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Aquenta Consulting Pty Ltd ABN 15 007 406 840

12th December 2016

REF: 516080-1373

Dear [REDACTED]

INDEPENDENT COST REVIEW REPORT FOR THE FOLLOWING ESTIMATES:

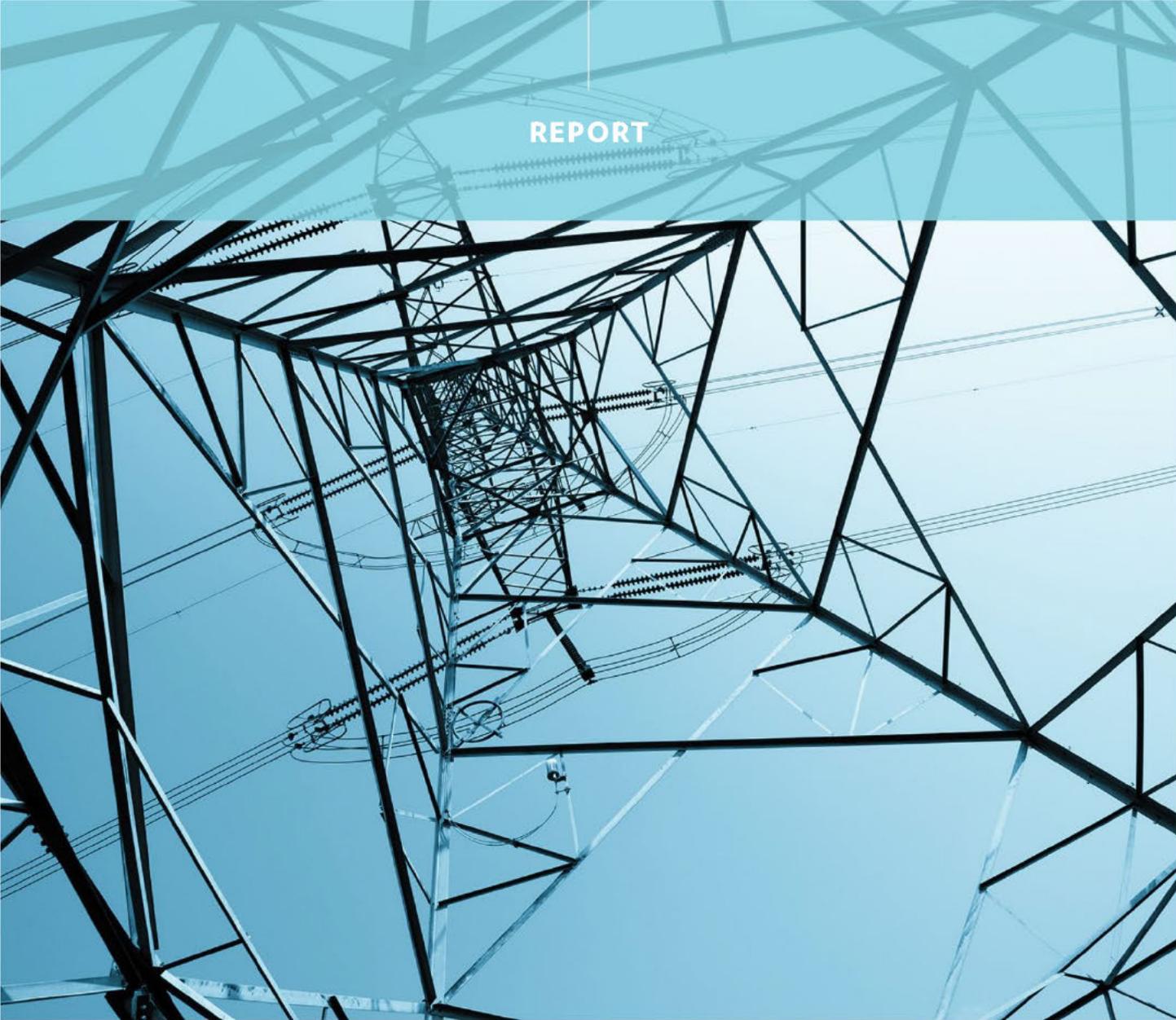
- **EC.14031 Protection Systems Unit Asset Replacement 2018-23 rev 5**
- **EC.14033 Circuit Breaker Unit Asset Replacement 2018-23 rev 5**
- **EC.14045 Yadnarie - Port Lincoln F1811 132kV Line Conductor and Earth**
- **EC.14047 Transformer Bushing Unit Asset Replacement 2018-23 rev 5**
- **EC.14080 Substation Security Fencing 2018-23 rev 5**

Please find attached our Independent Cost Assessment Report for the above mentioned Estimates provided.

If you have any questions, please do not hesitate to contact myself.

Yours faithfully,
Aquenta Consulting

[REDACTED]
[REDACTED]



REPORT

AQUENTA

INDEPENDENT COST ASSESSMENT REPORT

Independent Review of Electranet Estimates
November 2016

DOCUMENT TITLE:

INDEPENDENT COST ASSESSMENT REPORT

PROJECT REFERENCE: **516080**

PURPOSE OF ISSUE: **Initial for Review**

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ISSUE	DESCRIPTION OF AMENDMENT	AUTHOR	CHECKED	APPROVED	DATE
1	Initial for Review	BR	RM	JM	21/11/2016
2	Final Issue	BR	RM	JM	12/12/2016

Previous issues of this document shall be destroyed or marked SUPERSEDED.

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1 Executive Summary

Aqenta have been engaged by Electranet to undertake an Independent Cost Assessment service for the following cost estimates:

- EC.14031 Protection Systems Unit Asset Replacement 2018-23 rev 5
- EC.14033 Circuit Breaker Unit Asset Replacement 2018-23 rev 5
- EC.14045 Yadnarie - Port Lincoln F1811 132kV Line Conductor and Earth
- EC.14047 Transformer Bushing Unit Asset Replacement 2018-23 rev 5
- EC.14080 Substation Security Fencing 2018-23 rev 5

Additional substantiated information has been provided to Aqenta to assist the assessment process.

Electranet's approach to each estimate appears to be generally of sound methodology and based on good cost data from previous project experience. Accuracy of data in relation to scope appears to be good with only minor discrepancies noted and acknowledged by Electranet, with the majority of instances able to be justified with scope modifications identified after scope documents were issued to Aqenta. [REDACTED]

[REDACTED]

A summary of our findings with relevant response from Electranet (where applicable) follows:

1.1 SECTION A – CONTRACTORS OVERHEADS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1.2 SECTION B – LOCALITY ALLOWANCE

[REDACTED]

1.3 SECTION C – SCOPE

1.3.1 EC.14031 Protection Systems

Aqunta made comparison between scope identified in “Copy of Unit Asset Replacement_Protection Systems V5 LA original.xls” and the scope allowed within the estimate. It was identified that the estimate had allowance for a total of 274no protection relays where the asset register identified 297no.

Electranet has acknowledge this anomaly.

1.3.2 EC.14033 Circuit Breaker Systems

Aqunta made comparison between scope identified in “EC.14033 Circuit Breaker Unit Asset Replacement 2018-23_FuncLocs V1 20Jun2016.xls” and the scope allowed within the estimate.

No discrepancies were found in regards to Scope allowance in the estimate.

1.3.3 EC.14145 Yadnarie – Port Lincoln F1811 132kV Line Conductor and earth replacement

Aqunta made comparison between scope identified in “EC.14145 Yadnarie - Port Lincoln F1811 132kV Line Conductor and Earthwire Refurbishment Scope.doc” and the scope allowed within the estimate.

No discrepancies were found in regards to Scope allowance in the estimate.

1.3.4 EC.14047 Transformer Bushing Unit Replacement

Aqunta made comparison between scope identified in “EC.14047 Transformer Bushing Unit Asset Replacement 2018-23_FuncLocs V0.3.xls” and the scope allowed within the estimate. It was identified that the estimate had allowed for 111no transformer bushings while the scope document only identified 98no

The discrepancies in scope allowance were attributed to the fact that further scope has since been identified – primarily at Snuggery substation which is now to include 33Kv neutral and phase bushings and the estimate quantity is correct

1.3.5 EC.14080 Substation Security Fencing

Aqunta made comparison between scope identified in “EC.14080 Substation Security Fencing 2018-23 Scope.doc” and the scope allowed within the estimate. It was identified that there were multiple differences in scope allowed within the estimate compared to the scope document.

The discrepancies in scope allowance were attributed to the fact that scope had since been modified or further scope has since been identified and the estimate quantities are correct.

1.4 SECTION D – UNIT COST RATES

[REDACTED]

[REDACTED]

- [REDACTED]

[REDACTED]

- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]

- [REDACTED]

[REDACTED]

1.5 SECTION E – PROJECT DELIVERY COSTS - ELECTRANET

[REDACTED]

[REDACTED]

[REDACTED]

1.6 SECTION F - ESCALATION

[REDACTED]

[REDACTED]

1.7 SECTION G - CONTINGENCY

[REDACTED]

[REDACTED]

2 Introduction

2.1 INDEPENDENT COST ASSESSOR ROLE

This exercise is leveraging on our prior experience and using lessons learnt gained on other Independent Estimate verification roles. It requires assessing the commercial validity of the estimates by taking the approach to systematically review, observe, question, verify, benchmark and record the process and output.

Under this method, the direct and indirect costs i.e. contractors' overheads, design & margin costs, locality allowances, scope and unit rates and Electranet's project delivery costs are assessed separately that the comments, ideas and concerns are progressively captured and reviewed.

The elements of this validation exercise are:

- To confirm that the estimates are 'fair and reasonable' to deliver the scope required;
- To verify that the estimate and their component elements are price competitive in comparison with relevant established industry practice and cost benchmarks;
- To verify that the scope allowed for within the estimates is consistent with the scope documents;
- To confirm a consistent approach to each estimate being followed in particular relation to percentage driven items such as overheads and margin;
- To clarify Electranet's approach to risk and contingency within the estimates

The process for ensuring the estimates are 'fair and reasonable' includes the following tasks:

- Review and understand current Scope of works, clarifications and assumptions;
- Build detailed list of audit / query items;
- Facilitate workshop (interview/meeting) with Electranet to investigate Scope, cost unit rates, take-off, contingency build up, project strategies, risk and opportunities;
- Consolidate findings from workshop;
- Produce a report;
- Meet with Electranet to present the report.

2.2 INFORMATION RECEIVED

The information provided to Aquenta to assist with the independent review of estimates are listed in Appendix 1.

3 Estimate Analysis

A review was conducted on the supplied documentation to understand the scope of each individual project and the build-up of each estimate. From this, an agenda and associated set of queries were created and an in depth review meeting was conducted. As well as reviewing some portions of the estimate using first principles, a benchmarking review was conducted on the indirect costs relating to each project.

The following is an analysis of our findings by pricing element.

3.1 SECTION A – CONTRACTOR’S OVERHEADS

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| [REDACTED] |
| [REDACTED] |
| [REDACTED] |
| [REDACTED] |
| [REDACTED] |

[REDACTED]

[REDACTED]

3.2 SECTION B – LOCALITY ALLOWANCE

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]							
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- [REDACTED] [REDACTED]
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- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
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[REDACTED]

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[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

3.4 SECTION D – UNIT COST RATES

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[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

3.5 SECTION E – PROJECT DELIVERY COSTS - ELECTRANET

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

3.6 SECTION F - ESCALATION

[REDACTED]

3.7 SECTION G - CONTINGENCY

[REDACTED]

4 Conclusion

Electranet’s approach to each estimate appears to be generally of sound methodology and based on good cost data from previous project experience. Accuracy of data in relation to scope appears to be good with only minor discrepancies noted and acknowledged by Electranet, with the majority of instances able to be justified with scope modifications identified after scope documents were issued to Aquenta. [REDACTED]

[REDACTED]

Appendix 1: Drawings and Information Provided

The following documentation has been provided for review, and has been used in the process of creating this report.

Received from Electranet

- 14031 Estimate Detailed Report .pdf
- 14031 Estimate summary Report .pdf
- 14033 Estimate Detailed Report.pdf
- 14033 Estimate summary Report .pdf
- 14047 Estimate Detailed Report.pdf
- 14047 Estimate summary Report .pdf
- 14080 Estimate Detailed Report.pdf
- 14080 Estimate summary Report .pdf
- 14145 Estimate Detailed Report.pdf
- 14145 Estimate summary Report .pdf
- EC.14031 Protection Systems Unit Asset Replacement 2018-23 Scope .doc
- EC.14033 Circuit Breaker Unit Asset Replacement 2018-23 Scope Ver 1.0.doc
- EC.14047 Transformer Bushing Unit Asset Replacement 2018-23 Scope Ver 1.doc
- EC.14080 Substation Security Fencing 2018-23 Scope.pdf
- EC.14145 Yadnarie - Port Lincoln F1811 132kV Line Conductor and Earth wire Refurbishment Scope.doc
- Copy of Unit Asset Replacement Protection Systems V5 LA.xls
- EC.14033 Circuit Breaker Unit Asset Replacement 2018-23_FuncLocs V1 20Jun2016.xls
- EC.14047 Transformer Bushing Unit Asset Replacement 2018-23_ FuncLocs V0.3.xls
- Unit Asset Replacement Transformer Bushings.doc

Appendix 2: Estimate Query sheet

- 16080-1371-Query List 21-10-2016 - Response sheet

Appendix 3: Vendor Review Meeting Agenda

AGENDA

TITLE: 516080 – Electranet – Independent Estimate Review – Client Interview

LOCATION: Electranet Office – Rymill Park

DATE: TBC

TIME: TBC

ATTENDEES | Aquenta - [REDACTED] | Electranet – [REDACTED]

.....

ITEM	TOPIC / DISCUSSION	OWNER	DATE DUE / PAPER
1	Interview - Overview / Outcomes		
2	Contractor Costs		
3	- Contractor Overheads		
4	- Contractor Margin		
5	- CITB		
6	Locality Allowance		
7	Estimate Scope of works		
8	Cost unit rates		
9	Labour Crew allowance		
10	Escalation		
11	Contingency		
12	Project Delivery Fees		
13	Review and Wrap up		