

Alinta Pty Ltd

**2008 Electricity Generation Licence
& Electricity Transmission Licence**

(Pinjarra and Wagerup)

Asset Management System Review

16 February 2009

Mr Corey Dykstra
Manager Regulatory Affairs
Alinta Sales Pty Ltd
Level 9, 12-14 The Esplanade
Perth WA 6000

16 February 2009

Dear Corey

2008 Asset Management System Review – Electricity Generation Licence (EGL10 + EGL6) and Electricity Transmission Licence (ETL3 + ETL1)

We have completed our review of the effectiveness of the electricity generation and electricity transmission asset management system for:

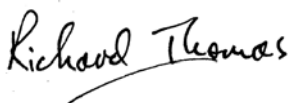
- Alinta Cogeneration (Wagerup) Pty Ltd for the period 24 March 2006 to 30 June 2008
- Alinta Cogeneration (Pinjarra) Pty Ltd for the period 10 April 2006 to 30 June 2008

and are pleased to submit our report to you.

I confirm that this report is an accurate presentation of the findings and conclusions from our review procedures.

If you have any questions or wish to discuss anything raised in the report, please contact Andrew Baldwin on 9365 7236 or myself on 9365 7024.

Yours sincerely



Richard Thomas
Partner

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1 Executive summary

1.1 Introduction

Pursuant to the provisions of the Electricity Industry Act 2004 (**the Act**), the Economic Regulation Authority (**the Authority**) has issued Alinta Cogeneration (Wagerup) Pty Ltd and Alinta Cogeneration (Pinjarra) Pty Ltd (collectively, **Alinta**) with two electricity generation (EGL10 and EGL6) and two electricity transmission licences (ETL3 and ETL1) (**the Licences**). The Licences relate to Alinta's operation of electricity generating works and electricity transmission systems at the Wagerup and Pinjarra cogeneration facilities. For each of these cogeneration facilities, Alinta has established an Operating & Maintenance (**O&M**) Agreement with Alcoa of Australia Limited (**Alcoa**), requiring Alcoa to provide and operate an asset management system on behalf of Alinta.

Section 14 of the Act requires Alinta to provide the Authority with a report by an independent expert acceptable to the Authority as to the effectiveness of the respective asset management systems established for assets subject to the Licences (**the review**).

1.2 Independent reviewer's report

With the Authority's approval, Deloitte Touche Tohmatsu (**Deloitte**) was appointed to undertake the review. Deloitte engaged Maunsell Australia Pty Ltd (**Maunsell**) to provide advice where technical expertise was required. The review was conducted in accordance with the specific requirements of the Licences and the Authority's *Audit Guidelines: Electricity, Gas and Water Licences* (**Audit Guidelines**).

This is the first such review conducted in accordance with Alinta's Licences requirements.

Alinta's responsibility for compliance with the conditions of the Licences

Alinta is responsible for putting in place policies, procedures and controls, which are designed to provide for an effective asset management system for assets subject to the Licences.

Our responsibility

Our responsibility is to express a conclusion on the effectiveness of Alinta's asset management systems to meet Licence requirements based on our procedures. We conducted our engagement in accordance with Australian Standard on Assurance Engagements ASAE 3500 *Performance Engagements (Revision of AUS 806 and AUS 808)* issued by the Australian Auditing and Assurance Standards Board and the Audit Guidelines, in order to state whether, based on the procedures performed, anything has come to our attention that causes us to believe that Alinta's asset management system has not been operating effectively, in all material respects, in accordance with the Authority's Audit Guidelines document. Our engagement provides limited assurance as defined in ASAE 3500. Our procedures were set out in the Review Plan reviewed and agreed with by the Authority on 14 November 2008, and set out in Appendix A.

We cannot, in practice, examine every activity and procedure, nor can we be a substitute for management's responsibility to maintain adequate controls over all levels of operations and their responsibility to prevent and detect irregularities, including fraud. Accordingly, readers of our report should not rely on the report to identify all potential instances of non-compliance which may occur.

Any projection of the evaluation of the level of compliance to future periods is subject to the risk that the systems may become inadequate because of changes in conditions, or that the degree of compliance with management procedures may deteriorate.

Limitations of use

This report is made solely to the management of Alinta in accordance with our engagement letter dated 26 May 2008, for the purpose of meeting the requirements of section 14 of the Act. We disclaim any assumption of responsibility for any reliance on this report to any person other than the management of Alinta for any purpose other than that for which it was prepared. We disclaim all liability to any other party for all costs, loss, damages, and liability that the other party might suffer or incur arising from or relating to or in any way connected with the contents of our report, the provision of our report to the other party, or the reliance on our report by the other party.

Inherent limitations

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement conducted in accordance with ASAE 3500 and consequently does not allow us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we will not express an opinion providing reasonable assurance.

Independence

In conducting our engagement, we have complied with the independence requirements of the Australian professional accounting bodies.

1.3 Conclusion

Based on our work described in this report, nothing has come to our attention to indicate that Alinta had not established and maintained an effective asset management system for assets subject to the Licences and in operation during the period 24 March 2006 to 30 June 2008 for Wagerup Licences and 10 April 2006 to 30 June 2008 for Pinjarra Licences.

Tables 4 and 5 of this report provide effectiveness ratings for each of the 12 key processes in the asset management life-cycle. For those aspects of Alinta's asset management system that were assessed as having opportunities for improvement, relevant observations, recommendations and post review implementation plans are summarised at section 1.6 of this report and also included at section 3 of this report.

DELOITTE TOUCHE TOHMATSU



Richard Thomas

Partner

Perth, February 2009

1.4 Alinta's response to previous review recommendations

As this is the first review under these Licences, there are no previous review recommendations to which Alinta can respond.

1.5 Findings

The following two tables summarise the assessments made by this review on the effectiveness of Alinta's asset management system for the facilities at Wagerup and Pinjarra separately. On the scale of 0 to 5, 5 is the highest rating possible (continuously improving effectiveness with no recommendations for improving effectiveness) with the rating scale moving through lower levels of effectiveness. Refer to **Table 3** at the "Summary of findings" section of this report for a description of the effectiveness rating scale applied.

The summary tables below relate to both generation and transmission licences as the assessment of effectiveness is the same for both licence types.

Table 1: Summary of findings, by review priority¹ and effectiveness rating - Wagerup Generation and Transmission assets

Wagerup Generation and Transmission assets								
No. of AMS aspects	Effectiveness Rating							Total
	Not rated ²	0	1	2	3	4	5	
Priority 2					3	3		6
Priority 4				2	23	9		34
Priority 5	1		1	1	8	4		15
Total	1		1	3	33	16		55

Table 2: Summary of findings, by review priority and effectiveness rating – Pinjarra Generation and Transmission assets

Pinjarra Generation and Transmission assets								
No. of AMS aspects	Effectiveness Rating							Total
	Not rated	0	1	2	3	4	5	
Priority 2					3	2	1	6
Priority 4				2	19	12	1	34
Priority 5	1		1	1	7	5		15
Total	1		1	3	29	19	2	55

¹ Review priority for each performance criteria was determined as an outcome of the risk assessment approach outlined in the Review Plan, set out in Appendix A

² Obligations for which there was no relevant activity during the period of audit. An assessment of effectiveness could not be made

Specific assessments for each asset management system process are summarised at **Tables 4 & 5** in the “Summary of findings” section of this report.

Detailed findings, including relevant observations, recommendations and post review implementation plans are located in the “Detailed findings, recommendations and post review implementation plans” section of this report.

1.6 Recommendations and post review implementation plans

Where relevant, findings, recommendations and post review implementation plans specific to each facility are detailed, otherwise findings, recommendations and post review implementation plans collectively apply to both facilities.

Issue 1: Asset Operations and Asset Maintenance - Pinjarra	
For Alinta’s Pinjarra cogeneration facilities, Alinta assets’ systems and procedures are documented to a degree, however work related to development of procedures, completing maintenance system entry and asset management strategies is ongoing. Also original equipment manufacturer (OEM) drawings have not yet all been entered into Alcoa’s maintenance drawing systems. We acknowledge that Alinta recently drafted an Asset Life Plan (most recent version dated November 2008) for the Pinjarra cogeneration plant, which addresses the relevant whole of business planning processes.	
<p>Recommendation 1</p> <p>The ongoing integration of the Alinta Pinjarra cogeneration units into Alcoa’s operations and maintenance systems be continued and completed through the development of maintenance and operations procedures and inclusion of OEM drawing into Alcoa’s maintenance drawing systems.</p>	<p>Post Review Implementation Plan 1</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that the Pinjarra cogeneration units are integrated into Alcoa’s operations and maintenance systems, and complemented through the development of maintenance and operations procedures and inclusion of OEM drawing into Alcoa’s maintenance drawing systems.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation</p> <p>Target Date: 31 July 2009</p>

Issue 2: Asset Operations and Asset Maintenance - Pinjarra	
The Pinjarra Cogeneration July 2008 Monthly Report included several significant punch list items requiring finalisation or resolution. Issues identified included compliance with statutory requirements, demineralisation plant issues, finalising hazardous area documentation, functionality of on-line emissions monitoring systems, start-up vents noise compliance and gas turbine (GT) fire system maintenance issues.	
<p>Recommendation 2</p> <p>Alinta prioritise and accordingly action outstanding punch list items identified in the Pinjarra Cogeneration July 2008 Monthly report (or the most current, equivalent report). Demonstrated compliance with statutory requirements should be given the highest priority.</p>	<p>Post Review Implementation Plan 2</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to prioritise and action outstanding punch list items identified in the Pinjarra Cogeneration July 2008 Monthly report (or the most current, equivalent report). Highest priority will be given to items required to demonstrated compliance with statutory requirements.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation</p> <p>Target Date: 31 March 2009</p>

Issue 3: Asset Operations and Asset Maintenance - Wagerup	
The integration of Alinta Wagerup's open cycle units into Alcoa's routine operations and maintenance systems is progressing, however is yet to be completed for auxiliary equipment. This task should be completed as soon as practicable.	
Recommendation 3 Integration of Alinta Wagerup cogeneration units into Alcoa's regular operations and maintenance systems be given more urgency to address the long term sustainability of the units' availability and reliability.	Post Review Implementation Plan 3 Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that integration of the Wagerup cogeneration units into Alcoa's regular operations and maintenance systems are progressed to address the long term sustainability of the units' availability and reliability. Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009
Issue 4: General Issue - Asset Management Strategies – Generation Assets	
For the purpose of Alinta's Electricity Generation Licences, Alcoa's Asset Strategy documents do not specifically address the 12 key processes in the asset management life-cycle, nor do Alcoa's supporting processes and procedures explicitly refer to Alcoa powerhouse or Alinta cogeneration assets.	
Recommendation 4 Alinta consult with Alcoa to ensure that the Alcoa Powerhouse Asset Strategies: <ul style="list-style-type: none"> ▪ accommodate each of the 12 key processes in the asset management life-cycle ▪ where appropriate, refer to existing Alinta and/or Alcoa asset planning and management processes and procedures, as they apply to powerhouse assets. 	Post Review Implementation Plan 4 Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that the Alcoa Powerhouse Asset Strategies: <ul style="list-style-type: none"> ▪ accommodate each of the 12 key processes in the asset management life-cycle; and ▪ where appropriate, refer to existing Alinta and/or Alcoa asset planning and management processes and procedures, as they apply to powerhouse assets. Responsible Persons: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs Target Date: 31 July 2009
Issue 5: General Issue - Asset Management Strategies – Transmission Assets	
Aspects of Alinta's Asset Management Strategies for each of the Pinjarra and Wagerup cogeneration electricity transmission operations can be further strengthened to ensure they accommodate each of the 12 key processes in the asset management life-cycle, and particularly incorporating Alinta-specific procedures.	
Recommendation 5 Alinta consider further amendments to its Transmission Assets Asset Management Strategy documents to ensure they fully accommodate each of the 12 key processes in the asset management life-cycle.	Post Review Implementation Plan 5 Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to consider amendments to the Transmission Assets Asset Management Strategy documents to ensure they fully accommodate each of the 12 key processes in the asset management life-cycle. Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 6
Asset creation/acquisition 2(e) Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	3. Well defined	Although Alinta's O&M agreement with Alcoa is designed to ensure Alinta's environmental and safety obligations are addressed as part of Alcoa's normal operations, Alinta does not specifically maintain a full record of its legal requirements as an electricity generation and transmission asset owner.
Recommendation 6 Further to Alcoa's records and systems, Alinta establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner.		Post Review Implementation Plan 6 Alinta will establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner. Responsible Persons: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs Target Date: 31 July 2009

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 7
Environmental Analysis 4(c) Compliance with statutory and regulatory requirements	Pinjarra 4. Quantitatively Controlled	At the time of our site visit to the Pinjarra cogeneration facilities, the Start-up Vents noise compliance with the licence requirements was still unknown and the on-line emissions monitoring systems were not functional on both cogeneration units. In the interim, regular sampling and testing by external agencies is being performed.
Recommendation 7 Alinta investigate, understand and comply with the statutory and regulatory noise level requirements for the Pinjarra cogeneration plant.		Post Review Implementation Plan 7 (a) Since the review, Alinta has replaced the start up vent silencer on Pinjarra Unit 2. A replacement start up vent for Pinjarra Unit 1 is on site and will be installed the week commencing 9 February 2009. The emissions monitoring equipment will be operational following the fitting of a new sampling probe internally in the stack. This will be completed during the next major maintenance outage in August for Unit 1 and November for Unit 2. (b) As per recommendation 6, Alinta will establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner by 31 July 2009. Responsible Persons: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs Target Date: As outlined above

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 8
Asset Operations 5(a) Operational policies and procedures are documented and linked to service levels required	3. Well-defined	For each of the Pinjarra and Wagerup facilities, at the time of our review, work was in progress to develop and link operational procedures for auxiliary equipment.
Recommendation 8 Alinta prioritise and fund the development of operational policies procedures for auxiliary equipment.		Post Review Implementation Plan 8 Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to develop and maintain operational policies procedures for auxiliary equipment. Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 9
Asset Operations 5(c) Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	3. Well-defined	At the time of our review, we noted that auxiliary equipment had yet to be added to the Alcoa-wide electronic asset maintenance database.
Recommendation 9 Alinta auxiliary equipment be added to the Alcoa maintenance database to enable effective prioritisation of maintenance work		Post Review Implementation Plan 9 Since the review, Alinta has liaised with Alcoa to add Alinta's auxiliary equipment to the Alcoa maintenance database to facilitate effective prioritisation of maintenance work. Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: Completed

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 10
<p>Asset Maintenance 6(d) Failures are analysed and operational/ maintenance plans adjusted where necessary</p>	<p>Wagerup 3. Well-defined</p>	<p>Through discussion with Alcoa WAO Powerhouse Operations staff we note that the Wagerup demineralisation plant was assessed to be unfit for purpose, however at the time of our review, no corrective action had been undertaken.</p>
<p>Recommendation 10</p> <p>(a) An appropriate resolution be determined for the Wagerup cogeneration demineralisation plant.</p> <p>(b) Alinta and Alcoa review the levels of priority and attention given to the Wagerup cogeneration assets.</p>		<p>Post Review Implementation Plan 10</p> <p>(a) Since the review Alinta has undertaken a thorough process to investigate and identify an appropriate resolution for issues associated with the Wagerup cogeneration demineralisation plant. A business case has been developed and put to the Babcock & Brown Power (BBP) board for funding to implement the recommended option, and it is expected this issue will be resolved by 30 April 2009.</p> <p>(b) Since the review Alinta and BBP have employed additional staff to manage O&M and Compliance issues at Wagerup, which has enabled greater priority and attention to be given to issues at both Pinjarra and Wagerup.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation</p> <p>Target Date: 30 April 2009</p>

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 11
<p>Asset Management Information System 7(g) Management reports appear adequate for the licensee to monitor licence obligations</p>	<p>2. Planned and tracked</p>	<p>While Alinta's existing operational and management reporting structure and processes are designed to enable Alinta to monitor its ongoing business performance, its electricity generation and transmission licence obligations are not explicitly accommodated in those reporting structure and processes.</p>
<p>Recommendation 11</p> <p>Establish a mechanism, which enables Alinta to effectively and continuously monitor its performance against Licence obligations.</p>		<p>Post Review Implementation Plan 11</p> <p>Since the review, Alinta and BBP have employed additional staff (Manager Regulatory Affairs and Operations Manager, Western Operations, Power Generation) to enable Alinta to more effectively and continuously monitor its performance against Licence obligations. Alinta will further review existing BBP business processes to ensure they enable Alinta to effectively and continuously monitor its performance against Licence obligations.</p> <p>Responsible Person: Manager Regulatory Affairs</p> <p>Target Date: 31 July 2009</p>

AMS Key Process and Effectiveness Criteria	Effectiveness Rating	Issue 12
<p>Review of AMS 12(a) A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current 12(b) Independent reviews (e.g. internal audit) are performed of the asset management system</p>	<p>2. Planned and tracked</p> <p>1. Performed informally</p>	<p>A formal process has not been established for reviewing Alinta's cogeneration asset management plans and strategies independent of broader Alinta and Alcoa systems and in the context of Alinta's Licence requirements. Alinta's existing auditing and review processes do not specifically address cogeneration licence obligations or the related asset management systems.</p>
<p>Recommendation 12 Develop and implement a structured review program, which explicitly accommodates Alinta's electricity generation and transmission asset management systems.</p>		<p>Post Review Implementation Plan 12 Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to develop and implement a structured review program for Alinta's electricity generation and transmission asset management systems. Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009</p>

1.7 Scope and objectives

The review is designed to gain limited assurance regarding Alinta's compliance with the conditions of its Licences during the period 24 March 2006 to 30 June 2008 for Wagerup and 10 April 2006 to 30 June 2008 for Pinjarra.

In accordance with the Authority's Audit Guidelines, the asset management system review considered the effectiveness of Alinta's existing control procedures within the following key processes in the asset management life-cycle:

- asset planning (including development & maintenance of an asset management plan)
- asset creation and acquisition
- asset disposal
- environmental analysis (all external factors that affect the system)
- asset operations
- asset maintenance
- asset management information system
- risk management
- contingency planning
- financial planning
- capital expenditure planning
- review of asset management system.

The Review Plan set out at Appendix A presents the risk assessments made for and review priority assigned to each asset management system process.

1.8 Approach

Our approach for this review involved the following activities, which were undertaken during the period August to December 2008:

- utilising the Audit Guidelines and Reporting Manual as a guide, development of a risk assessment which involved discussions with key staff and document review to assess relevant controls
- development of a Review Plan (see **Appendix A**) and associated work program for approval by the Authority
- interviews with Alinta and Alcoa³ staff to gain understanding of process controls in functions such as planning, asset operations, finance, internal audit and capital expenditure planning (see **Appendix B** for staff involved)
- visited the Alinta cogeneration sites in Pinjarra and Wagerup. Maunsell conducted site and asset reviews with a focus on understanding the installation, its function and normal modes of operation, its age, and an assessment of the installation against the asset management system review criteria
- review of documents, processes and controls to assess the overall effectiveness of Alinta's asset management systems (see **Appendix B** for reference listing)
- reporting of findings to Alinta for review and response.

³ Alcoa is contracted by Alinta to undertake the operations and maintenance of Alinta's cogeneration facilities

2 Summary of findings

Table 3 sets out the rating scale defined by the Authority in the Audit Guidelines for the assessment of the level of effectiveness of Alinta's asset management system. For the highest possible effectiveness rating to be achieved, Alinta was required to demonstrate it has maintained mature processes and controls, supported by an existing review/continuous improvement process.

Table 3: Effectiveness rating scale

Effectiveness	Rating	Description
Continuously improving	5	Continuously improving organisation capability and process effectiveness
Quantitatively controlled	4	Measurable performance goals established and monitored
Well-defined	3	Standard processes documented, performed and coordinated
Planned and tracked	2	Performance is planned, supervised, verified and tracked
Performed informally	1	Base practices are performed
Not performed	0	Not performed (indicate if not applicable)

This report provides:

- a breakdown of each function of the asset management system into subcomponents as described in the Audit Guidelines. This approach is taken to enable a more thorough review of key processes where individual components within a greater process can be of greater risk to the business therefore requiring different review treatment
- a summary of the findings of the asset management system review for each of the Wagerup and Pinjarra assets (at **Tables 4 & 5**)
- detailed findings, including relevant observations, recommendations and post review implementation plans (at **section 3**).

Note that:

- the risk assessment that was presented in the Review Plan remains unchanged as no issues or concerns were identified that would indicate a need to modify the nature and levels of testing. The risk assessment has been included in this summary section to give context to the ratings that have been determined
- for a number of the asset management system functions, Alinta's cogeneration operations apply Babcock & Brown Power's business wide policies, procedures and practices
- where relevant, findings specific to each of the Wagerup and Pinjarra cogeneration facilities are detailed, otherwise findings collectively apply to both facilities
- findings for each of the Wagerup and Pinjarra facilities also apply collectively to the respective electricity generation and electricity transmission licences.

Table 4: Asset management system effectiveness summary - Wagerup

Refer to Detailed Findings at section 3 and Review Plan at Appendix A for descriptions of the specific effectiveness criteria for the 12 asset management system functions.

						Effectiveness Rating					
Ref	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	0	1	2	3	4	5
1. Asset planning									✓		
1 (a)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (b)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (c)	Minor	Probable	Low	Medium	Priority 5				✓		
1 (d)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (e)	Minor	Probable	Low	Low	Priority 5				✓		
1 (f)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (g)	Major	Probable	High	Medium	Priority 2					✓	
1 (h)	Moderate	Probable	Medium	Medium	Priority 4			✓			
2. Asset creation and acquisition									✓		
2 (a)	Moderate	Unlikely	Medium	Low	Priority 4				✓		
2 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		
2 (c)	Moderate	Probable	Medium	Medium	Priority 4				✓		
2 (d)	Moderate	Probable	Medium	Low	Priority 4					✓	
2 (e)	Moderate	Probable	Medium	Medium	Priority 4				✓		
3. Asset disposal									✓		
3 (a)	Moderate	Unlikely	Medium	Medium	Priority 4				✓		
3 (b)	Moderate	Unlikely	Medium	Medium	Priority 4				✓		
3 (c)	Minor	Probable	Low	Medium	Priority 5				✓		
3 (d)	Moderate	Probable	Medium	Medium	Priority 4				✓		
4. Environmental analysis										✓	
4 (a)	Moderate	Likely	High	Low	Priority 2					✓	
4 (b)	Moderate	Probable	Medium	Low	Priority 4				✓		
4 (c)	Moderate	Likely	High	Low	Priority 2					✓	
4 (d)	Moderate	Probable	Medium	Medium	Priority 4				✓		
5. Asset operations									✓		
5 (a)	Moderate	Likely	High	Medium	Priority 2				✓		
5 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		
5 (c)	Minor	Probable	Low	Low	Priority 5				✓		
5 (d)	Moderate	Probable	Medium	Low	Priority 4				✓		
5 (e)	Moderate	Probable	Medium	Medium	Priority 4					✓	
6. Asset maintenance									✓		
6 (a)	Moderate	Likely	High	Medium	Priority 2				✓		
6 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		
6 (c)	Moderate	Likely	High	Medium	Priority 2				✓		

						Effectiveness Rating					
Ref	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	0	1	2	3	4	5
6 (d)	Moderate	Probable	Medium	Medium	Priority 4				✓		
6 (e)	Moderate	Probable	Medium	Medium	Priority 4				✓		
6 (f)	Minor	Probable	Low	Medium	Priority 5				✓		
7. Asset management information system											✓
7 (a)	Minor	Probable	Low	Medium	Priority 5					✓	
7 (b)	Minor	Likely	Medium	Medium	Priority 4					✓	
7 (c)	Minor	Likely	Medium	Medium	Priority 4					✓	
7 (d)	Minor	Probable	Low	Medium	Priority 5				✓		
7 (e)	Moderate	Probable	Medium	Medium	Priority 4					✓	
7 (f)	Minor	Probable	Low	Medium	Priority 5			Not rated			
7 (g)	Minor	Probable	Low	Medium	Priority 5			✓			
8. Risk management											✓
8 (a)	Moderate	Probable	Medium	Medium	Priority 4					✓	
8 (b)	Moderate	Probable	Medium	Medium	Priority 4					✓	
8 (c)	Moderate	Probable	Medium	Medium	Priority 4					✓	
9. Contingency planning											✓
9 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
10. Financial planning											✓
10 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
10 (b)	Minor	Probable	Low	Medium	Priority 5				✓		
10 (c)	Minor	Unlikely	Low	Medium	Priority 5					✓	
10 (d)	Minor	Probable	Low	Medium	Priority 5					✓	
10 (e)	Moderate	Unlikely	Medium	Medium	Priority 4					✓	
10 (f)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11. Capital expenditure planning											✓
11 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11 (b)	Minor	Probable	Low	Medium	Priority 5				✓		
11 (c)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11 (d)	Minor	Probable	Low	Medium	Priority 5					✓	
12. Review of asset management system											✓
12 (a)	Moderate	Probable	Medium	Medium	Priority 4			✓			
12 (b)	Minor	Probable	Low	Medium	Priority 5		✓				

Table 5: Asset management system effectiveness summary - Pinjarra

Refer to Detailed Findings at section 3 and Review Plan at Appendix A for descriptions of the specific effectiveness criteria for the 12 asset management system functions.

Ref	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	Effectiveness Rating					
						0	1	2	3	4	5
1. Asset planning											✓
1 (a)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (b)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (c)	Minor	Probable	Low	Medium	Priority 5				✓		
1 (d)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (e)	Minor	Probable	Low	Low	Priority 5				✓		
1 (f)	Moderate	Probable	Medium	Low	Priority 4				✓		
1 (g)	Major	Probable	High	Medium	Priority 2					✓	
1 (h)	Moderate	Probable	Medium	Medium	Priority 4			✓			
2. Asset creation and acquisition											✓
2 (a)	Moderate	Unlikely	Medium	Low	Priority 4				✓		
2 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		
2 (c)	Moderate	Probable	Medium	Medium	Priority 4				✓		
2 (d)	Moderate	Probable	Medium	Low	Priority 4					✓	
2 (e)	Moderate	Probable	Medium	Medium	Priority 4				✓		
3. Asset disposal											✓
3 (a)	Moderate	Unlikely	Medium	Medium	Priority 4				✓		
3 (b)	Moderate	Unlikely	Medium	Medium	Priority 4				✓		
3 (c)	Minor	Probable	Low	Medium	Priority 5				✓		
3 (d)	Moderate	Probable	Medium	Medium	Priority 4				✓		
4. Environmental analysis											✓
4 (a)	Moderate	Likely	High	Low	Priority 2						✓
4 (b)	Moderate	Probable	Medium	Low	Priority 4						✓
4 (c)	Moderate	Likely	High	Low	Priority 2					✓	
4 (d)	Moderate	Probable	Medium	Medium	Priority 4				✓		
5. Asset operations											✓
5 (a)	Moderate	Likely	High	Medium	Priority 2				✓		
5 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		
5 (c)	Minor	Probable	Low	Low	Priority 5				✓		
5 (d)	Moderate	Probable	Medium	Low	Priority 4					✓	
5 (e)	Moderate	Probable	Medium	Medium	Priority 4					✓	
6. Asset maintenance											✓
6 (a)	Moderate	Likely	High	Medium	Priority 2				✓		
6 (b)	Moderate	Probable	Medium	Medium	Priority 4				✓		

						Effectiveness Rating					
Ref	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	0	1	2	3	4	5
6 (c)	Moderate	Likely	High	Medium	Priority 2				✓		
6 (d)	Moderate	Probable	Medium	Medium	Priority 4					✓	
6 (e)	Moderate	Probable	Medium	Medium	Priority 4					✓	
6 (f)	Minor	Probable	Low	Medium	Priority 5					✓	
7. Asset management information system											✓
7 (a)	Minor	Probable	Low	Medium	Priority 5					✓	
7 (b)	Minor	Likely	Medium	Medium	Priority 4					✓	
7 (c)	Minor	Likely	Medium	Medium	Priority 4					✓	
7 (d)	Minor	Probable	Low	Medium	Priority 5				✓		
7 (e)	Moderate	Probable	Medium	Medium	Priority 4					✓	
7 (f)	Minor	Probable	Low	Medium	Priority 5			Not rated			
7 (g)	Minor	Probable	Low	Medium	Priority 5			✓			
8. Risk management											✓
8 (a)	Moderate	Probable	Medium	Medium	Priority 4					✓	
8 (b)	Moderate	Probable	Medium	Medium	Priority 4					✓	
8 (c)	Moderate	Probable	Medium	Medium	Priority 4					✓	
9. Contingency planning											✓
9 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
10. Financial planning											✓
10 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
10 (b)	Minor	Probable	Low	Medium	Priority 5				✓		
10 (c)	Minor	Unlikely	Low	Medium	Priority 5					✓	
10 (d)	Minor	Probable	Low	Medium	Priority 5					✓	
10 (e)	Moderate	Unlikely	Medium	Medium	Priority 4					✓	
10 (f)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11. Capital expenditure planning											✓
11 (a)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11 (b)	Minor	Probable	Low	Medium	Priority 5				✓		
11 (c)	Moderate	Probable	Medium	Medium	Priority 4				✓		
11 (d)	Minor	Probable	Low	Medium	Priority 5					✓	
12. Review of asset management system											✓
12 (a)	Moderate	Probable	Medium	Medium	Priority 4			✓			
12 (b)	Minor	Probable	Low	Medium	Priority 5		✓				

3 Detailed findings, recommendations and post review implementation plans

The following tables contain:

- a **summary description of generation and transmission works subject to this asset management system review**: including the system summary and Business/SWIN impact for each of the two cogeneration facilities
- an **overall summary of observations and recommendations**: for Alinta's cogeneration facilities asset management system
- **findings**: the reviewer's understanding of the process and any issues that have been identified during the review
- **recommendations**: recommendations for improvement or enhancement of the process or control
- **post review implementation plans**: Alinta's formal response to review recommendations, providing details of action to be implemented to address the specific issue raised by the review.

Summary of generation and transmission works subject to this asset management system review

Alinta Pinjarra Cogeneration

System summary

- the Alinta Pinjarra cogeneration plant is located within Alcoa's Alumina Refinery Facilities at Pinjarra. The plant comprises of two gas turbine cogeneration units with heat recovery steam generation boilers. The units were commissioned in 2005 and 2006 respectively.
- Unit #1 has a nameplate generation capacity of 140MW. Electricity from this unit is transmitted via a 132kV transmission line to Western Power's substation located at the Pinjarra refinery.
- Unit #2 has a similar electricity generation capacity. Electricity from this unit is transmitted via a 7.4km, 330kV transmission line to Western Power's substation located at Oakley.
- the high pressure steam generated by the Alinta cogeneration plant is supplied to the Alcoa refinery in its entirety
- Alcoa operates and maintains the Alinta Pinjarra cogeneration units under a long term O&M agreement.
- Alinta has established a Long Term Service Agreement with Mitsubishi for the maintenance of the gas turbines.

Business and South West Integrated Network (SWIN) impact

- in the event that Alinta Pinjarra cogeneration equipment fails, there is a direct loss of generation for the Western Power operated grid. Loss of one Alinta cogeneration unit has manageable impact on the Alcoa refinery. A loss of both units is likely to have a direct impact on refinery production
- loss of Alinta Pinjarra cogeneration steam capacity may also directly impact refinery production. Because the cost impact of lost production is significant, concerted effort is made to ensure high availability and reliability of major steam equipment.

Alinta Wagerup Cogeneration

System summary

- the Alinta Open Cycle Plant at Alcoa's Wagerup Alumina Refinery Facilities includes two gas turbines in open cycle configuration. The units are still considered to be new, having been commissioned in 2007.
- both units have a nameplate generation capacity of 180MW and transmit electricity via a 14.4km, 330kW transmission line to Western Power's substation located at Landwehr.
- Alcoa operates and maintains the Alinta Wagerup cogeneration units under a long term O&M agreement.
- Alinta has established a Long Term Service Agreement with Mitsubishi for the maintenance of the gas turbines.

Business and SWIN impact

- in the event that Alinta Wagerup cogeneration equipment fails, there may be a direct loss of generation for the Western Power operated grid
- to November 2008, electricity production from Alinta Wagerup cogeneration has been limited, with total plant operation of approximately two weeks.

Summary observations and recommendations

For each of the 12 key processes of the asset management system subject to review, this report outlines below:

- the process and expected outcome from the process, as outlined in the Authority's Audit Guidelines
- summary observations (where appropriate)
- specific findings and results for each individual aspect of those processes, as outlined in the Review Plan.

Summary observations

Through discussion with key Alinta and Alcoa representatives, examination of supporting documents and consideration of each of Alcoa's key asset management system processes, we observed that:

- Alinta established long term O&M agreements with Alcoa for each of its Pinjarra and Wagerup cogeneration operations. The objective of the O&M agreements is to enable Alinta, as owner of the cogeneration facilities to assign the daily operational obligations of each facility to Alcoa, including asset management system responsibilities. The O&M agreements address budgetary procedures and accounting as well as annual operating plant items such as routine repairs and maintenance, planned outages, long term operating plan and budgets
- Alinta and Alcoa also established Steam Supply Agreements for Alinta's Pinjarra and Wagerup operations, addressing obligations and functions such as co-ordination and facilitation of operations maintenance, co-ordination of activities, access to site and timing of meetings for senior, operations and technical management
- rolling 5 year plans are prepared by Alcoa for each of the Pinjarra and Wagerup Powerhouse operations, including Alinta cogeneration facilities
- Alcoa applies well documented, risk based processes to manage powerhouse assets including Alinta cogeneration facilities, with the sequence of maintenance task priorities being people & safety first followed by environment, then customer
- Alcoa's fundamental business requirements place a high expectation on powerhouse assets for steam output
- the major driver for Alcoa's powerhouse asset management strategies is for effective maintenance, refurbishment or replacement of powerhouse assets with consideration of equipment life cycle
- Alcoa's Enterprise Asset Management (**eAM**) system is designed to facilitate its asset maintenance strategies and compliance with statutory requirements
- the main mechanical and electrical systems for the Alinta Pinjarra cogeneration plant are documented. The drawings are current and procedures in place to describe operation of key equipment
- for Alinta's Pinjarra cogeneration facilities, Alinta assets' systems and procedures are documented to a degree, however work related to development of procedures, completing maintenance system entry and asset management strategies is ongoing. Also OEM drawings have not yet all been entered into Alcoa's maintenance drawing systems. We acknowledge that Alinta recently drafted an Asset Life Plan (most recent version dated November 2008) for the Pinjarra cogeneration plant, which addresses the relevant whole of business planning processes (*review issue – refer to Recommendation 1*)
- the Pinjarra Cogeneration July 2008 Monthly Report included several significant punch list items requiring finalisation or resolution. Issues identified included compliance with statutory requirements, demineralisation plant issues, finalising hazardous area documentation, functionality of on-line emissions monitoring systems, start-up vents noise compliance and GT fire system maintenance issues (*review issue – refer to Recommendation 2*)

Summary observations and recommendations

- the integration of Alinta Wagerup's open cycle units into Alcoa's routine operations and maintenance systems is progressing, however is yet to be completed for auxiliary equipment. This task should be completed as soon as practicable. We also understand Alinta plans to prepare an Asset Life Plan for the Wagerup cogeneration plant, to address the relevant whole of business planning processes (*review issue – refer to Recommendation 3*)
- as both cogeneration plants have equipment that is relatively new, short term maintenance requirements are lower than for typical powerhouse operations and there is less immediate need to develop specialised procedures
- Alcoa has not established designated Asset Management Plans for its powerhouse assets. Instead, Powerhouse Asset Strategies have been drafted for each powerhouse, although the Wagerup asset strategy is not yet complete. We note that Alcoa has provided for this strategy to be completed in Q2 2009. For the purpose of Alinta's Electricity Generation Licences, Alcoa's Asset Strategy documents do not specifically address the 12 key processes in the asset management life-cycle, nor do Alcoa's supporting processes and procedures explicitly refer to Alcoa powerhouse or Alinta cogeneration assets (*review issue – refer to Recommendation 4*)
- with respect to Alinta's electricity transmission assets and at Alinta's request, Alcoa prepared an Asset Management Strategy for each of the Pinjarra and Wagerup cogeneration electricity transmission operations. These strategies aim to provide a systematic approach to asset management, whereby the condition and performance of the transmission and associate network assets are being efficiently and effectively monitored, maintained and developed to meet customer and stakeholder expectations. They outline the procedures, practices and strategies for managing and auditing the asset management of the transmission network. Aspects of these strategies can be further strengthened to ensure they accommodate each of the 12 key processes in the asset management life-cycle, and particularly incorporating Alinta-specific procedures (*review issue – refer to Recommendation 5*).

Summary observations and recommendations	
<p>Recommendation 1</p> <p>The ongoing integration of the Alinta Pinjarra cogeneration units into Alcoa's operations and maintenance systems be continued and completed through the development of maintenance and operations procedures and inclusion of OEM drawing into Alcoa's maintenance drawing systems.</p>	<p>Post Review Implementation Plan 1</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that the Pinjarra cogeneration units are integrated into Alcoa's operations and maintenance systems, and complemented through the development of maintenance and operations procedures and inclusion of OEM drawing into Alcoa's maintenance drawing systems.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009</p>
<p>Recommendation 2</p> <p>Alinta prioritise and accordingly action outstanding punch list items identified in the Pinjarra Cogeneration July 2008 Monthly report (or the most current, equivalent report). Demonstrated compliance with statutory requirements should be given the highest priority.</p>	<p>Post Review Implementation Plan 2</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to prioritise and action outstanding punch list items identified in the Pinjarra Cogeneration July 2008 Monthly report (or the most current, equivalent report). Highest priority will be given to items required to demonstrated compliance with statutory requirements.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 March 2009</p>
<p>Recommendation 3</p> <p>Integration of Alinta Wagerup cogeneration units into Alcoa's regular operations and maintenance systems be given more urgency to address the long term sustainability of the units' availability and reliability.</p>	<p>Post Review Implementation Plan 3</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that integration of the Wagerup cogeneration units into Alcoa's regular operations and maintenance systems are progressed to address the long term sustainability of the units' availability and reliability.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009</p>
<p>Recommendation 4</p> <p>Alinta consult with Alcoa to ensure that the Alcoa Powerhouse Asset Strategies:</p> <ul style="list-style-type: none"> ▪ accommodate each of the 12 key processes in the asset management life-cycle ▪ where appropriate, refer to existing Alinta and/or Alcoa asset planning and management processes and procedures, as they apply to powerhouse assets. 	<p>Post Review Implementation Plan 4</p> <p>Alinta will work with Alcoa (through the Procurement Specialist – Energy) to ensure that the Alcoa Powerhouse Asset Strategies:</p> <ul style="list-style-type: none"> ▪ accommodate each of the 12 key processes in the asset management life-cycle; and ▪ where appropriate, refer to existing Alinta and/or Alcoa asset planning and management processes and procedures, as they apply to powerhouse assets. <p>Responsible Person: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs Target Date: 31 July 2009</p>

Summary observations and recommendations	
<p>Recommendation 5</p> <p>Alinta consider further amendments to its Transmission Assets Asset Management Strategy documents to ensure they fully accommodate each of the 12 key processes in the asset management life-cycle.</p>	<p>Post Review Implementation Plan 5</p> <p>Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to consider amendments to the Transmission Assets Asset Management Strategy documents to ensure they fully accommodate each of the 12 key processes in the asset management life-cycle.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009</p>

1. Asset Planning			
<p>Key process: Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).</p> <p>Expected outcome: Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised.</p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
1(a)	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	3. Well defined	<p>As Alinta's Pinjarra and Wagerup cogeneration units were commissioned during the period subject to review, asset planning activities applied during the period were focussed on construction, commissioning and the early phase of the units' life cycle.</p> <p>Ongoing asset planning processes relevant to the cogeneration units are accommodated by:</p> <ul style="list-style-type: none"> ▪ the O&M agreements with Alcoa, which provide for asset planning to be undertaken on an annual basis ▪ BBP's (as Alinta's parent entity) business and strategic planning mechanisms, as they apply to BBP's Western Operations. <p>As detailed at the Summary observations and recommendations (1, 4 and 5) above, designated asset management planning documents for Alinta's generation and transmission assets had not been established within the period subject to review. Alinta has since made progress in this regard, with the preparation of transmission asset management strategies and an asset life plan for the Pinjarra cogeneration plant. Alcoa has also recently undertaken to enhance its asset management strategies to better reflect the expectations of the Authority in relation to asset planning.</p>
1(b)	Service levels are defined	3. Well defined	<p>This aspect of the asset planning function refers to the service levels of the relevant cogeneration units.</p> <p>Rolling five year plans prepared for each of the Pinjarra and Wagerup facilities provide considerable detail for the planning aspects of the respective cogeneration units, including production capacity/historical results, per Alcoa's operational requirements.</p> <p>Asset strategies (currently in draft form) for each of the Pinjarra and Wagerup facilities are also designed to specify the required service levels of the respective cogeneration units.</p>
1(c)	Non-asset options (e.g. demand management) are considered	3. Well defined	<p>Through discussion with the Alcoa Senior Management Accountant and consideration of Alcoa WA Operations' planning processes, we observed that it is a formal requirement for non-asset options to be considered by Alcoa when purchasing powerhouse assets. This requirement also impacts on planning for Alinta's cogeneration units.</p> <p>However, due to the importance of the powerhouses to Alcoa's refinery operations, such non-asset operations are typically not actioned.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
1(d)	Lifecycle costs of owning and operating assets are assessed	3. Well defined	Through discussion with the General Manager Western Operations, we determined that assessments of lifecycle costs of owning and operating assets were undertaken as part of the project evaluation and business case for the construction and operation of the cogeneration units.
1(e)	Funding options are evaluated	3. Well defined	Alinta's options for funding its electricity generation and transmission activities remain a component of the overall commercial considerations in operating and maintaining the relevant assets, however funding options have little relevance to its ongoing electricity generation and transmission asset planning activities.
1(f)	Costs are justified and cost drivers identified	3. Well defined	<p>Through discussion with the General Manager Western Operations, we determined that cost drivers were identified as part of the project evaluation, business case and commercial considerations for the construction and operation of the cogeneration units.</p> <p>Since commissioning of the cogeneration units and associated transmission assets, Alinta has prepared costing schedules of planned/required capital and operational expenditure.</p>
1(g)	Likelihood and consequences of asset failure are predicted	4. Qualitatively controlled	<p>Through discussion with the Alcoa Principal Mechanical Engineer WAO Powerhouse and Alcoa Assistant Risk Manager and review of Alcoa supporting documentation, we observed that Alcoa has applied the following mechanisms for identifying consequence and likelihood of Alcoa powerhouse and Alinta cogeneration unit asset failure:</p> <ul style="list-style-type: none"> ▪ asset integrity audits, which are completed on a five yearly basis. Audit findings are maintained in a database and tracked through to completion ▪ other audits (e.g. the Alcoa Self Assessment Testing (ASAT) tool), which feed results into Alcoa's Business Improvement System. Similarly, audit findings are stored and tracked for completion ▪ loss prevention inspections, as a major aspect of Alcoa's risk management activities directed at Alcoa powerhouse and Alinta cogeneration operations ▪ classified plant inspections, which are conducted as per statutory requirements. Inspection results are documented within record books and where deficiencies are noted the asset owner is notified. Notices which are not addressed are escalated to more senior managers for consideration and action. <p>We obtained a number of inspection, audit and life assessment reports for each powerhouse, as evidence of the above procedures.</p>
1(h)	Plans are regularly reviewed and updated	2. Planned and tracked	During the period of this review, Alinta (nor Alcoa on Alinta's behalf) had not formally established asset management plans and/or strategies for Wagerup cogeneration plant or for the two transmission systems. As detailed at the Summary observations and recommendations (1 and 5) above, Asset Management Strategies have since been developed for the Wagerup and Pinjarra transmission assets and an Asset Life Plan drafted for the Pinjarra cogeneration plant. These plans need to be finalised and fully implemented for all respective assets.

2. Asset creation and acquisition			
Key process: Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay			
Expected outcome: A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.			
No	Effectiveness Criteria	Effectiveness Rating	Findings
2(a)	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	3. Well defined	As described at 1(a), (d) and (f) above, Alinta undertook a full project evaluation, with regard to commercial considerations for the construction and operation of the Wagerup and Pinjarra generation works and transmission systems. The General Manager Western Operations advised that project evaluations were reviewed at the start of the 2008/09 financial year. As described at 1(c) above, Alcoa's procedures also provide for formal consideration of non-asset options.
2(b)	Evaluations include all life-cycle costs	3. Well defined	Through discussion with the General Manager Western Operations, we determined that assessments of lifecycle costs of owning and operating assets were undertaken as part of the project evaluation and business case for the construction and operation of the cogeneration units and associated transmission assets. We also observed Alinta's use of costing schedules of planned/required capital and operational expenditure over the life cycle of the Pinjarra cogeneration unit.
2(c)	Projects reflect sound engineering and business decisions	3. Well defined	The General Manager Western Operations advised that: <ul style="list-style-type: none"> ▪ under the terms of the O&M agreements with Alcoa, any additional assets with an individual cost of more than \$10,000 require Alinta's approval after discussion and consideration of both engineering and business matters ▪ as most capital purchases exceed \$10,000, the success of the O&M agreements and Pinjarra/Wagerup projects to date have been a result of continuous communication and research, including engineering specifications and business expectations.
2(d)	Commissioning tests are documented and completed	4. Quantitatively Controlled	We observed that commissioning tests for the cogeneration units were completed, examples of which are found in the following: <ul style="list-style-type: none"> ▪ Acceptance Test Procedure for Alinta Cogeneration Pinjarra - performed by Downer Engineering ▪ Test Procedure for Duct Burner System for Alinta Cogeneration Pinjarra ▪ Testing for Heat Recovery Steam Generator including Blowdown ▪ Pressure equipment inspection document. <p>Through discussions with the Alcoa Principal Mechanical Engineer WAO Powerhouse and consideration of Alcoa's commissioning procedures, we observed that those procedures are designed to comply with AS/NZS 3788:2006, including the requirement for completion and full documentation of commissioning tests for all components added to Alcoa's refinery assets, including Alcoa powerhouse and Alinta cogeneration facilities.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
2(e)	Ongoing legal/ environmental/safety obligations of the asset owner are assigned and understood	3. Well defined	<p>Under the O&M agreements, Alcoa has responsibility for ensuring that it meets its obligations as an asset operator in accordance with all applicable directives and laws, good engineering and operating practices and insurance policies.</p> <p>Through consideration of Alcoa’s environmental and safety procedures and systems, we determined that Alcoa’s:</p> <ul style="list-style-type: none"> ▪ environmental obligations relevant to its WA Powerhouse operations (including Alinta cogeneration facilities) are comprehensively identified and managed by its Environmental Team and recorded on an Environmental Obligations Register (for further detail of testing performed refer to process 4 below - Environmental Analysis) ▪ safety obligations relevant to its WA Powerhouse operations are rated as high risk areas within Alcoa’s operations. We observed that considerable effort is made to address safety issues at the point of employee induction, through specific and ongoing training, formal assignment of responsibilities to supervisory staff within its powerhouses and use of the Access Hazardous Materials Database. Powerhouse equipment is included in Alcoa’s major hazard control and management systems ▪ legal obligations relevant to its WA Powerhouse operations primarily relate to environmental and safety matters. <p>We understand that all other legal obligations of Alinta in relation to its electricity generation works and electricity transmission systems are specifically addressed via Alinta’s in house legal council.</p> <p>Although Alinta’s O&M agreement with Alcoa is designed to ensure Alinta’s environmental and safety obligations are addressed as part of Alcoa’s normal operations, Alinta should specifically maintain a full and ready understanding of all of its legal requirements as an electricity generation and transmission asset owner.</p>
<p>Recommendation 6</p> <p>Further to Alcoa’s records and systems, Alinta establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner.</p>		<p>Post Review Implementation Plan 6</p> <p>Alinta will establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs</p> <p>Target Date: 31 July 2009</p>	

3. Asset Disposal			
<p>Key process: Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms.</p> <p>Expected outcome: Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.</p> <p><i>During the period 24 March 2006 to 30 June 2008, Alcoa/Alinta did not dispose of or decommission any major cogeneration unit plant or equipment.</i></p> <p><i>In the event of an identified need for disposal or decommission of any major cogeneration unit plant or equipment, processes applied for Alinta's cogeneration unit operations are accommodated through Alcoa's established disposal/decommissioning mechanisms and Powerhouse plans (which incorporate cogeneration units).</i></p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
3(a)	Under-utilised and under-performing assets are identified as part of a regular systematic review process	3. Well defined	<p>Through discussion with the Alcoa Principal Mechanical Engineer WAO Powerhouse and review of relevant supporting Alcoa documentation, we observed that Alcoa has applied the following mechanisms for identifying under-utilised and under-performing assets:</p> <ul style="list-style-type: none"> ▪ asset integrity audits, which are completed on a five yearly basis in accordance with the Alcoa Powerhouse & Plant Utilities Asset Integrity Assessment Protocol. Such audits are designed to determine whether major items of equipment continue to function adequately and where not, to offer recommendations for alternative action ▪ asset life assessments, which are completed on a systematic basis ▪ loss prevention inspections, as a major aspect of Alcoa's risk management activities directed at powerhouse operations ▪ classified plant inspections, which are conducted as per statutory requirements. <p>Results of these assessments and inspections are included in the rolling 5 year plans established for each powerhouse.</p>
3(b)	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	3. Well defined	<p>Through the mechanisms detailed at 3(a) above, Alcoa collects relevant data and information to enable assessment of the root cause of any under utilisation or poor performance of powerhouse assets. Such assessments are then incorporated into the rolling 5 year plans established for each powerhouse, which detail the major projects planned for the coming financial year, including any equipment refurbishment, upgrade or replacement.</p>
3(c)	Disposal alternatives are evaluated	3. Well defined	<p>The Alcoa WAO Decommission Classified Plant protocol outlines the need to address alternatives for decommissioning, removal or storage of key powerhouse plant.</p> <p>The rolling 5 year plans established for each powerhouse detail the major projects planned for the coming financial year, including any equipment replacement requirements.</p>
3(d)	There is a replacement strategy for assets	3. Well defined	<p>Replacement strategies established for Alcoa's powerhouse assets are reflected in:</p> <ul style="list-style-type: none"> ▪ rolling 5 year plans established for each powerhouse ▪ powerhouse asset strategies (Pinjarra only – a strategy for Wagerup remains under construction).

4. Environmental Analysis			
<p>Key process: Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.</p> <p>Expected outcome: The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements.</p> <p><i>In accordance with Alinta's O&M agreements with Alcoa, environmental matters relevant to Alinta's cogeneration operations are accommodated through established Alcoa WAO environmental management mechanisms, which demand environmental issues specific to Alcoa powerhouse and Alinta cogeneration units to be identified and fully managed.</i></p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
4(a)	Opportunities and threats in the system environment are assessed	<p>Pinjarra</p> <p>5. Continuously improving</p> <p>Wagerup</p> <p>4. Quantitatively Controlled</p>	<p>Alcoa has developed an aspects and impacts register to record the following aspects of Alcoa powerhouse and Alinta cogeneration operations:</p> <ul style="list-style-type: none"> ▪ the process (e.g. boiler) ▪ the activity (e.g. generation of electricity, steam) ▪ environmental aspect of operations (e.g. using gas, using large turbines) ▪ environmental impact of operations (e.g. noise, depletion of a finite resource) ▪ emergency potential (either Yes or No) ▪ risk rating with and without controls ▪ corrective action plan, including responsible person and due date. <p>Through discussion with the Alcoa Environmental Manager and examination of the Alcoa Aspects and Impacts Register, we observed that:</p> <ul style="list-style-type: none"> ▪ the register identifies all activities of Alcoa powerhouse and Alinta cogeneration and associated risks. The risks are then assessed by the Alcoa Environmental Team, located at Pinjarra. This assessment leads to a focused plan for monitoring circumstances, which is reviewed annually ▪ risks and potential incidents can be logged by any employee onto the 'environmental incident' system, then assessed by the Environmental Team. <p>Pinjarra</p> <p>We also observed that in relation to the Alinta Pinjarra cogeneration plant, Alcoa is currently implementing a major hazards software system that links individual equipment items and their status or maintenance condition to a dashboard display.</p> <p>Wagerup</p> <p>The processes and systems described above are designed to apply equally to the Alinta Wagerup cogeneration plant and we sighted pre-construction HAZOP reports prepared for Wagerup cogeneration plant as evidence of initial risk assessments undertaken. As the plant only commenced operations in late 2007 and during the review period those operations were limited due to the nature of the plant's peak load operations, there was little available evidence of continued assessment of opportunities and threats in the system environment during the period of this review.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
4(b)	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	<p><u>Pinjarra</u></p> <p>5. Continuously improving</p> <p><u>Wagerup</u></p> <p>3. Well defined</p>	<p>The Environmental Manager advised that Alcoa has engaged a third party consulting firm that assesses sites emissions against expected performance.</p> <p>We observed that Alcoa's ASAT tool is used to assist in assessing performance, by outlining specific areas that are to be audited and tested.</p> <p><u>Pinjarra</u></p> <p>We observed evidenced of the Alinta Pinjarra cogeneration plant performance being tracked on a monthly basis. Through discussion with the Pinjarra Powerhouse Supervisor and observation of plant trip records, we also determined that one major incident involving a double cogeneration trip occurred in June 2007 and two trips occurred in 2008, one of which resulted in Alcoa production losses due to disruption of steam production.</p> <p><u>Wagerup</u></p> <p>The processes and systems described above are designed to apply equally to the Alinta Wagerup cogeneration plant, however as the plant only commenced operations in late 2007 and during the review period those operations were limited due to the nature of the plant's peak load operations, there was little available evidence of operational performance statistics being measured and reported during the period of this review.</p> <p>The monthly operational report for Wagerup Open Cycle Gas Turbines Units #1 and #2 was first produced in June 2008.</p>
4(c)	Compliance with statutory and regulatory requirements	4. Quantitatively Controlled	<p>Alcoa has established the procedure "Evaluation of Compliance with Environmental Legislation and Regulations (WAO)", which describes the process for periodically evaluating compliance with relevant environmental legislation and regulations. Alcoa has engaged Freehills to monitor environmental legislative updates. An update report is produced on a quarterly basis and sent to Alcoa to communicate any changes in legislation. These changes are then incorporated onto a compliance list that details all of Alcoa's obligations, including those relating to Alinta's cogeneration assets.</p> <p>We observed that because Alcoa has attained the ISO-14001 standard, it is required to maintain an effective Environmental Management System (EMS) that monitors all obligations that have an environmental focus. To ensure that Alcoa is performing appropriately against the legislative requirements, there are three different types of audits conducted:</p> <ul style="list-style-type: none"> ▪ internal audit process conducted by a contractor who visits each department/operational unit and audits against the ISO standard. The findings are placed on an audit action plan on the Alcoa Business Improvement System ▪ external audit. For Alcoa to maintain its ISO status, it is required to be re-certified every three years via a full audit. The last full audit was conducted in 2007. A surveillance audit/monitoring action is also completed every year ▪ ASAT (as described above). <p>Alcoa also operates and monitors its operations in accordance with the following statutory legislation and licences:</p> <ul style="list-style-type: none"> ▪ Environmental Operating Licence ▪ Mines Safety and Inspection Regulations ▪ WA Gas Standards (Gas fitting & Consumer Gas Installations) Regulations 1999

No	Effectiveness Criteria	Effectiveness Rating	Findings
4(c)	Compliance with statutory and regulatory requirements (cont.)		<ul style="list-style-type: none"> ▪ NOx emissions - reporting total site emission to the National Pollutant Inventory ▪ greenhouse gases: Measurements from powerhouse and cogeneration stack emissions are used to calculate the refineries' greenhouse gas intensity ▪ noise: The Environmental Noise Regulations licence specifies that the noise level as measured at the boundary must not exceed 35 dbA at night and somewhat higher during the day ▪ water/liquid discharge. <p><u>Pinjarra</u> The Pinjarra plant is fitted with Low NOx Burners and an on-line continuous emissions monitoring systems (CEMS) to monitor compliance with statutory and regulatory requirements. The July 2008 monthly report for the Pinjarra cogeneration plant records emissions monitoring and noise compliance issues, indicating statutory and regulatory requirements of the plant are considered and monitored. At the time of our site visit, the Start-up Vents noise compliance with the licence requirements was still unknown and the on-line Emissions monitoring systems were not functional on both cogeneration units. In the interim, regular sampling and testing by external agencies is being performed.</p> <p><u>Wagerup</u> We observed that on-line emissions monitoring systems are fitted to both Wagerup cogeneration units. We also observed that the June 2008 monthly report for the Wagerup cogeneration units noted a noise compliance issue, indicating statutory and regulatory requirements of the plant are considered and monitored. Note that these units operated for only a small period since their commissioning to June 2008.</p>
	<p>Recommendation 7 Alinta investigate, understand and comply with the statutory and regulatory noise level requirements for the Pinjarra cogeneration plant.</p>		<p>Post Review Implementation Plan 7</p> <p>(a) Since the review, Alinta has replaced the start up vent silencer on Pinjarra Unit 2. A replacement start up vent for Pinjarra Unit 1 is on site and will be installed the week commencing 9 February 2009. The emissions monitoring equipment will be operational following the fitting of a new sampling probe internally in the stack. This will be completed during the next major maintenance outage in August for Unit 1 and November for Unit 2.</p> <p>(b) As per recommendation 6, Alinta will establish and maintain a full record and understanding of its legal requirements as an electricity generation and transmission asset owner by 31 July 2009.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation and Manager Regulatory Affairs Target Date: As outlined above</p>
4(d)	Achievement of customer service levels	3. Well-defined	Other than in the supply of steam and electricity to Alcoa as part of its commercial obligations, Alinta does not have specific customer service levels to attain in relation to its power operations. In the context of its obligations to the community, Alcoa operates and monitors its operations of the Alinta cogeneration units in accordance with the statutory legislation and licences detailed at 4(c) above.

5. Asset Operations			
<p>Key process: Operational functions relate to the day-to-day running of assets and directly affect service levels and costs.</p> <p>Expected outcome: Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved.</p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
5(a)	Operational policies and procedures are documented and linked to service levels required	3. Well-defined	<p>We observed that the Operational and Equipment policy and procedures for major equipment of each of the Alinta Cogeneration Wagerup and Pinjarra Plants are well documented in the Alcoa Performance support system. Where relevant, procedures specifically refer to required service levels for the operation of the specific item of equipment, or specific electrical or mechanical procedure.</p> <p>For each of the Pinjarra and Wagerup facilities, at the time of our review, work was in progress to develop and link operational procedures for the remaining auxiliary equipment.</p>
	<p>Recommendation 8</p> <p>Alinta prioritise and fund the development of operational policies procedures for auxiliary equipment.</p>		<p>Post Review Implementation Plan 8</p> <p>Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to develop and maintain operational policies procedures for auxiliary equipment.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: 31 July 2009</p>
5(b)	Risk management is applied to prioritise operations tasks	3. Well-defined	<p>Alcoa uses well documented, risk based processes to manage its powerhouse assets, with the sequence of maintenance task priorities being people & safety first, followed by environment, then customer. These processes are further described at “8. Risk Management” below.</p> <p>In relation to the Pinjarra cogeneration facilities, delays in undertaking corrective actions for closing out punch list items had not been clearly supported by the outcomes of a risk management process (refer also to Issue, Recommendation and Post Review Implementation Plan 2 above).</p>
5(c)	Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets’ physical/structural condition and accounting data	3. Well-defined	<p>Alinta’s equipment is managed via an online Alcoa-wide electronic asset maintenance database, eAM. The eAM system contains the following information for major equipment:</p> <ul style="list-style-type: none"> ▪ maintenance procedures ▪ equipment details ▪ maintenance intervals ▪ costs ▪ history. <p>At the time of our review, we noted that auxiliary equipment had yet to be added to the database.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
	<p>Recommendation 9</p> <p>Alinta auxiliary equipment be added to the Alcoa maintenance database to enable effective prioritisation of maintenance work</p>		<p>Post Review Implementation Plan 9</p> <p>Since the review, Alinta has liaised with Alcoa to add Alinta's auxiliary equipment to the Alcoa maintenance database to facilitate effective prioritisation of maintenance work.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation Target Date: Completed</p>
5(d)	Operational costs are measured and monitored	<p>Pinjarra</p> <p>4. Quantitatively Controlled</p> <p>Wagerup</p> <p>3. Well-defined</p>	<p>Pinjarra</p> <p>We observed that operational costs are measured and reported on a monthly basis.</p> <p>Wagerup</p> <p>The processes and systems described above are designed to apply equally to the Alinta Wagerup cogeneration plant, however as the plant only commenced operations in late 2007 and during the review period those operations were limited due to the nature of the plant's peak load operations, there was little available evidence of operational costs being measured and reported during the period of this review.</p> <p>We sighted the monthly operational report for Wagerup Open Cycle Gas Turbines Units #1 and #2, which was first produced in June 2008.</p>
5(e)	Staff receive training commensurate with their responsibilities	4. Quantitatively Controlled	<p>Alcoa powerhouse personnel are responsible for operating and maintaining the Alinta cogeneration plants at Pinjarra and Wagerup.</p> <p>We observed that Alcoa has launched a WAO Operator Traineeship Program to ensure its powerhouse operators are fully trained in all key aspects of powerhouse operations (relevant to each individual's position).</p> <p>We also observed the use of staff training registers maintained by powerhouse supervisors to keep training and operator tickets of all staff valid and relevant to their responsibilities.</p>

6. Asset Maintenance			
Key process: Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.			
Expected outcome: Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.			
No	Effectiveness Criteria	Effectiveness Rating	Findings
6(a)	Maintenance policies and procedures are documented and linked to service levels required	3. Well-defined	<p>We observed that policies and procedures for the operation and maintenance of major equipment for each of the cogeneration facilities and associated electricity transmission assets are documented within the Alcoa WAO Performance Support System. At the time of this review, work on auxiliary equipment was still in progress (refer also to Issues, Recommendations and Post Review Implementation Plans 1, 3, 8 and 9 above for further detail). Where relevant, procedures specifically refer to required service levels for the operation of the specific item of equipment, or specific electrical or mechanical procedure.</p> <p>Alinta's equipment is managed via Alcoa's eAM system, which contains the following information for major equipment:</p> <ul style="list-style-type: none"> ▪ maintenance procedures ▪ equipment details ▪ maintenance intervals ▪ costs ▪ history.
6(b)	Regular inspections are undertaken of asset performance and condition	3. Well-defined	<p>As equipment at Alinta's facilities is relatively new, condition based assessment requirements are low.</p> <p>Through discussion with Alcoa powerhouse staff and examination of written procedures and reports, we observed that for each Powerhouse and cogeneration facility:</p> <ul style="list-style-type: none"> ▪ a structured program is in place for key mechanical and electrical assets (such as turbines, feedwater pumps, transformers, generators, switchgear) to be condition monitored using online vibration monitoring devices and for earthing systems and protection relays to be regularly tested (including partial discharge) to avoid unplanned outages or failures ▪ equipment assessment and inspection reports (e.g. Pinjarra cogeneration Unit 1 major combustion inspection) are generated and made available to staff and management requiring information on equipment condition and performance.

No	Effectiveness Criteria	Effectiveness Rating	Findings
6(c)	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	3. Well-defined	<p>Through discussion with Alcoa WAO Powerhouse Operations staff and examination of Alcoa's eAM system, we observed that:</p> <ul style="list-style-type: none"> ▪ for each cogeneration facility major equipment and associated transmission assets, the eAM system contains plans for scheduled maintenance as well as required emergency and corrective works ▪ all maintenance work undertaken is recorded in the eAM system ▪ Alcoa's operational requirements lead to emergency and corrective works having the highest priority due to the impact on refinery production ▪ maintenance schedules are monitored. <p>We note that at the time of our review, due to the youth of the cogeneration facilities' equipment, there were no reports available on the assessment of key equipment.</p> <p>We noted that at the time of our review, there were outstanding punch list items still to be closed out for the Wagerup units. The Operations Manager, Western Operations, Power Generation advised that Alinta considered that these items do not constitute a risk to operation and are to be resolved by Alcoa during day to day maintenance of the plant.</p>
6(d)	Failures are analysed and operational/ maintenance plans adjusted where necessary	<p><u>Pinjarra</u></p> <p>4. Quantitatively Controlled</p> <p><u>Wagerup</u></p> <p>3. Well-defined</p>	<p>Through discussion with Alcoa WAO Powerhouse Operations staff and walkthrough testing of Alcoa's Powerhouse operations and maintenance procedures, we observed that those procedures provide for equipments failures to be investigated and where necessary, associated systems to be modified or corrected to reduce the likelihood of the failure to be repeated.</p> <p><u>Pinjarra</u></p> <p>We observed that the double cogenerator failure was formally analysed and corrective actions carried out. The Trip investigations report for 2008 also showed corrective actions undertaken after analysis of the failures.</p> <p><u>Wagerup</u></p> <p>Through discussion with Alcoa WAO Powerhouse Operations staff we note that the Wagerup demineralisation plant was assessed to be unfit for purpose, however at the time of our review, no corrective action had been undertaken.</p> <p>As the Wagerup cogeneration plant operates as a peak load plant (as compared to the base load operations of the Pinjarra cogeneration plant and Alcoa powerhouses), we understand that its financial model and manning levels are designed to match its levels of operation, enabling expenditure to be prioritised. It is possible that the Wagerup cogeneration plant had not been given the same level of attention as the base load plants due to the lack of operational activity during the period of this review.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
	<p>Recommendation 10</p> <p>(a) An appropriate resolution be determined for the Wagerup cogeneration demineralisation plant.</p> <p>(b) Alinta and Alcoa review the levels of priority and attention given to the Wagerup cogeneration assets.</p>		<p>Post Review Implementation Plan 10</p> <p>(a) Since the review Alinta has undertaken a thorough process to investigate and identify an appropriate resolution for issues associated with the Wagerup cogeneration demineralisation plant. A business case has been developed and put to the BBP board for funding to implement the recommended option, and it is expected this issue will be resolved by 30 April 2009.</p> <p>(b) Since the review Alinta and BBP have employed additional staff to manage O&M and Compliance issues at Wagerup, which has enabled greater priority and attention to be given to issues at both Pinjarra and Wagerup.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation</p> <p>Target Date: 30 April 2009</p>
6(e)	Risk management is applied to prioritise maintenance tasks	<p>Pinjarra</p> <p>4. Quantitatively Controlled</p> <p>Wagerup</p> <p>3. Well-defined</p>	<p>Alcoa uses well documented, risk based processes to manage its powerhouse assets, with the sequence of maintenance task priorities being people & safety first, followed by environment, then customer. These processes are further described at “8. Risk Management” below.</p> <p>With regards to prioritisation of day to day maintenance items for Alinta cogeneration plant, Alcoa is allocated a 12 month budget for completing any required task based on its risk identification processes. Current processes require tasks that fall outside the approved budget to be referred to the Operations Manager, Western Operations, Power Generation for addressing in accordance with BBP’s Delegated Financial Authority policy and procedures.</p> <p>Wagerup</p> <p>The processes and systems described above are designed to apply equally to the Alinta Wagerup cogeneration plant, however as the plant only commenced operations in late 2007 and during the review period those operations were limited due to the nature of the plant’s peak load operations, there was little available evidence of risk management activities being undertaken to assist with prioritisation of maintenance expenditure on Wagerup cogeneration Open Cycle assets during the period of this review.</p>
6(f)	Maintenance costs are measured and monitored	<p>Pinjarra</p> <p>4. Quantitatively Controlled</p> <p>Wagerup</p> <p>3. Well-defined</p>	<p>Pinjarra</p> <p>We observed that operational costs are measured and reported on a monthly basis.</p> <p>Wagerup</p> <p>The processes and systems described above are designed to apply equally to the Alinta Wagerup cogeneration plant, however as the plant only commenced operations in late 2007 and during the review period those operations were limited due to the nature of the plant’s peak load operations, there was little available evidence of maintenance costs being measured and reported during the period of this review.</p> <p>We sighted the monthly operational report for Wagerup Open Cycle Gas Turbines Units #1 and #2, which was first produced in June 2008.</p>

7. Asset Management Information System			
<p>Key process: An asset management information system is a combination of processes, data and software that support the asset management functions.</p> <p>Expected outcome: The asset management information system provides authorised, complete and accurate information for the day-to-day running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.</p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
7(a)	Adequate system documentation for users and IT operators	4. Quantitatively Controlled	<p>Alcoa's Asset Management Information System is predominantly comprised of the eAM system, with some information also being held in Alcoa's Microsoft Office software (documents, spreadsheets etc.).</p> <p>The Alcoa Service Delivery for Unix and Oracle System Team Leader described that the 'Manage Work Request' and 'System Support Role Definitions' procedures specify that technical support documentation is the responsibility of the Project Leader or the Change Implementer while user guides are kept up to date by the Functional Support Representative and Key Users. All documents are stored in the Alcoa Performance Support System (APSS) to provide document version control.</p>
7(b)	Input controls include appropriate verification and validation of data entered into the system	4. Quantitatively Controlled	<p>Via discussion with the Alcoa Regional IPS Security and Risk Manager and examination of ASAT documents, we observed that:</p> <ul style="list-style-type: none"> ▪ input controls are managed through built-in controls in Oracle 11i and manual processes. The eAM system is part of the Oracle E-Business Suite (EBS) ▪ processes are in place to verify and validate data entered into the eAM system, including data reconciliation between old and new systems, checking data transferred between one system to another is accurate, timely and complete and validating data as close as possible to the point of origin, which includes the ability to trace data back to the source document.
7(c)	Logical security access controls appear adequate, such as passwords	4. Quantitatively Controlled	<p>Via discussion with the Alcoa Regional IPS Security and Risk Manager and examination of Alcoa's Security Standards documents, we observed that:</p> <ul style="list-style-type: none"> ▪ Alcoa's processes and procedures provide for all users to be assigned a unique user account and passwords that adhere to Alcoa's Security Standards. The password requirements for Windows are specified in the Security Access Account Management document. Passwords for the Oracle environment, to which eAM belongs, is synchronised to the Windows environment by using the Password Courier tool ▪ policies in relation to managing user access permission are documented in Security Access Permission. User access permission is reviewed at least once a year.

No	Effectiveness Criteria	Effectiveness Rating	Findings
7(d)	Physical security access controls appear adequate	3. Well defined	<p>Via discussion with the Alcoa Regional IPS Security and Risk Manager and inspection of the Alcoa Data Centre, we observed that the physical security access controls established for the Alcoa Data Centre appear to be adequate, with swipe card access required and entrance overseen by IT staff during work hours.</p> <p>We noted that Alcoa has instigated precautions to contain fire and other damaging events in its Data Centre. There are fire extinguishers located within as well as nearby the data centre. Temperature, humidity and flood sensors can be found in the room and notification is sent to the building facility management if any of the sensors are triggered. VESDA system, which provides advance fire warning and detection to avoid suppression release, is installed for the room and is connected to the main building control panel.</p> <p>Consideration has also been given to the use of a gas based fire suppression system to minimise damage to electrical equipment in the data centre, with a determination made by the business that it is not cost effective to install such a fire suppression system.</p>
7(e)	Data backup procedures appear adequate	4. Quantitatively Controlled	<p>Via discussion with the Alcoa Unix Administrator for the EBS System and consideration of the 'EBS Backups for all Environments Overview' documents, we observed that Alcoa's backup process involves:</p> <ul style="list-style-type: none"> ▪ full daily back ups of production data ▪ EBS data, which includes eAM, being mirrored to another set of disks using Crontab, before transferring to backup tapes overnight ▪ backup tapes being picked up and stored off-site at Recall. <p>We also sighted evidence of the backup jobs in Crontab and Netbackup, the backup log showing completion of the backup job and backup tapes maintained in a secured store room.</p>
7(f)	Key computations related to licensee performance reporting are materially accurate	Not rated	<p>For the purpose of reporting to the Authority in accordance with its Licence requirements, Alinta (nor Alcoa on Alinta's behalf) does not directly extract data from the Alcoa eAM system and is not directly reliant on computations from that system.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
7(g)	Management reports appear adequate for the licensee to monitor licence obligations	2. Planned and tracked	<p>To date, Alinta's monitoring of its licence obligations has been limited to annual compliance and performance reports to the Authority. This asset management system review and the recent performance/compliance audit undertaken by Deloitte provide further understanding of Alinta's licence obligations.</p> <p>While Alinta's existing operational and management reporting structure and processes are designed to enable Alinta to monitor its ongoing business performance, its electricity generation and transmission licence obligations are not explicitly accommodated in those reporting structure and processes.</p>
	<p>Recommendation 11</p> <p>Establish a mechanism, which enables Alinta to effectively and continuously monitor its performance against Licence obligations.</p>		<p>Post Review Implementation Plan 11</p> <p>Since the review, Alinta and BBP have employed additional staff (Manager Regulatory Affairs and Operations Manager, Western Operations, Power Generation) to enable Alinta to more effectively and continuously monitor its performance against Licence obligations. Alinta will further review existing BBP business processes to ensure they enable Alinta to effectively and continuously monitor its performance against Licence obligations.</p> <p>Responsible Person: Manager Regulatory Affairs</p> <p>Target Date: 31 July 2009</p>

8. Risk Management			
Key process: Risk management involves the identification of risks and their management within an acceptable level of risk.			
Expected outcome from asset planning strategies: An effective risk management framework is applied to manage risks related to the maintenance of service standards.			
No	Effectiveness Criteria	Effectiveness Rating	Findings
8(a)	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	4. Quantitatively Controlled	<p>Via discussion with the Alcoa Assistant Risk Manager and consideration of Alcoa's risk management framework and supporting documents, we observed the following:</p> <ul style="list-style-type: none"> ▪ <i>Risk Management Policy</i> - Alcoa models its policies against the Australian/New Zealand Risk Management Standard AS/NZS 4360:2004. The policy outlines the criteria for risk assessments and the steps in the risk management process. ▪ <i>Alcoa Risk Management Policy Vision</i> – Alcoa's stated vision is to integrate world's best practice in risk management to support and enhance business activities in all areas of its operations. Within the application of the Alcoa Business System, Alcoa intends to ensure risk management is a fundamental aspect of its decision-making processes. ▪ <i>Delegation of responsibilities</i> - Risk Management is the overall responsibility of the Corporate Risk Manager and the Assistant Risk Manager. For all Major Hazard equipment at each refinery site (including Powerhouse boilers, turbine alternators, deaerators and cogeneration units), there are Alcoa Major Hazard equipment single point accountability personnel (SPAs) in the areas of Operations, Maintenance and Engineering. These personnel, delegated by the Alcoa WAO Powerhouse Manager, are jointly responsible for managing the critical controls surrounding Major Hazard equipment (including Change Control procedures). The Alcoa Major Hazard SPA 'Letter of Appointment' templates were provided, each of which outlines the key responsibilities of each position. <p>We observed evidence of these risk management activities being applied to Alinta cogeneration planning and management activities (refer to other observations made throughout this report).</p>
8(b)	Risks are documented in a risk register and treatment plans are actioned and monitored	4. Quantitatively Controlled	<p>Via discussion with the Alcoa Assistant Risk Manager and examination of supporting documents, we observed that the primary tool used by Alcoa powerhouse and Alinta cogeneration unit operations to capture risks related to powerhouses/cogeneration units is the insurance loss prevention reviews and associated recommendation summaries prepared for each powerhouse/cogeneration unit. Those recommendation summaries are compiled to represent a live risk register for each site, with the recommendation status expected to be reviewed and updated every three to four months.</p> <p>We also note that a high level risk profile is included in the draft Pinjarra Cogeneration Plant Asset Life Plan, which was separately prepared by Alinta.</p>

No	Effectiveness Criteria	Effectiveness Rating	Findings
8(c)	The probability and consequences of asset failure are regularly assessed	4. Quantitatively Controlled	<p>As detailed at item 1(g) above, we observed that Alcoa has applied the following mechanisms for identifying and assessing consequence and probability of Alcoa powerhouse and Alinta cogeneration unit asset failure:</p> <ul style="list-style-type: none"> ▪ asset integrity audits, which are completed on a five yearly basis, per the Powerhouse & Plant Utilities Asset Integrity Assessment Protocol ▪ other audits (e.g. ASAT), which feed results into Alcoa's Business Improvement System ▪ loss prevention inspections, as a major aspect of Alcoa's risk management activities directed at Alcoa powerhouse and Alinta cogeneration operations ▪ classified plant inspections, which are conducted as per statutory requirements.

9. Contingency Planning			
Key process: Contingency plans document the steps to deal with the unexpected failure of an asset.			
Expected outcome: Contingency plans have been developed and tested to minimise any significant disruptions to service standards.			
No	Effectiveness Criteria	Effectiveness Rating	Findings
9(a)	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	3. Well-defined	<p>The respective O&M agreements include provision for outages and emergencies, stating that Alcoa will take such action as may be reasonable and necessary to prevent, avoid or mitigate injury, damage or loss.</p> <p>Through discussion with the Alcoa Principal Mechanical Engineer WAO Powerhouse and Alcoa Assistant Risk Manager and review of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> ▪ as part of Alcoa's overall business continuity management framework, Alcoa has developed a series of system recovery plans, including black/brown start procedures for each powerhouse, in the event of a major failure of site assets or key systems. The primary intent of these plans is to minimise the interruption to Alcoa's refinery operations ▪ system recovery plans are subject to a detailed review when triggered by a major equipment change or reconfiguration, and otherwise subject to high level review through the bi-annual Loss Prevention inspection process. Where relevant and possible, system recovery plans are subject to testing in accordance with timeframes specified in the relevant plan ▪ Alcoa's powerhouse workforce is specifically resourced and trained to respond to powerhouse equipment losses, to minimise the interruption to Alcoa's refinery operations . <p>While Alcoa's system recovery plans and procedures and workforce capabilities each contribute to Alcoa's business continuity objectives, they have not been collectively documented to explicitly capture Alcoa's contingency planning strategies and practices in the event of unexpected and unrecoverable failure of a powerhouse or cogeneration unit asset. We note that Alcoa has undertaken to address this matter by enhancing its documentation and processes by 31 July 2009.</p>

10. Financial Planning			
<p>Key process: The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.</p> <p>Expected outcome: The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.</p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
10(a)	The financial plan states the financial objectives and strategies and actions to achieve the objectives	3. Well defined	<p>Through discussion with the Financial Controller (WA) and consideration of Alinta's financial planning mechanisms, Budget Pack and O&M agreements with Alcoa, we observed that:</p> <ul style="list-style-type: none"> ▪ the financial objectives and strategies of the two Cogeneration business are driven by BBP's (Alinta's parent company) overall corporate objectives and the commercial arrangements with Alcoa for the supply of steam to Alcoa's refinery operations ▪ the Budget Pack contains financial metrics and key performance indicators specific to each cogeneration facility.
10(b)	The financial plan identifies the source of funds for capital expenditure and recurrent costs	3. Well defined	<p>Through discussion with the Financial Controller (WA) and consideration of Alinta's financial planning mechanisms and Budget Pack, we observed that:</p> <ul style="list-style-type: none"> ▪ capital expenditure requirements specific to each cogeneration facility are included within the annual financial plans, developed and monitored by Alinta ▪ capital expenditure and operating expenditure specific to each cogeneration facility is monitored on a monthly basis ▪ the source of funds for capital expenditure and recurrent costs specific to each cogeneration facility is not specifically identified as funding is provided at a corporate level.
10(c)	The financial plan provides projections of operating statements (profit and loss) and statements of financial position (balance sheets)	4. Quantitatively Controlled	<p>Through consideration of Alinta's financial planning mechanisms and Budget Pack, we observed that:</p> <ul style="list-style-type: none"> ▪ the annual Budget Pack includes a balance sheet and statement of profit and loss ▪ although projections of operating statements and statement of financial position do not occur at plant level, those projections specifically accommodate cogeneration plant operations.

No	Effectiveness Criteria	Effectiveness Rating	Findings
10(d)	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	4. Quantitatively Controlled	<p>Through discussion with the Financial Controller (WA) and consideration of Alinta's financial planning mechanisms and Budget Pack, we observed that:</p> <ul style="list-style-type: none"> ▪ the Budget Pack provides income forecast for up to 5 years and is updated annually ▪ budgets are monitored monthly ▪ quarterly budget forecasts are used to monitor expenditure.
10(e)	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	4. Quantitatively Controlled	<p>Through examination of Alinta's financial planning mechanisms and Budget Pack, we observed that:</p> <ul style="list-style-type: none"> ▪ operations and maintenance, administration and capital expenditures are accounted for in the Budget Pack, although the majority of expenses are directly managed on a day-to-day basis by Alcoa ▪ Alinta monitors the cogeneration plant performance on a monthly basis.
10(f)	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	3. Well defined	<p>Through discussion with the Financial Controller (WA), we determined that Alinta's procedures provide for, in consultation with Alcoa:</p> <ul style="list-style-type: none"> ▪ minor variances to be investigated and the outcome documented ▪ all major variances in actual/budget income and expenses to be reported and discussed with senior management.

11. Capital Expenditure Planning			
<p>Key process: The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.</p> <p>Expected outcome: A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.</p>			
No	Effectiveness Criteria	Effectiveness Rating	Findings
11(a)	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities & dates	3. Well defined	The capital expenditure plans included within Alinta's annual Budget Pack specifically detail capital expenditure requirements (including timing) for each cogeneration plant and requires an explanation to be provided for each new and continuing project.
11(b)	The plan provides reasons for capital expenditure and timing of expenditure	3. Well defined	We observed that Alcoa's planning processes also provide input to Alinta's capital expenditure planning, with a further description of actions proposed, responsibilities and relevant dates.
11(c)	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	3. Well defined	<p>Through discussion with the Financial Controller (WA), we determined that:</p> <ul style="list-style-type: none"> ▪ capital expenditure for the Alinta cogeneration facilities at Wagerup and Pinjarra is managed by Alcoa with oversight by the General Manager Western Operations ▪ budgets prepared by Alcoa are reviewed by Alinta on a monthly basis for output efficiency and against Alinta's overall business strategy. <p>We also observed that Alcoa's procedures address the requirement for life cycle costs of powerhouse and cogeneration unit assets to be assessed and recorded in formal project evaluations.</p>
11(d)	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	4. Quantitatively Controlled	<p>Through discussion with the Financial Controller (WA), consideration of Alinta's capital expenditure planning mechanisms and examination of the current capital expenditure plan, we observed that Alinta's capital expenditure planning process is mature, updated on at least an annual basis to ensure alignment with Alinta's overall business strategy.</p> <p>We noted that the 2008/09 capital expenditure plan was updated to accommodate the replacement of a water tank due to leakage.</p>

12. Review of AMS			
Key process: The asset management system is regularly reviewed and updated.			
Expected outcome: Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.			
No	Effectiveness Criteria	Effectiveness Rating	Findings
12(a)	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	2. Planned and tracked	<p>Asset Management Strategies have been prepared or drafted for each of the Wagerup and Pinjarra cogeneration units and related transmission facilities. The Strategies prepared for the electricity transmission assets provide for annual review, however a formal process has not yet been established to accommodate such a review.</p> <p>A formal process has not been established for reviewing Alinta's cogeneration asset management plans and strategies independent of broader Alinta and Alcoa systems and in the context of Alinta's Licence requirements.</p>
12(b)	Independent reviews (e.g. internal audit) are performed of the asset management system	1. Performed informally	<p>Alinta's existing auditing and review processes do not specifically address cogeneration licence obligations or the related asset management systems.</p>
	<p>Recommendation 12</p> <p>Develop and implement a structured review program, which explicitly accommodates Alinta's electricity generation and transmission asset management systems.</p>		<p>Post Review Implementation Plan 12</p> <p>Alinta will liaise with Alcoa (through the Procurement Specialist – Energy) to develop and implement a structured review program for Alinta's electricity generation and transmission asset management systems.</p> <p>Responsible Person: Operations Manager, Western Operations, Power Generation</p> <p>Target Date: 31 July 2009</p>

Appendix A – Review plan

Alinta

2008 Performance Audit and Asset Management System Review –

Electricity Generation Licence EGL10 (Pinjarra)

Electricity Transmission Licence ETL 3 (Pinjarra)

Electricity Generation Licence EGL6 (Wagerup)

Electricity Transmission Licence ETL1 (Wagerup)

Audit and Review Plan

14 November 2008

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Introduction

Overview

Pursuant to the provisions of the *Electricity Industry Act 2004* (**Electricity Act**), the Economic Regulation Authority (**the Authority**) has issued Alinta Cogeneration (Wagerup) Pty Ltd and Alinta Cogeneration (Pinjarra) Pty Ltd (collectively, **Alinta**) with two electricity generation and two electricity transmission licences (**the Licences**) in relation to Alinta's Wagerup and Pinjarra electricity generation operations¹.

Sections 13 and 14 of the Electricity Act require Alinta to provide the Authority with performance audits (**the audits**) and asset management system reviews (**the reviews**) for each Licence, conducted by an independent expert acceptable to the Authority. Deloitte Touche Tohmatsu (**Deloitte**) is the nominated auditor approved by the Authority for the audits and reviews. With the Authority's approval, Deloitte has engaged Maunsell Australia Pty Ltd (**Maunsell**) to provide advice where technical expertise is required.

This plan is prepared in accordance with the Authority's *Audit Guidelines: Electricity, Gas and Water Licences* (**Audit Guidelines**), which describes the expected scope of work and conduct of the four audits and reviews to be agreed upon by Deloitte and Alinta and then presented to the Authority for approval.

The period of audit and review is from the commencement of each Licence (24 March 2006 and 10 April 2006 for the Wagerup and Pinjarra Licences respectively) to 30 June 2008.

Objectives

The objectives of the performance audits and asset management system reviews are derived from the Electricity Act. The following sections of the Electricity Act define the requirements of Alinta as the licensee:

- section 13(1) of the Electricity Act requires Alinta to provide the Authority with a performance audit conducted by an independent expert acceptable to the Authority. A performance audit is defined as an examination of the measures taken by Alinta to meet the criteria specified in its Generation and Transmission Licences
- section 14(1)(c) of the Electricity Act requires Alinta to provide the Authority with a report by an independent expert acceptable to the Authority as to the effectiveness of the respective asset management systems established for assets subject to its Licences.

The performance audits are designed to provide reasonable assurance regarding the assessment of appropriateness, effectiveness and efficiency associated with Alinta's compliance with its Licences. The audits will specifically consider the following:

- a) process compliance: the effectiveness of systems and procedures in place throughout the audit period, including assessing the adequacy of internal controls
- b) outcome compliance: the actual performance against standards prescribed in the Licence throughout the audit period
- c) output compliance: the existence of the output from systems and procedures throughout the audit period (that is, proper records exist to provide assurance that procedures are being consistently followed and controls are being maintained)

¹ The Authority has also issued Alinta Sales with an electricity retail licence, which is addressed separately and is not the subject of this Audit Plan

- d) integrity of performance reporting: the completeness and accuracy of the performance reporting to the Authority
- e) compliance with any individual licence conditions: the requirements imposed on Alinta by the Authority or specific issues for follow-up that are advised by the Authority.

The asset management system reviews are designed to provide limited assurance, based upon the work performed, regarding the extent to which Alinta's asset management systems address the control effectiveness criteria for each of the 12 key processes in the asset management life-cycle that are subject to review, as set out in the scope section below.

Scope

Performance Audits

Section 13(2) of the Electricity Act states that "A performance audit is an audit of the effectiveness of measures taken by the licensee to meet the performance criteria specified in the Licence".

Performance criteria is further defined in the Licences to mean:

- the terms and conditions of the Licence
- any other relevant matter in connection with the applicable legislation that the Authority determines should form part of the performance audit.

Applicable legislation encompasses the following:

- the *Electricity Industry Act 2004 (WA)*
- the following Regulations:
 - *Electricity Industry (Code of Conduct) Regulations 2005*
 - *Electricity Industry (Licence Conditions) Regulations 2005*
 - *Electricity Industry (Licensing Fees) Regulations 2005*
 - *Electricity Industry (Obligation to Connect) Regulations 2005*
 - *Electricity Industry (Ombudsman) Regulations 2005*
 - any regulations in force from time to time made pursuant to *the Act*
- the following Codes:
 - *Electricity Industry Customer Transfer Code 2004*
 - *Electricity Industry Metering Code 2005*
 - *Electricity Industry Networks Access Code 2004*
 - *Electricity Industry (Network Quality and Reliability of Supply) Code 2005*
 - a code prepared by the Authority or the Minister pursuant to section 39 of the Act.

The Authority's *Electricity Compliance Reporting Manual* (**Reporting Manual**) provides further guidance on those aspects of the Licence and Alinta's performance criteria, which the Authority expects to be reported and included in the scope of the audits.

The compliance requirements identified in the Reporting Manual have been evaluated for applicability to Alinta and used as the basis for determining the performance criteria to be considered for the audit. Table 1 presented below provides an outline of the compliance requirements that do and do not apply to Alinta based on the licence type and operating circumstances.

Table 1: Compliance Obligations

Legislative Element	Notes	Applicable to Alinta
	<p>The Licences define a customer as “a person to whom electricity is sold for the purpose of consumption. For the avoidance of doubt, a customer is not a person who resells electricity, but is the person who is the end user or consumer of the electricity”.</p> <p>For the purpose of its Generation Licences, Alinta is not licensed to supply electricity to customers, as defined by the Electricity Act.</p> <p>For the purpose of its Transmission Licences, Alinta:</p> <ul style="list-style-type: none"> • is not licenced to supply electricity to customers, as defined by the Electricity Act, other than on behalf of a retailer • does not supply electricity to customers from its generating works. 	
Electricity Industry Customer Transfer Code	The Customer Transfer Code is designed to address requirements for transferring customers between retailers and therefore does not apply to Alinta, for the purpose of its Generation and Transmission Licences.	No
Electricity Industry Act - Licence Conditions and Obligations	<ul style="list-style-type: none"> • specific Act clauses are relevant and included • conditions relevant to retail businesses and customers are excluded 	Yes
Electricity Licences - Licence Conditions and Obligations	<ul style="list-style-type: none"> • specific Licence clauses are relevant and included • references to individual licence conditions are excluded (none specified by the Authority) 	Yes
Electricity Industry Metering Code	<ul style="list-style-type: none"> • contains majority of licence conditions relevant to Alinta • Alinta is a network operator (per its Transmission Licences) and a code participant • any references to customer load management and customer are excluded • obligations of a “User” in generation/retail licence conditions are excluded as Western Power is the user, not Alinta as a generator 	Yes
Electricity Industry (Network Quality and Reliability of Supply) Code	<ul style="list-style-type: none"> • any conditions with references to small use customer are excluded. • Western Power is a customer of Alinta for the purposes this code • Alinta has a relevant “network”, as its transmission works, for the purposes of this code. 	Yes

Asset Management System Reviews

Section 14(1)(c) of the Electricity Act requires Sales to provide the Authority with a report reviewing the effectiveness of the respective asset management systems established for assets subject to its Licences. In particular, there are 12 requirements that are to be reported against, these are:

1. asset planning
2. asset creation and acquisition
3. asset disposal
4. environmental analysis (all external factors that affect the system)
5. asset operations
6. asset maintenance
7. asset management information system
8. risk management
9. contingency planning
10. financial planning
11. capital expenditure planning
12. review of AMS.

The Authority's Audit Guidelines provide further guidance on those aspects of the asset management system and Alinta's performance criteria, which the Authority expects to be reported and included in the scope of the reviews.

The final audit and review reports (combined for all four Licences) are due to be provided in time for Alinta to review and forward to the Authority by 28 November 2008.

Approach

The audits and reviews will be conducted in three distinct phases, being a risk assessment, systems analysis and testing & review. From the results, a report will be produced to outline findings, overall compliance assessments and recommendations for improvement. Each step of the audit and review is discussed in detail below.

Risk assessment

The audits and reviews will focus on identifying or assessing those activities and management control systems to be examined and the matters subject to audit. Therefore, the purpose of conducting the risk assessment as a preliminary phase enables the auditor to focus on pertinent/high risk areas of Alinta's licence obligations. The level of risk and materiality of the process will determine the level of audit required (**Table 2**) e.g. the greater the materiality and the higher the risk, the more effort will be applied.

Table 2 presented below outlines the first step in assessing the risk using the ratings indicated within the Authority's audit guidelines. The inherent risk rating is a 3-point matrix which provides an assessment of the consequence and likelihood of relevant risk events.

Table 2: Inherent risk rating

Inherent Risk Rating			
Likelihood	Consequence		
	Minor	Moderate	Major
Likely	Medium	High	High
Probable	Low	Medium	High
Unlikely	Low	Medium	High

Each licence obligation is allocated a classification rating by the Authority, which results in a standard consequence risk rating (**Table 3**).

Table 3: Risk types and classification

Source: Electricity Compliance Reporting Manual March 2008

Rating	Classification of Non-Compliance	Criteria for classification
1	Major	<p>Classified on the basis that:</p> <ul style="list-style-type: none"> ▪ the consequences of non-compliance would cause major damage, loss or disruption to customers; or ▪ the consequences of non-compliance would endanger or threaten to endanger the safety or health of a person.
2	Moderate	<p>Classified on the basis that:</p> <ul style="list-style-type: none"> ▪ the consequences of non-compliance impact the efficiency and effectiveness of the licensee's operations or service provision but do not cause major damage, loss or disruption to customers; or ▪ the regulatory obligation is not otherwise classified as a Type 1 or a Type NR non-compliance.
NR	Minor	<p>Classified on the basis that:</p> <ul style="list-style-type: none"> ▪ the consequences of non-compliance are relatively minor – i.e. non-compliance will have minimal impact on the licensee's operations or service provision and do not cause damage, loss or disruption to customers; or ▪ compliance with the obligation is immeasurable; or ▪ the non-compliance is required to be reported to the Regulator under another instrument, guideline or code 6; or ▪ the non-compliance is identified by a party other than the licensee ; or ▪ the licensee only needs to use its reasonable endeavours or best endeavours to achieve compliance or where the obligation does not otherwise impose a firm obligation on the licensee. <p>Reclassification of Type NR as a Type 2 may occur in circumstances of:</p> <ul style="list-style-type: none"> ▪ systemic non-compliance; or ▪ a failure to resolve non-compliance promptly.

Once the level of inherent risk has been determined, the adequacy of existing controls is to be assessed. Controls will be prioritised as high, medium or low in order of their suitability to mitigate the risks identified previously. This will give a level of control risk.

Once assessed, this enables the audit priority to be determined (**Table 4**). Essentially, the higher the level of risk the more substantive the audit testing becomes.

Table 4: Assessment of Audit Priority

Inherent Risk	Control Risk		
	High (weak controls)	Medium	Low (strong controls)
High	Audit Priority 1	Audit Priority 2	
Medium	Audit Priority 3	Audit Priority 4	
Low	Audit Priority 5		

The risk assessments for the audits and reviews are attached at **Appendix A** and **Appendix B** respectively.

The risk assessments have been discussed with stakeholders to gain their input as to the appropriateness of the comments, such as any factual inaccuracies, and for comment on the ratings. At this stage, the risk assessment can only be a preliminary assessment based on reading of documentation and interviews by the auditors. It is possible that the ratings and risk assessment comments may be revised as we conduct our work and new evidence comes to light. Accordingly the risk assessment is a preliminary document, not a final report, and no reliance should be placed upon its findings. It is however an invaluable tool for focussing the audit effort.

The following table outlines the audit requirement for each level of audit priority. The testing can range from extensive substantive testing around the controls and activities of particular processes to confirming the existence of controls through discussions with relevant staff.

Table 5: Audit Priority Table

Priority Rating and Resulting Audit Procedures	
Rating	Audit requirement
Audit Priority 1	<ul style="list-style-type: none"> ▪ Controls testing and extensive substantive testing of activities and/or transactions ▪ Follow-up and if necessary, re-test matters previously reported.
Audit Priority 2	<ul style="list-style-type: none"> ▪ Controls testing and moderate substantive testing of activities and/or transactions ▪ Follow-up and if necessary, re-test matters previously reported.
Audit Priority 3	<ul style="list-style-type: none"> ▪ Limited controls testing (moderate sample size). Only substantively test transactions if further control weakness found ▪ Follow-up matters previously reported.
Audit Priority 4	<ul style="list-style-type: none"> ▪ Confirmation of existing controls via observation and walk through testing ▪ Follow-up matters previously reported.
Audit Priority 5	<ul style="list-style-type: none"> ▪ Confirmation of existing controls via observation, discussions with key staff and/or reliance on key references (desktop review).

System analysis

The systems analysis required will be determined utilising the aforementioned audit priority scale. Once the priority level has been defined the testing component will take place by way of interviewing key operational and administrative staff who will outline information that displays compliance with the Licences. Where required, an observation of processes, procedures and operations and review of key documents will occur to assist in the determination of Alinta's compliance with Licence obligations.

Testing and review

Using the results of the risk assessment and systems analysis, detailed testing and analysis will be performed to compare those standards maintained by Alinta with the relevant sections and schedules of the Licences. In assessing the extent of compliance, we will consider the following:

- the control environment: Alinta's management philosophy and operating style, organisational structure, assignment of authority and responsibilities, the use of internal audit, the use of information technology and the skills and experience of the key staff members
- the information systems: the appropriateness of Alinta's information systems to record the information needed to comply with the Licences, accuracy of data, security of data and documentation describing the information system
- control procedures: the presence of systems and procedures to ensure compliance with the Licences, effectiveness of Alinta's internal control structure to detect and correct non-compliance
- compliance attitude: the action taken by Alinta in response to any previous audit/review recommendations.

In circumstances where the volume of relevant transactions being tested are large, sampling techniques will be utilised to provide adequate assurance that test results are representative of Alinta's operations.

To aid the testing, Deloitte have engaged the expertise of Maunsell for assistance with the asset management system review. Maunsell will be particularly involved in the environmental analysis, asset maintenance and asset operation requirements of the asset management system.

Reporting

In accordance with the Audit Guidelines, all aspects of compliance and effectiveness with the Licence obligations will be assessed according to the two rating scales below. The first table is for licence obligations, (**Table 6**) and the second is for asset management system effectiveness (**Table 7**).

Table 6: Operational/performance compliance rating scale

Compliance Status	Rating	Description
Compliant	5	Compliant with no further action required to maintain compliance
Compliant	4	Compliant apart from minor or immaterial recommendations to improve the strength of internal controls to maintain compliance
Compliant	3	Compliant with major or material recommendations to improve the strength of internal controls to maintain compliance
Non-compliant	2	Does not meet minimum requirements
Significantly non-compliant	1	Significant weaknesses and/or serious action required

Table 7: Asset management system review effectiveness rating scale

Effectiveness	Rating	Description
Continuously improving	5	Continuously improving organisation capability and process effectiveness
Quantitatively controlled	4	Measurable performance goals established and monitored
Well-defined	3	Standard processes documented, performed and coordinated
Planned and tracked	2	Performance is planned, supervised, verified and tracked
Performed informally	1	Base practices are performed
Not performed	0	Not performed (indicate if not applicable)

The audit and review report will also be structured to address all key components expected by the Audit Guidelines, including tabulation of risk ratings and the overall compliance rating for each licence condition and key asset management system function.

General Information

All aspects of the audit will undergo quality assurance and review procedures as outlined in our previous communications. Before delivery of a final report, full quality procedures will be applied, including second partner review.

Key Contacts

The key Alinta contacts for this assignment are:

- Ted Brereton General Manager, Western Operations
- Jarrod Baker Operations Manager - Western Operations (Power Generation)
- Bill Truscott Manager, Energy Market Operations
- Rob Stratford Manager, Finance
- Ralph Bates General Manager, Energy Sales and Marketing

Staffing

Deloitte staff assigned to conduct this assignment are:

- Richard Thomas Partner
- Andrew Baldwin Account Director
- Laura McNama Senior Analyst
- Shaun Sia Client Manager (IT)
- Sebastian Diedrichs Support Client Manager
- Jin Sua Analyst
- Matt Thomson Partner, Energy Advisory Group (Quality Assurance Review)

Maunsell staff involved with this assignment are:

- Tanuja Sanders Project Manager – Mechanical Engineering
- Stephen Brown Business Unit Leader – Electrical
- Keith Gilby Distribution Services Manager (advisory role)

Timing

The initial risk assessment phase was completed on 19 September 2008. The revised audit plan and detailed work plan were submitted on 11 November 2008.

The remainder of the fieldwork phase is scheduled to be performed in November 2008.

Appendices

Appendix	
A	Performance audit risk assessment
B	Asset management system review risk assessment

Appendix A – Performance audit risk assessment

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
10 ELECTRICITY INDUSTRY ACT - LICENCE CONDITIONS AND OBLIGATIONS								
81	Electricity Industry Act section 13(1)	A licensee must, not less than once every 24 months, provide the Authority with a performance audit conducted by an independent expert acceptable to the Authority. <i>{Transmission and Generation Licences}</i>	NR	Minor	Unlikely	Low	Low	Priority 5
82	Electricity Industry Act section 14(1)(a)	A licensee must provide for an asset management system. <i>{Transmission and Generation Licences}</i>	NR	Minor	Unlikely	Low	Low	Priority 5
83	Electricity Industry Act section 14(1)(b)	A licensee must notify details of the asset management system and any substantial changes to it to the Authority. <i>{Transmission and Generation Licences}</i>	2	Moderate	Probable	Medium	Medium	Priority 4
84	Electricity Industry Act section 14(1)(c)	A licensee must provide the Authority with a report by an independent expert as to the effectiveness of its asset management system every 24 months, or such longer period as determined by the Authority. <i>{Transmission and Generation Licences}</i>	NR	Minor	Unlikely	Low	Low	Priority 5
85	Electricity Industry Act section 17(1)	A licensee must pay to the Authority the prescribed licence fee within one month after the day of grant or renewal of the licence and within one month after each anniversary of that day during the term of the licence. <i>{Transmission and Generation Licences}</i>	NR	Minor	Unlikely	Low	Medium	Priority 4
86	Electricity Industry Act section 31(3)	A licensee must take reasonable steps to minimise the extent or duration of any interruption, suspension or restriction of the supply of electricity due to an accident, emergency, potential danger or other unavoidable cause. <i>{Transmission and Generation Licences}</i>	NR	Minor	Probable	Low	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
87	Electricity Industry Act section 41(6)	A licensee must pay the costs of taking an interest in land or an easement over land. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Medium	Priority 4
90	Electricity Industry Act section 62(1)(b)	Electricity Networks Corporation and Regional Power Corporation must comply with a direction given by the Coordinator in relation to a draft extension and expansion policy. {Transmission Licence}	NR	Not applicable, clause relates to Electricity Networks Corporation (Western Power) and Regional Power Corporation (Horizon Power)				
91	Electricity Industry Act section 64(2)	Electricity Networks Corporation and Regional Power Corporation must comply with a direction given by the Coordinator in relation to an amendment to an extension and expansion policy. {Transmission Licence}	NR	Not applicable, clause relates to Electricity Networks Corporation (Western Power) and Regional Power Corporation (Horizon Power)				
92	Electricity Industry Act section 65(d)	Electricity Networks Corporation and Regional Power Corporation must implement arrangements set out in an approved extension and expansion policy. {Transmission Licence}	NR	Not applicable, clause relates to Electricity Networks Corporation (Western Power) and Regional Power Corporation (Horizon Power)				
95	Electricity Industry Act section 115(1)	A licensee that is a network service provider or an associate of a network service provider, in relation to network infrastructure covered by the Code, must not engage in conduct for the purpose of hindering or prohibiting access by any person to services in accordance with the Code, the making of access agreements or any particular agreement in respect of those facilities, or the access to which a person is entitled under an access agreement or a determination made by way of arbitration. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
96	Electricity Industry Act section 115(2)	A licensee that has, or is an associate of a person that has, access to services under an access agreement must not engage in conduct for the purpose of hindering or prohibiting access. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
11 ELECTRICITY LICENCES - LICENCE CONDITIONS AND OBLIGATIONS								
103	Generation Licence condition 12.2 Transmission Licence condition 12.2	A licensee must amend the asset management system before an expansion or reduction in generating works, distribution systems and transmission systems and notify the Authority in the manner prescribed, if the expansion or reduction is not provided for in the asset management system. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
104	Generation Licence condition 12.3 Transmission Licence condition 12.3	A licensee must not expand the generating works, distribution systems or transmission systems outside the licence area. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
105	Generation Licence condition 13.1 Transmission Licence condition 13.1	A licensee and any related body corporate must maintain accounting records that comply with the Australian Accounting Standards Board Standards or equivalent International Accounting Standards. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Low	Priority 4
106	Generation Licence condition 14.4 Transmission Licence condition 14.4	A licensee must comply with any individual performance standards prescribed by the Authority. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Medium	Priority 4
107	Generation Licence condition 15.2 Transmission Licence condition 15.2	A licensee must comply, and require its auditor to comply, with the Authority's standard audit guidelines dealing with the performance audit. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Low	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
108	Generation Licence condition 16.4 Transmission Licence condition 16.4	A licensee must comply, and must require the licensee's expert to comply, with the relevant aspects of the Authority's standard guidelines dealing with the asset management system. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Low	Priority 4
109	Generation Licence condition 17.1 Transmission Licence condition 17.1	A licensee must report to the Authority, in the manner prescribed, if a licensee is under external administration or there is a significant change in the circumstances upon which the licence was granted which may affect a licensee's ability to meet its obligations. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Medium	Priority 4
110	Generation Licence condition 18.1 Transmission Licence condition 18.1	A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
111	Generation Licence condition 19.2 Transmission Licence condition 19.2	A licensee must publish any information it is directed by the Authority to publish, within the timeframes specified. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
112	Generation Licence condition 20.1 Transmission Licence condition 20.1	Unless otherwise specified, all notices must be in writing. {Transmission and Generation Licences}	2	Moderate	Unlikely	Medium	Medium	Priority 4
14 ELECTRICITY INDUSTRY METERING CODE - LICENCE CONDITIONS AND OBLIGATIONS								
300	Electricity Industry Metering Code clause 2.2(1)(a)	A network operator must treat all retailers which are its associates on an arms-length basis. {Transmission Licence}	NR	Minor	Unlikely	Low	Low	Priority 5

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
301	Electricity Industry Metering Code clause 2.2(1)(b)	A network operator must ensure that no Code participant that its associate receives a benefit in respect of the Code unless the benefit is attributable to an arms length application of the Code or is also made available to all Code participants on the same terms and conditions. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
302	Electricity Industry Metering Code clause 3.1	A network operator must ensure that its meters meet the requirements specified in the applicable metrology procedure and also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
303	Electricity Industry Metering Code clause 3.2(1)	An accumulation meter must at least conform to the requirements specified in the applicable metrology procedure and display, or permit access to a display of the accumulated electricity production or consumption at the metering point in the manner prescribed. {Transmission Licence}	2	Not applicable – for the purpose of its Transmission Licences, as Alinta is licensed to supply electricity from generation works, interval meters are the minimum type of metre required to be used to meter that supply (accumulation meters are not allowed)				
304	Electricity Industry Metering Code clause 3.3(1)	An interval meter must at least have an interface to allow the interval energy data to be downloaded in the manner prescribed, using an interface compatible with the requirements specified in the applicable metrology procedure {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
305	Electricity Industry Metering Code clause 3.3(3)	If a metering installation is required to include a communications link, the link must (where necessary), include a modem and isolation device approved under the relevant telecommunications regulations, to allow the interval energy data to be downloaded in the manner prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
306	Electricity Industry Metering Code clause 3.5(1) and (2)	A network operator must ensure that there is a metering installation at every connection point on its network which is not a Type 7 connection point. Unless it is a Type 7 metering installation, the metering installation must meet the functionality requirements prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
307	Electricity Industry Metering Code clause 3.5(3)	A network operator must ensure that there is a metering installation on its network, on and from the time of its connection to the connection to the network, provide, install, operate and maintain the metering installation in the manner prescribed (unless otherwise agreed). {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
308	Electricity Industry Metering Code clause 3.5(4)	A network operator must ensure that, except for a Type 7 metering installation, the metering point for a revenue metering installation is located as close as practicable to the connection point in accordance with good electricity Industry practice. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
309	Electricity Industry Metering Code clause 3.5(6)	A network operator may only impose a charge for providing, installing, operating or maintaining a metering installation in accordance with the applicable service level agreement between it and the user. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
310	Electricity Industry Metering Code clause 3.5(9)	If a network operator becomes aware that a metering installation does not comply with the Code, the network operator must advise affected parties of the non-compliance and arrange for the non-compliance to be corrected as soon as practicable. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
311	Electricity Industry Metering Code clause 3.7	All devices that may be connected to a telecommunications network must be compatible with the telecommunications network and comply with all applicable State and Commonwealth enactments. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
312	Electricity Industry Metering Code clause 3.8	A network operator must, for each metering installation on its network, ensure that the metering installation is secured by means of devices or methods which, to the standard of good electricity Industry practice, hinder unauthorised access and enable unauthorised access to be detected. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
313	Electricity Industry Metering Code clause 3.9(3)	Each metering installation must meet at least the requirements for that type of metering installation, specified in Table 3 in Appendix 1 of the Code. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
314	Electricity Industry Metering Code clause 3.9(7)	For a metering installation used to supply a customer with requirements above 1000 volts that require a VT and whose annual consumption is below 750MWh, the metering installation must meet the relevant accuracy requirements of Type 3 metering installation for active energy only. {Transmission Licence}	2	Not applicable - for the purpose of its Transmission Licences, Alinta: <ul style="list-style-type: none"> is not licenced to supply electricity to customers, other than on behalf of a retailer does not supply electricity to customers (on behalf of a retailer) from its generating works 				
315	Electricity Industry Metering Code clause 3.9(9)	If compensation is carried out within the meter then the resultant metering system error must be as close as practicable to zero. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
316	Electricity Industry Metering Code clause 3.10	A network operator must ensure that any programmable settings within any of its metering installations, data loggers or peripheral devices, that may affect the resolution of displayed or stored data, meet the relevant requirements specified in the applicable metrology procedure and comply with any applicable specifications or guidelines specified by the National Measurement Institute under the National Measurement Act. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
317	Electricity Industry Metering Code clause 3.11(1)	A network operator must ensure that a metering installation on its network permits collection of data within the timeframes and to the level of availability specified. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
318	Electricity Industry Metering Code clause 3.11(2)	A network operator must make repairs to the metering installation in accordance with the applicable service level agreement if an outage or malfunction occurs to a metering installation. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
319	Electricity Industry Metering Code clause 3.11(3)	A Code participant who becomes aware of an outage or malfunction of a metering installation must advise the network operator as soon as practicable. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
320	Electricity Industry Metering Code clause 3.12(1)	A network operator must ensure that each metering installation complies with, at least, the prescribed design requirements. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
321	Electricity Industry Metering Code clause 3.12(2)	A network operator must ensure that instrument transformer in its metering installations comply with the relevant requirements of any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act and any requirements specified in the applicable metrology procedure. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
322	Electricity Industry Metering Code clause 3.12(3)	A network operator must provide isolation facilities, to the standard of good electricity Industry practice, to facilitate testing and calibration of the metering installation. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
323	Electricity Industry Metering Code clause 3.12(4)	A network operator must maintain drawings and supporting information, to the standard of good electricity Industry practice, detailing the metering installation for maintenance and auditing purposes. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
324	Electricity Industry Metering Code clause 3.13(1)	A network operator must procure the user or the user's customer to install (or arrange for the installation of) a full check metering installation or partial check metering installation in accordance with prescribed arrangements. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
325	Electricity Industry Metering Code clause 3.13(3)(c)	A partial check metering installation must be physically arranged in a manner determined by the network operator, acting in accordance with good electricity Industry practice. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
326	Electricity Industry Metering Code clause 3.13(4)	A metering installation for a metering point must not exceed twice the error level permitted under clause 3.9 for the revenue metering installation for the metering point, and must be connected in such a way that it measures the same load conditions as the revenue metering installation for the metering point, and must be otherwise consistent with the prescribed requirements. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
327	Electricity Industry Metering Code clause 3.14(3)	If, under clause 3.14(2) of the Code, metering installation uses metering class Cuts and Vats that do not comply with the prescribed requirements, then the network operator must either (or both) install meters of a higher class accuracy or apply accuracy calibration factors within the meter in order to achieve the overall accuracy requirements prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
328	Electricity Industry Metering Code clause 3.16(1)	A network operator must ensure that a Type 1 metering installation to Type 5 metering installation on the network has the facilities and functionality prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
329	Electricity Industry Metering Code clause 3.16(2)	A network operator must ensure that a Type 1 metering installation to Type 4 metering installation on the network includes a communications link. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
330	Electricity Industry Metering Code clause 3.16(3)	If a device is used as a data logger, the energy data for a metering point on the network must be collated in trading intervals with the metering installation unless it has been agreed between the network operator and the Code participant that energy data may be recorded in sub-multiples of a trading interval. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
331	Electricity Industry Metering Code clause 3.16(5)	A network operator or a user may require the other to negotiate and enter into a written service level agreement in respect of the matters in the metrology procedure dealt with under clause 3.16(4) of the Code. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
332	Electricity Industry Metering Code clause 3.16(6)	A network operator may only impose a charge for the matters dealt with in the metrology procedure in accordance with the applicable service level agreement between it and the user. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
333	Electricity Industry Metering Code clause 3.18(1)	If the Electricity Retail Corporation supplies electricity to a contestable customer at a connection point under a non-regulated contract, and in circumstances where immediately before entering into a contract, the electricity retail corporation supplied electricity to the contestable customer under a regulated contract, then the metering installation for the connection point must comply with the prescribed wholesale market metering installation requirements. {Transmission Licence}	2	Not applicable - clause is relevant to the Electricity Retail Corporation (Synergy Energy) only				
334	Electricity Industry Metering Code clause 3.20(1)	A network operator must, if reasonably requested by a Code participant, provide enhanced technology features in a metering installation. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
335	Electricity Industry Metering Code clause 3.20(3)	A network operator may only impose a charge for the provision of metering installations with enhanced technology features in accordance with the applicable service level agreement between it and the user. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
336	Electricity Industry Metering Code clause 3.21(1)	Meters containing an internal real-time clock must maintain time accuracy as prescribed. Time drift must be measured over a period of 1 month. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
337	Electricity Industry Metering Code clause 3.21(2)	If a metering installation includes measurement elements and an internal data logger at the same site, it must include facilities on site for storing the interval energy data for the periods prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
338	Electricity Industry Metering Code clause 3.22	A network operator providing one or more metering installations with enhanced technology features must be licensed to use access the metering software applicable to all devices being installed and be able to program the devices set parameters. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
339	Electricity Industry Metering Code clause 3.23(a)	Where signals are provided from the meter for the user or the user's customer use, a network operator must ensure that signals are isolated by relays or electronic buffers to prevent accidental or malicious damage to the meter. {Transmission Licence}	2	Not applicable - clause relates to customer load management. For the purpose of its Transmission Licences, Alinta: <ul style="list-style-type: none"> is not licenced to supply electricity to customers, other than on behalf of a retailer does not supply electricity to customers (on behalf of a retailer) from its generating works 				
340	Electricity Industry Metering Code clause 3.23(b)	Where signals are provided from the meter for the user or the user's customer use, a network operator must provide the user or the user's customer with sufficient details of the signal specification to enable compliance with clause 3.23(c). {Transmission Licence}	2					
341	Electricity Industry Metering Code clause 3.25	A network operator that operates and maintains a pre-payment meter on its network must operate and maintain the pre-payment meter in accordance with good electricity Industry practice and, as far as reasonably practicable, minimise any departure from what the requirements of the Code would have been in respect of the pre-payment meters if clause 3.24 were deleted. {Transmission Licence}	2					

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
342	Electricity Industry Metering Code clause 3.27	A person must not install a metering installation on a network unless the person is the network operator or a registered metering installation provider for the network operator doing the type of work authorised by its registration. {Generation Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
343	Electricity Industry Metering Code clause 3.29	A network operator must publish a list of registered metering installation providers, including the prescribed details, and at least annually, update the list. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
344	Electricity Industry Metering Code clause 4.1(1)	A network operator must establish, maintain and administer a metering database containing standing data and energy data for each metering point on its network. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
345	Electricity Industry Metering Code clause 4.1(2)	A network operator must ensure that its metering database and associated links, circuits, information storage and processing systems are secured by means of devices or methods which, to the standard of good electricity Industry practice, hinder unauthorised access and enable unauthorised access to be detected. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
346	Electricity Industry Metering Code clause 4.1(3)	A network operator must prepare, and if applicable, must implement a disaster recover plan, to ensure that it is able, within 2 business days after the day of any disaster, to rebuild the metering database and provide any energy data to Code participants. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
347	Electricity Industry Metering Code clause 4.2(1)	A network operator must ensure that its registry complies with the Code and the prescribed clause of the market rules. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
348	Electricity Industry Metering Code clause 4.3(1)	The standing data for the metering point must comprise at least the items specified. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
349	Electricity Industry Metering Code clause 4.4(1)	A network operator and affected Code participants must liaise together to determine the most appropriate way to resolve a discrepancy between energy data held in a metering installation and data held in the metering database. {Transmission and Generation Licences}	NR	Minor	Probable	Low	Medium	Priority 5
350	Electricity Industry Metering Code clause 4.5(1)	A Code participant must not knowingly permit the registry to be materially inaccurate. {Transmission and Generation Licences}	NR	Minor	Probable	Low	Medium	Priority 5
351	Electricity Industry Metering Code clause 4.5(2)	If a Code participant (other than a network operator) becomes aware of a change to or an inaccuracy in an item of standing data in the registry, then it must notify the network operator and provide details of the change or inaccuracy within the timeframes prescribed. {Generation Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
352	Electricity Industry Metering Code clause 4.6(1)	If a network operator is notified of a change to or inaccuracy in an item of standing data by a Code participant which is the designated source for the item of standing data, then the network operator must update the registry. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
353	Electricity Industry Metering Code clause 4.6(2)	If a network operator is notified of a change to or inaccuracy in an item of standing data by a Code participant which is not the designated source for the item of standing data, or otherwise becomes aware of a change to or inaccuracy in an item of standing data, then the network operator must undertake investigations to the standard of good electricity Industry practice to determine whether the registry should be updated, and update the registry as required. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
354	Electricity Industry Metering Code clause 4.7	A network operator must notify any affected user for a metering point of the updated standing data within the timeframes prescribed, where that user would otherwise be entitled to the updated standing data. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
355	Electricity Industry Metering Code clause 4.8(3)	A network operator must allow a user who supplies, purchases or generates electricity to have local and (where a suitable communications link is installed) remote access to the energy data for metering points at its associated connection points, using a 'read-only' password provided by the network operator. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
356	Electricity Industry Metering Code clause 4.8(4)	A network operator must have security devices and methods in place that ensure energy data held in its metering installation and data held in its metering database is secured from unauthorised local or remote access, in the manner prescribed, sufficient to the standard of good electricity Industry practice. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
357	Electricity Industry Metering Code clause 4.8(5)	A network operator must ensure that electronic passwords and other electronic security controls are secured from unauthorised access and are only issued to authorised personnel. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
358	Electricity Industry Metering Code clause 4.9	A network operator must retain energy data in its metering database for each metering point on its network for at least the periods, and with the level of accessibility, prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
359	Electricity Industry Metering Code clause 5.1(1)	A network operator must use all reasonable endeavours to accommodate another Code participant's requirement to obtain a metering service and requirements in connection with the negotiation of a service level agreement. {Transmission Licence}	NR	Minor	Probable	Low	Medium	Priority 5

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
360	Electricity Industry Metering Code clause 5.1(2)	A network operator must expeditiously and diligently process all requests for a service level agreement and negotiate its terms in good faith. A network operator must, to the extent reasonably practicable in accordance with good electricity Industry practice, permit a Code participant to acquire a metering service, containing only those elements of the metering service which the Code participant wishes to acquire. {Transmission Licence}	NR	Minor	Unlikely	Low	Low	Priority 5
361	Electricity Industry Metering Code clause 5.3	A network operator must, for each metering point on its network, obtain energy data from the metering installation and transfer the energy data into its metering database within the timeframes prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
362	Electricity Industry Metering Code clause 5.4(1)	A network operator must, for each accumulation meter on its network, use reasonable endeavours to undertake a meter reading that provides an actual value at least once in any 12 month period. {Transmission Licence}	NR	Not applicable - as Alinta is licensed to supply electricity from generation works, interval meters are the minimum type of metre required to be used to meter that supply (accumulation meters are not allowed)				
363	Electricity Industry Metering Code clause 5.4(2)	A user must, when reasonably requested by a network operator, use reasonable endeavours to assist the network operator to comply with the network operator's obligation. {Generation Licence}	NR	Not applicable – for the purposes of this clause, Alinta is both the User and Network operator				
364	Electricity Industry Metering Code clause 5.5(2)	A network operator may only impose a charge for the provision of data under this Code in accordance with the applicable service level agreement between it and the user and must not impose a charge for the provision of data if another enactment prohibits it from doing so. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
365	Electricity Industry Metering Code clause 5.5(3)	A user must not impose any charge for the provision of the data under this Code unless it is permitted to do so under another enactment. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment					
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority	
366	Electricity Industry Metering Code clause 5.6(1)	A network operator must provide validated, and where necessary, substituted or estimated energy data for a metering point to the user for the metering point and the IMO within the timeframes prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4	
367	Electricity Industry Metering Code clause 5.7	A network operator must provide replacement energy data to the user for the metering point and the IMO within the timeframes prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4	
368	Electricity Industry Metering Code clause 5.8	A network operator must provide a user with whatever information the network operator has that is necessary to enable the user to comply with its obligations under the Code of Conduct, within the time necessary for the user to comply with the obligations. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4	
369	Electricity Industry Metering Code clause 5.9	A network operator must provide standing data, provided to or obtained by it under this Code, to users where required to do so under any enactment {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4	
370	Electricity Industry Metering Code clause 5.10	A network operator must provide a subset of the standing data to a retailer in accordance with the provisions of Annex 4 of the Metering Code. {Transmission Licence}	2	Not applicable - clause relates to customer transfers. For the purpose of its Transmission Licences, Alinta: <ul style="list-style-type: none"> ▪ is not licenced to supply electricity to customers, other than on behalf of a retailer ▪ does not supply electricity to customers (on behalf of a retailer) from its generating works 					
371	Electricity Industry Metering Code clause 5.11	If a transfer occurs at a connection point, a network operator must provide an incoming retailer with a copy of the standing data for each metering point associated with the connection point within the timeframes specified. {Transmission Licence}	2						

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
372	Electricity Industry Metering Code clause 5.12(1)	If a network operator is given a request in accordance with the communication rules and the energy data request relates only to a time or times for which the user was the current user at the metering point, a network operator must provide a user with a complete set of energy data for a metering point within the timeframes specified. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
373	Electricity Industry Metering Code clause 5.13	A network operator must provide a current user with a complete current set of standing data for a metering point and advise whether there is a communications link for the metering point, within the timeframes prescribed, if it is given a request in accordance with the communication rules. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
374	Electricity Industry Metering Code clause 5.14(3)	A network operator must acknowledge receipt of a bulk standing data request from a user and provide the requested standing data within the timeframes prescribed in accordance with the communication rules. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
375	Electricity Industry Metering Code clause 5.15	A network operator that provides energy data to a user or the IMO must also provide the data of the meter reading. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
376	Electricity Industry Metering Code clause 5.16	A user that collects or receives energy data from a metering installation must provide the network operator with the energy data (in accordance with the communication rules) within the timeframes prescribed. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
377	Electricity Industry Metering Code clause 5.17(1)	A user must provide standing data and validated (and where necessary substituted or estimated) energy data to the user's customer, to which that information relates, where the user is required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer. {Generation Licence}	2	Not applicable - clause relates to the provision of customer information. Under paragraph 2.1 of its Generation Licences, Alinta is not licensed to supply electricity to customers, as defined by the Electricity Act				

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
378	Electricity Industry Metering Code clause 5.18	A user that collects or receives information regarding a change in the energisation status of a metering point must provide the network operator with the prescribed information, including the stated attributes, within the timeframes prescribed. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
379	Electricity Industry Metering Code clause 5.19(1)	A user must, when requested by the network operator acting in accordance with good electricity Industry practice, use reasonable endeavours to collect information from customers, if any, that assists the network operator in meeting its obligations described in the Code and elsewhere. {Generation Licence}	NR	Not applicable - clause relates to the provision of customer information. Under paragraph 2.1 of its Generation Licences, Alinta is not licensed to supply electricity to customers, as defined by the Electricity Act				
380	Electricity Industry Metering Code clause 5.19(2)	A user must, to the extent that it is able, collect and maintain a record of the address, site and customer attributes, prescribed in relation to the site of each connection point, with which the user is associated. {Generation Licence}	NR					
381	Electricity Industry Metering Code clause 5.19(3)	A user must, after becoming aware of any change in a site's prescribed attributes, notify the network operator of the change within the timeframes prescribed. {Generation Licence}	2					
382	Electricity Industry Metering Code clause 5.19(4)	A user that becomes aware that there is a sensitive load at a customer's site must immediately notify the network operator's Network Operations Control Centre of the fact. {Generation Licence}	2					
383	Electricity Industry Metering Code clause 5.19(5)	A network operator must give notice to a user, or (if there is a different current user) the current user, acknowledging the receipt of any customer, site or address attributes from the user within the timeframes prescribed. {Transmission Licence}	2					

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
384	Electricity Industry Metering Code clause 5.19(6)	A user must use reasonable endeavours to ensure that it does notify the network operator of a change in an attribute that results from the provision of standing data by the network operator to the user. {Generation Licence}	NR	Not applicable - clause relates to the provision of customer information. Under paragraph 2.1 of its Generation Licences, Alinta is not licensed to supply electricity to customers, as defined by the Electricity Act				
385	Electricity Industry Metering Code clause 5.20(1)	A network operator must, within 6 months from the date this Code applies to the network operator, develop, in accordance with communication rules, an energy data verification request form. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
386	Electricity Industry Metering Code clause 5.20(2)	An Energy Data Verification Request Form must require a Code participant to provide the information prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
387	Electricity Industry Metering Code clause 5.20(4)	If a Code participants requests verification of energy data, a network operator must, in accordance with the metrology procedure, use reasonable endeavours to verify energy data and inform the requesting Code participant of the result of the verification and provide the verified energy data with the metering installation. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
388	Electricity Industry Metering Code clause 5.21(2)	A network operator must comply with any reasonable request by the Code participant to undertake either a test or an audit of the accuracy of the metering installation or the energy or standing data of the metering installation. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
389	Electricity Industry Metering Code clause 5.21(4)	A test or audit is to be conducted in accordance with the metrology procedure and the applicable service level agreement. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
390	Electricity Industry Metering Code clause 5.21(5)	A Code participant must not request a test or audit unless the Code participant is a user and the test or audit relates to a time or times at which the user was the current user or the Code participant is the IMO. {Generation Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment					
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority	
391	Electricity Industry Metering Code clause 5.21(6)	A Code participant must not make a test or audit request that is inconsistent with any access arrangement or agreement. {Generation Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
392	Electricity Industry Metering Code clause 5.21(8)	A network operator may only impose a charge for the testing of the metering installations, or auditing of information from the meters associated with the metering installations, or both, in with the applicable service level agreement between it and the user. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
393	Electricity Industry Metering Code clause 5.21(9)	Any written service level agreement in respect of the testing of metering installations, or the auditing of information from the meters associated with the metering installations, must include a provision that no charge is to be imposed if the test or audit reveals a non-compliance with this Code which results in energy data errors in the network operator's favour. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
394	Electricity Industry Metering Code clause 5.21(11)	A network operator must advise the affected parties as soon as practicable of errors detected under a test or audit, the possible duration of the errors, and must restore the accuracy of the metering installation in accordance with the applicable service level agreement. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
395	Electricity Industry Metering Code clause 5.21(12)	The original stored error correction data in a meter must not be altered except during accuracy testing and calibration of a metering installation. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
396	Electricity Industry Metering Code clause 5.22(1)	A network operator must validate energy data in accordance with this code applying, as a minimum, the prescribed rules and procedures and must, where necessary, substitute and estimate energy data under this Code applying, as a minimum, the prescribed rules and procedures. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	

Licence Conditions				Risk Assessment					
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority	
397	Electricity Industry Metering Code clause 5.22(2)	The network operator must use check metering data, where available, to validate energy data provided that the check metering data has been appropriately adjusted for differences in metering installation accuracy. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
398	Electricity Industry Metering Code clause 5.22(3)	A network operator must prepare substitute values using the prescribed method if a check meter is not available or energy data cannot be recovered from the metering installation within the time required. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
399	Electricity Industry Metering Code clause 5.22(4)	A network that detects a loss of energy data or incorrect energy data from a metering installation must notify each affected Code participant of the loss or error within 24 hours after detection. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
400	Electricity Industry Metering Code clause 5.22(5)	Substitution or estimation of energy data is to be required when energy data is missing, unavailable or corrupted, including in the circumstances described. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
401	Electricity Industry Metering Code clause 5.22(6)	A network operator must review all validation failures before undertaking any substitution. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
402	Electricity Industry Metering Code clause 5.23(1)	A network operator that determines that there is no possibility of determining an actual value for a metering point must designate an estimated or substituted value for the metering point to be a determined actual value for the metering point. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
403	Electricity Industry Metering Code clause 5.23(3)	A network operator that has designated a deemed actual value for a metering point must repair or replace the meter or one or more of components of metering equipment (as appropriate) at the metering point. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
404	Electricity Industry Metering Code clause 5.24(1)	A network operator that uses an actual value (first value) for energy data for a metering point, and a better quality or deemed actual value is available (second value) must replace the first value with the second value if doing so would be consistent with good electricity Industry practice. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
405	Electricity Industry Metering Code clause 5.24(2)	A network operator that uses a deemed actual value (first value) for energy data for a metering point, and a better quality deemed actual value is available (second value), must replace the first value with the second, if doing so would be consistent with good electricity Industry practice. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
406	Electricity Industry Metering Code clause 5.24(3)	A network operator that uses an estimated or substituted value (first value) for energy data for a metering point, and a better quality actual, deemed, estimated or substituted value is available (second value) must replace the first value with the second value if doing so would be consistent with good electricity Industry practice or the user and its customer jointly request it to do so. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
407	Electricity Industry Metering Code clause 5.24(4)	A network operator (acting in accordance with good electricity Industry practice) must consider any reasonable request from a Code participant for an estimated or substituted value to be replaced. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
408	Electricity Industry Metering Code clause 5.25	A network operator must ensure the accuracy of estimated energy data in accordance with the methods in its metrology procedure and ensure that any transformation or processing of data preserves its accuracy in accordance with the metrology procedure. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
409	Electricity Industry Metering Code clause 5.27	Upon request, a current user must provide the network operator with customer attribute information that it reasonably believes are missing or incorrect within the timeframes prescribed. {Generation Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
410	Electricity Industry Metering Code clause 5.29	If a network operator makes an election for the electricity networks corporation to be its metering data agent in relation to a network, then, except to the extent that the metering data agency agreement provides otherwise, the parties must undertake the activities prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
411	Electricity Industry Metering Code clause 5.30(1)	If a network operator makes an election for the electricity networks corporation to be its metering data agent in relation to a network, then the electing network operator and the electricity networks corporation must enter in to a metering data agency agreement in relation to the network, which must deal with at least the matters prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
412	Electricity Industry Metering Code clause 5.31(1)	If a network operator makes an election for the electricity networks corporation to be its metering data agent in relation to a network, the electricity networks corporation must assess the compliance of each metering installation in the network with this Code and notify the electing network operator of each non-compliant metering installation. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
413	Electricity Industry Metering Code clause 5.31(2)	An electing network operator may, by notice to the electricity networks corporation, require the electricity networks corporation to upgrade a non-compliant metering installation, in which case the electricity networks corporation must undertake the upgrade in accordance with the metering data agency agreement and good electricity Industry practice. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
414	Electricity Industry Metering Code clause 5.34(2)	Except to the extent that the metering data agency agreement provides otherwise, the costs which may be recovered by the electricity networks corporation for acting as the network operator's metering data agent must not exceed the amounts prescribed. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
415	Electricity Industry Metering Code clause 6.1(1)	A network operator must, in relation to its network, comply with the agreements, rules, procedures, criteria and processes prescribed. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
416	Electricity Industry Metering Code clause 6.1(2)	A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed. {Generation Licence}	2	Moderate	Probable	Medium	Medium	Priority 4
417	Electricity Industry Metering Code clause 6.20(4)	A network operator must amend any document in accordance with the Authority's final findings. {Transmission Licence}	NR	Minor	Unlikely	Low	Medium	Priority 5
418	Electricity Industry Metering Code clause 7.2(1)	Code participants must use reasonable endeavours to ensure that they can send and receive a notice by post, facsimile and electronic communication and must notify the network operator of a telephone number for voice communication in connection with the Code. {Transmission and Generation Licences}	NR	Not applicable – for the purposes of this clause, Alinta is both the Code participant and Network operator				
419	Electricity Industry Metering Code clause 7.2(2)	A network operator must notify each code participant of its initial contact details at least 3 business days before the change takes effect. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
420	Electricity Industry Metering Code clause 7.2(4)	A Code participant must notify its contact details to a network operator with whom it has entered into an access contract within 3 business days after the network operator's request. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
421	Electricity Industry Metering Code clause 7.2(5)	A Code participant must notify any affected network operator of any change to the contact details it notified to the network operator at least 3 business days before the change takes effect. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
422	Electricity Industry Metering Code clause 7.5	A Code participant must not disclose, or permit the disclosure of, confidential information provided to it under or in connection with the Code and may only use or reproduce confidential information for the purpose for which it was disclosed or another purpose contemplated by the Code. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
423	Electricity Industry Metering Code clause 7.6(1)	A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by the Code. {Generation Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
424	Electricity Industry Metering Code clause 8.1(1)	Representatives of disputing parties must meet within 5 business days after a notice given by a disputing party to the other disputing parties and attempt to resolve the dispute under or in connection with the Electricity Industry Metering Code by negotiations in good faith. {Transmission and Generation Licences}	NR	Minor	Unlikely	Low	Medium	Priority 5
425	Electricity Industry Metering Code clause 8.1(2)	If a dispute is not resolved within 10 business days after the dispute is referred to representative negotiations, the disputing parties must refer the dispute to a senior management officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith. {Transmission and Generation Licences}	NR	Minor	Unlikely	Low	Medium	Priority 5
426	Electricity Industry Metering Code clause 8.1(3)	If the dispute is not resolved within 10 business days after the dispute is referred to senior management negotiations, the disputing parties must refer the dispute to the senior executive officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith. {Transmission and Generation Licences}	NR	Minor	Unlikely	Low	Medium	Priority 5

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
427	Electricity Industry Metering Code clause 8.1(4)	If the dispute is resolved by representative negotiations, senior management negotiations or CEO negotiations, the disputing parties must prepare a written and signed record of the resolution and adhere to the resolution. {Transmission and Generation Licences}	2	Moderate	Probable	Medium	Medium	Priority 4
428	Electricity Industry Metering Code clause 8.3(2)	The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective of dispute resolution with as little formality and technicality and with as much expedition as the requirements of Part 8 of the Code and a proper hearing and determination of the dispute, permit. {Transmission and Generation Licences}	NR	Minor	Unlikely	Low	Medium	Priority 5
16 ELECTRICITY INDUSTRY (Network Quality and Reliability of Supply) CODE 2005								
429	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 5(1)	A distributor or transmitter must, as far as reasonably practicable, ensure that electricity supply to a customer's electrical installations complies with prescribed standards. {Transmission Licence}	NR	Minor	Unlikely	Low	Medium	Priority 5
430	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 8	A distributor or transmitter must, as far as reasonably practicable, disconnect the supply of electricity to installations or property in specified circumstances, unless it is in the interest of the customer to maintain the supply. {Transmission Licence}	NR	Minor	Unlikely	Low	Medium	Priority 5
431	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 9	A distributor or transmitter must, as far as reasonably practicable, ensure that the supply of electricity is maintained and the occurrence and duration of interruptions is kept to a minimum. {Transmission Licence}	NR	Minor	Unlikely	Low	Medium	Priority 5
432	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 10(1)	A distributor or transmitter must, so far as reasonably practicable, reduce the effect of interruption on a customer. {Transmission Licence}	NR	Minor	Unlikely	Low	Low	Priority 5

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
433	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 10(2)	A distributor or transmitter must consider whether, in specified circumstances, it should supply electricity by alternative means to a customer who will be affected by a proposed interruption. {Transmission Licence}	NR	Minor	Unlikely	Low	Low	Priority 5
435	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 13(2)	A distributor or transmitter must, so far as reasonably practicable, ensure that customers in specified areas do not have average total lengths of interruptions of supply greater than specified durations. {Transmission Licence}	NR	Minor	Unlikely	Low	Medium	Priority 5
436	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 13(3)	The average total length of interruptions of supply is to be calculated using the specified method. {Transmission Licence}	2	Moderate	Unlikely	Medium	Medium	Priority 4
437	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 14(8)	A distributor or transmitter must, on request, provide to an affected customer a free copy of an instrument issued by the Minister and of any notice given under section 14(7) of the Electricity Industry (Network Quality and Reliability and Quality of Supply) Code 2005. {Transmission Licence}	2	Not applicable - for the purpose of its Transmission Licences, Alinta: <ul style="list-style-type: none"> is not licenced to supply electricity to customers, other than on behalf of a retailer does not supply electricity to customers (on behalf of a retailer) from its generating works 				
438	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 15(2)	A distributor or transmitter that agrees with a customer to exclude or modify certain provisions must set out the advantages and disadvantages to the customer of doing so in their agreement. {Transmission Licence}	2					
444	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 23(1)	A distributor or transmitter must take all such steps as are reasonably necessary to monitor the operation of its network to ensure compliance with specified requirements. {Transmission Licence}	NR	Minor	Probable	Low	Low	Priority 5

Licence Conditions				Risk Assessment					
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority	
445	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 23(2)	A distributor or transmitter must keep records of information regarding its compliance with specific requirements for the period specified. {Transmission Licence}	2	Moderate	Probable	Medium	Medium	Priority 4	
446	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 24(3)	A distributor or transmitter must complete a quality investigation requested by a customer in accordance with specified requirements. {Transmission Licence}	2	Not applicable - for the purpose of its Transmission Licences, Alinta: <ul style="list-style-type: none"> is not licenced to supply electricity to customers, other than on behalf of a retailer does not supply electricity to customers (on behalf of a retailer) from its generating works 					
447	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 24(4)	A distributor or transmitter must report the results of an investigation to the customer concerned. {Transmission Licence}	2						
448	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 25(2)	A distributor or transmitter must make available, at no cost, a copy of a document setting out its complaint handling processes to the small customer who makes a complaint to the distributor or the transmitter who asks to be given such information. {Transmission Licence}	2						
449	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 25(2)	A document setting out the distributor's or transmitter's complaint handling process must contain the specified information. {Transmission Licence}	2						
450	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 26	A distributor or transmitter must arrange for an independent audit and report on its systems for monitoring, and its compliance with specific requirements. This is to be carried out in respect of the operation of such systems during each year ending on 30 June. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4	

Licence Conditions				Risk Assessment				
No	Obligations under Condition	Description	Type	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
451	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 27(1)	A distributor or transmitter must prepare and publish a report about its performance in accordance with specified requirements. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4
452	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 27(3)	A distributor or transmitter must give a copy of its report about its performance to the Minister and the Authority within a specified period. {Transmission Licence}	2	Moderate	Unlikely	Medium	Low	Priority 4

Appendix B - Asset management system review risk assessment

1		Asset Planning				
Key Process:		Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).				
Outcome:		Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
1 (a)	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Moderate	Probable	Medium	Low	Priority 4
1 (b)	Service levels are defined	Moderate	Probable	Medium	Low	Priority 4
1 (c)	Non-asset options (e.g. demand management) are considered	Minor	Probable	Low	Medium	Priority 5
1 (d)	Lifecycle costs of owning and operating assets are assessed	Moderate	Probable	Medium	Low	Priority 4
1 (e)	Funding options are evaluated	Minor	Probable	Low	Low	Priority 5
1 (f)	Costs are justified and cost drivers identified	Moderate	Probable	Medium	Low	Priority 4
1 (g)	Likelihood and consequences of asset failure are predicted	Major	Probable	High	Medium	Priority 2
1 (h)	Plans are regularly reviewed and updated	Moderate	Probable	Medium	Medium	Priority 4

2 Asset Creation and Acquisition						
Key Process:		Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay				
Outcome:		A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
2 (a)	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Moderate	Unlikely	Medium	Low	Priority 4
2 (b)	Evaluations include all life-cycle costs	Moderate	Probable	Medium	Medium	Priority 4
2 (c)	Projects reflect sound engineering and business decisions	Moderate	Probable	Medium	Medium	Priority 4
2 (d)	Commissioning tests are documented and completed	Moderate	Probable	Medium	Low	Priority 4
2 (e)	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	Moderate	Probable	Medium	Medium	Priority 4

3		Asset Disposal				
Key Process:		Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms.				
Outcome:		Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
3 (a)	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Moderate	Unlikely	Medium	Medium	Priority 4
3 (b)	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Moderate	Unlikely	Medium	Medium	Priority 4
3 (c)	Disposal alternatives are evaluated	Minor	Probable	Low	Medium	Priority 5
3 (d)	There is a replacement strategy for assets	Moderate	Probable	Medium	Medium	Priority 4

4 Environmental analysis						
Key Process:		Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.				
Outcome:		The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
4 (a)	Opportunities and threats in the system environment are assessed	Moderate	Likely	High	Low	Priority 2
4 (b)	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	Moderate	Probable	Medium	Low	Priority 4
4 (c)	Compliance with statutory and regulatory requirements	Moderate	Likely	High	Low	Priority 2
4 (d)	Achievement of customer service levels	Moderate	Probable	Medium	Medium	Priority 4

5 Asset operations						
Key Process:		Operational functions relate to the day-to-day running of assets and directly affect service levels and costs.				
Outcome:		Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
5 (a)	Operational policies and procedures are documented and linked to service levels required	Moderate	Likely	High	Medium	Priority 2
5 (b)	Risk management is applied to prioritise operations tasks	Moderate	Probable	Medium	Medium	Priority 4
5 (c)	Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	Minor	Probable	Low	Low	Priority 5
5 (d)	Operational costs are measured and monitored	Moderate	Probable	Medium	Low	Priority 4
5 (e)	Staff receive training commensurate with their responsibilities	Moderate	Probable	Medium	Medium	Priority 4

6		Asset maintenance				
Key Process:		Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.				
Outcome:		Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
6 (a)	Maintenance policies and procedures are documented and linked to service levels required	Moderate	Likely	High	Medium	Priority 2
6 (b)	Regular inspections are undertaken of asset performance and condition	Moderate	Probable	Medium	Medium	Priority 4
6 (c)	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Moderate	Likely	High	Medium	Priority 2
6 (d)	Failures are analysed and operational/maintenance plans adjusted where necessary	Moderate	Probable	Medium	Medium	Priority 4
6 (e)	Risk management is applied to prioritise maintenance tasks	Moderate	Probable	Medium	Medium	Priority 4
6 (f)	Maintenance costs are measured and monitored	Minor	Probable	Low	Medium	Priority 5

7 Asset Management Information System						
Key Process:		An asset management information system is a combination of processes, data and software that support the asset management functions.				
Outcome:		The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
7 (a)	Adequate system documentation for users and IT operators	Minor	Probable	Low	Medium	Priority 5
7 (b)	Input controls include appropriate verification and validation of data entered into the system	Minor	Likely	Medium	Medium	Priority 4
7 (c)	Logical security access controls appear adequate, such as passwords	Minor	Likely	Medium	Medium	Priority 4
7 (d)	Physical security access controls appear adequate	Minor	Probable	Low	Medium	Priority 5
7 (e)	Data backup procedures appear adequate	Moderate	Probable	Medium	Medium	Priority 4
7 (f)	Key computations related to licensee performance reporting are materially accurate	Minor	Probable	Low	Medium	Priority 5
7 (g)	Management reports appear adequate for the licensee to monitor licence obligations	Minor	Probable	Low	Medium	Priority 5

8 Risk Management						
Key Process:	Risk management involves the identification of risks and their management within an acceptable level of risk.					
Outcome:	An effective risk management framework is applied to manage risks related to the maintenance of service standards					
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
8 (a)	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	Moderate	Probable	Medium	Medium	Priority 4
8 (b)	Risks are documented in a risk register and treatment plans are actioned and monitored	Moderate	Probable	Medium	Medium	Priority 4
8 (c)	The probability and consequences of asset failure are regularly assessed	Moderate	Probable	Medium	Medium	Priority 4

9 Contingency Planning						
Key Process:	Contingency plans document the steps to deal with the unexpected failure of an asset.					
Outcome:	Contingency plans have been developed and tested to minimise any significant disruptions to service standards.					
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
9 (a)	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Moderate	Probable	Medium	Medium	Priority 4

10 Financial Planning						
Key Process:		The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.				
Outcome:		A financial plan that is reliable and provides for the long-term financial viability of the services.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
10 (a)	The financial plan states the financial objectives and strategies and actions to achieve the objectives	Moderate	Probable	Medium	Medium	Priority 4
10 (b)	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Minor	Probable	Low	Medium	Priority 5
10 (c)	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Minor	Unlikely	Low	Medium	Priority 5
10 (d)	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	Minor	Probable	Low	Medium	Priority 5
10 (e)	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Moderate	Unlikely	Medium	Medium	Priority 4
10 (f)	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	Moderate	Probable	Medium	Medium	Priority 4

11 Capital expenditure planning						
Key Process:		The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates				
Outcome:		A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
11 (a)	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	Moderate	Probable	Medium	Medium	Priority 4
11 (b)	The plan provides reasons for capital expenditure and timing of expenditure	Minor	Probable	Low	Medium	Priority 5
11 (c)	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Moderate	Probable	Medium	Medium	Priority 4
11 (d)	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Minor	Probable	Low	Medium	Priority 5

12 Review of AMS						
Key Process:	The asset management system is regularly reviewed and updated.					
Outcome:	Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.					
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Audit Priority
12 (a)	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	Moderate	Probable	Medium	Medium	Priority 4
12 (b)	Independent reviews (eg internal audit) are performed of the asset management system	Minor	Probable	Low	Medium	Priority 5

Appendix B – References

Key Alinta staff participating in the audit

Name	Position
▪ Jarrod Baker	Operations Manager, Western Region Power Generation
▪ Ted Brereton	General Manager Western Operations
▪ Corey Dykstra	Manager Regulatory Affairs

Other Alinta staff participating in the audit

- WA Controller – Finance

Alcoa staff participating in the review

- Principal Mechanical Engineer WAO Powerhouse
- Senior Management Accountant WA Operations
- Environmental Manager - Pinjarra
- Principal Electrical Engineer WAO Powerhouse
- WAO Capital Program Manager
- Assistant Risk Manager
- Powerhouse Supervisor - Wagerup
- Senior Refinery Electrical Engineer
- Powerhouse Supervisor – Pinjarra
- Regional IPS Security and Risk Manager

Deloitte staff participating in the review

Name	Position	Hours
▪ Richard Thomas	Partner	7.5
▪ Andrew Baldwin	Account Director	72
▪ Laura McNama	Senior Analyst	49
▪ Jin Sua	Support Analyst	42.5
▪ David Wylde	Support Manager	6
▪ Quality Assurance Review performed by Deloitte Risk Services and Assurance & Advisory Services partners		4

Maunsell staff participating in the review

Name	Position	Hours
▪ Stephen Brown	Business Unit Leader - Electrical	23
▪ Tanuja Sanders	Project Manager - Mechanical	65

Key documents and other information sources examined (to be completed)

Alcoa - organisation wide references

- Asset Integrity assessment protocol
- WA Powerhouse organisation Structure
- WA Powerhouse shutdown planner
- Wagerup and Pinjarra Generator Life Assessment Report
- Alcoa Contingency Plan - Dealing with a disaster or Crisis at an Alcoa Location
- Alcoa Contingency Plan - PR Crisis Communication
- Alcoa Contingency Plan - Risk Classifications
- Alcoa Contingency Plan - Asset Strategy Manager Recovery Plan
- Alcoa Contingency Plan - Computing DR Plan
- Alcoa Internal Audit work papers - fixed capital
- Capital planning process flow-chart
- Risk management overview (AOA) AOARM1001
- Risk management policy (AOA) AOARM1013
- Letter of appointment - Engineering SPA Rev4
- Letter of appointment - Maintenance SPA Rev2
- Letter of appointment - Operations SPA Rev2
- Alcoa (MAO) Management Systems Manual
- Aspects and impacts register 2007
- Log an environmental incident – employee portal screen shot
- Alcoa Pinjarra gas emissions report (June 07)
- Alcoa Pinjarra gas emissions report (May 08)
- WAO ASAT audit schedule 2007-2008
- Freehills engagement letter dated 01.03.2003
- Freehills legislative update Q2 2008
- Evaluation of compliance with environmental obligations (Alcoa Policy)
- Alcoa expense approval guide
- Request for approval example
- AS/NZS 3788:2006 commissioning requirements
- Duct burner system commissioning tests
- HRSG including blowdown commissioning tests
- User and technical support documentation (eAM)
- IS Security access permission protocols
- Data Centre Backup Manual
- EBS Backups for all Environments Overview (AOA)
- Daily Tape Management – Procedures and Standards (AOA)
- Post project review template (Alcoa)
- Data Conversion Considerations Guideline (AOA)
- Project Management ASAT procedure
- Security Access Account Management Standard (AOA)
- Security Access Permissions Standard (AOA)
- Numerous emails from Alcoa representative in response to specific enquiries

Pinjarra references

- Pinjarra powerhouse asset strategy
- Pinjarra 5Yr Plan 2008
- Pinjarra steam turbine inspection report - asset life assessment
- Pinjarra generator report 2008

- Pinjarra boiler inspection report by HRL
- Pinjarra main steam header report by HRL - asset life assessment
- Main steam header metallurgy report
- Deaerator inspection report
- ECR (Aug2008) – reporting tool
- Pinjarra recommendation summary (Risk Register)

Wagerup references

- Wagerup powerhouse asset strategy
- Wagerup 5Yr Plan 2008
- Wagerup Boiler (#1) Report by HRL (external consultants)
- Wagerup Boiler (#2) by HRL (external consultants)
- ECR (Apr 2008) – reporting tool
- Wagerup recommendation summary (risk register)
- Wagerup OCGT Water Treatment Plant HAZOP draft report (August 2008)
- Wagerup OCGT Units #1 and #2 Monthly Operational Report (June 2008)
- Alcoa/Alinta Operations Weekly Report – Wagerup 24 November to 1 December 2008
- Alinta Wagerup Units 1-2 Fuel Oil System HAZOP and Design Review report (November 2006)
- Alinta Wagerup Units 1-2 Gas Conditioning System HAZOP report (July 2007)
- Alinta Wagerup Units 1-2 Power Station Control System Qualitative Risk Assessment Record Sheet (November 2006)