



Independent Pricing and Regulatory Tribunal
New South Wales

Electricity networks audit guideline – critical infrastructure licence conditions audits



© Independent Pricing and Regulatory Tribunal of New South Wales 2017

This work is copyright. The *Copyright Act 1968* permits fair dealing for study, research, news reporting, criticism and review. Selected passages, tables or diagrams may be reproduced for such purposes provided acknowledgement of the source is included.

ISBN 978-1-76049-143-7

The Tribunal members for this review are:

Dr Peter J Boxall AO, Chair

Mr Ed Willett

Ms Deborah Cope

Inquiries regarding this document should be directed to a staff member:

Christine Allen (02) 9290 8412

Erin Cini (02) 9113 7778

Amendment record

Issue	Date issued	Summary of amendments made
ENRAG - original	June 2016	First release of final Audit Guideline.
ENRAG v2	May 2017	<p>Addition of Ms Deborah Cope as a Committee member, replacing Ms Catherine Jones.</p> <p>Amendments to Chapter 3 and appendix A regarding audit process.</p> <p>Addition of section 3.5.5.</p> <p>Removal of section 3.7.1 from previous version.</p> <p>Amendments to Chapter 6 - Critical infrastructure, including a minor amendment of 6.2.1 and general updates to reflect the new conditions in Ausgrid's operating licence.</p> <p>Amendments to Table C.1 to better reflect the licence conditions.</p> <p>Addition of Table A.2 C.2 to incorporate changes to Ausgrid's operating licence.</p> <p>Various further amendments unrelated to critical infrastructure audits.</p>
ENRAG v3	May 2017	Various amendments unrelated to critical infrastructure audits.
ENRAG – Critical infrastructure	October 2017	<p>Separate Audit Guidelines published for consultation.</p> <p>Minor wording changes on page 1 to reflect incorporation of Endeavour Energy's new operating licence.</p> <p>Addition of Table A.3 to reflect Endeavour Energy's new operating licence.</p>

Contents

1	Critical infrastructure licence conditions audit	1
1.1	Objective	1
1.2	Scope	2
1.3	Specific auditor expertise	2
1.4	Audit timing	2
1.5	Audit criteria	3
	Appendices	5
A	Audit criteria for critical infrastructure audits	7

1 Critical infrastructure licence conditions audit

This section of the Audit Guideline relates to particular conditions pertaining to critical infrastructure security that are in the Transmission Operator's Licence issued to the owners of TransGrid¹, in the distributor's licence issued to the owners of Ausgrid² and the distributor's licence issued to the owners of Endeavour Energy³. The conditions in the three licences vary, but, in general require:

- ▼ that a substantial presence is maintained in Australia including:
 - that the system maintenance is mainly undertaken from within Australia, with exceptions provided in the licence conditions
 - certain limitations around the operation and control of the transmission/distribution system, and
 - citizenship and security clearance requirements for persons in certain positions,
- ▼ certain data security measures, and
- ▼ annual compliance reporting and auditing.

All audits must be carried out in accordance with this Guideline and IPART's *Audit Guideline – Audit fundamentals, process and timing*.

1.1 Objective

New South Wales electricity networks are a critical component of national infrastructure, which, if destroyed, degraded or rendered unavailable for an extended period, would significantly impact on the security, social or economic wellbeing of the state and other connected States and Territories.

¹ Issued by the Minister for Industry, Resources and Energy under the *Electricity Supply Act 1995* (NSW), granted to the NSW Electricity Networks Operations Pty Limited (ACN 609 169 959) as trustee for the NSW Electricity Network Operations Trust, dated 7 December 2015 (TransGrid licence).

² Issued by the Minister for Industry, Resources and Energy under the *Electricity Supply Act 1995* (NSW), granted to the Ausgrid Operator Partnership a partnership carried on under that name by Blue Op Partner Pty Ltd (ACN 615 217 500) as trustee for the Blue Op Partner Trust, ERIC Alpha Operator Corporation 1 Pty Ltd (ACN 612 975 096) as trustee for ERIC Alpha Operator Trust 1, ERIC Alpha Operator Corporation 2 Pty Ltd (ACN 612 975 121) as trustee for ERIC Alpha Operator Trust 2, ERIC Alpha Operator Corporation 3 Pty Ltd (ACN 612 975 185) as trustee for ERIC Alpha Operator Trust 3, and ERIC Alpha Operator Corporation 4 Pty Ltd (ACN 612 975 210) as trustee for ERIC Alpha Operator Trust 4, dated 28 November 2016 (Ausgrid licence).

³ Issued by the Minister for Resources, Energy and Utilities under the *Electricity Supply Act 1995* (NSW), granted to the Endeavour Energy Network Operator Partnership a partnership carried on under that name by Edwards O Pty Limited (ACN 618 643 486) as trustee for Edwards O Trust, ERIC Epsilon Operator Corporation 1 Pty Ltd (ACN 617 221 735) as trustee for ERIC Epsilon Operator Trust 1, ERIC Epsilon Operator Corporation 2 Pty Ltd (ACN 617 221 744) as trustee for ERIC Epsilon Operator Trust 2, ERIC Epsilon Operator Corporation 3 Pty Ltd (ACN 617 221 753) as trustee for ERIC Epsilon Operator Trust 3, ERIC Epsilon Operator Corporation 4 Pty Ltd (ACN 617 221 771) as trustee for ERIC Epsilon Operator Trust 4, dated 7 June 2017 (Endeavour Energy licence).

This audit seeks to satisfy the New South Wales Government that the network being audited is being maintained in a manner that assures security of supply, by assessing the licensee's compliance with the specific licence conditions that relate to critical infrastructure security.

1.2 Scope

The audits will assess the network operator's compliance with its critical infrastructure licence conditions over the preceding financial year, taking into account the annual compliance report it submits to IPART. The audit must be comprehensive and meet any requirements specified by IPART.

1.3 Specific auditor expertise

An Approved Critical Infrastructure Auditor is described in the licences as a person who has been approved by IPART as meeting certain criteria, including being independent of the licence holder, and having the necessary experience and expertise in system security or has otherwise demonstrated the capability to audit compliance with the critical infrastructure licence conditions.

When assessing the auditor, we will consider their qualifications and experience in the following areas:

- ▼ appropriate audit accreditation
- ▼ experience with application of audit standards (such as ASAE 3000 or AS/NZS ISO 19011)
- ▼ experience in auditing against ISO27001 or an equivalent standard, or other non-auditing experience with the standard
- ▼ experience in operational and management audits
- ▼ experience with maintenance of electricity networks or similar structures, structural/electrical engineering experience or other electrical systems experience
- ▼ experience auditing compliance with the *Privacy Act 1988* (Cth), and
- ▼ holding negative vetting 1 (NV1) security clearance, (desired but not essential).

1.4 Audit timing

A compliance report must be submitted to IPART by the licence holders by 30 September each year, or another date specified by the Tribunal.⁴ The compliance report must be audited and an audit report provided to IPART by 30 September of that year.⁵ Table 1.1 provides an indicative timeframe.

⁴ Condition 8.1 TransGrid licence; Condition 11.1 Ausgrid licence; Condition 11.1 Endeavour Energy licence.

⁵ Condition 8.2 TransGrid licence; Condition 11.2 Ausgrid licence; Condition 11.2 Endeavour Energy licence.

Table 1.1 Proposed timeline for critical infrastructure audit

Deadline	Indicative Date	Task
By 31 May		Auditor nomination submitted to IPART by electricity network.
	30 June	Auditor proposal submitted to IPART
	31 July	Audit proposal approved by IPART and auditor engaged by the ANO
30 September		Compliance report of critical infrastructure licence conditions delivered to IPART
30 September		Final audit report due to IPART

For Endeavour Energy, IPART has specified that:

- ▼ The network must report on its compliance with its critical infrastructure licence conditions for the 2016-17 year by 30 September 2017.
- ▼ The final audit report on its compliance during 2016-17 may be submitted along with its final audit report on compliance during 2017-18, which is due 30 September 2018.

1.5 Audit criteria

The auditor will review audit evidence to test against the audit criteria listed in Table A.1, Table A.2 and Table A.2 in Appendix A. Where possible, the criteria should be tested against the facts that existed in the financial year to which the audit relates, rather than the facts that exist when the audit takes place, to determine whether compliance was achieved during this period. As the licence conditions may be varied from time to time by the Minister, the auditors should ensure they are checking compliance against the correct licence conditions. It is the responsibility of the network to provide the auditor with the licence conditions applicable at the time of the audit.

Critical infrastructure audits are independent audits. The evidence reviewed by the auditor should be sufficient for the auditor to form an opinion consistent with the findings outlined in IPART's *Audit Guideline – audit fundamentals, process and findings*. The minimum criteria listed in Appendix A are provided as guidance only. Auditors must rely on their professional experience, the audit scope and the relevant Australian or International standards to determine what appropriate evidence would be for the audit clauses.



Appendices



A Audit criteria for critical infrastructure audits

Table A.1 TransGrid - Audit criteria for critical infrastructure audits

Licence condition	Minimum criteria - TransGrid	Auditor's comments	Audit Grade
Substantial presence in Australia			
6.1 (a)	The licence holder has ensured that the maintenance of the licence holder's transmission system is undertaken solely from within Australia other than where such maintenance is not capable of being undertaken within Australia on reasonable commercial terms and conditions.		
6.1 (b)	The licence holder has ensured that the operation and control of the transmission system is capable of being undertaken only from within Australia.		
6.2 (a)	At least two directors of the licence holder are Australian citizens.		
6.2 (b) 6.3 6.4	The licence holder has senior officers who: <ul style="list-style-type: none"> ▼ are responsible for operational technology and network operations in relation to the transmission system ▼ reside in Australia, and ▼ hold (or possess an ability to hold) appropriate national security clearance of not less than Negative Vetting Level 1 (or equivalent) issued by the NSW Government on advice from the Australian Government Security Vetting Agency (AGSVA). Review these criteria in accordance with licence conditions 6.2(b), 6.3 and 6.4. 		
Data security			
7.1 (a)	The licence holder has ensured that all data as to the quantum of electricity delivered (both historical and current load demand) from or to any one or more sites (or their connection points) relating to or obtained in connection with the operation of the transmission system by a Relevant Person is: <ul style="list-style-type: none"> ▼ held solely within Australia ▼ accessible only by a Relevant Person or a person who has been authorised by the licence holder, and ▼ accessible only from within Australia. Review this criterion in accordance with licence condition 7.2.		

Licence condition	Minimum criteria - TransGrid	Auditor's comments	Audit Grade
7.1 (b)	<p>The licence holder has ensured that all personal information within the meaning of the <i>Privacy Act 1988</i> (Cth) relating to or obtained in connection with the operation of the transmission system by a Relevant Person is:</p> <ul style="list-style-type: none"> ▼ held solely within Australia ▼ accessible only by a Relevant Person or a person who has been authorised by the licence holder, and ▼ accessible only from within Australia. <p>Review this criterion in accordance with licence condition 7.3.</p>		

Table A.2 Ausgrid - Audit criteria for critical infrastructure audits

Licence condition	Minimum criteria - Ausgrid	Auditor's comments	Audit Grade
Substantial presence in Australia			
9.1 (a)	<p>The Licence Holder has taken all practical and reasonable steps to ensure the maintenance of its distribution system is undertaken solely from within Australia, except where maintenance requires either physical servicing of components offshore or the acquisition of replacement components from outside Australia.</p> <p>In such an instance, this maintenance has not impacted condition 9.2.</p>		
9.1 (b)	<p>Any third party or non-Licence Holder employee, including individuals/entities from outside Australia, undertaking maintenance of the distribution system is subject to the approval of the senior officer responsible for network operations.</p>		
9.2 (a) & 9.2 (c)	<p>The Licence Holder has used best industry practice for electricity network control systems to ensure:</p> <ul style="list-style-type: none"> ▼ the operation and control of its distribution system, including all associated ICT infrastructure, can be accessed, operated and controlled only from within Australia, and ▼ its distribution system is not connected to any other infrastructure or network which could enable it to be controlled or operated by persons outside Australia. <p>OR</p> <p>The Licence Holder has undertaken the steps that are required to be undertaken in the 12 month period after the date of the licence as set out in an implementation plan approved by the Minister.</p>		
9.2 (b)	<p>The Licence Holder has notified the Commonwealth Representative if it entered into a contract under which it outsources the operation and control of its distribution system, including any associated ICT infrastructure.</p>		
9.3 refer also 9.4 and 9.5	<p>The Licence Holder has at least two directors who are Australian citizens, and have senior officers responsible for:</p> <ul style="list-style-type: none"> (i) operational technology (ii) network operations, and 		

Licence condition	Minimum criteria - Ausgrid	Auditor's comments	Audit Grade
	<p>(iii) security operations in relation to its distribution system, who are persons</p> <ul style="list-style-type: none"> ▼ residing in Australia, and ▼ holding an appropriate national security clearance, being a clearance of net less than Negative Vetting Level 1 (or equivalent) issued by the NSW Government on advice from the Australia Government Security Vetting Agency (AGSVA). <p>Review the above roles with responsibilities outlined in the licence for these roles.</p>		
Data security			
<p>10.1 (a) and 10.1(b) refer also 10.2 and 10.3</p>	<p>The Licence Holder has ensured that</p> <ul style="list-style-type: none"> a) all of its information (being design specifications, operating manuals and the like) as to the operational technology (such as the SCADA system) and associated ICT infrastructure of the operational network is held solely within Australia, and that such information is accessible only by a Relevant Person who has been authorised by the Licence Holder and only from within Australia. b) The licence holder must ensure that all: <ul style="list-style-type: none"> (i) data as to the quantum of electricity delivered (both historical and current load demand) from or to any one or more sites (or their connection points), and (ii) personal information within the meaning of the <i>Privacy Act 1988</i> (Cth) relating to or obtained in connection with the operation of the distribution system by a Relevant Person is held solely within Australia and is accessible only by a Relevant Person or a person who has been authorised by the Licence Holder. 		
<p>10.4</p>	<p>The Licence Holder has ensured that third party data or information (including without limitation communications within the meaning of the <i>Telecommunications (Interception and Access) Act 1979</i> (Cth), personal information within the meaning of the <i>Privacy Act 1988</i> (Cth), and closed-circuit television footage) which is indirectly accessed or obtained by the Licence Holder because that third party data or information is transferred by a carrier or other party using the Licence Holder's infrastructure, are held by the Licence Holder solely within Australia, and are accessible only by a Relevant Person or a person who has been authorised by the Licence Holder, and in each case, only from within Australia.</p>		

Table A.3 Endeavour Energy - Audit criteria for critical infrastructure audits

Licence condition	Minimum criteria – Endeavour Energy	Auditor’s comments	Audit Grade
Substantial presence in Australia			
9.1 (a)	The Licence Holder has taken all practical and reasonable steps to ensure the maintenance of its distribution system is undertaken solely from within Australia, except where maintenance requires either physical servicing of components offshore or the acquisition of replacement components from outside Australia. In such an instance, this maintenance has not impacted condition 9.2.		
9.1 (b)	Any third party or non-Licence Holder employee, including individuals/entities from outside Australia, undertaking maintenance of the distribution system is subject to the approval of the senior officer responsible for network operations.		
9.2 (a) & 9.2 (c)	The Licence Holder has used best industry practice for electricity network control systems to ensure: <ul style="list-style-type: none"> ▼ the operation and control of its distribution system, including all associated ICT infrastructure, can be accessed, operated and controlled only from within Australia, and ▼ its distribution system is not connected to any other infrastructure or network which could enable it to be controlled or operated by persons outside Australia. OR The Licence Holder has undertaken the steps that are required to be undertaken as set out in an approved plan.		
9.2(b)	The Licence Holder has notified the Commonwealth Representative if it entered into a contract under which it outsources the operation and control of its distribution system, including any associated ICT infrastructure.		
9.3 refer also 9.4 and 9.5	The Licence Holder has at least two directors who are Australian citizens and has senior officers responsible for: <ul style="list-style-type: none"> (i) operational technology (ii) network operations, and (iii) security operations in relation to its distribution system, who are persons <ul style="list-style-type: none"> ▼ residing in Australia, and ▼ holding an appropriate national security clearance, being a clearance of net less than Negative Vetting Level 1 (or equivalent) issued by the NSW Government on advice from the Australia Government Security Vetting Agency (AGSVA). Review the above roles with responsibilities outlined in the licence for these roles.		

Licence condition	Minimum criteria – Endeavour Energy	Auditor's comments	Audit Grade
Data security			
10.1 also refer 10.2 and 10.3	<p>The Licence Holder has ensured that:</p> <ul style="list-style-type: none"> a) all of its information (being design specifications, operating manuals and the like) as to the operational technology (such as the SCADA system) and associated ICT infrastructure of the operational network is held solely within Australia, and that such information is accessible only by a Relevant Person who has been authorised by the Licence Holder and only from within Australia. b) The licence holder has ensured that all: <ul style="list-style-type: none"> (i) data as to the quantum of electricity delivered (both historical and current load demand) from or to any one or more sites (or their connection points), and (ii) bulk personal information within the meaning of the <i>Privacy Act 1988</i> (Cth) relating to or obtained in connection with the operation of the distribution system by a Relevant Person is held solely within Australia and is accessible only by a Relevant Person or a person who has been authorised by the Licence Holder, and c) it does export, and has appropriate security controls in place to prevent the export of, Bulk Personal Data Records relating to or obtained in connection with the operation of the distribution system by a Relevant Person, outside of Australia. 		
10.4	<p>The Licence Holder has ensured that third party data or information (including without limitation communications within the meaning of the <i>Telecommunications (Interception and Access) Act 1979</i> (Cth), personal information within the meaning of the <i>Privacy Act 1988</i> (Cth), and closed-circuit television footage) which is indirectly accessed or obtained by the Licence Holder because that third party data or information is transferred by a carrier or other party using the Licence Holder's infrastructure, are held by the Licence Holder solely within Australia, and are accessible only by a Relevant Person or a person who has been authorised by the Licence Holder, and in each case, only from within Australia.</p>		