TransGrid's Response to AER Request for Information

Date received	5 March 2020
Date responded	13 March 2020
Topic	QNI minor upgrade Contingent Project Application (CPA)
RFI #	RFI # Two (2)

AER Questions

Question 1: Costs of substation works

TransGrid's capex proposal includes $80.6 million to install SVCs and capacitor banks at three substations. This covers substation design works and construction works, including civil, electrical and concrete works. This capex comprises 36 per cent of the total capex proposal, which is the largest component.

TransGrid externally tendered the substation works to Zinfra and Consolidated Power Projects. The contracts were entered into in December 2019 after the PADR. These contracted substation costs are $32.6 million higher than the substation cost estimates in the PADR (which forecast $47.1 million for substation works).

The GHD report includes a 'comparative estimate' based on completed projects within Australia for similar types of work. GHD estimates that the costs of substation works are $56.6 million. TransGrid's proposed substation costs are 40.8 per cent higher than GHD's estimate. The GHD report considered that the differences in costs are due to:

- increase in the bulk civil works required for the switchyard extension works
- additional allowance for excavation in hard rock, and
- the requirement for excavation and disposal of contaminated soil.

In addition, GHD notes that the substation costs received from a competitive tendering process were higher than expected due to:

- the draft costs being based on 'standard' tendering timeframes and scope development
- time constraints for tendering and more refined scope development
- the overall delivery timeframe for the QNI project being compressed to achieve a September 2021 in service date; and
- significant resource capacity/capability constraints in the infrastructure delivery market.

GHD concluded that these reasons are sufficient for it to be satisfied that the substation costs are reasonable and realistic.

We are seeking further information about TransGrid's procurement process for the substation work and how the contracted costs reflect the type of work expected at the substations. We have the following questions:

a) Please provide the tender evaluation report(s) (or equivalent procurement assessment documentation) that TransGrid prepared in assessing the tender submissions received for the substation works. This will allow us to understand TransGrid's reasons for selecting the successful tenderers.

As explained in our Capex Forecasting Methodology, we used a competitive tender process (using our panel of suppliers) to procure the substation works.

We received RFT responses on 8 November 2019. We received three tender submissions for the Armidale and Dumaresq substations and four tender submissions for the Tamworth substation.

We undertook a tender evaluation process to determine the preferred suppliers. This involved:

- a technical assessment for non-compliance, and
- a commercial assessment for any commercial departures

The tender evaluation committee used the evaluation criteria set out in Table 1 to evaluate supplier responses.

Table 1: Evaluation criteria

Mandatory Selection Criteria *If Tenderers do not meet any mandatory criterion the tenderer may not be considered for award*	**Pass / Fail**
Compliance with the Conditions of Tendering Identify any potential conflicts of interest and proposed methodology for managing any such conflicts	Mandatory
Attendance at the mandatory Site Inspection	Mandatory
Nomination of Principal Contractor	Mandatory
Offer for Whole of Works / Complete Separable Portion(s)	Mandatory
All schedules submitted complete with tender	Mandatory
Tender price is firm	Mandatory
Compliant with the main T&C's of the panel agreement	Mandatory
Compliant tender program	Mandatory
Compliance with the Conditions of Tendering Identify any potential conflicts of interest and proposed methodology for managing any such conflicts	Mandatory
Weighted Selection Criteria – Technical and Commercial	**Weighting (100%)**
Quality of the technical proposal	15%
Compliance with WH&S, Quality and Environmental requirements	15%
Tenderer and subcontractor's capacity and resources to deliver the program	25%

Quality and effectiveness of delivery program, compliance with requirements	15%
Experience and Performance	30%
Commercial offer – Firm price offered *Price of the supplier's compliant offer with firm pricing*	45%
Commercial offer – Payment Schedule & Cancellation Costs *TEC will consult the Project Sponsor on minimum payment and cancellation schedule requirements. If deemed unacceptable, supplier may be excluded from further evaluation to protect TransGrid from cost exposure not covered under QNI project funding.*	5%
Sum total	**100%**

Based on this evaluation criteria:

- Company D's final offer for Armidale substation was ranked highest both technically and commercially.
- Company A's final offers for the Dumaresq and Tamworth substations were ranked highest both technically and commercially.

Attachment 1 sets out the final tender evaluation scores (i.e. technical and commercial) for substations.

b) Please provide details of the costs (or estimate provisions) allowed for the increase in:

(i) Switchyard bulk civil works required,

(ii) Rock excavation, and

(iii) Excavation and disposal of contaminated soil.

This should include details of the change in these costs including the change in the areas and volumes (e.g. square metres, cubic metres) with reference to the areas and volumes allowed for in the PADR estimate as well as details of the areas and volumes allowed for in the contingent project estimate. If the associated unit rates have also changed then please provide both the rates applied in the PADR and the rates applied in the contingent project estimate.

PADR capex forecast

The capex forecast in the PADR was a class four estimate[2], meaning that only 1 to 15 per cent of project specifications were defined, resulting in a likely variation to the final cost of between -30 per cent to +50 per cent. The capex forecast in the PADR was developed internally using historical costs from our "Success" cost estimating database.

Accordingly, the capex forecast in the PADR did not include specific allowances for rock excavation and the excavation and disposal of contaminated soil. The forecast included in the PADR was based on a generic concept design scope for each substation site and included a percentage risk mark-up. This is standard practice for a class four estimate which is developed in advance of the actual project development works commencing.

We have provided, as attachments to this document, the generic substation concept design scopes underpinning the cost estimate in the PADR:

(i) Armidale - See **Attachment 2** – QNI-CSD-SKT-003

(ii) Dumaresq - See **Attachment 3** – QNI-CSD-SKT-004

At the time of preparing the PADR, we did not have generic substation concept design for the Tamworth substation because minimal civil works was assumed.

CPA capex forecast

The capex forecast in the CPA reflects further design work undertaken by TransGrid, and further refinements to this design identified through the competitive tender process, including tendering workshops with suppliers. This information was not available at the time of at the time of publishing the PADR.

The following cut and fill volumes were adopted by suppliers in preparing their final offers:

- Armidale – see **Attachment 4** – Armidale QNI 2d InRoads 29-11-19
  - The estimated cut volume is 11,006m3, and
  - The estimated fill volume is 528m3
- Dumaresq – see **Attachment 5** – Dumaresq QNI InRoads 2D 03-12-19 - Survey 2008
  - The estimated cut volume is 54,225m3, and
  - The estimated fill volume is 15m3.
- Tamworth – see **Attachment 6** – Tamworth QNI InRoads 2D 04-11-19 SVC 5%
  - The estimated cut volume is 10,909m3, and
  - The estimated fill volume is 5479m3.

The expected volume of rock excavation included in the capex forecast is based on the geotechnical reports provided to contractors during the tender process. Excavation and potential disposal of contaminated soil was estimated to be required for at least the topsoil layer (i.e. approximately 200mm deep) for the overall nominated excavated cut volumes at each existing substation site.

The final offers from the preferred suppliers did not provide cost breakdowns for earth and civil works.

We note that in relation to the difference in costs between our final capex forecast for substations and the comparative GHD estimates, GHD states:

> *GHD has been able to independently verify that the variance is due to the following drivers:*
>
> - *Increase in the bulk civil works required for the switchyard extension works*
> - *Additional allowance for excavation in hard rock*
> - *The requirement for excavation and disposal of contaminated soil.*
>
> *As a result, GHD is satisfied that the CPA forecast values are reasonable and realistic.*

c) Please explain how the other drivers of higher cost estimates identified by GHD (e.g. constrained tender process, compressed project delivery timeframes, resource constraints) have been factored into the contracted prices for the substation works.

As detailed in our Capex Forecasting Methodology, we used a competitive tender process (using our panel of suppliers) to identify the best offers to undertake substation work. The tender responses do not specifically identify costs associated with:

- The constrained tender process
- The compressed project delivery timeframes, or

- Resource constraints.

Given the competitive nature of the procurement process, the final offers reflect the true market-based costs for delivering the project having regard for the compressed tender and project delivery timeframes and resource constraints. Accordingly, the costs are the prudent and efficient.

d) The spreadsheets submitted to the AER on 21 February 2020 in response to item 1 of our technical document request provide a useful level of detail on project line item cost estimates at the PADR stage. If more recent versions of these spreadsheets exist, please provide the latest versions.

There are no updates to the spreadsheets provided to the AER on 21 February 2020.

We have also examined TransGrid's general arrangement (GA) drawings for each substation where works are proposed. We understand that these GA drawings are indicative and based on land areas that TransGrid consider are typical for the type of installations proposed. For example, TransGrid has used one hectare as the land required for the SVCs based on the Armidale SVC installation. We have the following questions:

e) What are the actual dimensions of the Armidale SVC installation? Indicative measurements from satellite images suggest that the Armidale SVC footprint is significantly smaller that the proposed one hectare allowance in the cost estimates. If TransGrid considers that a larger footprint is required for the proposed SVCs, please provide details of why TransGrid considers additional space is required?

The existing Armidale SVC installation is around 50 meters by 90 meters and is rated at 280MVAr.

The SVC's required for both Tamworth and Dumaresq are each rated at 350MVAr. Accordingly they each require a bench area and footprint of around 100 meters by 100 meters (i.e. 10,000 metres squared or 1 hectare of area). A footprint of this size is required to accommodate:

- The equipment required for the higher rating of the SVC units
- The access roadways
- Noise mitigation wall installation, and
- Electrical and safety clearances, including operational and maintenance / equipment access in accordance with Australian standards.

f) With regards to the Tamworth GA, please explain the reasoning for the placement of the proposed SVC. In particular, given the available land to the south east of the site, why is the SVC to be located such that deviation of the existing lines is required?

The network and system planning studies determined that the reactive support for the QNI Project at Armidale, Tamworth and Dumaresq would be most effectively and efficiently be connected at the 330kV level.

The Tamworth substation is oriented with true north at the top left corner of the 330kV side of the switchyard. Accordingly, the SVC installation is required to be located in the north-east quadrant. Connection of the SVC at the south would:

- Increase the distance from the 330kV connection point.
- Increase the overhead line connections required to connect it to the 330kV busbar, and
- Constrain the 132kV side of the switchyard and limit any future extension of the 132kV busbars.

The main driver behind the transmission line 88 (TL 88) deviation is not the need to accommodate the SVC footprint, but rather the requirement to distribute the reactive power support and compensation over different sections of busbar, increasing the reliability of the QNI interconnector.

Retaining TL 88 in-situ would result in the new capacitor bank No.2, SVC and capacitor No.1 both being connected to bus section No.5. An outage of this bus section would remove all of the connected reactive compensation from service. This would severely limit the operation of the QNI Project and is therefore not considered an acceptable solution.

g) With regards to the switchyard extension to the south east shown on the Tamworth GA, please provide details to explain the size of the proposed extension in this area.

As explained in response to question 1(f) above, the Tamworth substation is oriented with true north at the top left corner of the 330kV side of the switchyard. Accordingly, the SVC installation is located in the north-east quadrant.

An area of 75 meters by 75 meters is required for the 330kV busbar extension to facilitate the:

- Installation of the SVC transformer
- Associated switchbay, and
- Relocated TL 88 line entry.

h) With regards to the Armidale GA, the proposed placement of capacitor bank 6 seems to require access road deviations that may have been avoided with an alternative placement. Please explain the reasoning for the placement of the proposed placement of this capacitor bank.

The placement of capacitor bank No.6 in the top corner of the existing switchyard (north-west quadrant) is required to avoid the physical constraints from the existing Essential Energy 66kV feeders (towards the north-east quadrant). In particular if placed elsewhere it would encroach:

- The required electrical clearances between TransGrid's and Essential Energy's existing services, and
- The existing access road that traverses under the proposed Capacitor Bank No.6 location. This access road services the existing 330kV capacitor, the SVC and reactive high voltage equipment along the existing substation internal roadway.

As noted in our response to Question 1(f), it is a requirement to distribute the reactive power support and compensation across the busbars. Accordingly, the requirement to connect capacitor bank No.6 to bus section No.1, sets the initial connection point location.

Question 2: Tamworth capacitor banks costs

TransGrid's proposed $5.9 million capex for the Tamworth capacitor banks is based on an estimate rather than the outcome of a competitive tender. TransGrid noted:

> *We issued our tender for the Tamworth capacitor banks on 6 December 2019. This allowed the two suppliers sufficient time to respond to the Armidale and Dumaresq tenders, noting that the Tamworth capacitor banks are not on the critical path for the QNI Project. We expect to obtain best and final offers from the two suppliers for the Tamworth capacitor banks in mid-January 2020.*

Please advise whether TransGrid has finalised its tender process for the Tamworth capacitor banks. If so, please provide the final contracted cost for the Tamworth capacitor banks.

TransGrid is currently in the process of finalising its procurement process for the Tamworth capacitor banks. We expect this to be able to provide the AER with the outcomes of the tender process by the end of next week.

Question 3: HV switchgear costs

TransGrid's proposed $6.2 million capex for new HV switchgear is based on an estimate rather than the outcome of a competitive tender. TransGrid noted:

> *We will provide the AER with updated details of the total value of the actual contracts for HV switchgear once we have completed our procurement process in early 2020.*

Please advise whether TransGrid has finalised its procurement process for the new HV switchgear. If so, please provide the final contracted costs.

The total value of the actual contracts for HV switchgear to date is $4.92 million. We note that this relates only to the supply and delivery of circuit breakers, disconnectors, current transformers, and voltage transformers.

This cost does not include:

- Rigid post insulators, surge arresters and erection costs associated with the HV switchgear, and
- Potential acceleration costs such as air freight to expedite the lead time to meet site construction requirements.

We expect the cost of these items to be around $1.5 million. We will order these items over the next two to five months based on our project delivery schedule. These items need to be ordered so that they arrive on site close to the time of installation.

Question 4: Contingency costs

We understand that TransGrid has not directly incorporated any contingency amount or risk allowance into its capex forecast. However, we want to understand whether and how project risks have been incorporated into the contracted prices with tenderers.

The GHD report notes:

> *TransGrid has accepted lump-sum arrangements for separate work packages, and we consider that the tenders have been based costs on the most accurate information available which may also include allowances for contingency risks.*

The HoustonKemp report also states:

> *We have also confirmed that the tender price is a fixed price subject to specified variations. A key risk associated with the substation site is the potential for ground conditions to vary from what has been assumed in the desk-top study that was provided to tenderers as the base line for their bid. We understand that this risk may be more limited given the brownfields nature of the work, however it remains a factor that may lead to contract variations.*

We have the following questions:

a) Please explain whether the prices quoted by tenderers, and the contracts entered into with successful tenderers, included any explicit risk allowance or specific or nonspecific contingency sums. If the prices quoted by successful tenderers do include such allowances, please provide a description of the allowance including its purpose, the value of the allowance and the percentage of contingency cost reflected in each contract.

The final offers and contracts with suppliers do not include explicit risk allowances or contingency costs. As explained in chapter 5 of our Capex Forecasting Methodology, our capex forecasts based on the procurement process:

- Do not include any contingencies
- Reflect the outcome of competitive procurement processes

- Reflect our acceptance of the lowest cost compliant offer from the competitive tender processes, and
- Reflect procurement in accordance with our compliance and governance requirements.

b) Please explain whether the fixed prices agreed with successful tenderers can be varied, and if so, the conditions in which it can be varied as set out in the contracts (e.g. differences in ground conditions, changes in project timing).

The agreed prices in the contracts that have been entered into are fixed lump sum payments (rather than a cap on total costs) by reference to certain baseline assumptions. For example, the tenderers for substation works and transmission line uprating works were provided with relevant desktop geotechnical research to inform their tender submissions.

The agreed fixed price reflects specific (and limited) variations in case actual outcomes vary from the assumed baseline assumptions. These variations may potentially give rise to both higher and lower actual outturn costs. The agreed fixed lump sum payments therefore currently reflect TransGrid's expected costs, in the absence of any further information as to whether variation payments may be more likely to be positive or negative.

The variations in the substation works and transmission line uprating works contracts include:

- Principal prescribed changes to the scope of work
- Abnormal inclement weather conditions
- Force Majeure, and
- Latent conditions including from unknown geotechnical conditions and contaminated soil.

We expect the COVID-19 (Coronavirus) to significantly impact our suppliers and their supply chains. We have preliminary advised that this is already occurring although at this time we do not know the extent of the current or future impact.

Question 5: Indirect/Overhead costs

TransGrid's capex proposal includes $29.2 million overhead (corporate and network) costs. This is mostly labour ($22.3 million or 76 per cent). Overheads costs include:

- $3.4 million in overhead costs that TransGrid has already incurred on the QNI Project from 1 July 2018 to 30 November 2019.
- An allocation of costs from the Major Projects Division.

The PADR included an estimate of $13.1 million overheads based on a top-down approach that applied a percentage mark-up based on TransGrid's historical projects. The final cost estimate of $29.2 million forecast is based on a bottom-up build of overhead costs using a forecast of individual FTEs and the salaries of each staff member. TransGrid's contingent project application states that the top-down approach using historical projects is "not expected to provide an accurate forecast of indirect costs for QNI given its size."

TransGrid states that it requires an additional 43 roles (allocated as 24.7 FTEs) for the QNI project, which are in addition to its 'business as usual operations'. TransGrid also states that overtime payments contribute to 43 per cent of the indirect capex forecast, which is 'consistent with good industry practice'.

GHD developed a comparative estimate of $20.9 million. This is 37.6 per cent lower than TransGrid's forecast. GHD's comparative estimate assumes, among other things, 35 roles are required for a project of this size and "no allowance for any overtime associated with an accelerated construction program based on a 6-day working week".

GHD also referenced a NSW project cost benchmarking study which found that overhead costs were within 8 per cent and 14 per cent of total construction costs of road and rail projects. GHD concludes that TransGrid's overhead proportion of 12.9 per cent is within the acceptable range.

We are seeking further information about TransGrid's approach to estimating overheads costs for the QNI project and how it differs from GHD's comparative estimates.

a) Please explain the extent to which TransGrid has or can utilise and re-allocate its existing network management staff to manage the QNI minor upgrade project, as opposed to hiring new staff.

TransGrid currently manages resource demands for short to medium-term increases in work through various resourcing strategies, which ensure efficient delivery costs. Our decision on the mix of internal and external resources takes into account the specific skill requirements, locations and current staff availability given the existing capex commitments.

In order to deliver the QNI Project in the timeframes required, we require additional FTEs. As explained in our Corporate and Network overhead document, we have identified:

- An additional 24.7 FTEs for works delivery capex across the following resources types:
  - Project Management – 5.5 incremental FTEs
  - Substation Works Delivery – 12.2 incremental FTEs
  - Transmission lines 88,83 and 84 Works Delivery – 7.1 incremental FTEs

  The number of incremental FTEs required has regard for our current practices, the complexity and timeframes of the QNI Project and relevant legislative requirements.
- An additional 43 FTEs for project development capex based on the additional resources required for the set-up and ongoing management of the QNI Project. These FTEs are required to:
  - Undertake project and contract management and project control in accordance with TransGrid's project management delivery model
  - Undertake the role of Principal Contractor responsibilities for all brownfield substation construction activities
  - Undertake construction management services for substation and transmission line construction activities
  - Undertake civil, electrical, environmental and safety inspections to ensure that work completed by contractors satisfies contractual requirements
  - Coordinate HV equipment outages, for all brownfield substation and transmission line construction activities to provide safe areas for contractor construction activities
  - Management and oversight of power system safety rules (PSSR) that provide safe access areas (i.e. electrical and mechanical isolations) for contractors on brownfield locations
  - Provide qualified oversight of contractors for pre-commissioning checks and in-service commissioning activities of new equipment
  - Provide qualified staff to manage interfaces between exiting equipment and systems with the new equipment and systems.

These resources are required to align with the compressed construction program schedule and give effect to our Allocation of Principal Contractor for TransGrid Projects Procedure (provided at **Attachment 7**).

The full listing of the required roles is set out in the Appendix A of our Corporate and Network overhead document. Further detail including timing and duration of these FTEs is set out in our Corporate and network overhead spreadsheet.

For roles which work across multiple major projects, we have allocated their costs between the QNI Project and other major projects on which they are also working, using the total indicative capex for each project as the allocator.

b) Please explain whether TransGrid is hiring permanent staff to manage the QNI project or staff employed under contract for the duration of the QNI project. If permanent staff are required, please explain why this is a more efficient solution that contract staff when addressing a period of additional project work.

We are currently assessing whether it is more efficient to hire full time employees or engage employees under contract (for set periods) to deliver QNI.

c) Please explain why TransGrid considers its bottom-up overhead estimate reasonable and more appropriate than a top-down approach using TransGrid's historical project experience. How is the QNI minor project different to TransGrid's previous transmission projects and how does this require proportionately more overhead costs?

We have used a bottom-up build approach to determine the required corporate and network overhead costs for the QNI Project. A bottom-up approach is preferable because it is a more detailed, transparent and accurate approach to identify the indirect costs required for each stage of the project. In particular, it allows us to:

- Give effect to our Allocation of Principal Contractor for TransGrid Projects Procedure to determine our substation resource profile, and
- Have regard the compressed project delivery timeframes.

The bottom-up build approach individually itemises labour costs (by FTE), labour related costs (e.g. training, recruitment, IT, travel and sustenance allowances), consultant and professional fees, design and equipment engineering and materials required for each stage of the project life cycle.

We have:

- Phased the commencement of FTEs over the duration of the QNI Project
- Applied our standard labour rates effective from 30 June 2018
- Included overtime payments for each FTE type. This approach is consistent with good industry practice. In the absence of overtime payments, we would require additional FTEs.

The QNI project presents a unique set of delivery challenges because:

- It is a complex brownfield project (with energised transmission level substations) and therefore:
    - It is resource intensive - for example, it requires outage planning and coordination to ensure safe access on the transmission lines for the uprating work. Managing access and outages on in-service equipment is very resource intensive, and
    - Has significant safety requirements and implications. For example, there are daily high voltage switching operations required for safe access for contractors to the transmission line (and other in service substation equipment).
- The overall delivery timeframes are compressed to achieve a September 2021 in service date, and

- There are significant resource capacity and capability constraints in the infrastructure delivery market.

d) Please explain the differences in TransGrid's indirect cost forecasts and GHD's estimate, including differences in the number of assumed roles required (e.g. 43 vs 35) and the use of overtime allowances.

As explained above, we have adopted a bottom-up approach to determine the required corporate and network overhead costs for the QNI Project. In contrast, GHD has used a top-down approach based on "guiding metrics to arrive at an independent estimate of reasonable owner costs and used comparably major civil and electrical industry projects as a guide".

In particular, GDH referenced a 2011 report prepared by Ernst & Young Transport for the NSW Department of Transport titled "Infrastructure – Project Cost Benchmarking Study". This study focused on road and rail projects. We note that these projects are typically greenfield in nature.

Whilst studies from other infrastructure industry are useful to inform the analysis, they do not take into account the specific overhead cost drivers for the QNI Project including:

- The brownfield nature of the project
- Responsibility for managing outage windows
- Safety issues associated with augmentation of infrastructure with in-service assets
- Principal Contractor responsibilities
- Compressed delivery timeframes to meet the required in service date, and
- The current capacity and capability constraints in the NSW infrastructure delivery market.

GHD concludes that:

> *"The supporting data from the typical road industry projects indicates that the per cent margin for project overhead could be in the range from 8% to 14%.*
>
> *…*
>
> *GHD is of the view that [TransGrid's indirect costs of] 12.9% is within the acceptable range of project margins."*

e) Please provide a breakdown and explanation of the Major Projects Division costs that have been allocated to the QNI project.

The establishment of a Major Projects Division is required in order to coordinate and deliver major Integrated System Plan (ISP) projects including the QNI Project, Hume Link, Project EnergyConnect (PEC) and Victorian Interconnector (VNI).

As set out in table 5-2 of our Corporate and Network Overhead document, our indirect capex forecast includes labour costs of:

- $230,000 for Major Projects Division – Core team. This includes 5 incremental roles and accounts for 5 per cent of the total labour costs for the QNI Project, and
- $430,000 for Major Projects Division - Other Support and Corporate roles including engineering, stakeholder engagement, regulatory, spatial, finance, HR, ongoing procurement.

The full listing of these roles is available at Appendix A of our Corporate and Network Overhead document. See in particular sections A.1.7 to A.19.

As discussed in section 7.1.1 of our Corporate and Network Overhead document, where the FTEs are expected to work across Major Projects and Engineering and Support, we have allocated their costs

between each of the major projects based on the indicative total capex forecast for each project (until commissioning).

As shown below, we have applied 5 per cent of these costs to the QNI Project percentage allocations below in this Application:

Major Projects Portfolio	% of Portfolio
PEC	46
HumeLink	46
QNI	5
VNI	3
Total	100

f) Please provide a breakdown and explanation of the 'historical costs' that TransGrid has already incurred on the QNI Project from 1 July 2018 to 30 November 2019. For those costs that were incurred from 1 July 2018 to 30 June 2019, please advise whether these costs have currently been expensed or capitalised in TransGrid's 2018-19 annual RINs.

Please see **Attachment 8**.

Question 6: Capital Expenditure Sharing Scheme

TransGrid's contingent project application states:

> The AER's capital expenditure sharing scheme (CESS) applies to our 2018-23 regulatory period. As previously discussed with the AER, we propose to exclude capex for the QNI Project, and all of our other Major ISP Projects, from the CESS. This is because of the size, scale and unique risks of these projects. We use our best endeavours to forecast accurately the prudent and efficient costs of the Major ISP Projects to comply with the regulatory timeframes, recognising project-level uncertainties. However, we do not consider it appropriate or reasonable for either ourselves or our customers to bear the regulatory risks of recovering the costs of these projects, especially given that their delivery and timing are being mandated through the actionable ISP rules.

We would like to better understand the unique risks of the QNI project and how the application of the CESS for this project affects the 'regulatory risks of recovering the costs of these projects'. We have the following questions:

a) What are the risks of cost recovery on the QNI project?

As explained in our Contingent Project Application, the AER's capital expenditure sharing scheme (CESS) applies to our 2018-23 regulatory period. As previously discussed with the AER, we propose to exclude capex for the QNI Project, and all of our other Major ISP Projects, from the CESS. This is because of the size, scale and unique risks of these projects.

We use our best endeavours to forecast accurately the prudent and efficient costs of the Major ISP Projects to comply with the regulatory timeframes, recognising project-level uncertainties. However, we do not consider it appropriate or reasonable for either ourselves or our customers to bear the regulatory risks of recovering the costs of these projects, especially given that their delivery and timing are being mandated through the actionable ISP rules.

Our proposal is to remove any financial benefit (or penalty) we would receive (or incur) under the CESS in the event that our actual capex for the QNI Project contributes to our total capex for the period being less than (or greater than) the forecast total capex approved by the AER.

b) How have these project risks been factored into the costs of the project, including the 'fixed price' nature of the vendor contracts and/or any contingency allowance within the price agreed with the successful tenderers?

Please see our response to question 4 above.

c) Are the risks of the QNI project likely to be similar to, or different than, TransGrid's other ISP projects such as Project EnergyConnect, Humelink and VNI West?

Humelink, VNI West and PEC are also expected to have cost uncertainty associated with:

- COVID-19 (Coronavirus)
- Construction because the delivery is outsourced
- Demand for infrastructure resources
- Constrained tender processes
- Government and other stakeholder timing expectations, and
- Compressed project delivery timeframes.

Given the unique characteristics associated with each of these projects, they will also have their own specific risks such as for example:

- Bio-diversity
- Geotechnical
- Land access
- Indigenous heritage
- Long delivery timeframes, and
- Environment conditions (i.e. bushfire, flood and coronavirus).

Attachment 1 – Tender evaluation report(s) for the substation works

Commercial in confidence

Substations

The final tender evaluation scores (i.e. technical and commercial (i.e. cost) are set out in Table 2 to Table 4.

Table 2: Armidale – Final Score

Criteria	Ratio	Company A	Company B	Company C	Company D
Normalised TECHNICAL Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Normalised COST Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Combined Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 3: Dumaresq – Final Score

Criteria	Ratio	Company A	Company B	Company C	Company D
Normalised TECHNICAL Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Normalised COST Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Combined Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 4: Tamworth – Final Score

Criteria	Ratio	Company A	Company B	Company C	Company D
Normalised TECHNICAL Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Normalised COST Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Combined Score	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]