Attachment B: Category analysis Q45-74

Expenditure categorisation

Question 45
Do you agree with this list of expenditure drivers? Are there any others that should be added?

The Businesses agree with the list of expenditure drivers identified in the Issues Paper, noting however that there are a number of expenditure drivers that have not been identified, including:

- Quality of supply - expenditure on quality of supply including harmonics, fault levels and voltage compliance is generally considered as augmentation by most DNSPs and included in the system growth category. However, the expenditure on quality of supply is not correlated with the expenditure required to increase network capacity.

- Obsolete assets - while many network assets continue to provide a service for their entire physical life, there is an increase in the tendency for some assets to become technically obsolete before their condition deteriorates, for example protection relays and some communication assets. This would generally be included in the asset replacement category by most DNSPs.

- Joint planning - can be an expenditure driver, for example where a regulatory test for a constraint in one network can produce an efficient and prudent investment in the neighbouring network. For example, the Western Metropolitan Melbourne Transmission Connection and Sub transmission Capacity Joint Regulatory Test Report highlighted that the preferred solution to address inadequate transmission capacity at a terminal station located within the Jemena network area, was the construction of a new terminal station within the Powercor Australia network area, involving the need for Powercor Australia to construct distribution assets at a cost of more than $50 million.

- Vegetation – the description of this driver needs to be expanded to recognise that in addition to maintaining a safe and reliable network, DNSPs with networks in bushfire prone areas must clear vegetation to manage the risk of the network starting a bushfire.

- Change in customer service requirements – consultation with customers could identify and create additional customer service requirements which would drive additional costs.

The Businesses specifically note that a significant component of the augmentation capex forecasts would not be captured by the augex model.

Question 46
To what extent do you think the expenditure drivers are correlated with each other? Given this level of correlation, should we examine the impact on expenditure of each one, or can this list be consolidated?

The Businesses are of the view that the effect of any correlation between expenditure drivers would not materially impact any model.

Additionally, where there is some correlation between expenditure drivers, the extent that those correlations appear would already be captured in the examination of the historical expenditure.

Further aggregation of the list will reduce understanding of expenditure and therefore limit its value. However, it must be emphasised that the Businesses support this level of separation of drivers solely for better informing the AER and it is not possible to use the comparison of expenditures relating to a specific driver to determine the allowable expenditure for a DNSP in a deterministic manner.

Details of driver based assessments

Customer driven capex

Question 47
Do you think that the network segments outlined above provide a useful demarcation of the costs of customer-initiated network extension and/or augmentation? Do you think that there are significant cost differences in installing connection point assets and in network extensions between overhead and underground assets? What alternative asset type demarcations would be more appropriate?

The approach to customer driven capital expenditure proposed in the guidelines assumes a level of detail and network homogeneity that from a practical level is inconsistent with existing business processes and operationally difficult to achieve. The AER needs to acknowledge the level of detail collated for customer driven expenditure varies significantly between DNSPs. Specifically:

- Connection work is typically categorised by connection type not by basic connection, extension and capacity upgrades.
- In many cases a connection may involve all three components included in a single job making separation of individual components impossible without arbitrary assumptions being made.
- Given the variability in costs, network segments are not typically used by the Businesses to categorise connections but rather the purpose, size or location of a connection.
- Existing categorisations have typically been in place for extended periods of time and reflect how the Businesses view costs are incurred.

It would therefore be burdensome for the Businesses to collate data to the level of detail specified in the guidelines that is sufficiently robust for benchmarking purposes. The AER should also consider the consequences of imposing categorisations inconsistent with current DNSP practice. Any resulting information provided by the DNSP will inevitably be subject to a number of largely arbitrary assumptions in order to meet the guideline requirements compromising the value of any comparative benchmarking analysis.

Given the above, it is important the guideline provides flexibility in how connections are classified within DNSPs and acknowledge the inherent network differences that have a significant impact on costs.

Question 48
Do you agree with separating customer-requested expenditure by connection point assets, extensions, and augmentations? Do you think total expenditure for each service (excluding new connections services) is a sufficient degree of disaggregation? Should further sub-categories be identified?

As noted in response to Question 47, connection work is typically categorised by connection type not by basic connection, extension and capacity upgrades. In many cases a connection may involve all three components included in a single job making separation of individual components impossible.

Question 49
Do you agree with separating new customer connections expenditure by the connection point, extension, and augmentation components? Do you think that the number of new connections, length of network extensions added, and size of capacity added are useful measures of the volume of work and expenditure required for new connection services? Should these categories be disaggregated into more detailed categories reflecting the type of work undertaken by the NSP to account for factors that drive changes in new connections expenditure over time?

See response to question 47 and 48.

The Businesses consider that the increase in generation connections may lead to the need for a separate category to capture expenditure driven by the connection of distributed generation.

System Growth capex

Question 50
Do you think the system growth expenditure driver category should be distinguished by expenditure directed at addressing different service standard issues, such as harmonics, voltage variance, ferro-resonance, and system fault levels? Would the benefits of distinguishing expenditure into these sub-categories for forecasting the timing and scope of changes in expenditure trends over time outweigh the added complexities from doing so?

The Businesses support a separate categorisation of expenditure to address quality of supply issues such as harmonics, fault levels and voltage compliance. Expenditure to address quality of supply issues is significant for the Businesses. In the case of CitiPower, the CBD security upgrade project which addresses many of these non-reliability based issues will cost more than $80 million over the current regulatory control period. However, this separate categorisation would require substantial changes to recording processes, practices and systems for many DNSPs. The costs of making these changes would be material, especially if the AER required these costs to be audited. It would therefore need to be demonstrated that the benefits would outweigh the costs.

Question 51
Do you think that the network segments outlined above provide a useful demarcation of the costs of general load driven network extension and/or augmentation? What alternative asset type demarcations would be more appropriate?

The Businesses consider that the segments proposed in section 2.2.2 of the Issues Paper are reasonable; however, it should be at the DNSP's discretion to further disaggregate beyond the network segments outlined. If the network segments were mandated then some DNSPs may encounter problems. Reporting on the proposed categories and subcategories would involve substantial changes to current practices and systems, especially if reporting was required to an auditable standard. For example, distribution

substation and LV feeder data would be difficult to obtain for most DNSPs and a sample based approach may be more pragmatic.

The Issues Paper suggests that within these categories the augex model could use costs per MVA of added capacity. The Businesses consider that the model needs to be able to recognise that the cost of the augmentation does not have a one to one relationship with the capacity of the augmentation. For example, the construction cost of a 22kV line is not significantly different from an 11kV line. As a result, an MVA per unit cost measure will be significantly lower for a 22kV line than an 11kV line.

Replacement capex and maintenance opex

Question 52`
Do you think the above asset types are sufficient in capturing the cost differences associated with activities to address deterioration in asset condition? What other asset types may be suitable?

The Businesses are relatively comfortable with the aggregation of the asset categories if the AER only adopts the repex model for informative rather than deterministic purposes. The repex model can provide the AER information on further areas of investigation and potentially explain the different cost drivers between each DNSP.

In adopting the repex model the AER will struggle to use the model for comparative purposes given that DNSPs operate often in markedly different environments, such as urban versus rural networks, or coastal versus mountainous areas. These differences can and do impact on asset condition and also on the cost of refurbishment/replacement.

Further, the repex model relies on accurate unit cost information. As the AER will be aware through the RIN process, the Businesses do not currently have replacement unit rates for each of the specific asset categories identified by the repex model. As with most DNSPs, the Businesses maintenance activities are packaged in a work program that can include replacement of multiple assets and maintenance of other assets. Such a practice is consistent with the efficient operation of a DNSP and allows small maintenance issues identified in the field to be addressed before they become larger issues. The cost of the work program is then allocated across a number of function code activities which in turn are allocated across the AER's identified asset/maintenance categories. Hence any unit rate is likely to be only a rough approximation of the actual cost of replacing an asset.

Question 53
Do you think cost differences between emergency rectification activities and other activities to address deteriorating asset condition are sufficient to require separate categorisation?

There are significant cost differences between emergency rectification activities and planned activities to address deteriorating asset condition. Therefore, the Businesses consider that there should be separate categories for these activities for distribution networks.

Question 54

Do you think cost differences between non-emergency prevention activities and non-emergency rectification activities to address deteriorating asset condition are sufficient to require separate categorisation?

The Businesses seek clarification of the categorisation of these activities. It is suggested this question is therefore addressed in further detail during relevant workshop(s).

Question 55

Do you think cost differences between non-emergency replacement activities and non-emergency maintenance activities are sufficient to require separate categorisation?

The Businesses question the benefit of disaggregating operating expenditure to this level of granularity. The Businesses also notes that the AER should give further consideration to the EBSS which incentivises a business to develop the least cost solution.

Question 56

Do you think the approach to using benchmarking and trend assessment for routine and non-routine maintenance is reasonable? Are there any alternatives which might be more effective?

The Businesses question how adopting a routine maintenance model will provide a more robust forecast. There are a range of uncontrollable factors that will reduce the comparability of routine maintenance expenditure including the age of the asset, the unique operating environment and the fact that maintenance activities involve a complex variety of distribution assets that would be difficult to model.

Maintenance costs include a myriad of small opex and capex activities. The costs are allocated at an aggregated maintenance level and appropriated between opex and capex. The costs are not disaggregated to each of the specific maintenance activities. As a consequence, it is not practical to derive a unit rate for each individual activity.

Furthermore, a routine maintenance model is inconsistent with the EBSS. The EBSS incentivises a business to develop the least cost solution. Any benchmarking that leads to an efficiency adjustment to the base costs will dilute the 30:70 sharing ratio and hence disincentives a business from pursuing further efficiencies.

Question 57

Given the relative predictability of maintenance cycles and activities, do you consider it feasible to construct a deterministic maintenance model, such as that described above?

See response to question 56.

The Businesses do not consider that maintenance cycles and activities are relatively predictable. For instance, non-routine maintenance is heavily dependent on storm activity and therefore relatively unpredictable. It should also be noted that some assets have maintenance cycles longer than one year and in many cases longer than a regulatory control period, which would make calculation of 'average cost per control period' problematic.

The Businesses oppose the use of deterministic models for setting regulatory expenditure allowances. The imperfections and sensitivities of benchmarking models mean that it would not be appropriate for the AER to apply benchmarking outcomes in a deterministic manner. Expenditure models can provide the AER with information on further areas of investigation and potentially explain the different cost drivers between each NSP.

Question 58

Do you think that expenditure directed at altering network infrastructure or management systems to ensure compliance with a changed regulatory obligation can be disaggregated in a way that improves accuracy in forecasting and efficiency assessments?

The degree of expenditure resulting from change in regulatory obligations will differ between DNSPs. For example, recent changes in Victoria arising from the Victorian Bushfire Royal Commission disproportionately impact rural service providers.

Further, there are challenges in capturing the incremental expenditure due to a change in a regulatory obligation for an existing activity. For example, changes that require additional clearance space between powerlines and vegetation require an assessment of the incremental cost to an activity already undertaken by the DNSP.

Question 59

Do you think cost differences between emergency rectification activities and other activities to address third-party actions are sufficient to require separate categorisation?

The Businesses propose that vegetation management is not grouped under the heading of 'third party actions'. The Businesses also support the separation of third party costs, for example asset relocation requests are quite separate to vandalism and theft. The Businesses note that these expenditures are difficult to forecast as they are generally outside of a DNSP's control.

Question 60

Do you think expenditure on managing vegetation growth should be distinguished from expenditure on third-party stochastic events? Should expenditure on third-party stochastic events be distinguished into sub-categories?

The Businesses note that DNSPs have already been separately reporting vegetation management as the RIN has a separate operating expenditure category for vegetation management.

The Businesses disagree with the assertion that "vegetation growth tends to occur at reasonably predictable rates." There are multiple factors that impact on growth which are highly variable, for example tree species, climatic conditions, weather and soil type.

Moreover, there is limited opportunity to benchmark vegetation management expenditure; given the variability of considerations such as different regulatory obligations for example a buffer zone which applies for SA Power Networks and limits the amount that can be cut, tree growth rates, tree density, terrain and contract arrangements.

Question 61

Do you think general measures of network size and type are sufficient measures for investigating differences in third party expenditure across service providers? What other measures may be useful?

As explained in question 60, the Businesses do not support the use of these measures, particularly as they relate to vegetation management. It is not possible to answer this question in a definitive way without undertaking empirical analysis using an actual model proposed by the AER.

The Businesses consider that further consultation is required.

Question 62
Do you think overheads should be separately reported, or included on a fully-distributed basis in the expenditure driver-activity-asset categories, or both?

The Businesses consider that overheads should be separately reported, they should be assessed and reported at an aggregated level due to differences between DNSPs. The ways that DNSPs split their overhead costs, and to what extent costs are recognised as direct, will depend on the corporate structure of the relevant DNSP. DNSPs that are part of a large integrated corporation may have a larger number of functions that are provided at a group level and, therefore treated as overheads, as opposed to direct costs. In general, expenditure categories need to be clearly defined and only contain those costs necessarily incurred in undertaking that work for comparable benchmarking purposes.

The inclusion of allocated overheads in expenditure categories would unnecessarily confound the results of any comparative benchmarking between DNSPs.

In conclusion, the Businesses consider that through the consultation process an agreed definition and common understanding of what activities constitute 'operating an electricity network' will be required.

Question 63
How do you think overhead expenditure should be distinguished and assessed? How would you define any overhead expenditure sub-categories?

See response to question 62.

Question 64
How material do you think are changes in input prices on overall expenditure levels? What forecasting and modelling approaches do you think can reliably account for the impact of input price changes on expenditure without introducing overly burdensome reporting requirements?

Changes in input prices are material and, due to the majority of the inputs being specific to a DNSP, they can diverge significantly from the input prices of other industries. The Businesses see merit in the guideline providing guidance on the preferred approach but recognising that other approaches may be needed to cater for the particular circumstances of a DNSP and the timing of its determination.

The Businesses agree that the use of forecasts published independently of the regulatory process is attractive. However, the value of their independence should not overshadow their relevance to the input prices of a DNSP over the five year regulatory period. Due to the inexactness of forecasting even by the specialist consultants, the ENA supports approaches with appropriate consensus.

The Businesses agree with the suggestion of incorporating appropriate risk sharing mechanisms such as pass-through adjustments to allow for circumstances "where factors are particularly uncertain and unmanageable". However, where risks can be quantified with a reasonable level of accuracy on the basis of futures prices and forecasts, this would seem to be a more efficient way of allowing for these risks rather than pass-through arrangements that may result in one-off potentially volatile changes to allowed costs. It should be noted that hedge contracts do not avoid future price increases but rather lock them in.

In conclusion, the Businesses consider that the guideline should provide further guidance on the calculation of input prices.

Question 65
What categorisation of different inputs do you think provides a sufficient understanding of both how input prices may change over time, as well as how input prices may vary across geographical locations?

The Businesses agree that the categories of inputs outlined in Attachment B section 3.1 of the Issues Paper, can materially influence the cost of inputs. However, the Businesses note that the changes in the prices of manufactured materials are not solely influenced by the changes in the raw materials that are used. Consequently, the price of manufactured network materials may not have a strong correlation with raw material costs.

The Businesses also note that it is extremely difficult to change the input mix, particularly in the short to medium term. It would not be prudent for a DNSP to seek to change the input mix unless there was a high degree of confidence that the change in relative prices would be sustained.

Question 66
Do you consider optimism bias and/or strategic misrepresentation to be a material issue in the cost estimation for non-routine projects? Do you consider downward biases in cost estimation to materially outweigh regulatory incentives to over-estimate expenditure? To what extent do you consider there to be a consistent downwards bias in initial project cost estimates?

The Businesses do not consider strategic misrepresentation to be an issue under the current NER regime. Strategic misrepresentation would require a company officer to make a false statutory declaration to the AER, which is highly unlikely, given the personal and professional implications of such conduct.

Question 67
What should be our approach to cost estimation risk factors and addressing potential asymmetric estimation risk? Would techniques such as reference class forecasting be beneficial? How would any techniques to address asymmetric cost estimation risk interact with potential incentive schemes (for either opex or capex)?

The Businesses consider that it is important to recognise that forecasts of capital expenditures are often based on estimates of projects, which for many, have only been developed to a conceptual level given they may be up to seven years into the future. At this level, there are risks to achieving accurate forecasts arising from a range of factors which would include unidentified elements of the scope and location specific cost influences.

In general, the Businesses support strong incentive schemes to drive efficient levels of expenditure. This removes the AER's concern that forecasts would be inflated by the use of risk factors developed from past actual expenditures which were not efficient.

Question 68
Do you think our established approach to assessing debt and equity raising costs remains appropriate? What modifications or alternative techniques would you suggest?

The Businesses support estimating debt and equity raising costs by applying a consistent approach across all determinations using benchmark assumptions consistent with the assumptions for determining revenue requirement.

The approach to estimating equity raising costs by modelling benchmark cash flows is appropriate. However, the AER has used subtly different models in various determinations to determine equity raising costs and some parties have specific concerns with the AER's calculations. The model and its inputs should be subject to a proper consultation process. The consultation should also consider whether equity raising costs ought to be expensed or capitalised.

The current approach to estimate the all-in cost of debt as a corporate bond yield (included in the WACC) and debt raising costs (included in operating expenditure) does not recognise other debt financing costs such as those for liquidity risk management and refinancing risk management which are required to maintain an investment grade credit rating.

For example, in more recent years, Standard & Poor's has adopted a liquidity risk score that requires a certain level of available financing to be held by a DNSP. DNSPs also manage prudent risk policies that enable them to maintain an investment grade credit rating by ensuring committed financing is available well in advance of any maturing debt.

Additionally, the implications of any changes to the benchmark debt financing approach arising from recent changes to the Rules will also need to be considered. For instance the tenor of the debt and the type of debt issued has implications for debt financing costs. It is important that the all-in cost of debt be considered holistically, recognising that there are trade-offs between interest costs and other debt financing costs.

Question 69
Do stakeholders have any in-principle views on how demand forecasts should be derived and assessed?

The Businesses are comfortable with the approach recommended by the AER provided clear definitions such as suitable long time series can be agreed with the AER. The Businesses also note that DNSPs are best placed to determine the bottom up demand forecasts at a zone substation level, as AEMO can only provide demand forecasts at a system level.

Question 70
Do you think that the network segments outlined above provide a useful demarcation of the expenditure incurred to address various expenditure drivers? Do you think that there are significant cost differences in building, repairing, or replacing network assets based on region in which the work is being done? What alternative asset type demarcations would be more appropriate?

Whilst the Businesses note that there can be significant cost differences in building, repairing or replacing network assets depending on the region, the Businesses do not believe that this question can be answered without substantial empirical analysis.

The network segments outlined in section 3.5 not been universally applied by DNSPs for the demarcation of costs. Especially the definitions for rural short and rural long vary between DNSPs and these definitions have not been used as they are not suitable for distinguishing costs for some DNSPs.

Question 71
For the purposes of comparative analysis of various expenditure categories, do have any views on how to best control for difference in approaches to cost allocation, capitalisation and outsourcing?

The method by which costs are captured and attributed or allocated is described in an entity's Cost Allocation Method (**CAM**), which is approved by the AER and cannot be changed without the written authority of the AER.

In determining an appropriate CAM, consideration needs to be given to the reality that most DNSPs allocate their costs according to their CAM, through the same business finance systems that are used to produce Statutory Accounts. It is crucial that a regulated CAM is not developed in total isolation from this fact and the costs and administrative burden that would result from requiring businesses to generate regulatory accounts under a CAM that is completely inappropriate for statutory purposes.

Question 72
Do you think our conceptual framework for the assessment of related party contracts is reasonable? What other techniques may be appropriate? Should we apply the same conceptual framework when assessing the efficiency of related party margins on an ex post basis?

It is important that the framework is transparent and well understood. DNSPs must have a clear understanding of how each transaction will be assessed under the framework.

The AER's conceptual framework has yet to be tested through review by the Australian Competition Tribunal. The framework treats the related party contractor as a regulated entity, rather than recognising that the contractor participates in a competitive market. The key concept should be whether the costs incurred by the regulated utility (and ultimately by customers) are higher or lower than those that would be incurred if an unrelated party contractor was used.

Question 73
Do you think our conceptual framework for assessing self-insurance is appropriate? What other techniques may be appropriate?

The Businesses consider that self-insurance can be an appropriate mechanism for the management of risks particularly with respect to:

- uninsurable risks (either as no insurance is available or insurance is not available on economic terms);
- the amount of the deductibles under insurance policies;

- historical claims or self-insured losses including frequency, severity and likelihood versus the cost of the policy;
- any amount above insurance policy limits; and
- other uninsured risks that DNSPs consider it to be appropriate to retain.

These costs are real costs and involve actual outgoings of cash. The regulatory determination process should be clear as to whether it is appropriate for recovery of these costs by way of operating expenditure allowance or whether it is more appropriate for such costs to be recovered through an appropriately drafted pass-through mechanism. For costs recovered by way of operating expenditure allowances further consideration is necessary as to whether such costs should be classified as controllable or non-controllable costs.

Question 74
Do stakeholders have any in principle views on how benchmarks should be derived and applied?

Please refer to the Businesses' overall submission.