)
- other transmission maintenance activity - new rows for insulators, foundations, weather stations, and access tracks.

We have considered that, instead of prescribing more detailed asset subcategories in the RINs, we will allow NSPs discretion to add asset subcategories in the template in accordance with RIN instructions. This recognises that NSPs have varying levels of details on maintenance costs, depending on their cost capture systems.

Table 9.1 Detailed issues and responses - Maintenance opex

Template	Description of data cells	NSP comments	AER response
2.8	Definition - Number of customers	<p>Ausgrid queried if the NMI count could suffice for the number of customers. (bilateral meeting)</p> <p>NSW DNSPs commented that the definition on p 82 contradicts that in Explanatory Statement to economic benchmarking RIN section 6.2.1 and queried whether customer numbers should include or exclude NMIs without an active tariff assigned (i.e. they are billable sites for deriving revenue)? (submission p. 10)</p>	We have defined 'Customer numbers' in the RIN and the same definition applies to category analysis and economic benchmarking.
2.8	Pole Top, Overhead Lines and Services Maintenance	Ausgrid commented that 'Services' should refer to 'Service Lines'. (bilateral meeting)	We have amended the RIN template heading to read 'Pole, Overhead Line and Service Line Maintenance'. Service line refers to the wire that connects a customer to the shared network, i.e. LV main.
2.8	Network Underground Cable Maintenance	<p>Ausgrid commented that the definitions of 'Underground Cables' and 'Network underground cables maintenance' should be consistent, to include tunnels and pits (bilateral meeting)</p> <p>Ausgrid commented that 'network underground cables maintenance' could be broken down into voltages. (bilateral meeting)</p> <p>Ausgrid queried why, for the physical measure for 'Network underground cables maintenance', the definition says both cable length and number of joints, while the template says cable length only (bilateral meeting).</p>	<p>We have amended the definition of 'Underground Cables' to include cable tunnels, ducts, pipes, and pits.</p> <p>NSPs have discretion to add rows in the template for further details/sub-categories if these are material. We have stated this in the instructions.</p> <p>In the meeting with Ausgrid and in the draft category analysis RIN, we stated that the physical measure should include both cable length and number of joints. Our final view is that each asset group should have only one physical measure to enable the calculation of an average cost/unit cost for benchmarking purposes. We have amended the RIN template to reflect this. For network underground cables, the unit of measure is length of cables (km). There is little routine maintenance work on cable joints, and cable maintenance work is likely to be minimal except for some inspection work at cable terminations.</p>

2.8	Distribution switchgear maintenance	Ausgrid queried whether for Distribution Switchgear Maintenance, rows should be added for Distribution Substations (e.g. HV / LV, RMI / CB / Fuse) and Distribution mains (e.g. ABS, reclosers, sectionalisers) (bilateral meeting)	NSPs have discretion to add rows in the template for further details/sub-subcategories if these are material. We have stated this in the instructions and the template.
2.8	Zone substation equipment maintenance	Ausgrid queried whether Zone Substation Equipment Maintenance includes distribution equipment within the zone substation. (bilateral meeting)	Yes. Zone substation asset is managed separately from distribution asset. We believe distribution equipment-related cost would not be material.
2.8	SCADA, IT, Communications, Protection Systems, and Network Control Systems Maintenance	<p>Transend commented that the definitions of SCADA, IT, Communications, and Protection Systems & Network Control should be clearer. (bilateral meeting)</p> <p>Ausgrid queried whether SCADA and Network Control Maintenance includes voltage regulators and protection systems. (bilateral meeting)</p>	<p>We will further clarify definitions in the RIN for:</p> <ul style="list-style-type: none"> ▪ SCADA ▪ IT ▪ Communications ▪ Protection Systems ▪ Network Control. <p>SCADA system usually has dedicated IT equipment and communication, which are separate from corporate IT and communications. Our final view is to separate these two subcategories in the Maintenance template:</p> <ul style="list-style-type: none"> ▪ SCADA & Network Control Maintenance (including IT & Communications) ▪ Protection Systems Maintenance <p>This makes the distribution and transmission templates similar.</p> <p>Protection systems will be grouped as one and not have to be broken down further into functions.</p> <p>Voltage regulators and reclosers are primary system equipment that perform network control and performance functions. They are usually managed by secondary system team due to special technical skills.</p>

			NSPs have discretion to add a row for Voltage Regulator Maintenance as 'Other Maintenance Activity'.
2.8	Telecommunications (or Communications) maintenance	SAPN requested further guidance on where to report telecommunications maintenance – this can be shown under either "Other maintenance" or "Zone substation – Other equipment". (Submission p. 4)	<p>We require Telecommunications (or Communications) maintenance to be reported with SCADA.</p> <p>Network communications are for SCADA systems, either between substations, or control centre and substations; so this can be grouped with SCADA.</p> <p>Dedicated radio (voice) communications are part of SCADA & Network Control activities. This does not include corporate communications.</p>
2.8	Protection equipment maintenance	SAPN queried where maintenance of protection equipment should be recorded – in the Maintenance tab or Non-network tab? (Submission p. 4)	Protection Systems Maintenance is included in the Maintenance template as a distinct subcategory.
2.8	Sub-transmission asset maintenance	Ausgrid queried what the definition is for dual function assets in 'Sub-transmission asset maintenance (dual function assets)'. (bilateral meeting)	The definition of dual function assets is included in the RIN definitions and has the meaning prescribed in the NER.
2.8	Other Maintenance Activity (distribution)	Ausgrid queried whether additional rows can be added for 'Pole-mounted Voltage Regulators/Capacitors' under 'Other Maintenance Activity'. (bilateral meeting)	<p>Yes.</p> <p>NSPs have discretion to add rows for other material subcategories as 'Other Maintenance Activity':</p>
2.8	Transmission Maintenance	<p>TransGrid suggested the following changes (bilateral meeting):</p> <p>Steel Towers, Tower Structures, Conductors – Transend suggested the following changes:</p> <ul style="list-style-type: none"> ▪ 'Steel towers and conductors' to be renamed 'Steel structures' 	<p>Based on subsequent submissions from TNSPs on repx asset categories (refer to Table 5.1), we have revised the transmission maintenance template to show the following:</p> <ul style="list-style-type: none"> ▪ Transmission towers ▪ Transmission tower support structures

- 'Tower structures' to be renamed 'Wood structures'
- 'Conductors' to be a separate subcategory
- Each of the above subcategories to be split by voltage.
- Conductors
- Transmission cables.

TransGrid also commented that the categories of Steel Towers and Tower Structures appear synonymous and do not cater for poles such as wood or concrete poles. (Submission p. 6)

2.8	Substations maintenance (Transmission)	<p>Transend queried whether subcategories for auxiliaries (fault response, battery maintenance, grounds and buildings, operational duties, etc.) required to operate a substation should be added. (bilateral meeting)</p> <p>Transend queried whether for 'Other maintenance activity' additional lines can be inserted for the auxiliaries required for the operation of the substation, as the expenditure for auxiliaries is significant (fault response, battery maintenance, grounds & buildings, operational duties etc.) (Submission p. 4)</p> <p>Transend commented that the ages of these assets can be considerably different and an average age is somewhat meaningless. AER should remove this requirement until an appropriate level of information is determined. (Submission p. 4)</p>	<p>NSPs have discretion to add rows in the template for further details/sub-subcategories if these are material. We have stated this in the instructions and the template.</p> <p>Transmission and zone substations have auxiliary equipment including power supply, UPS, communication, earthing transformers, battery bank etc. We can allow subcategories to be added by the NSP.</p> <p>Most of auxiliary equipment are of the same age as the zone substation, before asset replacement occurs. We could qualify asset average age by "where applicable".</p>
2.8	Other Maintenance Activity (transmission)	<p>Transend suggested that for 'Other Maintenance Activity' new subcategories can be created, and split by voltages (Submission p 6):</p> <ul style="list-style-type: none"> ▪ Insulators ▪ Foundations ▪ Weather stations 	<p>NSPs have discretion to add rows in the template for further details/sub-subcategories if these are material. We have stated this in the instructions and the template.</p> <p>We note that Transend suggests access track maintenance be included in Maintenance, not Vegetation Management.</p> <p>Our final view is that access track expenditure can be reported as part of Maintenance, in the subcategory 'Other Maintenance Activity' for distribution and</p>

- Access tracks.

transmission. We have indicated this in instructions.

(bilateral meeting)

2.8	Quantity of asset group	<p>JEN queried what the unit of measure is for each asset group in the Maintenance template. (bilateral meeting)</p> <p>Ausgrid queried whether the 'Quantity of asset group' is a simple average number per zone. (bilateral meeting)</p>	<p>The final RINs require two quantities - the number of assets inspected/ maintained during the year, and quantity of asset (population) at year end.</p> <p>We have amended the templates to clarify the Units of Measure against each asset/ activity.</p>
2.8	Average age of asset group	<p>Transend commented that a category consists of elements of varying ages, due to varying component replacement dates. Transend recommends that the age of the main element be used in calculating the average age for each category ,e.g. in the case of steel structures this will be the steel tower, as the age of the foundations, insulators or signage will be younger in many cases. (Submission p. 3)</p>	<p>We agree that for each asset group, the asset with the highest replacement cost should be used as the basis for the average age of the asset group.</p>
2.8	Inspection/maintenance cycle	<p>SP AusNet commented that a definition for "inspection/ maintenance cycle" is needed. Individual assets within the same asset category have significantly varying inspection/ maintenance cycles. It is requested that the guidelines allow the use of an average measure. Furthermore, SPA has reservations in relation to the usability of this data in benchmarking NSPs due to the significant differences in asset maintenance cycles within categories. (Submission p. 3.)</p> <p>Ausgrid commented that for some assets, there are multiple maintenance cycles corresponding to different maintenance tasks (e.g. intrusive vs. non-intrusive). (bilateral meeting)</p> <p>CP/PC commented that they are unclear what meaningful figure can be included for the inspection/ maintenance cycle. Due to Condition Routine Maintenance principles, the NSPs have widely varying timeframes for assets within the broad Draft Category RIN asset categories. (Submission pp. 6-7)</p>	<p>The final RIN templates will separate the Inspection cycle data column from the Maintenance cycle data column. (We recognise that defects identified from inspection are usually programmed for maintenance and repair.) Inspection or maintenance cycles should be expressed as the average interval of action, expressed as n for 'every n years'. For example, if the inspection cycle for an asset is every 3 years, the cell input is '3'. The activity cycle should be based on the highest-replacement cost asset in the asset group, e.g. for poles this refers to the poles and not the conductors or the cross-arms.</p> <p>For non-financial data on inspection cycle, maintenance cycle, quantity of assets, and average age of assets, each asset group can be broken down into subcategories, e.g. transmission substation switchbay maintenance can be disaggregated into:</p> <ul style="list-style-type: none"> ▪ Circuit breakers ▪ Disconnectors ▪ Instrument transformers

	<p>ElectraNet commented that definitions will need to be confirmed by the AER for inspection / maintenance cycle. This will change correspondingly for the asset types identified based on a number of factors i.e. criticality, environmental zone (i.e. bushfire risk), locality, age of asset and type of inspection (i.e. ground, aerial or climbing inspection). (Submission, spreadsheet)</p>	<p>or e.g. Protection Systems:</p> <ul style="list-style-type: none"> ▪ Self-monitoring equipment ▪ Non- self-monitoring equipment <p>This breakdown is only for non-financial data. Financial data are not required to be disaggregated.</p> <p>NSPs have the discretion to add rows in the template for further details/sub-categories if these are material. We have stated this in the instructions.</p>
<p>2.8 Labour costs</p>	<p>Powerlink commented that for 'Total maintenance – internal labour costs', it adopts a standard labour charge rate. Some of the columns such as 'annual allowances, 'stand down occurrences etc. are not available. It is unclear what is intended in some of the columns as Powerlink resources do not just undertake maintenance work. Further clarification is required. (Submission p. 3)</p>	<p>Please refer to comments on Labour Cost Tables.</p>
<p>2.8 Other issues-comparison Cost</p>	<p>ElectraNet commented that the categorisation of costs will vary considerably across TNSPs and will often reflect differences in transmission system design as well as the TNSP's operating structures. This will make it difficult to meaningfully compare data across TNSPs and calls into question the level of detail being sought in the information templates. Maintenance categories are a prime example. In the case of ElectraNet specific types of maintenance activities are generally delivered by external contractors as part of a wider program of works. Therefore, indirect costs and overheads are apportioned across specific maintenance activities based on a number of broad assumptions. More broadly, the extent of maintenance outsourcing varies across</p>	<p>The RIN requirements are clear that indirect costs and overheads are to be reported separately from direct costs.</p> <p>We have also worked towards ensuring our definitions for cost categories are clear and have been extensively refined in consultation with NSPs. Issues arising around comparability in how NSPs have completed the templates, aside from RIN compliance (which will be dealt with on a NSP-specific basis) will be worked through in the eventual analysis of data and does not invalidate the approach to analysis or data required in the templates.</p>

		regulated businesses, making meaningful comparison even more difficult. This highlights the need for extreme caution to be exercised in seeking to compare information of this nature across regulated businesses. (Submission pp. 3-5)	
2.8	Data provision - Average age of asset group	<p>SP AusNet (Distribution) commented that historical reports are not available for years 1 and 2 as required by the template and without these historical reports the information cannot be reliably estimated. For the average age of asset group, little or no data are available. (Submission p. 3)</p> <p>Energex commented it does not record data on the average age of the required asset groups, and therefore broad estimates will be necessary. (Submission p. 9)</p> <p>SP AusNet (Transmission) intends to rely on historically generated reports to determine the 'average age of asset group' measure required in template '2.7 Maintenance'. This approach is needed as the system in which the data is maintained is 'live'. Historical reports are not available for years 1 and 2 as required by the template and without these historical reports the information cannot be reliably estimated. (Submission p. 3)</p>	<p>Asset age data should be available. If not, the NSP can make estimates/ assumptions and submit these to us.</p> <p>Average age is the numeric mean of each asset category.</p> <p>The average age of the highest-value/ highest-replacement cost asset in the asset group should be used. The estimation of average age here should be related to asset age estimations for the repex model.</p>
2.8	Data provision - Quantity of asset group	SP AusNet Distribution commented that it has little or no data available. (Submission, spreadsheet)	The NSP can make estimates/ assumptions and submit these to us.
2.8	Data provision - Expenditure subcategories/ details	<p>Aurora commented that data for routine and non-routine maintenance are available, but possibly not for all groups/activities below this level. (bilateral meeting)</p> <p>CP/PC submitted that their systems do not capture maintenance costs based on the Draft Category RIN asset categories. The inclusion of voltage and geographical categorisations create significant complexities in providing data. They are able to undertake a top down annual total cost allocation of Maintenance Function Codes into the Draft</p>	<p>The NSP can make estimates/ assumptions and submit these together with the numbers.</p> <p>Expenditure for Poles broken down into voltages is required in Repex but not in Maintenance.</p> <p>The Maintenance template requires the NSP's total number of poles only, and not by region or voltage levels.</p>

Category RIN asset categories. (Submission p. 6)

Ergon Energy is concerned about providing expenditure information below the level of detail reported in its general ledger. Ergon Energy operates and reports on Maintenance programs activities on a state wide basis, not by region and do not differentiate between voltage levels for asset inspection activities such as pole inspections. To produce the back cast information will require application of an internally approved allocation methodology. (Submission pp. 20-21)

2.8	Data provision - Routine versus non-routine maintenance	CP/PC commented that its systems do not capture routine and non-routine maintenance expenditure separately. The degree of allocation will vary across function codes. Some function codes will largely align to routine or non-routine maintenance while others will not. (Submission p. 6)	The NSP can make estimates/ assumptions and submit these together with the numbers.
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10 Emergency response

This section discusses the emergency response opex data requirements contained in template 2.9 (for distribution only).

10.1 AER Position

Our emergency response template requests data on total annual emergency response expenditure, and expenditure on Major Event Days (MED) and major storm events. We note that given the nature of the networks, emergency response expenditure for transmission is immaterial or unlikely.

We have amended the emergency response data requirements from the draft RINs. Following consultation with NSPs we:

- clarified data requirements for major storm events
- clarified data requirements for MEDs
- will also use data from STPIS/reliability reporting in tab 6.3 'Interruptions to Supply' of the regulatory templates to assess emergency response expenditure.

Detailed issues and our responses to matters raised in consultation are contained in table 10.1 below.

10.2 Reasons for AER position

Severe weather events and Major Event Days

The draft Category Analysis RIN required data for emergency response expenditure due to severe weather events, defined as MEDs under the STPIS reporting framework.

In consultation, DNSPs commented that they do not record expenditure against MEDs as this has not been required in STPIS reporting. They explained that the designation of a MED event is typically made subsequent to the coding of the emergency work. They also noted that that work associated with major events can continue for several days after the event has occurred. They argued that the requirement to split out MEDs would be a significant burden on the business.

Other DNSPs commented that a MED is not limited to weather events, and they will have to examine each MED to ensure it is related to a weather event. Further, there could be severe weather events that do not reach the required MED threshold but incur a significant amount of expenditure.

While it may be difficult for all DNSPs to report costs associated with individual MEDs, we consider it necessary to understand the costs of these 'extreme events' and exclude them from the everyday operational costs in order to examine underlying trends in emergency response opex.

In response to DNSPs' concerns and difficulties in collecting the data, we have inserted instructions in the RIN regarding the reporting of MED costs via the following processes:

- reporting of MED costs via direct cost capture reporting (i.e. specific allocated cost code) if available
- reporting of MED costs via capturing operating and maintenance (O&M) costs that were booked to the O&M codes on those days. While it may not capture all costs caused by the major events on those MED days, this will provide a good approximation.

Customer outage minutes

In addition to the data requirement on major storms and MEDs, we will use data on customer outage minutes for each regulatory year. These data will be used to assess the annual emergency response expenditure of each DNSP.

These data are collected in template 6.3 of the regulatory templates. Outage data can be used to establish an emergency response workload-cost correlation model, which can serve as an alternative solution if DNSPs fail to provide good quality MED cost data, or it can be used to verify DNSPs' emergency response cost data estimates.

Table 10.1 Detailed issues and responses - Emergency Response opex

Template	Description of data cells	NSP comments	AER response
2.9	Major Event Days (MEDs); Severe weather events	<p>DNSPs (Energex, Aurora, Ergon, JEN) commented that expenditure is not recorded against major event days (bilateral meetings)</p> <p>Ergon is unable to separate out costs associated with a MED because the designation of this event is typically made subsequent to the coding of the work. It is not possible to identify these costs at a later date because there is no way of accurately identifying the work. It should also be noted that work associated with major events can continue for several days after the event has occurred. The requirement to split out MEDs would be a significant burden on the business. (Submission p. 22)</p> <p>CP/PC note that 'severe weather event' is defined as weather events related to Major Event Days (MED). However, MED is not limited to weather events. They will have to interrogate each MED to ensure it is related to a weather event. This will be a time intensive exercise. (Submission p. 7)</p> <p>Ergon commented that there will be severe weather events that do not reach the required threshold to be classified as an MED and that would impact on emergency response expenditure. (Submission p. 21)</p> <p>Ergon commented that the MED definition was primarily designed for the purpose of the STPIS to measure customer impact, rather than cost to the NSP. It is therefore not an appropriate measure of the cost associated with major events. (Submission p. 11)</p> <p>CP/PC commented that the definition of MED only applies to the current regulatory control period (2011-15). They will have to make assumptions for the period prior to 2011 to ensure a consistent MED application. (Submission p. 7)</p>	<p>DNSPs will be required to report MED and severe weather costs via the following processes:</p> <p>Reporting of major storm event costs via direct cost capture reporting (i.e. specific allocated cost code) if available;</p> <p>Reporting of MED costs via capturing O&M costs booked to the O&M codes on those days/dates – while it may not capture all costs caused by the major events on those MED days, this will provide a good approximation;</p> <p>The above data will be used to separate out volatile expenditure from baseline expenditure.</p> <p>In addition, data for total customer outage-minutes for each regulatory year – which are reported in tab 6.3 Interruptions to Supply – will be assessed against total emergency response expenditure for each NSP.</p>

11 Supply interruptions

This section explains template 6.3 of the Final RINs for distribution.

11.1 AER Position

Template 6.3 requires DNSPs to provide details on all outages by cause for the 5-year historic period. While much of this information has been collected from DNSPs in annual RINs, it has not been consistent and so we consider there is a need and opportunity to streamline the collection of historic interruption to supply data in a single RIN request which serves the joint purposes of:

- annual benchmarking reports under NER rule 6.27 (as well as the related assessments of capex and opex proposals)
- calculation of STPIS penalties and rewards under NER clause 6.4.3(a)(5)
- performance reports under section 28V of the NEL.

11.2 Reasons for AER position

Obtaining quality information relating to supply interruptions is critical in understanding the overall resilience of the network. Data on the relative costs incurred by NSPs cannot be meaningfully translated into views of relative efficiency without an understanding of the quality of electricity supply provided to customers. Data on outages, particularly planned outages and those due to asset failure provide important information in support of the DNSP's decisions to invest in asset replacement and incur expenditure on maintenance and repair. Information on interruptions and fire starts due to vegetation encroachment are also useful in considering volumes of work and costs for vegetation management. For benchmarking purposes, this data needs to be based on consistent definitions in the same way as expenditures and work volumes.

The way in which we aim to collect interruption to supply data is in a different format to the way in which we currently collect it for the purposes of annual performance reporting and for the STPIS. The reasons for outages contained in the template also differs (is more detailed) that what has been previously reported by DNSPs. Most DNSPs use different outage categorisations and we see a clear need to align them to a consistent set of reasons to support our analysis and comparisons of DNSP performance.

Several DNSPs objected to imposing or changing reasons for outages from existing annual reporting arrangements.⁵¹ Noting our strong preference to standardise and seek more detail on reasons for outages, we have amended the template to provide for a primary, high level reason to assist with mapping of existing DNSP data which is mandatory, with another entry for detailed reasons which is optional for historic information but will become mandatory once DNSPs have been allowed sufficient time to implement changes to reporting arrangements (e.g. from 2015).

Further issues and our responses to matters raised in consultation are contained in table 11.1 below.

⁵¹ NSW DNSPs, p. 9; SAPN p. 6; Energex, p. 15; Ergon pp. 27-31.

Table 11.1 Detailed issues and responses - supply interruptions

Template	Description of data cells	NSP comments	AER response
2.3	Reasons for interruption	<p>Several DNSPs expressed concern at reclassifying outages to the reasons listed in the draft RIN template, in some cases noting inconsistency with what is currently reported to the AER in annual RINs (NSW DNSPs, p. 9; SAPN p. 6; Energex, p. 15; Ergon pp. 27-31). Ergon expressed particular concerns around the compliance costs of completing table 6.3.1 and provided a detailed response against each data item requested and its availability (or not) in its annual RIN.</p>	<p>We have reconsidered the listing of reasons and have amended the template such that DNSPs will be required to report a general reason from a reduced list which is mandatory and intended to subsume existing reporting categories. A further list for "detailed reasons" is optional but will be mandatory from 2015.</p>
	Other issues	<p>Energex sought clarification of which interruptions can be excluded from the dataset; noted that the column labelling (namely identification of zone substations and potentially multiple feeders) may cause issues in grouping data and that "feeder classifications" include subtransmission and other, which was inconsistent with the STPIS feeder definitions. (pp. 15-6).</p> <p>Ergon requested clarification of:</p> <ul style="list-style-type: none"> ▪ 'subtransmission' within the feeder level definitions ▪ whether events are Sustained Interruptions only ▪ whether (as per the economic benchmarking RIN) the 2012-13 MED Threshold would be applied to required previous years ▪ if the AER would accept an approach to determine the "Average duration of sustained customer interruption (minutes)" whereby it evaluates by division of the Total Customer Minutes Interrupted with the Number of Customers Interrupted for each interruption ▪ whether the application of the STPIS reporting framework for determining the impact on the unplanned SAIDI and unplanned SAIFI SAIDI and SAIFI by Feeder Classification, whereby Planned and other STPIS Excluded Events have no impact and as such will be reported as 0. 	<p>All sustained interruptions to supply should be included in this template and the labelling has been amended to clarify this. The drop down boxes in column 'F' require the DNSP to identify the reason for the interruption, including excluded events as defined under the STPIS. Detailed reasons are also requested and will be mandatory from 2015 (once DNSPs have had sufficient time to establish reporting systems for this detail).</p> <p>Information requiring the identification of affected zone substations has been removed.</p> <p>Outage information on the subtransmission network (while not relevant for STPIS purposes) will be used to consider reliability and likely expenditure impacts in this area of the network.</p> <p>Instruction in relation to the relevant MED threshold is not relevant to the data collected in template 6.3.</p> <p>We would not accept Ergon's proposed calculation of SAIDI. SAIDI is to be calculated as the sum of duration of each unplanned sustained customer interruption (in minutes) divided by the total number of distribution customers, where customer numbers is the average of those at the beginning of the reporting period and those at the end of the reporting period.</p> <p>Ergon's suggestion regarding the impact on unplanned SAIDI and SAIFI is</p>

Ergon also noted generally that data accuracy against the reporting criteria of the STPIS is questionable for years preceding the implementation of this reporting framework. correct.

12 Overheads

This section discusses the overhead expenditure data requirements contained in templates 2.10 (for distribution) and 2.8 (for transmission).

Our overheads worksheet collects data on Network Overheads and Corporate Overheads.

12.1 AER Position

We have not made any amendments to the overheads requirements from the draft Category Analysis RINs, but have amended the RIN instructions and template to add clarity.

Following consultation with NSPs we:

- clarified data requirements for Network Overheads and Corporate Overheads
- clarified the requirement for total overhead.

For each line item, NSPs must provide five years of historical expenditure. When an NSP submits its Reset RIN it must provide expenditure both for this historic period and the forecast period. We note that given the nature of the networks, the expenditure line items vary between transmission and distribution.

Detailed issues and our responses to matters raised in consultation are contained in table 12.1 below.

12.2 Reasons for AER position

Network Overheads and Corporate Overheads - expenditure subcategories

In consultation and submission, NSPs commented that the AER should make clearer the instructions in relation to the requirements for expenditure categories to be used in completing the overheads tables.

As in the draft RIN, in the final RIN we have instructed the NSPs on two primary items in relation to overheads reporting:

- the data currently reported by DNSPs as one line item 'Network Operating Costs' in annual RINs will be reported under Network Overheads in the category analysis RIN and should be disaggregated into six subcategories. These six subcategories are mandatory.
- the expenditure categories currently used by NSPs for annual RIN or Information Guidelines reporting should be used for category analysis RIN reporting, with each category reported appropriately under either Network Overhead or Corporate Overhead. These categories vary across NSPs.

In the draft RIN, we did not provide the lists of specific expenditures to be reported under Network Overheads and Corporate Overheads, which may have led to some confusion for some NSPs. In the final RIN instructions and templates we are providing the lists of specific expenditures. We also indicate which expenditures must be reported (i.e. mandatory) and which are examples only because of variations in the NSPs' annual reporting (i.e. non-mandatory).

Total overhead before allocation and capitalisation

NSPs noted that the AER will examine overheads – aggregated, unallocated and before capitalisation – separately and benchmark these across NSPs. They commented that the AER should make this clearer in the instructions and templates.

Some DNSPs have commented that, in reporting 'Network Operating Costs' as Network Overheads, it would be difficult to reconcile the statutory and regulatory accounts with the category analysis accounts. We make it clear that, in mapping annual RIN costs to Network Overheads, these costs are not required to be allocated again. They are simply mapped to arrive at the total overhead cost pool (aggregated and before allocation and capitalisation).

Comparing the aggregate overheads before these are allocated to direct cost categories is expected to address the problem of different approaches by NSPs to cost allocation.

Table 12.1 Detailed issues and responses - Overheads

Template	Description of data cells	NSP comments	AER response
2.9	Reconciliation of accounts	Energex stated its concern about reconciliation of accounts between category analysis RIN and statutory and regulatory annual reports, if 'network operating costs' under annual RINs were to be reclassified as 'network overheads' to comply with the category analysis RIN. (bilateral meeting)	<p>'Direct costs'/network operating costs in the annual RIN mapped to Network Overheads in the category analysis RIN are not required to be allocated. These are mapped only to arrive at the total network overhead cost pool before allocation and capitalisation.</p> <p>For DNSPs, the RIN instructions will clarify the mapping of 'network operating costs' in annual RINs to 'network overheads' in category analysis RINs.</p>
2.9	Advanced Infrastructure (for VIC only) Metering services	CP/PC commented that 2.9 Overheads and 2.14 Non-network worksheets should include an AMI column. (Submission p. 7)	We will revise the RINs for Victorian DNSPs to include AMI.
2.9	Network and corporate overheads (distribution)	<p>Ergon raised the following points (Submission, pp. 21-23):</p> <ul style="list-style-type: none"> the AER should make clear any instructions in relation to requirements for Categories to be used in completing the tables notes the AER's comments in the Expenditure Forecast Assessment Guideline which states the AER will examine overheads – aggregated, unallocated and before capitalisation – separately and benchmark these against those of other NSPs (i.e. pre-allocation). Ergon requests for this to be clear in the body of the RIN as it is only mentioned in the Explanatory Statement. notes that the data currently reported as one line item under Network Operating Costs, represent overheads allocated to network operating activities (i.e. post allocation). Furthermore, there may be support costs which meet the definition of the AER's mandatory network overhead categories, reported in 	<p>Overheads – Distribution to be reported as follows:</p> <p>NETWORK OVERHEAD:</p> <p><i>Mandatory subcategories:</i></p> <p>Network management</p> <p>Network planning</p> <p>Network control and operational switching</p> <p>Quality and standard functions</p> <p>Project governance and related functions</p> <p>Other (training, OH&S, network billing, customer service)</p>

other existing allocated overhead categories in the annual RIN template (for example within overheads allocated to meter reading, customer services, preventative, corrective and forced activities).

- assumes that pre-allocation refers to costs related to direct control and negotiated Services. In other words the aggregate of overheads will be post allocation of corporate overheads to other companies within the Ergon Energy group (e.g. EEQ) consistent with our CAM. That is any reporting of overheads for unregulated services relates only to unregulated services provided by the Ergon Energy Corporation Limited distribution business.
- If overheads are required to be provided on a pre-allocation basis, Ergon proposes existing Annual Performance RIN categories for Corporate Overheads would be used in this template (other than the mandatory AER network overhead categories), aligning with the categories in template 15 (Overheads Allocation) of the Annual Performance RIN. An 'other' category needs to be provided for under the network overheads.

Ergon commented on specific variables/inputs or tables:

- Table 2.9.1 and 2.9.2 – To provide absolute clarity if pre-allocated overheads are required, headings for columns C to G of these tables should reflect this (for example: 'Overhead Allocation – Categories of Distribution Services' should read "Overhead Pre-Allocation – Categories of Distribution Services'.
- Table 2.9.1 and 2.9.2 – Can the AER confirm Columns H & I relate to overhead costs incurred and allocated to CAPEX only i.e.: not Opex. Furthermore, can it be confirmed if columns J and K are a subset of what has been reported in C – G for related parties.
- Refer also to comments on section 3.1.8 on Principles and Requirements contained in Appendix E in relation to Internal

Non-mandatory subcategories:

e.g. Meter reading

CORPORATE OVERHEAD:

Non-mandatory subcategories:

e.g. Office of the CEO

Non-mandatory subcategories are those currently reported under distribution annual reporting RIN. We will provide instructions and examples in the RIN templates.

We explain more clearly in the Explanatory Statement that the purpose of this is to benchmark Network Overhead and Corporate Overhead aggregated, unallocated and before capitalisation.

All allocated overheads in annual reporting should be stripped out and added to the overhead cost pool.

Overhead cost pool refers only to regulated services (reconciling with regulatory annual reports).

We have amended the template to make column headings and instructions clearer.

We have amended the template to make it clear that these columns refer to capitalised opex, and that related-party expenditure is a subset of total opex.

Labour costs.

2.9	Network and corporate overheads (distribution)	<p>Energex made the following comments (Submission pp. 9-10):</p> <p>Energex notes it cannot recast data for the previous regulatory control period using its current CAM as this would not allow for the reconciliation of data to the Regulatory and Statutory Accounts. Therefore it is assumed that the CAM that will apply to this worksheet is the CAM operating for the relevant year.</p> <p>Unregulated services are not captured in systems with the level of detail that regulated services are, therefore the level of disaggregation required cannot be provided.</p> <p>Energex would propose to only report ICT, fleet and property overhead costs in either Network or Corporate Overhead use.</p> <p>While individual cost centres within Energex's overhead and indirect cost categories may be able to be allocated to Network or Corporate Overhead detailed allocation of costs incurred in the cost centres (e.g. vehicles) will require subjective allocation between Network or Corporate Overhead.</p> <p>If Energex reports data against Network Overheads using the categories proposed by the AER, it will not be able to reconcile expenditure to the Statutory and Regulatory Accounts. This is because the Statutory and Regulatory Accounts include Network Operating Costs, Customer Service and DSM Initiatives as direct expenditure, however the AER requires that these categories be included as Network Overheads. This means that expenditure associated with these three categories would be removed from direct expenditure and then reallocated across direct expenditure as an overhead.</p>	<p>CAM that applied to the particular regulatory year should be used, and data should not be recast. Allocated overheads would be stripped out and added to the overhead cost pool (pre-allocation).</p> <p>We have indicated in the template that only data for regulated services are required. Only cells that are shaded yellow are input cells.</p> <p>Non-network ICT, fleet and property overhead should be reported only where relevant – either in Network Overhead or Corporate Overhead, but not in both.</p> <p>Where the individual cost centre is mapped (to either Network Overhead or Corporate Overhead), the individual costs follow.</p> <p>In mapping costs to Network Overheads or Corporate Overheads, these costs are not required to be allocated again. They are simply mapped to arrive at the total overhead cost pool (before allocation and capitalisation).</p>
2.8 Tx	Network overheads (transmission)	<p>Transend queried whether the subcategories under the transmission information guidelines will continue to be used in the category analysis/reset RIN, although for Network Monitoring and for Asset Management Support there will be only one subcategory</p>	<p>The current subcategories should be used for category analysis/reset RIN.</p>

under each cost heading. (bilateral meeting)

2.8 Tx	Corporate overheads (transmission)	Transend queried whether these items should be reported in corporate overhead: insurance, self-insurance, regulation and compliance, business services, corporate governance and planning. (bilateral meeting)	These items should be reported in Corporate Overhead.
2.8 Tx	IT and vehicles	Transend commented that its IT and vehicles expenditures are currently not separately reported as network or non-network costs (bilateral meeting)	We clarified that the four items in the draft RIN template 2.9 Corporate Overheads (IT and communications, vehicles, building and property, SCADA and network control) were not prescribed but were examples only. These items are no longer in the final RIN template for Corporate Overhead. .
2.8 Tx	Labour costs	SP AusNet (Distribution and Transmission) stated that they do not capture labour data in a manner that would enable reporting with the level of detail requested in table '2.8.2 Total Overheads - internal labour costs'. In order to capture the data requested, they would need to know specifically which employees' time is captured as part of overheads. They are collecting the labour data based on timesheets. Based on this they can determine whose timesheets go to which work codes. From a Corporate overheads perspective they can collate this data. However, they are unable to ascertain employees relating to Network Overheads and Indirect Capex costs (which are also captured in this template). The information is not available in this level of granularity and cannot be reliably estimated. (Transmission, Submission p. 5) (Distribution, Submission p. 4)	Please refer to the comments on Labour Cost Tables.
2.8 Tx	Network and corporate overheads (transmission)	<p>Transend recommends the following be clarified (Submission p. 4):</p> <p>Definitions, e.g. asset management support, corporate overhead</p> <p>Where cost items should be reported under (network monitoring & control, asset management support or corporate overhead), e.g. customer costs, customer billing, IT support, network support, insurance, self-insurance, other non-controllable opex, regulatory support</p>	<p>Overheads – Transmission should be reported as follows:</p> <p>NETWORK OVERHEAD = Maintenance Support + Network Monitoring & Control + Asset Management Support</p> <p>MAINTENANCE SUPPORT</p> <p><i>Non-mandatory subcategories:</i></p>

e.g. Field support

NETWORK MONITORING & CONTROL

Non-mandatory subcategories:

e.g. Network switching

ASSET MANAGEMENT SUPPORT

Non-mandatory subcategories:

e.g. Grid planning

CORPORATE OVERHEAD

Non-mandatory subcategories:

e.g. Taxes and charges

Non-mandatory subcategories are currently reported under transmission Information Guidelines.

We have amended the RIN instructions and template to make the above clearer.

2.8 Tx	Overhead cost allocation	Powerlink commented that its overhead costs are applied in accordance with the AER approved Powerlink CAM. It is unclear what is intended to be reported. Further clarification is required. (Submission p. 3)	Tab 2.8 Overheads require the following data: Overheads before they are allocated and capitalised, i.e. strip back allocated overheads and place them back in the overhead cost pool Opex that is capitalised Related-party expenditure (a subset of total opex)
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2.8 Tx

Cost comparison;

Capitalisation

ElectraNet notes that the AER will not prescribe a standardised cost allocation method and NSPs are to report consistent with their current methods and policies. This will make it difficult for the AER to make any meaningful cost comparisons between NSPs. It questions why the AER require negotiated and un-regulated costs as well. Cost comparison should only be related to regulated costs. ElectraNet is unaware of the meaning of capitalised maintenance support. (Submission, spreadsheet)

Comparing the total overhead cost pools before these are allocated to direct cost categories is expected to address the problem of different approaches by NSPs to cost allocation.

Data for negotiated and unregulated services are required only for reconciliation with annual regulatory reports, and no detail is needed aside from total Negotiated Services and total Unregulated Services.

Capitalised opex means opex that may be significant/material and the business decides to classify this as capex based on its capitalisation policy.

13 Labour and input costs tables

This section discusses the data requirements contained in templates 2.12 and 2.13 (for distribution) and 2.11 and 2.12 (for transmission).

13.1 AER Position

The final RINs require NSPs to report three high level labour categories: corporate overheads, network overheads, and direct network costs (i.e. costs associated with field workers/work crews). Within each of these, the following information is sought on several key employment classifications (e.g. apprentice, line worker, etc.) per regulatory year, including:

- average staffing level (ASL)
- direct labour cost
- stand down
- overtime.

We have removed the requirement to report labour information against individual direct cost categories (e.g. repex). This is due to the number of NSP's that do not record this information and the likely quality of estimated information that would be obtained if it was collected.

We will also collect total labour costs associated with each direct expenditure category (i.e. alongside materials, contracts etc.) in separate tables for each of the major expenditure categories and subactivities.

Detailed issues and our responses to matters raised in consultation are contained in table 13.1 below

13.2 Reasons for AER position

Labour cost tables

To undertake analysis of labour costs at an aggregated level, we will also be requiring NSPs to report the composition of their internal labour force across high level expenditure areas (e.g. corporate overheads). We are requesting labour costs for different classification levels of employee to be reported against ordinary earnings plus on costs, overtime earnings plus on costs. We will also require NSPs to report stand down periods. All of the metrics we require should be reported as yearly averages for grades of employee and we consider should generally reflect high level information available from NSPs' financial systems.

The information on labour costs in the final RINs will allow us to examine actual labour costs and employment practices as they are reflected in their expenditure and identify potential inefficiencies for further analysis. We consider NSPs should generally record this information at this level and be able to report this information.

The labour classifications have been refined following discussions with NSPs since the draft RIN and now reflect grades of employees reflective of field and corporate activities.

Input cost tables

NSPs did not comment on the collection of total input costs by expenditure category:

- Direct labour
- Direct materials
- Contracts (with non-related parties)
- Contracts (with related parties)
- Margins (on contracts with related parties)
- Other direct costs.

We have moved and combined these tables in a separate template.

Table 13.1 Detailed issues and responses - labour cost tables

Template/ paragraph number	Description data/ cells	of NSP comments	AER Response
General	Purpose information	<p>of NSPs generally questioned the use of information requested in the tables.</p> <p>For example, TransGrid noted that labour cost information provides an incomplete picture of the cost of providing a service as it will vary significantly between NSPs depending on the extent of outsourcing used. TransGrid therefore questioned its usefulness for regulatory decision making. (submission)</p>	<p>The labour tables are intended to provide an indication of the volumes and costs of labour associated with different types of works (now simplified to three high level categories). This should indicate where NSPs may be relatively less efficient for further investigation.</p> <p>We agree that different levels of outsourcing will need to be taken into account when comparing NSPs labour costs.</p>
General	Estimation issues	<p>JEN indicated it had the ability to report this information for field workers given the detailed level it captures time-sheet information and the nature of the EBAs these workers are on. However it would be difficult to allocate non-field staff where assumptions would be required. (Bilateral meeting)</p> <p>SP AusNet does not capture labour data in a manner that would enable it to report the level of detail requested in table '2.8.2 Total Overheads - internal labour costs'. In order to capture the data requested, it would need to know specifically which employees' time is captured as part of overheads. It is collecting the labour data based on timesheets and based on this can determine who's timesheets go to which work codes. From a Corporate overheads perspective SP AusNet can collate this data. However, it is unable to ascertain employees relating to Network Overheads and Indirect Capex costs (which are also captured in this template). The information is not available in this level of granularity and cannot be reliably estimated. (transmission submission p4)</p> <p>In relation to the labour information required in table '2.9.2 Total Overheads – internal labour costs', overhead labour data is captured on a combined electricity distribution and gas distribution basis. Assumptions can be made to split the total data pool into electricity and gas labour costs. However, in order to categorise the data into 'classification levels', average hours paid not worked</p>	<p>We have added defined sub categories of labour for corporate and network overheads and for direct network costs.</p> <p>NSPs are required to make transparent assumptions to allocate overheads between different regulatory businesses (e.g. electricity and gas and transmission and distribution) and between network and corporate overheads. These should be consistent with their approved CAMs for the relevant regulatory years.</p> <p>NSPs are required to make transparent estimates and assumptions to map their employees to the AER classification levels. To limit the costs associated with this mapping, we are only requiring detailed classification mapping for three high level categories of labour (see below).</p>

etc., individual personal data is needed. The information is not available in this level of granularity and cannot be readily estimated. (SP AusNet distribution submission p. 4)

Reporting at a direct expenditure category level

Most NSPs objected to capturing specific labour costs at the direct category level, as this was not part of their existing reporting arrangements, and the information that would be provided to the AER would be of poor quality:

- JEN proposed an alternative approach that would reflect a fairer representation of JEN's labour costs by activity, whereby it would access its payroll information and collect the average salary of related party staff that typically perform replacement or augmentation projects (or whatever the relevant activity is). (submission, p. 6)
- The NSW DNSPs noted that extensive development would be required to generate this data and proposed it be removed. (submission p .6)
- ElectraNet noted that it could readily provide input costs on this basis but a number of assumptions will need to be made. " (workbook accompanying submission)
- Ergon noted actual labour cost per employee classification level is not booked to the Project Accounting module. Ergon will therefore not be able to provide actual labour direct cost for augmentation projects broken into the required fields, unless it is based on assumptions and average cost. Its labour cost information recorded in the project accounting module includes ordinary hours, overtime hours, ordinary cost (fixed rate, not actual cost), overtime cost (fixed rate, not actual cost) and on cost (fixed rate, not actual cost). No information is recorded on hours not worked, annual allowances and annual stand down occurrences (submission p13)
- Transend stated that significant assumptions will be required to populate information for total replacement internal costs. Average staff levels, labour costs by classification level has historically not been kept at the expenditure category level specified by the RIN. It would make more sense at the aggregate, whole of business level. (Submission p. 1)
- SAPN considered that the data sought appears to assume that labour resources are exclusively assigned to a particular category of expenditure. This is unrealistic and would be extremely inefficient in practice. The level

We have removed the requirement to report labour information against individual direct cost categories (e.g. repex). This is due to the number of NSP's that do not record this information and the likely quality of estimated information that would be obtained if it was collected. We now only require reporting of three high level labour categories: corporate overheads, network overheads, and direct network costs (i.e. costs associated with field workers/work crews). We consider NSPs should be able to generally report the data requested, however they can make transparent assumptions where this is required to complete these tables. However, we will still collect total labour costs associated with each direct expenditure category (i.e. alongside materials, contracts etc.) and this may be taken into account when benchmarking NSPs against one another.

Where NSPs do not collect actual expenditure information required to complete the revised labour tables, they will be required to make transparent assumptions to complete the labour tables.

The definitions for direct network labour only allow for field workers/work crews to be reported in the direct network labour table. Non field staff should not need to be allocated to the direct network expenditure labour table. Non field staff should be reported under either network or corporate overheads. Network and corporate overheads, including labour expenditure, that are capitalised must be recorded in the relevant overheads and the non-network templates.

Conversion of ASLs to FTEs or vice versa is consistent with the definition of ASL. However, any conversions for the purposes of completing the three remaining high level labour tables must be transparent. Hours paid not worked has been renamed non-productive hours. Using averages for non-productive hours is acceptable, where required, as long as the calculation is transparent. However, any averages should be related to a specific labour classification level in a given table (i.e. should not be averaged across different classification levels or across different labour tables).

of detail sought in the draft Category Analysis RIN will be quite onerous as it will require an arbitrary allocation of costs and hours between expenditure categories. (submission p. 10)

- Powerlink stated that separating direct labour as per the definitions will need to be done using estimating techniques. Some of the columns such as 'annual allowances, 'stand down occurrences etc. are not available. It is unclear what is intended in some of the columns as Powerlink resources do not just undertake maintenance work. Categorisation of direct labour and time not worked is not consistent with Powerlink's approved CAM and reporting systems. In particular, only labour hours worked is directly charged to categories adopting an aggregate labour rate that includes relevant overheads. (submission p. 4)

A transparent apportionment of costs to separate overtime from ordinary time costs is acceptable as long as this provides a reasonable estimate of the different costs for ordinary time and overtime.

The aggregate report labour costs (e.g. annual ordinary time average productive hourly rate per ASL) must include loading for all direct labour costs associated with this labour (these are generally classed as direct on costs) including costs associated with non-productive hours (e.g. holidays, sick leave etc.). However, consistent with the definition of labour costs in the RIN, overheads should not be added to direct labour costs (e.g. the cost of buildings to house employees should not be included in labour costs).

The CAM should be of limited relevance as we don't want allocated costs, we want direct labour costs. As we are looking at all overheads in aggregate, any CAM allocation should be stripped out of the direct network labour costs. However, to the extent some direct costs associated with labour need to be allocated to complete the remaining labour tables, for example costs associated with training, businesses should make transparent allocation that are expected to reflect the true costs associated with the labour.

We are now only requiring NSPs to report detailed labour sub categories and stand down periods at a higher more aggregate level overall (network overheads, corporate overheads and direct network costs).

2.9.2	Disaggregation of employees into classification levels	<p>The NSW DNSPs noted that breakdown of labour costs by skill level is not undertaken at program level. (submission p. 6)</p> <p>SP AusNet: In relation to the Labour information required in table '2.9.2 Total Overheads – internal labour costs', overhead labour data is captured on a combined electricity distribution and gas distribution basis. Assumptions can be made to split the total data pool into electricity and gas labour costs. However, in order to categorise the data into 'classification levels', average hours paid not worked etc., individual personnel data is needed. The information is not available in this level of granularity and cannot be reliably estimated. (distribution submission p. 4)</p>	<p>NSPs are required to make transparent estimates and assumptions to map their employees to the AER classification levels. To limit the costs associated with this mapping, we are only requiring detailed classification mapping for three high level categories of labour (corporate overheads, network overheads, and total direct network costs).</p> <p>NSPs are required to make transparent assumptions to allocate overheads between different regulatory businesses (e.g. electricity and gas and transmission and distribution) and between network and corporate overheads. This may be based on transparent assumptions/estimates. The labour tables are only for reporting labour associated with regulated activities, therefore NSPs must also allocate labour between regulated and</p>
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Energex:

non-regulated activities for the purposes of completing the labour tables.

The data required through internal labour tables, which are common to the worksheets of section 2 and section 4 of the regulatory template is unlikely to return meaningful data, due to:

- Issues around applying a Standard Costing approach for the costing of labour within its financial and reporting systems, including incorporating allowances, on costs and other cost impacts into the standard rates at an average based on historical occurrence.
- Section 4.1(e) requires that employees be grouped by similar employment levels and by similar ordinary wage costs, referred to as the ASL. For internal labour costs tables, classifications will likely be based on the 12 labour rate categories used for costing internally.

Energex has the following employment categories:

- Apprentices
- Admin/Clerical
- Professional/Managerial
- Para-professionals
- Supervisors
- System Operators
- Electricity System Design Advisors
- Technical Servicepersons
- Power Workers
- Senior Professional
- Executive

(submission p. 3)

While Energex may be able to individually map all employees to the AER proposed categories from its payroll system, for costing to services purposes the above classifications apply. Therefore the AER proposed categories are not able to be determined for the services in the RIN templates. For example in Energex's costing context the classification 'Professional Managerial' would include 'Senior Management', 'Manager(professional)', 'Manager (non-professional)' and 'Professional' categories as proposed by the AER. As a consequence, from a costing perspective Energex could not meaningfully disaggregate services labour in each template to the AER proposed labour categories (bilateral meeting)

Transend: Significant assumptions will be required here to populate. Average staff levels, labour costs by classification level has historically not been kept at the expenditure category level specified by the RIN. Transend is unsure what is trying to be achieved by collecting this at the category level. It would make more sense at the aggregate, whole of business level. Recommend AER seek labour cost data at the consolidated whole-of-business level only (submission p. 2)

SP AusNet questioned whether average staffing level (ASL) includes the number of full time employees or equivalent, and the definition of stand down periods (distribution submission p. 4, transmission submission p. 4)

JEN sought clarification on whether the AER was seeking productive work hours (e.g. actual hours worked and costs associated with these that include loading for holiday leave and sick leave) and if the templates only sought labour costs associated with regulated expenditure. JEN also sought clarification that labour costs include all labour costs (e.g. bonuses) (Bilateral meeting)

CP/PC were unclear as to whether or not the IT SCADA and IT Smart Meter employees should be included as Non Network control employees or not. (submission p. 7)

SAPN asked the AER to confirm whether an internal labour direct cost break down is separately required for Vehicles or should just be included in the table headed "All Other Non Network expenditure categories", noting there are separate internal labour tables for IT&Comms and SCADA and Network

ASL includes the number of full time employees or equivalent. ASL is currently defined as the number of full time equivalent employees receiving salary or wages by the organisation in a given classification level averaged over the regulatory year. A key change to the definition relative to the draft RIN is we have substituted regulatory year for financial year as we require expenditure reported on the basis of regulatory years.

Stand down period is defined in the final RIN. This will be where a worker can't start their scheduled shift at ordinary time wages due to prior work at the organisation (e.g. due to less than a break of a certain length).

For all labour tables we are now requiring NSPs to provide productive worked hours and clarify that costs associated with non-productive hours (e.g. holidays, leave etc.) be included in the costs associated with productive work hours.

All direct costs that meet the definition of labour Costs are to be included

Appendix F Definitions

Control. (submission attachment p. 4)

in labour costs including bonuses.

Labour tables and associated data are not now being required for individual direct expenditure categories. Therefore, no separate reporting of labour, other than the aggregate costs of direct labour costs, is now required for SCADA and Network Control Expenditure or IT and Communications Expenditure.
