

Independent Pricing and Regulatory Tribunal
New South Wales

Annual Compliance Report

Energy network operator compliance during 2019-20

Annual Report
Energy Networks Compliance

October 2020

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This report is based on independent audit reports, network operators' self-reports and other compliance monitoring activity conducted by IPART throughout the 2019-20 financial year.

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The Independent Pricing and Regulatory Tribunal (IPART)

We make the people of NSW better off through independent decisions and advice. IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from [IPART's website](#).

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1 Executive summary

This is the Independent Pricing and Regulatory Tribunal's (IPART) annual report on the NSW energy network operators'¹ compliance with relevant obligations for the year 2019-20, as required by section 88 of the *Electricity Supply Act 1995*² (ES Act) and section 75A(3C) of the *Gas Supply Act 1996* (GS Act).³ It summarises our findings on the extent to which the network operators that are licensed or authorised to operate in NSW complied with the conditions of their licences or their gas reticulator authorisations during the year. Our findings are based on self-reporting of non-compliances, the results of independent audits and information we gathered.

Our strategic objective is to establish and maintain a strong compliance culture across the industries we regulate, using our compliance monitoring and enforcement powers as appropriate. Overall, we found that the energy networks performed well against their licence conditions in 2019-20. We were therefore able to focus our efforts on informing, educating and supporting the regulated entities in their efforts to further improve compliance with their regulatory obligations while maintaining our monitoring activities.

Licensed electricity network operators:

- ▼ Had no material non-compliances against their critical infrastructure licence conditions. All identified non-compliances were non-material and were rectified before the end of the year. We have therefore not taken any enforcement action.
- ▼ Performed well against reliability and performance licence conditions, with only a small number of non-compliances, mostly related to incident reporting or customer service payments. We will continue to work with distribution network operators to encourage further improvements in their compliance with these licence conditions.
- ▼ Reported only one minor breach of the code of practice related to environmental impact statements, which was quickly rectified.
- ▼ Were generally compliant with compliance reporting and auditing requirements.
- ▼ Commenced reporting against the requirements of the *NSW Public Lighting Code* (Public Lighting Code). Although there were a large number of non-compliances against the requirements of the Public Lighting Code, many were due to mitigating circumstances (eg, bush fires, constrained resourcing under COVID-19 operating arrangements and a pause on 'live work'⁴). We did not take any enforcement action, but instead engaged with electricity network operators to educate and clarify their obligations and simplify reporting requirements. We expect compliance to improve in the future as the distribution network operators' understanding of these relatively new obligations improves.

¹ Refer to Appendix A for details of energy network operators covered by this report.

² Available at <https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1995-094>

³ Available at <https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1996-038>

⁴ Following a fatality which occurred while performing work on an energised or 'live' asset, Ausgrid paused all live work on its network and performed an extensive review of live work planning and performance. Refer to section 4.1.5 for further details.

All gas networks were compliant with their authorisation or licence conditions.

We also found that network operators with electricity network assets in NSW (licensed, unlicensed, and interstate)⁵ took reasonable steps to ensure the safety of their networks during the year, in line with the *Electricity Supply (Safety and Network Management) Regulation 2014*⁶ (ESSNM Regulation). However, we will continue to proactively engage with all electricity network operators to identify opportunities for continued improvement.

We continue to make incremental improvements to our risk-based approach to compliance regulation, and to our reporting frameworks and guidance materials. In line with this approach, we identified priority areas for improving electricity network operators' compliance with safety management requirements based on the risk of harm that could arise.

Overall, IPART considers there has been a general improvement in compliance by electricity network operators since 2015 (when we received our compliance monitoring function).⁷ We will remain vigilant as network operators revise their processes and procedures in response to incidents, audit recommendations, IPART directions and changes in the regulatory environment.

Box 1.1 IPART's role

IPART is responsible for administering the licensing regimes for electricity transmission and distribution network operators, natural gas reticulation network operators and LPG distribution network operators. We are also responsible for regulating the reliability and safety of NSW electricity assets. A further overview of the legal framework for energy network operators can be found in Appendix B.

IPART does not regulate the safety or reliability of the gas reticulation or gas distribution networks. We are not the economic regulator for the energy industry and we have no role in determining network charges. We do not regulate the electricity generators, electricity generators' connection assets, gas transmission pipelines or processing or bulk storage facilities for gas, or the electricity or gas retailers.

⁵ Refer to Table 4.1 details of all network operators with assets in NSW.

⁶ Available at <https://www.legislation.nsw.gov.au/view/html/inforce/current/sl-2014-0524>

⁷ For example, during a recent audit of TransGrid's bush fire risk management, the auditor did not identify any non-compliances.

1.1 Licensed electricity network operators' performance against licence conditions

The electricity network operators' licences include conditions related to some or all of the following areas:

- ▼ Critical infrastructure
- ▼ Reliability and performance standards
- ▼ The Public Lighting Code
- ▼ A code of practice related to environmental impact statements, and
- ▼ Compliance reporting and auditing.

An overview of compliance with licence conditions pertaining to critical infrastructure, reliability and performance standards, and the Public Lighting Code is set out in the following sections. Further details of compliance against all licence conditions is detailed in the following chapters.⁸

1.1.1 Critical infrastructure licence conditions

Licensed electricity network operators report annually on compliance against the critical infrastructure licence conditions, and are subject to an annual independent audit.

The key points for 2019-20 are summarised below:

- ▼ TransGrid did not report any non-compliances against its critical infrastructure licence conditions. An independent audit did not identify any non-compliances against these licence conditions.
- ▼ Ausgrid reported a total of six non-compliances against licence conditions:
 - 9.2(a), which requires that the licence holder use industry best practice to ensure that its ICT infrastructure can be accessed, operated and controlled only from within Australia
 - 10.1(b)(ii) which requires that the licence holder ensures that bulk personal data is held solely in Australia and is accessible only by a relevant person, and
 - 10.1(c) which requires that the licence holder has security controls in place to prevent the export of bulk personal data outside of Australia.

An independent audit identified that five of the non-compliances reported by Ausgrid were rectified during the financial year, and the remaining non-compliance was rectified in the preceding (2018-19) financial year.

⁸ Code of Practice related to environmental impact assessments is discussed in section 2.4 and compliance reporting and auditing is discussed throughout the report.

▼ Endeavour Energy:⁹

- Reported a non-compliance against licence condition 10.1(b)(ii). An independent audit confirmed the non-compliance and found that preventive controls were in place before the end of the financial year.
- Was non-compliant with licence condition 10.1(c), identified by an auditor, due to it not undertaking the steps of its Approved Plan at the relevant time. However, the auditor also found that the non-compliance was rectified by Endeavour Energy during the financial year.

▼ Essential Energy did not report any non-compliances against its critical infrastructure licence conditions. An independent audit did not identify any non-compliances, on the basis that Essential Energy was undertaking the steps that are required to be undertaken in its approved transition plan.¹⁰ The independent audit also assessed Essential Energy's compliance during 2018-19 audit period and did not find any non-compliances.¹¹

Please refer to section D.1 for details of the critical infrastructure compliance framework and section 2.1.1 for further details of the network operators' performance against their critical infrastructure licence conditions. There is no suggestion that any non-compliances during 2019-20 resulted in actual breaches of systems security.

1.1.2 Reliability and performance standards licence conditions

TransGrid reports annually on its performance against the transmission standards licence conditions. Licensed distribution electricity network operators report quarterly on performance against the reliability and performance standards licence conditions and are also subject to annual independent audits.

In 2019-20, the following non-compliances were identified:

- ▼ Ausgrid marginally exceeded the system average interruption duration index (SAIDI) for its urban feeders, most notably due to multiple severe weather events and a 'live' (or energised) work pause which resulted in an increase in defective mains and apparatus.
- ▼ Ausgrid and Endeavour Energy had non-compliances with the customer service standards.
- ▼ Essential Energy had a minor issue with reporting details of customer service standards.
- ▼ All licensed network operators reported non-compliances with the timeframes for reporting stipulated in IPART's incident reporting manual.

Please refer to section D.2 for details of the reliability and performance standards compliance framework and section 2.2.1 for a summary of the network operators' performance against their reliability and performance standards licence conditions.

⁹ Endeavour Energy licence conditions 10.1(b)(ii) and 10.1(c), are identical to Ausgrid's licence conditions 10.1(b)(ii) and 10.1(c) which are described in the preceding section.

¹⁰ Obligations related to Critical infrastructure were introduced into Essential Energy's licence in February 2019 requiring Essential Energy to submit a transition plan to the Tribunal for approval by 1 July 2019.

¹¹ The 2018-19 audit period spanned from 5 February 2019 to 30 June 2019 (with 5 February 2019 being the date critical infrastructure licence conditions were included in Essential Energy's operating licence).

1.1.3 Public Lighting Code

From 1 July 2019, Ausgrid, Endeavour Energy and Essential Energy (Service Providers) were required to comply with the Public Lighting Code,¹² which has been established to support the reliable and efficient provision of public lighting services.

All Service Providers submitted reports by the due date specified in the Public Lighting Code and IPART's *Electricity networks reporting manual - NSW Public Lighting Code compliance reporting*.

All Service Providers reported non-compliances against the Public Lighting Code's service standards, which include target timeframes for repairing faults affecting public lighting assets. Repair times were affected by the severe bush fires and storms that occurred in 2019-20, as Service Providers' resources were focussed on restoring supply to affected customers. Some Service Providers also reported delays in repairing public lighting assets as a result of the disruptions to work caused by the COVID-19 pandemic. Additionally, Ausgrid reported delays in repairing public lighting asset faults resulting from the impact of its live work ban.

Given the relatively new requirements of the Public Lighting Code, IPART engaged with Service Providers to clarify their understanding of their obligations and promote voluntary compliance, rather than take enforcement action for non-compliances. This approach will be reviewed as industry understanding of the Public Lighting Code matures.

Please refer to section D.3 for details of the Public Lighting Code compliance framework and section 2.3.1 for a summary of the network operators' performance against their Public Lighting Code obligations.

1.2 Gas network operators' compliance against their authorisations or licence conditions

Gas network operators report performance against the conditions of their authorisations or licences. There is no requirement for an audit against these licence and authorisation conditions. In 2019-20, all six natural gas reticulators and three liquid petroleum gas distributors reported they were compliant with their respective authorisation/licence conditions.

Please refer to section 3.1 for details of the gas reticulators and licence holders, and section 3.2 for details of their compliance.

1.3 Electricity network operators' performance against safety management requirements

We required independent audits of TransGrid, Ausgrid, Endeavour Energy and Essential Energy's compliance with the safety management requirements of the ESSNM Regulation in 2019-20. These audits focused on bush fire risk management and the public and worker safety (PAWS) component of their safety management systems.

¹² Available at <https://energy.nsw.gov.au/media/2046/download>

We assessed the electricity network operators' compliance with safety incident reporting requirements using information we gathered and reports from the network operator.

For AusNet Services and Powercor (Victoria), Energy Queensland, and Evoenergy (ACT) who have network assets in NSW, we reviewed safety managements systems reports prepared for or by their jurisdictional regulators to assess compliance with safety obligations.

Please refer to section 4.1 for further details of safety management system obligations, and the network operators' compliance.

1.3.1 Network operators' bush fire risk mitigation systems

Auditors identified some non-compliances with the bush fire risk management component of the distribution network operator's electricity network safety managements systems¹³ (ENSMS), but also identified strengths. Please refer to section 4.1.2 for details of the bush fire risk management audits.

The non-compliances identified by the auditors are summarised in Table 4.2. The network operators' proposed rectification actions respond directly to the non-compliances identified by the auditors, and the proposed timeframes appear reasonable, with the most critical actions to be rectified ahead of the upcoming bush fire season.

We note that the ESSNM Regulation requires network operators to have a safety management system in place that deals with the management of bush fire risk related to electricity assets, and that the network operators are generally compliant with most obligations. However, while focussed on addressing risks, no safety management system can guarantee that network assets or private aerial consumers mains will not provide an ignition source for a fire. Given the nature of electricity assets and the extensive network of overhead lines that operate within NSW, this risk cannot be eliminated. Please refer to Box 4.1 for further details.

1.3.2 Public and worker safety audits

We directed audits on the extent of implementation by TransGrid, Ausgrid, Endeavour Energy and Essential Energy of their PAWS risk management controls, and their effectiveness in supporting the primary objectives of the ENSMS.

An audit of Essential Energy was completed in March 2020, but audits of the other licensed network operators were disrupted by COVID-19 restrictions. The affected network operators applied to IPART for extensions of the due date for the final audit reports, and their audits were later rescheduled. Further details of the Endeavour Energy and Essential Energy PAWS audits are included in section 4.1.4. Due to the extensions, details of the TransGrid and Ausgrid PAWS audits will be provided in the 2020-21 annual compliance report.

¹³ As per Australian Standard AS 5577. Refer to section 4.1 for further details.

Endeavour Energy

The auditor considered that Endeavour Energy's safety management system had, in all material respects, been effectively implemented for PAWS risk management controls. However, the auditor identified four non-material non-compliances. Endeavour Energy has provided a program for the rectification of all non-compliances.

Essential Energy

The auditor formed the view that the level of PAWS controls applied throughout Essential Energy appear generally appropriate and consistent with peers. For the most part, the majority of the issues identified through the 11 non-material non-compliances and opportunities to improve relate to maturity of the ENSMS as a business management system, rather than the adequacy of individual safety related practices and decision making.

Essential Energy developed a response to the audit findings through a considered process of review and consultation involving a significant number of stakeholders from across the business. Although a number of the projects are not scheduled to be completed until June 2022, we consider this timing to be appropriate because the non-compliances did not relate to deficiencies in safety-related practices, which would have required more urgent rectification. Furthermore, the auditor also recommended taking a considered long term approach to rectification of some non-compliances.

1.4 Electricity network operators reporting of incidents related to safety, reliability and property

During 2019-20, TransGrid, Ausgrid, Endeavour Energy and Essential Energy continued to report a small number of serious electricity works accidents, and other incidents related to safety, reliability and property, later than the timeframes required by legislation and our *Electricity networks reporting manual - Incident reporting* (Incident Reporting Manual).¹⁴ However, many of these incidents were reported late due to mitigating circumstances. Please refer to section 4.2 for further details.

1.5 Energy Networks Regulation Committee

The Tribunal delegated certain responsibilities for the Electricity Networks assets, relevant licensing, technical and safety functions under the *Electricity Supply Act 1995*, the *Electricity Supply (Safety and Network Management) Regulation 2014*, and the *Electricity Network Assets (Authorised Transactions) Act 2015* to the Energy Networks Regulation Committee. That committee currently comprises of Sandra Gamble (Chair), Deborah Cope and Brian Spalding.

¹⁴ Available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-incident-reporting-october-2019.pdf>

1.6 Report structure

The remainder of this report discusses the compliance performance of the network operators during 2019-20 in more detail, as set out below:

- ▼ Chapter 2 discusses the electricity network operators' compliance with their licence conditions.
- ▼ Chapter 3 discusses the gas network operators' compliance with their authorisation or licence conditions.
- ▼ Chapter 4 discusses the electricity network operators' compliance with the ESSNM Regulation and other legislated obligations.
- ▼ Chapter 5 discusses our approach and activities in regulating energy networks' compliance.
- ▼ Appendix A provides details of the network operators covered by this report, and the information sources we have drawn on to assess their regulatory compliance.
- ▼ Appendix B discusses the legal frameworks applicable to electricity and gas networks operating within NSW.
- ▼ Appendix C provides a summary of electricity distribution network operators' reliability and performance in 2019-20.
- ▼ Appendix D provides details of how we assess compliance of energy network operators.

2 Licensed electricity network operators' compliance with their licences

NSW transmission network operator TransGrid, and distribution network operators Ausgrid, Endeavour Energy and Essential Energy, hold operating licences.¹⁵ These licences set out their conditions and standards of operation, which relate to some or all of the following areas: critical infrastructure, reliability and performance standards, compliance reporting and auditing, and a requirement to follow a framework for undertaking environmental impact assessments.

Under the *Electricity networks reporting manual – Annual compliance reporting*,¹⁶ TransGrid, Ausgrid, Endeavour Energy and Essential Energy must report to IPART on all non-compliances against licence conditions by 31 August of each year.

2.1 Critical infrastructure licence conditions

TransGrid, Ausgrid, Endeavour Energy and Essential Energy have critical infrastructure licence conditions in their operating licences. These conditions require these network operators to:

- ▼ Have a substantial presence in Australia, including having:
 - Maintenance, operation and control of the transmission or distribution system undertaken within Australia
 - Directors who are Australian citizens
 - Senior officers who hold security clearances and are responsible officers for operational technology, and network and security operations
- ▼ Have data security measures on load data and privacy of personal information, and
- ▼ Comply with reporting and auditing requirements.

TransGrid and Essential Energy were compliant with all of their licence obligations on critical infrastructure. Ausgrid and Endeavour Energy had a number of non-compliances as detailed in section 2.1.1. There is no suggestion that any non-compliances during 2019-20 resulted in actual breaches of systems security.

¹⁵ Available at <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Licence-conditions-and-regulatory-instruments>

¹⁶ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/reporting-manual-annual-compliance-reporting-july-2019.pdf>

2.1.1 Compliance with critical infrastructure licence conditions

TransGrid reported no non-compliances with critical infrastructure licence conditions

TransGrid did not report any non-compliances against its critical infrastructure licence conditions. The independent audit of TransGrid's critical infrastructure licence conditions did not identify any non-compliances.

Ausgrid did not comply with all critical infrastructure licence conditions

Ausgrid did not comply with licence conditions 9.2(a), 10.1(b)(ii) and 10.1(c).

Under licence condition 9.2(a), the licence holder:

must, by using best industry practice for electricity network control systems, ensure that operation and control of its distribution system, including all associated ICT infrastructure, can be accessed, operated and controlled only from within Australia and that its distribution system is not connected to any other infrastructure or other network which could enable it to be controlled or operated by persons outside Australia.

- ▼ Ausgrid reported non-compliances with this condition from 1 July 2019 to 31 December 2019 for the following reasons:
 - Vulnerability remediation was not performed on Operational Technology (OT) servers from 1 July 2018 to 31 March 2019.
 - Vulnerability re-scanning was not performed to validate that vulnerability remediation activities were carried out successfully.
 - Network Intrusion Detection System (IDS) signatures were not updated for two years.
- ▼ In addition, Ausgrid reported another non-compliance with the requirements of this condition (from 1 July 2019 to 31 August 2019). The non-compliance was due to a lack of segregation of duties between network administrators.
- ▼ Ausgrid rectified the non-compliances outlined above by:
 - Implementing a defined process to perform vulnerability remediation and clearing the backlog of vulnerabilities by December 2019
 - Implementing continuous perimeter security testing, scanning of the external environment for vulnerabilities, and anti-virus solutions
 - Creating a monthly reconciliation procedure to compare system access changes, and segregating the duties of network administrators. The auditor sighted reconciliation reports from November and December 2019 to evidence rectification of the issue.
- ▼ No further non-compliance was identified during the 2020 independent audit.

Under licence condition 10.1(b)(ii), Ausgrid must ensure that Bulk Personal Data Records:

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.

-
- ▼ Ausgrid reported that it did not comply with the requirements of this condition from 1 July 2019 to 30 April 2020. The 2019 review of access to data from overseas locations identified bulk personal data on an application (containing bulk personal data) could be held or sent outside Australia, as a third-party supplier accesses the application's records from offshore locations.
 - Key technical security controls including Privilege Access Management, Identity and Access Management, Data Tokenisation & Data Loss Prevention were implemented in April 2020.
 - No further non-compliance was identified during the 2020 independent audit.

Under licence condition 10.1(c), Ausgrid must ensure that:

it does not export, and has appropriate 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.

- ▼ Ausgrid reported that it did not comply with the requirements of this condition from 1 July 2019 to April 2020. The 2019 review of access to data from overseas locations identified bulk personal data could be held or sent outside Australia, as a third-party supplier accessed database records from offshore locations.
 - Key technical security controls including Privilege Access Management, Identity and Access Management, Data Tokenisation & Data Loss Prevention were implemented in April 2020.
 - No further non-compliance was identified during the 2020 independent audit.

Endeavour Energy did not comply with all critical infrastructure licence conditions

Endeavour Energy did not comply with licence conditions 10.1(b)(ii) and 10.1(c).

Under licence condition 10.1(b)(ii), Endeavour Energy is required to ensure that all bulk personal data records:

relating to or obtained in connection with the operation of a distribution system by a relevant person is held solely within Australia and that the information is accessible only by a Relevant person or a person who has been authorised by the licence holder.

- ▼ Endeavour Energy reported that it was non-compliant with this condition. Endeavour Energy reported that its bulk personal data was held in Australia, but some personal information was placed on drives which are accessible from outside Australia.
 - Preventive controls were put in place in May and June 2020. An independent audit made the same assessment of Endeavour Energy's non-compliance, and found that the non-compliance was rectified in June 2020.

An independent audit also found that Endeavour Energy was non-compliant (non-material) with the requirements of licence condition 10.1(c) from 1 July 2019 to May 2020. Under licence condition 10.1(c), the Licence Holder must ensure that:

it does not export, and has appropriate 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.

The auditor found that for licence condition 10.1(c), Endeavour Energy did not undertake the steps detailed in its Approved Plan at the relevant time.

Essential Energy complied with its licence conditions through its approved plan

Critical infrastructure obligations were introduced into Essential Energy's licence in February 2019. Under the critical infrastructure licence conditions, Essential Energy was required to develop a transition plan which was subject to Tribunal approval by 1 July 2019. Essential Energy's plan was approved by the Tribunal on 26 June 2019 (Approved Plan). Provided that Essential Energy undertakes steps in accordance with the Approved Plan, Essential Energy will be taken to have satisfied its critical infrastructure licence conditions for the duration of the Approved Plan.

Essential Energy reported no non-compliances with its critical infrastructure licence conditions for the 2019-20 financial year. An independent audit found that Essential Energy was compliant with the requirements of its critical infrastructure licence conditions due to it undertaking the steps in its approved plan.

In April 2020, Essential Energy wrote to IPART requesting extensions to the target completion dates for two actions under its Approved Plan that were due to be completed by 1 July 2020. The request was due to the operational impact of the COVID-19 pandemic. IPART approved a 3-month extension to the target completion dates of the two actions.

2.2 Reliability and performance standards licence conditions

TransGrid's reliability and performance standards licence conditions require it to plan its network to meet expected levels of unserved energy at each bulk supply point, and to show that it had the prescribed level of redundancy built into its network to manage supply to the distribution networks.

Ausgrid, Endeavour Energy and Essential Energy's reliability and performance standards licence conditions require each of them to:

- ▼ Satisfy the requirements of the network overall reliability standards
- ▼ Investigate each individual feeder that exceeds the feeder performance standards, and consider both network and non-network solutions to improve the reliability of the feeder
- ▼ Where appropriate, implement a solution to improve reliability of the feeder
- ▼ Satisfy the requirements of the reliability standards for individual customers
- ▼ Investigate each instance where individual customer standards are not met, and consider both network and non-network solutions to improve the reliability of the feeder
- ▼ Make payments to customers if the interruption duration standard or interruption frequency standard is exceeded at the customers' premises, and
- ▼ Comply with certain reporting and auditing requirements.

2.2.1 Compliance with reliability and performance standards

TransGrid reported full compliance with the transmission reliability and performance standard.

Ausgrid, Endeavour Energy and Essential Energy submitted their reliability and performance standards quarterly reports by the required due dates. They also submitted their independent audit reports by the required due dates as required by their licence conditions.

All network operators self-reported non-compliances against the reliability and performance licence conditions as part of their annual compliance reports. These non-compliances were confirmed by audits of Ausgrid, Endeavour Energy and Essential Energy. Endeavour and Essential Energy's auditors also identified additional non-compliances. All non-compliances are summarised below.

Ausgrid's non-compliances

- ▼ **Network overall reliability standards** – The system average interruption duration index (SAIDI) for Ausgrid's urban feeders was 80.96 minutes for 2019-20, which marginally exceeded the annual standard of 80 minutes under its licence condition.¹⁷ Ausgrid reported that:
 - There were multiple contributing factors for exceeding the SAIDI licence condition, most notably multiple severe weather events, its live work pause and a consequent increase in defective mains and apparatus (DMAs).
 - It now has a measured and safe return to live low voltage work, and has introduced training to allow 'workgroup operating' and to reduce the dependency on constrained district operator resources. It considers that both of these initiatives will support quicker repair of defects.
 - It has also focused on and prioritised resolving high customer impact High Voltage (HV) feeder faults. Ausgrid reported there has been a significant reduction in HV DMAs to date with further improvement expected. This has already improved network resilience and reduced interruption duration, subsequently reducing SAIDI impacts from incidents. As Ausgrid resolves HV DMAs, it will shift focus to low voltage DMAs.
 - Its System Control team is also applying a higher level of scrutiny of access requests on the sub-transmission network to ensure outages for planned work are no longer than necessary. This will further minimise the risks to customers when the sub-transmission network is configured 'abnormally'.
- ▼ **Customer service standards** – please see below.
- ▼ **Incident reporting** – Ausgrid had a small percentage of incident reports that did not comply with incident reporting timeframes. Refer to section 4.2.2 for further details.

Endeavour Energy's non-compliances

- ▼ **Customer service standards** - please see below.
- ▼ **Incident reporting** - Endeavour Energy had a small percentage of incidents reports that did not comply with incident reporting timeframes. Refer to section 4.2.2 for further details.

¹⁷ Licence condition 4.1.

Essential Energy's non-compliances

- ▼ **Customer service standards** – please see below.
- ▼ **Incident reporting** – Essential Energy had a small percentage of incident reports that did not comply with incident reporting timeframes. Refer to section 4.2.2 for further details.

Compliance with customer service standards

The licences of Ausgrid, Endeavour Energy and Essential Energy contain customer service standards, including requiring:

- ▼ Paying \$80 to a customer if the interruption duration standard or interruption frequency standard is exceeded at the customer's premises, and the customer makes a claim¹⁸
- ▼ Determining the claim for payment and notifying the customer within one month of receipt of the claim,¹⁹ and
- ▼ Taking all reasonable steps to make customers aware of the availability of payments, including the minimum requirement for the publication of the information in newspaper advertisements.²⁰

Information regarding each network operator is summarised below.

- ▼ **Ausgrid**
 - Received and processed 3,456 Customer Service Standard (CSS) claims, 558 of which, or 16%, were not processed within the required timeframe.
 - Reported that delays in processing were due mainly to the severe storms in November 2019 and February 2020. An unprecedented number of CSS claims were received in Q3 of 2019-20 (80% of total claims received for the year) with the majority submitted in a short span of time, being the second half of the quarter (mid-Feb onwards).
 - Reported that COVID-19 restrictions affected claims operations in mid-March requiring work from home to be implemented quickly across the business, and some technical network issues impacted productivity as a result.
 - Advised that its Customer Relationship Management (CRM) system and customer portal website encountered issues between December 2019 until mid-February 2020, meaning some customers had difficulty successfully submitting claims, but Ausgrid was unaware of this at the time.
 - Advised that all of the outstanding 558 claims were processed by 31 March 2020 and all claims received in Q4 2019-20 were processed within the required timeframe.
- ▼ **Endeavour Energy**
 - Reported that two claims were not determined for payment within the period required. Endeavour Energy implemented a new process to determine payments against the customer service standards, and since this time has been compliant.
 - Did not take all reasonable steps to make customers aware of the availability of \$80 payments, including the minimum requirement for the publication of the information in newspaper advertisements.

¹⁸ Licence condition 6.1 and 6.2

¹⁹ Licence condition 6.3.

²⁰ Licence condition 6.4

▼ Essential Energy

There were two instances of non-compliance where the number of CSS claims was incorrectly reported by Essential Energy in its quarterly distribution reliability and performance report.²¹

2.3 NSW Public Lighting Code

A large majority of NSW public lighting assets are owned and maintained by Ausgrid, Endeavour Energy and Essential Energy (Service Providers), with local councils and Transport for NSW being their primary customers. Since 1 July 2019, Service Providers have been required to comply with the *NSW Public Lighting Code*,²² which has been established to support the reliable and efficient provision of public lighting services.

The Public Lighting Code includes:

- ▼ Requirements for the provision of public lighting services to be provided by Service Providers
- ▼ Service standards to be met by Service Providers
- ▼ A requirement that Service Providers consult with customers in relation to the types of standard luminaires to be provided by Services Providers to customers, and
- ▼ A mechanism that allows Services Providers and Customers to agree to the installation of non-standard Luminaires.

Under the Public Lighting Code, a Service Provider must also have in place a management plan on the operation, maintenance, refurbishment, replacement, repair and disposal of public lighting assets. The Service Provider must make reasonable efforts to consult with its customers when developing or amending the management plan, and ensure that the management plan meets the service standards and other requirements of the Public Lighting Code.

2.3.1 Compliance with the Public Lighting Code

All Service Providers submitted their quarterly reports, annual reports and implementation reports to IPART in accordance with the requirements of the Public Lighting Code and IPART's Public Lighting Code Reporting Manual.

However, incomplete and incorrect information provided in a number of the early reports indicated a need to confirm and clarify reporting requirements. IPART worked with Service Providers and the Department of Planning, Industry and Environment to clarify obligations and improve some areas of the Public Lighting Code, and provided a revised reporting template to assist with accurate reporting.

²¹ Refer to licence condition 7.4

²² <https://energy.nsw.gov.au/media/2046/download>

All Service Providers reported non-compliances against the requirement to repair General Faults²³ within 10 business days and some had average repair times above eight business days. We acknowledge repair times were affected by the bush fires and storms that occurred in 2019-20, as Service Providers' resources were focussed on restoring supply to affected customers. Some Service Providers also reported delays in repairing faults resulting from disruptions to work caused by COVID-19. Additionally, Ausgrid reported delays in repairing faults due to its live work pause. Further details are provided below.

Because the Public Lighting Code introduced new legal obligations, and Service Providers were affected by the above events, we focused on engagement, clarification and education to assist Service Providers with their understanding of their obligations rather than undertaking enforcement action. We also developed a reporting template to assist with accurate reporting. As Service Providers' understanding of their obligations improves, we will consider whether to revise this approach to non-compliances.

Ausgrid

Ausgrid was non-compliant with the 10-day target for repairing individual General Faults for 5,558 out of 17,135 (32%) individual General Faults. Ausgrid was also non-compliant with the 8-day target for repairing General Faults for 46 out of 60 (76.67%) of its customers.

In the case of General (Priority ²⁴) Faults, reasonable steps must be taken to repair the Fault more quickly than the average repair time for General Faults (noting that General Faults must be repaired within 8 business days, on average).²⁵ Ausgrid repaired General (Priority) Faults²⁶ more quickly than the relevant average repair time for General Faults for 6 out of 43 (13.95%) of customers.

Ausgrid provided the following reasons for the non-compliances detailed above:

- ▼ Ausgrid's live work pause resulted in fault repairs being slowed considerably and resulted in the build-up of a substantive backlog.
- ▼ In December 2019, following reviews of its practices and procedures, Ausgrid introduced revised Electrical Safety Rules (ESR) to enable it to safely recommence a number of overhead and extra-low voltage tasks, including maintenance and replacement of street lights.
- ▼ Ausgrid staff and contractors have now commenced training on the new ESR and are progressively undertaking more live work. When recommencing live work relating to fault repairs, prioritisation continues to be based on those related to public safety (such as over pedestrian crossings) and the longest overdue.
- ▼ There is an overdue backlog which is expected to be cleared in full by early 2021.

²³ General Faults are faults that do not relate to underground faults or require a site-specific Road Occupancy Licence.

²⁴ Priority Fault means a fault relating to lighting at pedestrian crossings or groups of three or more consecutive lights on 'Category V roads' (as defined in AS/NZS 1158).

²⁵ This requirement aims to ensure that faults that may affect public safety are prioritised.

²⁶ For Priority Faults, reasonable steps must be taken to repair the Fault more quickly than the Fault Service Standard for Specific Faults or General Faults, whichever is applicable for the Fault type.

Ausgrid did not provide full quarterly reports (for quarters 1 and 2) to customers in accordance with the Public Lighting Code. Instead, Ausgrid provided only the data to each customer that pertained to their own area.

Endeavour Energy

Endeavour Energy was non-compliant with the 10-day target for repairing individual General Faults for 2,036 out of 15,261 (13.34%) individual General Faults. Analysis of Endeavour Energy's annual report indicates that it was compliant with the 8-day average fault repair time for General Faults for 5 out of 22 (22.73%) of its customers. Endeavour Energy repaired General (Priority) Faults more quickly than the relevant average repair time for General Faults for 16 out of 20 (80%) customers who had priority faults.

Endeavour Energy reported that it is currently not able to meet the requirements of clause 2 of Schedule 2 to the Code, which requires a Service Provider to notify the relevant Roads Authority of Priority Faults. Endeavour Energy has proposed an alternative process which customers have agreed would meet their notification needs whilst providing a number of additional benefits. We understand that the alternate process will be raised by Endeavour Energy in the upcoming review of the Public Lighting Code, which is required to be completed by 31 December 2020.

Endeavour Energy also reported that for quarters 1 and 2, full quarterly reports were not provided to customers in accordance with the Public Lighting Code. Instead, Endeavour Energy provided only the data to each customer that pertained to their own area.

Essential Energy

Essential Energy was non-compliant with the 10-day target for repairing individual general faults for 3,666 out of 11,412 (32.12%) individual General Faults. Analysis of Essential Energy's report indicates that it was non-compliant with the 8-day average fault repair time for General Faults for 42 out of 88 (47.73%) of its customers. Essential Energy repaired General (Priority) Faults more quickly than the relevant average repair time for General Faults for 15 out of the 21 (71.43%) customers who had priority faults.

Essential Energy provided the following reasons for its non-compliance with the repair time targets detailed in the Public Lighting Code:

- ▼ System limitations on reporting delay times
- ▼ The requirement to respond to the NSW bush fire crisis
- ▼ A backlog of tasks from the bush fires
- ▼ Constrained resourcing under COVID-19 operating arrangements, and
- ▼ Delays in accessing traffic control.

Essential Energy has implemented plans to rectify these non-compliances but notes that COVID-19 operating conditions may still affect repair times.

Essential Energy has also reported the following non-compliances against the obligations of the Public Lighting Code:

- ▼ For Quarter 1 and Quarter 2, full quarterly reports were not provided to customers in accordance with the Public Lighting Code. Instead, Essential Energy provided only the data to each customer that pertained to their own area.
- ▼ Notifications to the Roads Authority of Priority Faults occurred via phone or email however, they were not formally recorded for compliance reporting purposes.

2.4 NSW Code of Practice for environmental impact assessments

TransGrid, Ausgrid and Endeavour Energy are required to comply with Part 5 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act).²⁷ The *NSW Code of Practice for Authorised Network Operators* (Code of Practice),²⁸ published by the NSW Department of Planning, Industry and Environment, provides a framework for undertaking environmental impact assessments under Part 5 of the EP&A Act.

The Code of Practice aims to:

...ensure that assessments under Part 5 are conducted appropriately and in a manner that supports proper environmental assessment including appropriate community consultation.

2.4.1 Compliance with the Code of Practice

Ausgrid and TransGrid did not report any non-compliances with the Code of Practice.

Endeavour Energy reported that an accredited service provider commenced works without a 'Summary Environmental Report' as required by the Code of Practice.²⁹ Follow-up works were suspended, including the provision of electricity outages to facilitate the works, until the Summary Environmental Report was 'determined' by Endeavour Energy as required by the Code of Practice.

2.5 Distribution Districts

In accordance with their licence conditions, the distribution network operators (Ausgrid, Endeavour Energy, and Essential Energy) need to obtain approval and authorisation from IPART before they extend their network outside of their distribution districts. The distribution network operators are also required to report in accordance with IPART's *Electricity networks reporting manual - Where Ausgrid, Endeavour Energy and Essential Energy operate outside their distribution districts*.³⁰

²⁷ Available at <https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1979-203>

²⁸ Code of Practice p 6, available at <https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/nsw-code-of-practice-for-authorised-network-operators-2015-09-04.pdf?la=en>

²⁹ Refer to clause 2.4.2 of the Code of Practice.

³⁰ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-network-reporting-manual-operations-outside-of-distribution-districts-september-2019.pdf>

These reporting requirements state that the distribution network operators must report to IPART:

- ▼ All new network extensions outside of their respective distribution districts, and
- ▼ Any disconnection or removal of existing network assets that were previously approved by IPART or were in existence before the distribution district licence condition came into effect.

The distribution network operators were compliant with this reporting requirement and licence condition. Details of extensions outside of the distribution network operators distribution districts are shown in the table below.

Table 2.1 Activity outside network operators' distribution districts

Network operator	Activity outside distribution district
Ausgrid	Eight low voltage service connections that are permitted under IPART's standing Instrument of Agreement and Authorisation. Three low voltage connections were disconnected or removed.
Endeavour Energy	One network extension to provide a connection point to a property permitted under IPART's standing Instrument of Agreement and Authorisation.
Essential Energy	No extensions or disconnections.

Source: Ausgrid, Endeavour Energy, and Essential Energy annual distribution district reports 2019-20.

2.6 Reporting in accordance with reporting manuals

TransGrid, Ausgrid, Endeavour Energy and Essential Energy's licences require that they must prepare and submit reports in accordance with any reporting manual issued by IPART. Failure to report in accordance with IPART's reporting manuals constitutes a non-compliance with the applicable licence condition.

All licensed network operators failed to report one or more incidents in accordance with the timeframes stipulated in IPART's *Electricity Networks Reporting Manual – Incident Reporting*.³¹ Please refer to section 4.2.2 for further details.

Endeavour Energy

IPART's *Electricity networks reporting manual - Safety management system performance measurement*³² requires that network operators publish a media release advising of the publication of their performance report by 30 November each year. Whilst Endeavour Energy did publish the performance report on its website on time, the media release was not published until 9 January 2020 due to an internal oversight.

³¹ Available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-incident-reporting-october-2019.pdf>

³² Available at <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Electricity-Networks-Reporting/Current-Reporting-Manuals/Electricity-networks-reporting-manual-Safety-management-system-performance-measurement-September-2020>

3 Gas network operators' compliance

The gas network operators have each been issued with either a reticulator authorisation or a distributor licence. A reticulator authorisation is for the operation of a distribution pipeline for the purpose of conveying natural gas. A distributor licence is for the operation of a distribution system for liquid petroleum gas (LPG) and other gases.³³ This authorisation/licence sets out their conditions of operation.

The licensed LPG distributors are:

- ▼ Elgas Ltd
- ▼ Elgas Reticulation Pty Ltd, and
- ▼ Origin Energy LPG Ltd.

The gas reticulators are detailed in Table 3.1.

IPART is responsible for administering the licensing regimes for natural gas reticulation network operators and LPG distribution network operators and monitoring compliance against licence and authorisation conditions. However, IPART does not regulate the safety or reliability of the gas reticulation or gas distribution networks.³⁴ We also note that gas network operators' licences do not include requirements for the network operator to audit against licence conditions.

3.1 Gas network operators – Compliance and reporting framework

The gas network operators are required to provide an annual compliance report to IPART. The natural gas reticulators are also required to provide their operating statistics as part of their annual compliance reports. Table 3.1 provides details of the natural gas reticulators and the operating statistics that they are required to report.

³³ Gas transmission pipelines are regulated under the *Pipelines Act (NSW) 1967*.

³⁴ The Department of Planning, Industry and Environment is the safety regulator of the gas industry.

Table 3.1 Overview of natural gas reticulators and operating statistics, 2019-20

Reticulator	Number of Customers			Kilometres of gas mains
	DPIs ^a supplied as at 30 June 2020	DPIs ^a taking less than 1 TJ	DPIs ^a taking more than 1 TJ	
Allgas Energy Pty Ltd	1,295	1,283	12	37
Australian Gas Networks (Albury) Ltd	29,536	29,447	89	772
Australian Gas Networks (NSW) Ltd	30,860	30,791	69	1,247 ^b
Central Ranges Pipeline Pty Ltd	3,763	3,730	33	295
Jemena Gas Networks (NSW) Ltd	1,464,796	1,461,566	3,230	25,482
Evoenergy ^c	20,384	20,329	55	4,885
Total	1,550,634	1,547,146	3,488	32,718

a Delivery Point Identifier.

b Excludes 64 km for the Tumut Valley pipeline.

c Formerly ActewAGL Distribution Ltd.

Source: 2019-20 annual compliance reports of the natural gas reticulators.

3.2 Gas network operators' compliance

3.2.1 Natural gas reticulators were compliant

The natural gas reticulators reported no non-compliances in 2019-20, and we did not identify any non-compliances with the conditions of the reticulator authorisations.

3.2.2 LPG distributors were compliant

Elgas Ltd reported a minor incident which did not result in any supply interruption, and only resulted in a minimal loss of LPG vapour. However, this did not constitute a non-compliance with the conditions of its distributor licences.

We did not identify any non-compliances with the conditions of the distributor licences.

4 Electricity network operators' compliance with safety and other legislated obligations

Since 2015, IPART has monitored licensed and unlicensed electricity network operators' compliance with legislated obligations in relation to safety management systems (including bush fire risk management), incident reporting,³⁵ and employment guarantees. This chapter summarises compliance information for 2019-20 regarding these obligations.

4.1 Safety management system obligations

The ESSNM Regulation requires all electricity network operators to have a safety management system in place that complies with the Australian Standard AS 5577 *Electricity network safety management systems 2013*³⁶ (AS 5577) and covers certain areas of safety risk.

Safety management system obligations apply to all network operators with electricity assets in NSW, both licensed and unlicensed.³⁷ Table 4.1 provides details of the network operators with assets in NSW.

Table 4.1 Electricity network operators with assets in NSW, 2019-20

Licensed electricity network operators	
TransGrid (transmission network operator)	Ausgrid (distribution network operator)
Endeavour Energy (distribution network operator)	Essential Energy (distribution network operator)
Other NSW electricity network operators	
Sydney Trains (unlicensed distribution network operator)	Directlink (unlicensed transmission network operator)
Lord Howe Island Board (unlicensed distribution network operator)	Metro Trains Sydney (unlicensed distribution network operator)
Interstate electricity network operators with distribution network assets in NSW	
Evoenergy (ACT)	Ausnet Services (Victoria)
Powercor (Victoria)	Energy Queensland (Queensland)

³⁵ IPART became the regulator of these safety management obligations in June 2015. The Department of Industry previously administered safety management system and incident reporting obligations.

³⁶ Available for purchase at https://infostore.saiglobal.com/en-us/Standards/AS-5577-2013-120043_SAIG_AS_AS_251583/

³⁷ Under Part 2 of the ESSNM Regulation.

The primary objective of an electricity network operator's safety management system is to assist network operators to ensure safety of their distribution and transmission systems, and in particular to support the safety of the:

- ▼ Public and people working on or near its network
- ▼ The protection of property, and
- ▼ The management of safety risks arising from the protection of the environment and the loss of electricity supply. (See Appendix B for more detail.)

Box 4.1 Bush fire risk management obligations

The ESSNM Regulation requires network operators to have a safety management system in place that complies with AS 5577, and deals with the management of bush fire risk related to electricity lines, aerial consumers mains and other assets that are capable of starting a fire. Compliance with AS 5577 requires that a network operator:

- ▼ Identify risks
- ▼ Where reasonably practicable, eliminate the source of the risk, and
- ▼ Where not reasonably practicable to eliminate the risk, identify treatments and controls so that residual risks are reduced to as low as reasonably practicable.

Source: ESSNM Regulation clause 7 and AS 5577 clause 4.3.2

Audits of network operators

For 2019-20, we directed independent audits of electricity network operators to assess their compliance with the obligations of the ESSNM Regulation. The directed audits focused on the following high risk areas:

- ▼ The bush fire risk management aspects of TransGrid, Ausgrid, Endeavour Energy and Essential Energy's ENSMS.
- ▼ The extent to which public and worker safety risk management controls have been implemented by TransGrid, Ausgrid, Endeavour Energy and Essential Energy, and their effectiveness in supporting the primary objectives of the ENSMS.

We did not direct an audit for 2019-20 of Sydney Trains' ENSMS, but we have continued to monitor its progress towards addressing non-compliances identified during an audit conducted in May 2019. We note that in response to the May 2019 audit, Sydney Trains published a revised FSA for bush fire risk in June 2020. We have directed an audit of Sydney Trains to be performed in 2020-21.

We did not direct audits of any other network operators this year.

Safety management system performance measurements

Each electricity network operator with assets in NSW is required to measure its performance against its electricity network safety management system and publish the results of its performance measurements annually. For interstate operators with network assets operating within NSW, please see below.

The licensed network operators are also required to report in accordance with the *Electricity Networks Reporting Manual – Safety Management Systems Reporting*³⁸ by 31 October each year.³⁹

We undertook a high-level assessment of the reports by:

- ▼ Comparing the number of completed maintenance tasks against the number that were planned for the year
- ▼ Comparing the failure rates against five year averages, and
- ▼ Using the experience of IPART's engineers.

Based on these high level assessments, no obvious safety issues or emerging trends were identified.

Interstate network operators

Four interstate network operators⁴⁰ also have a small number of electricity distribution and transmission assets in NSW. We generally monitor the compliance of their safety management systems with the requirements of the ESSNM Regulation by reviewing audits and reports prepared for their jurisdictional regulator (Qld and ACT), or by reviewing annual safety performance reports issued by Energy Safe Victoria. We also review any serious electricity works accidents reported involving their NSW electricity assets.

During 2019-20 we wrote to each interstate network operator to highlight the regulatory requirements that apply to the management of bush fire risk in NSW, and to ask them to provide further information, including processes or procedures:

- ▼ Which demonstrate how they comply with NSW Industry Safety Steering Committee publications *ISSC 3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets*⁴¹ (ISSC 3) and *ISSC 31 Guideline for the Management of Private Overhead Lines* (ISSC 31), and
- ▼ Used to implement the controls identified in the formal safety assessments (FSAs) to reduce bush fire risk.

In response to our request, Energy Queensland is currently reviewing its processes and procedures to ensure that it complies with the regulatory requirements that apply to the management of bush fire risk in NSW.

Evoenergy (ACT) has been developing FSAs to update its electricity network safety management system following non-compliant findings in a 2018 audit. IPART has participated in the stakeholder consultation process required for the development of the FSAs. However, Evoenergy did not finalise and implement the FSAs during 2019-20, so cannot yet be considered to have a fully compliant ENSMS as required by the Regulation.

³⁸ Available at <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Reviews/Electricity/Review-of-Safety-Management-system-reporting-requirements/07-Aug-2018-Final-Reporting-Manual/Electricity-networks-reporting-manual-safety-management-system-performance-measurement-August-2018>

³⁹ A major component of the safety management system performance report details the network operator's bush fire preparedness. Refer to section 4.1.3 for further details.

⁴⁰ Refer to Table 4.1 for details of the interstate network operators with assets in NSW.

⁴¹ Available at: <https://energy.nsw.gov.au/sites/default/files/2018-09/ISSC3-guideline-for-managing-vegetation-near-power-lines.pdf>

In May 2020, the ACT Utilities Technical Regulator provided IPART with a bush fire preparedness audit report dated February 2020. The auditor reported non-compliances which Evoenergy has undertaken to address prior to the start of the 2020-21 bush fire danger season.

We will continue to work with the ACT Utilities Technical Regulator to monitor Evoenergy's progress in 2020-21.

As mentioned above, electricity network operators with assets in NSW are required to measure and publish their performance against their electricity network safety management systems annually. The four interstate operators, which have minimal network assets operating within NSW, report against the obligations that apply in their jurisdiction to the regulatory authorities in their jurisdiction. IPART has therefore provided an exemption from publishing annual safety performance reports regarding their operations in NSW.

4.1.2 Bush fire risk management audits

We directed audits of the bush fire risk management aspects of TransGrid, Ausgrid, Endeavour Energy and Essential Energy's ENSMS. The audits considered matters including:

- ▼ The bush fire risk management strategy and implementation of bush fire risk management controls with respect to vegetation and all network assets on all lands subject to bush fire risk, and aerial consumers mains on bush fire prone land that is private land
- ▼ Whether hazard trees and vegetation encroachments into minimum safety clearances as specified in ISSC 3, are being identified, assessed and treated, so far as is reasonably practicable
- ▼ How the network operators responded to recommendations from the Coronial enquiry into fires in the Blue Mountains in October 2013, and
- ▼ Whether the information related to bush fire risk controls reported in annual safety management system performance reports is complete and accurate.

All audits were conducted between November 2019 and January 2020.

The auditors identified strengths for all network operators

The auditors identified a number of strengths for each of the network operators as summarised below.

TransGrid's auditor noted:

- ▼ Its bush fire risk Formal Safety Assessment is "comprehensive, and the evidence provided and witnessed during the audit (ie, systems, documents, processes and procedures) demonstrates effective implementation and continuous improvement".
- ▼ The "ENSMS has been the subject of a number of IPART audits and the active development of the system to address any issues or opportunities that were raised to improve the system is evident".

Ausgrid's auditor noted:

- ▼ "Whilst non-material non-compliances were identified, in all other respects, the safety management system is achieving the primary objective of safety management systems with respect to network initiated bush fire prevention."
- ▼ "The safety management system is considered appropriate" in relation to the nature, size and complexity of Ausgrid's network, and the safety management system "is being properly implemented".

Endeavour Energy's auditor noted:

- ▼ Endeavour Energy "has demonstrated substantive effort in the implementation of its ENSMS and particularly to ensure safe operation of the network regarding bush fire risk".
- ▼ Endeavour Energy's ENSMS appeared to be "designed and implemented commensurate with the size and complexity of the electricity network operated by Endeavour Energy."
- ▼ The "active involvement and oversight of the Board, Executive Management and Senior Managers is a significant strength."

Essential Energy's auditor noted:

- ▼ "Whilst a non-material non-compliance was identified, in all other respects, the safety management system is achieving the primary objective of safety management systems with respect to network initiated bush fire prevention."
- ▼ "The safety management system is considered appropriate" having regard to the nature, size and complexity of Essential Energy's network, and that "the safety management system is being properly implemented".

The auditors identified non-compliances in the distribution network operators' bush fire risk management

The auditors found non-material non-compliances for Ausgrid, Endeavour Energy and Essential Energy.⁴² Endeavour Energy's auditor also identified one material non-compliance, which related to the failure to document improvements to bush fire risk controls that have already been implemented, and therefore poses no immediate safety risk. Similarly, most of Endeavour Energy's nine non-material non-compliances relate to documentation.

Non-compliances identified by the auditors are summarised in Table 4.2.

⁴² The auditor did not find any non-compliances in TransGrid's bush fire risk management.

Table 4.2 Summary of bush fire management non-compliances

Network operator	Summary of non-compliances
Ausgrid 3 Non-material non-compliances	<ul style="list-style-type: none"> ▼ Ausgrid prescribes a higher standard for the installation of low voltage spreaders on private consumers mains than on the shared network. ▼ Ausgrid has not adequately demonstrated that its practice of not drilling private poles mitigates risk so far as is reasonably practicable. ▼ Ausgrid has not adequately demonstrated that its vegetation clearance requirements yield an equivalent or improved risk and safety outcome compared to the clearances in ISSC 3.
Endeavour Energy 1 Material non-compliance 9 Non-material non-compliances	<p>Bush fire risk formal safety assessment (FSA) has not been updated to address issues that have been identified.</p> <ul style="list-style-type: none"> ▼ Pre-summer bush fire inspection was not completed by the target date. ▼ Procedures for treatment of defects are out of date. ▼ Documented risk assessment does not show defect rectification times reduce risk to ALARP. ▼ Procedure for engagement with stakeholders does not meet the standard. ▼ Bush fire risk FSA does not adequately address stakeholders. ▼ An audit and review plan covering the ENSMS is not evident. ▼ There is no procedure for managing and reporting on significant changes to safety risks. ▼ Endeavour Energy records vegetation/asset inspections as complete when a site visit occurs – not when data has been analysed and provided to Endeavour Energy. ▼ Procedures for categorising bush fire defects appropriately need to be updated.
Essential Energy 1 Non-material non-compliance	<p>Essential Energy does not comprehensively deal with the management of bush fire risk for high voltage (HV) customers on private land that is bush fire prone.</p>

Distribution network operators are rectifying the non-compliances

Overall, we consider that the audits show that Ausgrid, Endeavour Energy and Essential Energy are performing reasonably well in meeting their obligations related to bush fire management. The audit findings do not indicate any need for immediate action on safety grounds, although there is a need for improvement in some areas (particularly documentation). The network operators' proposed rectification actions respond directly to these deficiencies, and the proposed timeframes appear reasonable, with the most critical actions to be rectified ahead of the upcoming bush fire season.

4.1.3 Bush fire preparedness reports

In accordance with the *Electricity Networks Reporting Manual – Safety Management Systems Reporting*,⁴³ TransGrid, Ausgrid, Endeavour Energy, Essential Energy, and Sydney Trains submitted reports on 31 October 2019 which detailed their preparedness for the 2019-20 bush fire season. Details are provided below.

⁴³ Available at <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Electricity-Networks-Reporting/Current-Reporting-Manuals/Electricity-networks-reporting-manual-Safety-management-system-performance-measurement-September-2020>

Licensed network operators

TransGrid, Ausgrid and Essential Energy reported that they were generally compliant in this area. Endeavour Energy's report indicated that some inspection results were outstanding as of 30 September 2019 because of delivery issues with its contractor. On 12 November 2019 Endeavour Energy advised that all inspections had been completed and processed, and all asset defects rectified.

All licensed network operators were subject to independent audits of their bush fire preparedness during November 2019 and January 2020 to assess compliance with these reporting requirements and to check traceability and justification for data reported. Refer to section 4.1.2 for further details of the audit findings and the network operators' bushfire preparedness.

Sydney Trains

Sydney Trains is not required to include the detailed bush fire preparedness report required from licensed network operators. However, it has provided a supplementary bush fire preparedness report.

We reviewed the Sydney Trains supplementary bush fire preparedness report which showed no material issues with its bush fire preparations. We note that Sydney Trains is still working towards rectifying some non-compliances identified during a previous bush fire audit. These non-compliances are not considered to have a material impact on Sydney Train's bush fire risk mitigation program of field works.

Other Network Operators

Given the design of the networks and the environments in which they are operated, we consider the bush fire risk to be low for Directlink, Lord Howe Island Board and Metro Trains Sydney. We did not require any independent audits of their bush fire risk management during the 2019-20 reporting period.

4.1.4 Public and worker safety audits

We directed audits of the extent to which public and worker safety risk management controls have been implemented by TransGrid, Ausgrid, Endeavour Energy and Essential Energy, and their effectiveness in supporting the primary objectives of the ENSMS. The audits were to consider whether:

- ▼ Appropriate levels of risk controls for the safety of workers and the public have been implemented
- ▼ Appropriate public safety awareness campaigns are in place
- ▼ All electricity asset specific risks that could affect worker or public safety have been identified, assessed, and treated, so far as is reasonably practicable
- ▼ Corrective and preventive controls identified through investigations into previous incidents that impacted workers or the public have been implemented

-
- ▼ Risk analysis and mitigation in relation to potential accidents on their networks have regard to relevant industry data and evidence, including information about major incidents on other networks in Australia, and
 - ▼ Policies, procedures and programs ensure that, so far as is reasonably practicable, all authorised persons:
 - Are fit for work (in terms of competency, and physical and mental health), and
 - Comply with all safety rules and procedures.

The auditor was able to complete the PAWS audit of Essential Energy at its offices and work sites in early March 2020. Scheduled audits of the other network operators were however disrupted by COVID-19 restrictions. TransGrid, Ausgrid and Endeavour Energy applied to IPART for extensions to the due date for the final audit reports, and their audits were later rescheduled. However, the audit of Endeavour Energy was mostly conducted in 2019-20, and details of the Endeavour Energy and Essential Energy PAWS audits are included below.

Due to the extensions, the TransGrid and Ausgrid PAWS audits were not conducted and completed in 2019-20. Details will be provided in the 2020-21 annual compliance report.

Endeavour Energy

Based on a detailed review of the documentation and systems, interviews with key personnel, and assessment of implementation activities, the auditor considered that Endeavour Energy's safety management system had, in all material respects, been effectively implemented on public and worker safety risk management controls.

The auditor identified four non-material non-compliances:

- ▼ Public safety Formal Safety Assessment (FSA) does not capture current practices and is prepared retrospectively
- ▼ Worker safety FSA does not capture current practices and is prepared retrospectively
- ▼ Gaps in the public safety education and awareness campaigns, and
- ▼ Management of neutral integrity risks.

Endeavour Energy has provided a program for the rectification of all non-compliances. Although several projects are not scheduled to be completed until 2021, the non-compliances are low risk, and we therefore consider this timing to be appropriate.

Essential Energy

The auditor formed the view that the level of public and worker safety controls applied throughout Essential Energy appear generally appropriate and consistent with peers. For the most part, the majority of the issues identified through the non-compliances and opportunities to improve, relate to maturity of the ENSMS as a business management system, rather than the adequacy of individual safety related practices and decision making.

The auditor identified one material and 11 non-material non-compliances which were grouped into three themes:

- ▼ Formally embedding the ENSMS as a business management system that drives safety risk management
- ▼ Permeating SFAIRP⁴⁴ culture through all business decisions and activities, and
- ▼ Due diligence and assurance of the ENSMS.

The auditor noted that rather than applying 'band-aid' solutions to the previous audit non-compliances, Essential Energy has sought to align its actions with its business improvement transformation. We consider that Essential Energy's approach will likely result in better compliance with its safety obligations in the longer term.

Advancement of ENSMS maturity is scheduled over the next few years and the majority of actions from the previous (2019) audit are not yet due for completion. With many of these actions outstanding, there are commonalities with the findings of the previous audit and the findings of this audit. Four non-compliances were directly carried over from the previous audit, and many others are related and overlapping.

Essential Energy developed a response to the audit findings through a considered process of review and consultation involving a significant number of stakeholders from across the business which resulted in a number of projects to address the non-compliances.

Although a number of the projects are not scheduled to be completed until June 2022, we consider this timing to be appropriate because:

- ▼ The auditor noted that most non-compliances relate to the 'maturity of the ENSMS as a business management system', not deficiencies in safety-related practices which would have required more urgent rectification.
- ▼ For the material non-compliance, the auditor recommended taking a considered, long-term approach to rectification.

4.1.5 Licensed electricity distribution network operators – Management of work on energised assets

In April 2019, an Ausgrid employee was fatally injured while performing work on an energised or 'live' asset. Following the fatality, Ausgrid paused all live work on its network and performed an extensive review of live work planning and performance. The review included engagement with external stakeholders, including the other licensed NSW distribution network operators, and resulted in a managed and phased return to some live work tasks.⁴⁵

Prior to the incident (February 2019), IPART had issued a direction to Ausgrid to undertake an independent audit of its ENSMS in relation to the management of risks of working on or near energised assets on its network. This audit was expected to take place in the first half of 2020.

⁴⁴ So far as is reasonably practicable.

⁴⁵ IPART participated as an observer member in Ausgrid's Live Work Industry Consultative Committee.

When we later directed Ausgrid to undertake the separate PAWS audit, IPART agreed to Ausgrid's request to provide an extension to the due date for the 'live work' audit, to allow the audit to be conducted concurrently with the PAWS audit. However, as noted in section 4.1.4, scheduled audits of Ausgrid were disrupted by COVID-19 restrictions, resulting in the audits being rescheduled. Details of Ausgrid's 'live work' audit will consequently be provided in the 2020-21 annual compliance report.

4.2 Incident Reporting

Under section 63R of the ES Act, all network operators have a legislated requirement to report serious electricity works accidents (SEWAs) to IPART within seven days of them occurring. SEWAs are defined as accidents "in which electricity works are involved" and as a consequence of which "a person dies or suffers permanent disability, is hospitalised, receives treatment from a health practitioner or is unable to attend work for any period of time".⁴⁶

4.2.1 Significant safety incidents

In 2019-20, there was one incident which occurred on the electricity networks that resulted in loss of life. This occurred when a member of the public climbed a transmission tower and jumped, falling approximately 50m to the ground.

Aside from the incident detailed above, the electricity network operators reported only one other major safety incident⁴⁷. This incident occurred when two civil contractors working for an accredited service provider received serious arc flash injuries, resulting in one worker being admitted to hospital, when excavating around an 11kV cable which failed.

4.2.2 Compliance with incident reporting obligations

Network operators mostly reported electricity works incidents in accordance with the legal framework and our Incident Reporting Manual requirements. In a number of instances they failed to report within the required timeline, as detailed in Table 4.3, but were generally compliant with our other reporting requirements.

Many late reports were due to mitigating circumstances. For example, in some cases, the network operator may not have been able to identify whether reporting was required until further information became available, and therefore failed to report within the timeframe because of this.

⁴⁶ Dictionary to the ES Act.

⁴⁷ Excluding incidents involving motor vehicles.

Table 4.3 Incident reports reported outside reporting timeframes, 2019-20

Number of reports outside reporting timeframes ^a	
TransGrid	4
Ausgrid	20
Endeavour Energy	6
Essential Energy	19

^a Most incident types require multiple reports to present information at different stages of investigation. The total number of reports therefore exceeds the number of incidents.

Source: Network operators' incident reports and Annual Compliance Reports.

Some of the reasons provided by network operators for submitting incident reports outside of reporting timeframes are summarised below:

- ▼ Competing high level priorities because of storms and disasters
- ▼ Delays from the data calculation and verification process when declaring a major event day (MED) for storm events
- ▼ Delays in either receiving or confirming details of the incidents
- ▼ Late receipt of information from the field staff for a variety of reasons including
 - COVID-19 management, and
 - Extensive disruption due to bush fires, and
- ▼ Process and human errors.

Network operators are continuing to improve their processes for incident reporting, and are increasing staff awareness of incident reporting obligations.

4.3 Employment guarantee obligations

On 1 July 2015, employment guarantee obligations under Schedule 4 to the *Electricity Network Assets (Authorised Transactions) Act 2015*⁴⁸ (Authorised Transactions Act) commenced for a period of five years, applying to TransGrid, Ausgrid and Endeavour Energy. Except as set out below in respect of Endeavour Energy, these obligations ceased on 30 June 2020. The obligations included minimum employee numbers and some conditions of employment such as restrictions on changes to workplace locations.⁴⁹ Further, if the licence holder's number of full time equivalent (FTE) staff for the final quarter of each financial year was less than 110% of the minimum employee number in the legislation, that licence holder would be required to employ a specific number of apprentices in the following financial year.

⁴⁸ Available at <https://www.legislation.nsw.gov.au/view/html/inforce/current/act-2015-005>

⁴⁹ Under Schedule 4 of the *Electricity Network Assets (Authorised Transactions) Act 2015*.

4.3.1 Compliance with employment guarantee obligations

TransGrid, Ausgrid and Endeavour Energy's reporting obligations commenced from the January-March 2016 quarter to provide quarterly reports on their compliance with the employment guarantees. From that time, IPART published quarterly Fact Sheets on our website to provide a summary of the quarterly compliance reports. TransGrid, Ausgrid and Endeavour Energy reported full compliance with the employment guarantee provisions in 2019-20.

Table 4.4 shows the reported number of FTEs in the final quarter of 2019-20, compared to the minimum number required.

Table 4.4 Reported full time equivalent staff numbers, 2019-20

	Required minimum FTE staff	FTE staff reported for Q4, 2019-20
Ausgrid	3,570	3,980
Endeavour Energy	2,100	2,294
TransGrid	1,000	1,147

As TransGrid and Ausgrid reported having more than 110% of the minimum FTE number in the final quarter of 2019-20, the requirement to employ apprentices was not triggered for 2020-21.⁵⁰ Although Endeavour Energy had more than the minimum number of FTE in the final quarter of 2019-20, it employed less than 110% of the minimum number. Endeavour Energy will therefore be required to employ 10 apprentices in the 2020-21 financial year.

4.3.2 Employment guarantee period

As per clause 1 of Schedule 4 to the Authorised Transactions Act, the 5-year employment guarantee period started on 1 July 2015 and ended on 30 June 2020. TransGrid and Ausgrid no longer have employment guarantee obligations, and Endeavour Energy's only remaining obligation is to employ 10 apprentices in the 2020-21 financial year.

4.3.3 We directed an audit of Ausgrid's compliance against its employment guarantee obligations

In late 2017, we requested that TransGrid, Ausgrid and Endeavour Energy engage an independent auditor to assess their compliance with the employment guarantee obligations related to the minimum number of employees, forced redundancies, existing locations, and future and existing apprentices. The 2017 audit results and quarterly reports indicated no concerns regarding compliance with the employment guarantees.

However, following publicly expressed concerns on Ausgrid's compliance with minimum employee numbers, on 30 April 2020 we requested Ausgrid to undertake an independent audit of the accuracy of relevant employment guarantee information provided to IPART.

⁵⁰ Clause 15(1) of Schedule 4 to the Authorised Transaction Act provides that, "if the number of full time equivalent employees of a network operator for the final quarter of a financial year (within the employment guarantee period) is less than, or equal to 110% of the appropriate staffing level for the network operator, a sufficient number of apprentices must be employed during the following financial year (as new employees of the network operator)".

The scope of the audit included:

- ▼ The appropriate staffing level, including an assessment as to whether the inputs and calculation methodology used by Ausgrid were consistent with other relevant provisions of Schedule 4 to the Authorised Transaction Act for the three quarterly reporting periods between 1 July 2019 and 31 March 2020.
- ▼ Whether that information was reported to IPART in accordance with its employment guarantees reporting manual.

The auditor found that Ausgrid fully complied with its obligations for the relevant periods, but identified a minor calculation error (less than 0.05%, which was not considered material), and noted that Ausgrid had addressed the error in its methodology.

5 Our compliance approach and activities

We monitor the electricity network operators' compliance with their obligations using a risk-based reporting and auditing regime.⁵¹ We apply a risk-based regulatory model which allows us to make the best use of our resources to minimise excessive costs to ourselves and the regulated entities.⁵²

In some cases the regulatory framework restricts our ability to apply a risk-based approach in full, for example, where the legislation mandates the frequency or scope of an audit, reporting, or other compliance action. In those cases we apply the risk-based approach where we can, for example when determining the scope of an audit.

We focus our efforts on informing, educating and supporting the regulated entities to comply with their obligations, and hold them to account by monitoring compliance through reporting and our risk-based audit process.

The materiality of any non-compliance is considered when determining what enforcement actions might be appropriate. Our enforcement actions may include issuing directions or enforceable undertakings, or imposing a monetary penalty.

We also undertake additional activities to enhance our approach and increase our effectiveness. We consider that this is important to maintain visibility of, and address, issues that are pertinent to our role.

During 2019-20, we:

- ▼ Published a safety alert⁵³ following a serious electrical work accident which resulted in two workers sustaining serious burn injuries. The safety alert was updated twice as new information became available from the network operator's investigation.
- ▼ Participated in Ausgrid's Live Work Industry Consultative Committee as an observer member.
- ▼ Developed and implemented a new incident reporting template.
- ▼ Revised our NSW Public lighting code reporting template to clarify reporting requirements and to automate calculations. We also held a workshop to engage with relevant stakeholders.
- ▼ Updated our *Electricity networks reporting manual - Critical infrastructure licence conditions* to improve clarity, and to reflect the addition of critical infrastructure licence conditions to Essential Energy's operating licence.

⁵¹ For further information refer to our *Compliance and Enforcement Policy* available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/licensing-policy-cross-industry-review-of-ipart-compliance-and-enforcement-policy-2017/ipart-compliance-and-enforcement-policy-december-2017.pdf>

⁵² Refer to Table 3.1 in our *Compliance and Enforcement Policy* for details of our risk matrix.

⁵³ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-electricity-reporting-serious-electricity-works-accident-essential-energy-port-macquarie-9-december-2019/ipart-safety-alert-20191209-1b.pdf>

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- ▼ Updated our *Electricity networks reporting manual - Distribution reliability and performance reporting* and our *Electricity networks audit guideline - Distribution reliability audits* to reflect additional licence conditions and amendments to existing conditions.
 - ▼ Updated our *Electricity networks reporting manual - Where Ausgrid, Endeavour Energy and Essential Energy operate outside their distribution districts* to include requirements for Essential Energy to report operations outside of their distribution districts, and to reduce the frequency of reporting to reduce regulatory burden for network operators.
 - ▼ Processed applications from auditors to join our 'Technical and Audit services panel'.

5.1 Our engagement with other government departments and regulatory bodies

We continued to develop our working relationships with other NSW Government departments and regulators, as well as interstate and Commonwealth agencies to ensure effective and efficient regulation.

In particular, we work closely with the NSW Department of Planning, Industry and Environment (DPIE), SafeWork NSW and the Critical Infrastructure Centre within the Commonwealth Department of Home Affairs.

5.1.1 Public lighting code

We worked with DPIE to clarify the requirements of the Public Lighting Code and collaborated with them to conduct workshops for the distribution network operators to ensure that they understood the requirements of the Public Lighting Code.

5.1.2 Participation in the NSW Industry Safety Steering Committee

IPART participates in the NSW Industry Safety Steering Committee (ISSC), which was established to identify opportunities to improve electricity network safety. During 2019-20, IPART continued to provide summarised information to the ISSC on incidents and near misses reported by the licensed network operators and Sydney Trains, and provided analysis of incidents to draw out emerging trends and issues. IPART's participation and collaboration with network operators has helped to facilitate solutions to improve safety in the electricity industry.

We will continue to collaborate with other government departments and regulatory bodies to share ideas, learnings and enhance our regulatory approaches.

Appendices

A Network operators and information sources for this report

The sections and tables below provide more details on network operators covered by this report, and the information sources we have drawn on to assess their regulatory compliance.

A.1 Electricity network operators – licensed

Table A.1 Overview of electricity licence holders, 2019-20

Licence holder	Network type	Approximate number of customers	Area of operation
TransGrid	Transmission	20 directly connected	TransGrid owns and operates the major high voltage electricity transmission network in NSW and the ACT, connecting generators, distributors and major end users.
Ausgrid	Distribution	1.8 million	Sydney, Central Coast, Newcastle and Hunter regions.
Endeavour Energy	Distribution	More than 1 million	Wollongong, Western Sydney. Part of the NSW south coast, Southern Highlands, the Blue Mountains, and parts of the mid-west of NSW.
Essential Energy	Distribution	More than 865,000	95% of NSW (areas not covered by Ausgrid and Endeavour Energy).

Source: TransGrid website - 2019, Ausgrid website, 'About us', accessible [here](#); Endeavour Energy website, 'Who we are', accessible [here](#); Essential Energy website, 'Our Network Area', accessible [here](#).

Electricity network operator licences are available on IPART's website.⁵⁴

A.2 Electricity network operators – unlicensed and interstate

The unlicensed electricity network operators that have electricity network assets within NSW are:

- ▼ Ausnet Services (Victoria)
- ▼ Directlink
- ▼ Energy Queensland
- ▼ Evoenergy (ACT)
- ▼ Lord Howe Island Board
- ▼ Metro Trains Sydney
- ▼ Powercor (Victoria)
- ▼ Sydney Trains

⁵⁴ Available at <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Licence-conditions-and-regulatory-instruments>

A.3 Gas network operators

Table A.2 Overview of gas authorisation holders in 2019-20

Authorisation holder	Network type	Area of operation ^a
Evoenergy ^b	Natural gas reticulation	Eastern Capital City Regional, Greater Queanbeyan, Shoalhaven, Tumut
Allgas Energy Pty Ltd	Natural gas reticulation	Tweed, Narrabri
Australian Gas Networks (Albury) Ltd	Natural gas reticulation	Riverina and Murray regions
Australian Gas Networks (NSW) Ltd	Natural gas reticulation	Canberra Region (within NSW), Murrumbidgee and Riverina regions
Central Ranges Pipeline Pty Ltd	Natural gas reticulation	North Western, Northern and Central West Regions
Jemena Gas Networks (NSW) Ltd	Natural gas reticulation	Metropolitan Sydney, Murray, Central West, South West, North West, Northern, Illawarra, Canberra Region (within NSW), Murrumbidgee and Hunter regions
Elgas Ltd and Elgas Reticulation Pty Ltd	Natural gas reticulation	Elgas: Adelong, Batlow, Gundagai, Tumut Elgas Reticulation: Hunter, Richmond-Tweed and Mid North Coast regions Murray Downs Estate, Shire of Tweed, City of Armidale
Allgas Energy Pty Ltd	LPG distribution	Glen Innes, Broken Hill, Banora Point, Jindabyne, Cooranbong, Lennox Head, Murrumbateman

^a A general description of the area operation is provided in this table. Detailed descriptions can be found in the respective licences and authorisations.

^b Formerly ActewAGL Distribution Ltd.

Source: Distributor licences, reticulator authorisations and information provided by licence/authorisation holders.

A.4 Information Sources

For this report we have relied on information provided from self-reports from our regulated entities, from independent audits of the electricity network operators, and our own records of inquiries and investigations.

A.5 Self-reporting

Licensees are required to keep records relating to their activities, and to report any licence breaches to us. This information is primarily provided in licensees' annual compliance reports.

Electricity network operators and gas reticulators are required (as a condition of their licences) to provide annual compliance reports in accordance with our published reporting manuals.

Gas distributors also provide reports that we request, although they are not required by law to do so.

Further, electricity network operators, including those that are unlicensed, report to us regarding:

- ▼ Serious electrical works accidents and near misses
- ▼ The performance of their safety management systems (except where an exemption has been provided), and
- ▼ Bush fire risk mitigation activities.

The three electricity network operators subject to employment guarantees also report on their compliance with these obligations.

A.6 Audits of electricity network operators

Certain electricity network operator licence conditions are subject to an annual independent audit:

- ▼ Compliance with the distribution ‘reliability and performance’ licence conditions in Ausgrid, Endeavour Energy and Essential Energy’s licences is subject to annual audits which are to be conducted in accordance with IPART’s *Electricity networks audit guideline – Audit fundamentals, process and findings* (Audit Fundamentals Guideline).⁵⁵
- ▼ Compliance with the critical infrastructure licence conditions in the TransGrid, Ausgrid, Endeavour Energy and Essential Energy licences is subject to an annual audit which is to be conducted in accordance with IPART’s Audit Fundamentals Guideline.

In addition, we can (if satisfied that the licence holder has contravened a licence condition) direct an audit of other electricity network operator licence conditions.⁵⁶ We also have a role in monitoring compliance with other relevant legislated obligations (beyond the licence conditions) of electricity network operators, and have the powers to direct or request ad hoc audits of compliance with:

- ▼ The *Electricity Network (Safety and Network Management) Regulation 2014*, and
- ▼ Schedule 4 to the *Electricity Networks Assets (Authorised Transactions) Act 2015*, which prescribes employment guarantee obligations.

We have produced a number of audit guidelines for each audit category to inform the network operators and auditors of our expectations in the conduct of an audit, and this is available on our website at: <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Auditing>

A.7 Audits of gas network operators

We do not have an audit function for the gas network operators.

⁵⁵ Available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-audit-guideline-audit-fundamentals-process-and-findings-june-2019.pdf>

⁵⁶ Clause 8A of Schedule 2 to the ES Act.

B Overview of the legal framework for energy networks

B.1 IPART's role in monitoring compliance

IPART is responsible for administering the licensing regimes for energy network operators in NSW – including the electricity transmission and distribution network operators, natural gas reticulation network operators and LPG distribution network operators. As part of this role, we are required to monitor the extent to which:

- ▼ Electricity network operators comply with the conditions of their licences, which are imposed by the Minister for Energy and Environment (the Minister) and the ES Act.
- ▼ Gas network operators comply with the conditions of their authorisations and licences, which are imposed by the Minister and the GS Act.

Each year, we are required to prepare and forward to the Minister a report on the network operators' compliance with their licence conditions during the 12 months ending on 30 June in that year.

In 2015, we became responsible for regulating the reliability and safety of NSW electricity network assets. In this role, we monitor compliance with the requirements of the ESSNM Regulation by both licensed and unlicensed network operators with electricity network assets within NSW. We are not required to report our findings, as compliance with the ESSNM Regulation is not a licence condition. However, given the potential safety risks that electricity network operations inherently present, we consider it prudent to keep the Minister informed of the work we undertake and the compliance levels.

In addition, we monitor both licensed and unlicensed network operators' serious electricity works accidents, under section 63R of the ES Act.

Appendix A provides more detail on the electricity and gas network operators covered by this report, and the information we use to assess their compliance performance.

B.2 The energy network safety and reliability legal framework

B.2.1 Electricity supply (Safety and network management) regulation

The ESSNM Regulation requires all electricity network operators to have in place, and implement, safety management systems that comply with AS 5577. The ESSNM Regulation applies to the four licensed network operators listed above as well as unlicensed electricity network operators: Directlink, Sydney Trains, Metro Trains Sydney and Lord Howe Island Board. It also covers interstate network operators that have assets located within NSW.

The ESSNM Regulation also requires network operators to measure their performance against their safety management systems and publish the results of their performance measurements annually.

IPART may require the network operators to audit their safety management systems or aspects of their safety management systems, and the network operators must provide the audit reports to IPART. IPART may, based on an audit report, direct an electricity network operator to amend its safety management system or to take specified action to implement its safety management system.

Summary of safety management system obligations

Under Part 2 of the *Electricity Supply (Safety and Network Management) Regulation 2014*:

- ▼ A network operator must take all reasonable steps to ensure that the design, construction, commissioning, operation and decommissioning of its network (or any part of its network) is safe.
- ▼ A network operator must have a safety management system in place and implemented that is in accordance with AS 5577, takes into account the primary objective of a safety management system and any code, standard or guideline specified by the Minister, and deals with:
 - The safety and reliability of the network
 - Advice to the public about electrical hazards related to the network
 - Bush fire ignition risk management, where electricity lines and other assets are capable of initiating bush fire.
- ▼ The primary objective of a safety management system is to support:
 - The safety of the public and of people working on the networks
 - The protection of property
 - The management of safety risks arising from the protection of the environment, and from loss of electricity supply.
- ▼ A network operator is to measure performance against its safety management system and publish the results, giving prior notice to IPART of its intention to publish the results.
- ▼ Apart from an initial audit of the safety management system, (that was due by April 2015), audits must be carried out as directed by IPART in writing to the network operator. IPART may require the audit concerned to relate to either specified aspects of a network operator's safety management system, or to the safety management system as a whole.

B.2.2 Licensed electricity networks

Ausgrid, Endeavour Energy and Essential Energy each hold a distributor's licence. TransGrid holds a transmission operator's licence. All four network operators are required to comply with the conditions of their licence and to report to IPART on compliance with those conditions at the end of each financial year.

Critical infrastructure licence conditions apply to all licensed network operators. These licence conditions specifically require that compliance with critical infrastructure requirements be audited each year and the audit report provided to IPART.

The three licensed distribution network operators, Ausgrid, Endeavour Energy and Essential Energy have *Reliability and performance standards and customer service requirements* specified in their licence conditions. The licensed distributors are required to report on compliance with those conditions quarterly, to conduct an independent compliance audit of those conditions at the end of each financial year, and to provide the audit report to IPART. TransGrid is also required to comply with a *Transmission reliability and performance standard*, and is required to submit a compliance report to IPART annually.

Additional obligations that relate to TransGrid, Ausgrid and Endeavour Energy

TransGrid, Ausgrid and Endeavour Energy must comply with the *Code of Practice for Authorised Network Operators* (2015) for environmental assessment of activities they undertake (as a condition of their licences). They must report to IPART on any non-compliance with the Code of Practice (or an immediate report if the breach is serious in nature).

TransGrid, Ausgrid and Endeavour Energy were also required to comply with employment guarantees that applied to their employees for a five year period, ending on 30 June 2020. The employment guarantees are under Schedule 4 of the *Electricity Network Assets (Authorised Transactions) Act 2015*. They set out provisions relating to minimum employee numbers and some conditions of employment such as restrictions on changes to workplace locations and, for continuing employees, protections for their current employment conditions during the transfer from a State-owned corporation to a private operator.

B.2.3 Licensed gas networks

Origin LPG and Elgas Ltd hold three distributor licences that allow the supply of liquid petroleum gas (LPG), while Allgas Energy Ltd, Australian Gas Networks (Albury and NSW), Central Ranges Pipeline Pty Ltd, Jemena Gas Networks (NSW) Ltd and Evoenergy hold gas authorisations that allow the supply of natural gas.

The licensees and authorisation holders are required to comply with the conditions of their licence or authorisation.

C Summary of electricity network operators' reliability and performance in 2019-20

C.1 Reporting requirements

The NSW electricity distribution network operators, Ausgrid, Endeavour Energy and Essential Energy (Distributors) are required to provide quarterly reports to IPART detailing their compliance with the reliability and performance standards set out in their respective licences.⁵⁷

The quarterly reports provided by the Distributors must address compliance with licence conditions for:

- ▼ Network overall reliability standards
- ▼ Individual feeder performance, and
- ▼ Customer service standards.

As of 5 February 2019, the distributors are also required to comply with individual customer standards. However, reporting for this did not commence until the third quarter of 2020.

C.2 Distributors' performance against overall network reliability standards

The Distributors must not, when excluded interruptions are disregarded, exceed in a financial year the System Average Interruption Duration Index⁵⁸ (SAIDI) and/or System Average Interruption Frequency Index⁵⁹ (SAIFI) average standards that apply to its feeder types.⁶⁰

Feeder types are defined in the Distributors' licences as shown in Table C.1.

⁵⁷ Refer to conditions of 4 to 7 of each of the Distributors' current licences. In addition to the quarterly reports, an independent audit of Distributors' performance against these standards is required at the end of each financial year. Audit findings are discussed in section 2.2.2.

⁵⁸ SAIDI is the average derived from the sum of the durations of each sustained customer interruption (measured in minutes), divided by the total number of customers (averaged over the year) of the licence holder.

⁵⁹ SAIFI is the average derived from the total number of sustained customer interruptions divided by the total number of customers (averaged over the year) of the licence holder.

⁶⁰ Refer to licence conditions 4.1 and 4.2 of each of the Distributors' current licences.

Table C.1 Feeder definitions as per the Distributors' licences

Feeder Type	Definition
Feeder	means a high-voltage line operating at over 1kV and generally at or below 22 kV that connects between a zone substation and a distribution substation.
CBD Sydney	means a feeder forming part of the triplex 11kV cable system supplying predominantly commercial high-rise buildings, within the City of Sydney.
Urban	means a feeder with actual maximum demand over the reporting period per total feeder route length greater than 0.3 MVA/km and which is not a CBD Sydney Feeder.
Short-rural	means a feeder with a total feeder route length less than 200 km, and which is not a CBD Sydney feeder or an urban feeder.
Long-rural	means a feeder with a total feeder length greater than 200 km which is not a Sydney CBD feeder or an urban feeder.

Table C.2 identifies network performance against the SAIDI average standards as reported by the Distributors for the 12 month period from 1 July 2019 to 30 June 2020. We note that the data reported in each quarterly report is for the cumulative data of the current quarter and the previous three quarters. Therefore, the data reported in Q4 2019 20 is for the 12 month period up to 30 June 2020.

The three Distributors performed better than their respective standards for both SAIDI and SAIFI in 2019-20 except for Ausgrid's performance against the Urban SAIDI standard which was marginally worse. No other issues related to overall network reliability were reported.

Table C.2 Performance against the SAIDI average standards (minutes per customer) for 2019-20

Distributor	Feeder type	Required standard	Reported performance	Compliant with licence condition
Ausgrid	CBD Sydney	45	3.62	✓
	Urban	80	80.96	✗
	Short-rural	300	160.65	✓
	Long-rural	700	652.53	✓
Endeavour Energy	Urban	80	58.1	✓
	Short-rural	300	265.4	✓
	Long-rural	N/A	969.8	N/A
Essential Energy	Urban	125	72	✓
	Short-rural	300	234	✓
	Long-rural	700	536	✓

Note: A feeder type is performing better or equal to the standard if its reported performance is equal to, or below the standard value. The SAIDI performance data is as per the figures reported by Ausgrid, Endeavour Energy and Essential Energy.

Source: Q4 2019-20 quarterly reliability reports for Ausgrid, Endeavour Energy and Essential Energy.

Table C.3 identifies performance against the SAIFI average standards as reported by the Distributors for the 12 month period from 1 July 2019 to 30 June 2020.

Table C.3 Performance against the SAIFI average standards (number per customer) for 2019-20

Distributor	Feeder type	Required standard	Reported performance	Compliant with licence condition
Ausgrid	CBD Sydney	0.3	0.01	✓
	Urban	1.2	0.64	✓
	Short-rural	3.2	1.01	✓
	Long-rural	6.0	2.05	✓
Endeavour Energy	Urban	1.2	0.60	✓
	Short-rural	2.8	1.33	✓
	Long-rural	N/A	6.04	N/A
Essential Energy	Urban	1.8	0.77	✓
	Short-rural	3.0	1.89	✓
	Long-rural	4.5	2.96	✓

Note: A feeder type is performing better or equal to the standard if its reported performance is equal to, or below the standard value.

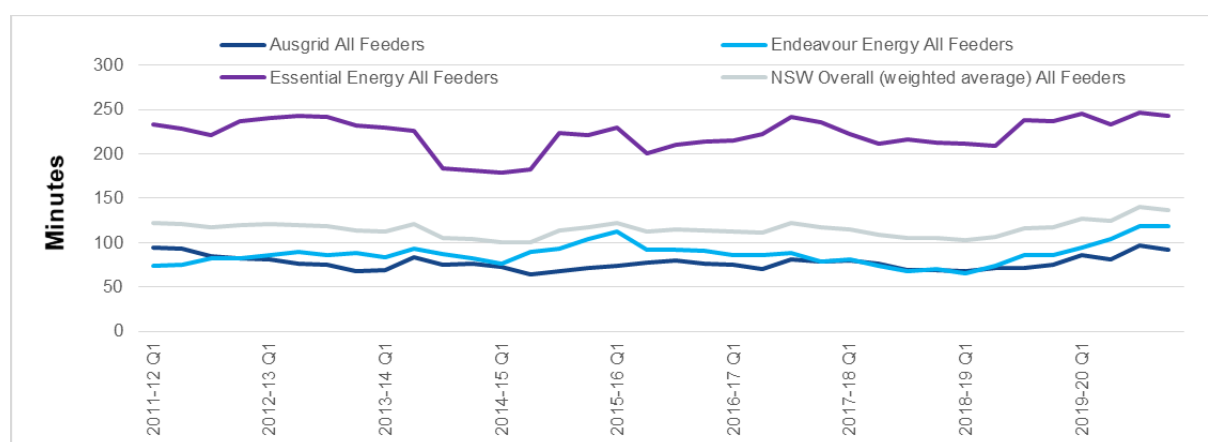
Source: Q4 2019-20 quarterly reliability reports for Ausgrid, Endeavour Energy, Essential Energy.

C.2.1 Long-term SAIDI and SAIFI trends

The Distributors have previously advised that variability in SAIDI and SAIFI occurs due to factors beyond their control, such as weather events, random asset failures, and other external factors. We recognise this, and therefore do not consider it useful to compare annual statistics or to attempt to identify short term trends.

Figure C.1 shows longer term trends of the SAIDI for each Distributor and a weighted average SAIDI for NSW.

Figure C.1 SAIDI, quarterly results by Distributor



Note: The NSW weighted average is calculated using the customer numbers from each of the Distributors.

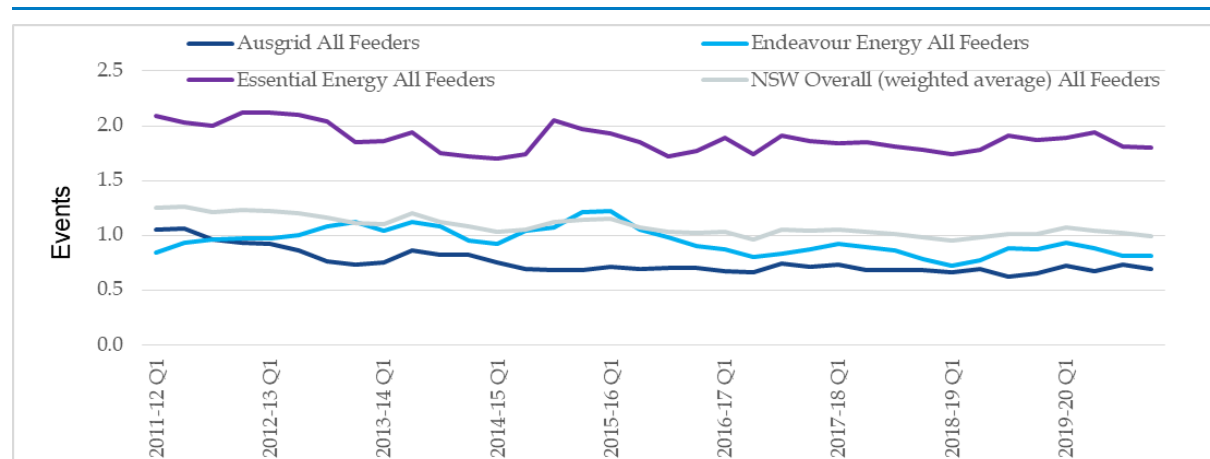
Data source: Quarterly reliability reports for Ausgrid, Endeavour Energy, Essential Energy, and data provided to IPART by the then Department of Industry.

Overall, for NSW:

- ▼ The 5 year average interruption time is 118.1 minutes per customer.
- ▼ There are no significant 5-year SAIDI trends over the last five years.

Figure C.2 shows longer term trends of the SAIFI for each Distributor and a weighted average SAIFI for NSW.

Figure C.2 SAIFI, quarterly results by distributor



Data source: Quarterly reliability reports for Ausgrid, Endeavour Energy, Essential Energy, and data provided to IPART by the Department of Industry.

Overall, for NSW:

- ▼ The 5 year average is 1.01 interruptions per NSW customer.
- ▼ There are no significant 5-year SAIFI trends over the last five years.

C.3 Individual feeder performance reports

Where one or more of the feeders of a Distributor exceed the relevant individual feeder standards,⁶¹ that Distributor must investigate the causes of the feeder exceeding the standard and take action to improve performance as appropriate.

Table C.4 shows the number of feeders that exceeded the maximum standards in 2019-20. This data is provided for information only, as exceeding the individual feeder standard is not a breach of licence conditions, but is a trigger for a Distributor to investigate and undertake remedial action under the licence.

⁶¹ Individual feeder standards are defined in Schedule 3 of the Distributors licences. These are SAIDI and SAIFI standards that apply to individual feeders of each of the Distributor's feeder types.

Table C.4 Feeders not meeting performance standards by category in 2019-20

Feeder type	Ausgrid	Endeavour Energy	Essential Energy	Total
CBD	2 of 59 (3%)	N/A	N/A	2 of 59 (3%)
Urban	89 of 1,901 (5%)	13 of 1,104 (1%)	12 of 302 (4%)	114 of 3,307 (3%)
Short-rural	13 of 383 (3%)	16 of 423 (4%)	60 of 922 (7%)	89 of 1,728 (5%)
Long-rural	1 of 5 (20%)	0 of 1 (0%)	30 of 244 (12%)	31 of 250 (12%)
Total	105 of 2,348 (4%)	29 of 1,528 (2%)	102 of 1,468 (7%)	236 of 5,344 (4%)

Note: Data in brackets are percentages of underperforming feeders by type.

Source: Q1 to Q4 2019-20 Ausgrid, Endeavour Energy and Essential Energy reports.

C.4 Customer service standards

A Distributor is required to make payments to a customer when the Distributor has exceeded the customer service standards.⁶² The customer is required to make a claim, and this claim must be processed within the defined timeframe in the Distributor's licence. Please note that claims are not paid if outages do not meet the eligibility criteria in the licence conditions or due to severe weather.

The three Distributors have all reported issues with their quarterly customer service standards. Refer to section 2.2.1 for further details.

Table C.5 shows the customer claims paid and claims denied by the Distributors for 2019-20. The Distributors paid 44% of claims made in 2019-20.

Table C.5 Summary of customer claims paid and denied for 2019-20

Distributor	Claims paid (year)	Claims denied (year)	Total claims
Ausgrid	1,548	1,908	3,456
Essential Energy	8	24	32
Endeavour Energy	20	47	67
Total	1,576	1,979	3,555

Source: 2019-20 Q4 reliability reports for Ausgrid, Endeavour Energy and Essential Energy.

⁶² Customer service standards (interruption duration and frequency standards) are set out in Schedule 5 of the Distributors' licences. The interruption duration standard is the maximum allowable duration of an interruption to a customer's premises. The interruption frequency standard is the maximum number of interruptions in a financial year to a customer's premises. Different standard values are applicable depending on whether the customer's premises is located in metropolitan or non-metropolitan areas.

D How we assess compliance of energy network operators

IPART relies on its own information gathering activities, reports from the energy network operators and audit outcomes to monitor compliance in the industry. Where non-compliances have been self-reported or have not been assessed as material or non-material by an auditor, IPART has considered whether these are significant or minor in nature. Details of the compliance framework applicable to each licence condition is set out below.

We take a risk-based approach to prioritise how we target compliance. This means that we target our compliance resources toward the areas of risk that are most likely and have the highest consequence. We continued to refine our risk-based approach to compliance regulation, and to our reporting frameworks and guidance materials. In line with this approach, we maintain a five-year audit and reporting schedule for each electricity network operator which we amend to reflect any recently identified priority areas for improving their compliance with safety management requirements.

The applicable compliance frameworks are detailed below.

D.1 Critical infrastructure

Under our *Electricity networks reporting manual – Critical infrastructure licence conditions*,⁶³ TransGrid, Ausgrid, Endeavour Energy and Essential Energy must report annually to us on whether or not they have complied with critical infrastructure licence conditions over the preceding financial year to 30 June. Reports are due by 30 September each year and must be accompanied by certification in writing supported by a resolution of the Board of Directors of the licence holder.

TransGrid, Ausgrid, Endeavour Energy and Essential Energy must also engage an approved critical infrastructure auditor and submit an audit report for the preceding financial year by 30 September each year.⁶⁴ Auditors must assess the network operators' compliance against all applicable critical infrastructure licence conditions, and assign one of the following grades of compliance in accordance with IPART's electricity networks grading system:⁶⁵

⁶³ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/audit-guideline-critical-infrastructure-licence-conditions-july-2019.pdf>

⁶⁴ Condition 8.1 of the TransGrid Licence, and condition 11.1 of the Ausgrid, Endeavour Energy and Essential Energy Licences.

⁶⁵ As contained in IPART's *Electricity networks audit guideline – Audit fundamentals, process and findings. June 2019*.

Table D.1 IPART compliance gradings

Grades of compliance	Description
Compliant Compliant	Sufficient evidence to confirm that the requirements have been fully met.
Non-compliant (non-material) NC (NM)	Sufficient evidence to confirm that the requirements have generally been met apart from a number of minor shortcomings which do not compromise the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant (material) Non- Compliant	Sufficient evidence has not been provided to confirm that all major requirements are being met and the deficiency adversely impacts the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
No Requirement No Requirement	The requirement to comply with the licence condition or other regulatory obligation does not occur within the audit period or there is no requirement for the network operator to meet this assessment criterion.

Note: Reliability and performance standards audits have different compliance gradings. Refer to *Electricity networks audit guideline - Distribution reliability audits* for further details.

Source: *Electricity networks audit guideline – Audit fundamentals, process and findings.*

D.2 Reliability and performance standards

Under IPART's *Electricity networks reporting manual – Transmission reliability standard – Annual reporting and additional information requirements*,⁶⁶ TransGrid must report by 31 August each year for the preceding financial year. Audits against the reliability standard are only required if requested by IPART.

Under IPART's *Electricity networks reporting manual - Distribution reliability and performance reporting*,⁶⁷ Ausgrid, Endeavour Energy and Essential Energy must report quarterly to IPART against the reliability and performance licence conditions over the preceding 12-month period. Reports are due within one month of the end of each quarter. Further details on these reports are at Appendix C.

Ausgrid, Endeavour Energy and Essential Energy must also engage an independent auditor from IPART's reliability audit panel (or have their nominated auditor approved by IPART), and submit an annual audit report for the preceding financial year by 30 September each year. Auditors must assess the network operators against all applicable reliability and performance licence conditions.

⁶⁶ Available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-transmission-reliability-standard-annual-reporting-and-other-information-requirements-march-2019.pdf>

⁶⁷ Available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/reporting-manual-distribution-reliability-and-performance-reporting-july-2019.pdf>

D.3 Public Lighting Code

Ausgrid, Endeavour Energy and Essential Energy are required to report in accordance with IPART's *Electricity networks reporting manual – NSW Public Lighting Code compliance reporting*⁶⁸ (Public Lighting Code Reporting Manual). This includes the requirement to provide quarterly and annual reports. Ausgrid, Endeavour Energy and Essential Energy were also required to provide an Implementation report by 31 December 2019.

The annual report provided to IPART must provide details of non-compliances against the Public Lighting Code, including performance against the Fault Service Standards. Under the Fault Service Standards, Ausgrid, Endeavour Energy and Essential Energy are required to repair General Faults⁶⁹ within 10 business days, and the average fault repair time for each customer must be within eight business days.

We also note that from 1 July 2020, for Specific Faults⁷⁰ the average fault repair time for each customer is within 20 business days.

D.4 Code of Practice for environmental impact assessments

As compliance with the Code of Practice is a condition of their licences, TransGrid, Ausgrid and Endeavour Energy are required to report any non-compliances with the Code of Practice in accordance with IPART's *Electricity networks reporting manual - Annual compliance reporting*.⁷¹

Under the Code of Practice, TransGrid, Ausgrid and Endeavour Energy can assess environmental impacts and self-determine activities that are not likely to significantly affect the environment and are conducted by, or on behalf of, the network operator for the purpose of electricity transmission or distribution. The Code of Practice describes a five stage process for assessing the environmental impact of an activity.

D.5 Safety management system

We may direct audits of the electricity network operators' safety management systems. Auditors must assign a grade of compliant, non-compliant (non-material) or non-compliant (material).⁷² Based on the results of these audits, we can direct the network operators to amend or implement their safety management systems within a specified timeframe.

⁶⁸ <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/final-reporting-manual-nsw-public-lighting-code-compliance-reporting-june-2019.pdf>

⁶⁹ General Faults refers to all Faults that are not Specific Faults.

⁷⁰ Specific Faults are faults related to repairs to underground faults or requiring a site-specific Road Occupancy Licence.

⁷¹ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-annual-compliance-reporting-february-2019.pdf>

⁷² Refer to Table D.1 and IPART's *Electricity networks audit guideline – Audit fundamentals, process and findings* for further details of IPART's compliance gradings.

Bush fire risk management is an ongoing key focus for IPART, and each year we review the extent of compliance monitoring required to maintain visibility in this area. IPART closely monitors bush fire risk management through review of the annual bush fire risk management reports, information gathering and through audits which we direct.

Working on energised network assets is another ongoing area of key risk management focus for IPART. Through our analysis of audit reports, incident reports and safety management system performance reports, we determine if network operators have reduced the risks to as low as reasonably practicable for work on energised assets.

D.6 Incident reporting

TransGrid, Ausgrid, Endeavour Energy and Essential Energy are required as a condition of their licence to report safety incidents, and incidents which affect reliability and third party property under our *Electricity networks reporting manual- Incident reporting* (Incident Reporting Manual).⁷³

Our Incident Reporting Manual details the types of safety, third party property and reliability incidents that licensed network operators must report. For each type of incident, the timeframes for reporting are detailed. For some incidents, details are reported in up to three stages, and our reporting manual details the timeframes for each stage.

IPART monitors the incidents reported to ensure:

- ▼ Incidents are reported within the timeframes detailed in the Incident Reporting Manual, and
- ▼ Adequate details are provided in the report, and where appropriate, preventive and mitigative actions are identified.

Failure to report incidents on time is considered a non-compliance against licence conditions.

IPART analyses the data from reported incidents to identify any emerging trends or repeat occurrences of some incident types, which may lead to further investigation and action.

D.7 Employment guarantees

Under IPART's *Electricity networks reporting manual - Employment guarantees*,⁷⁴ TransGrid, Ausgrid and Endeavour Energy were required to report quarterly to IPART against their employment guarantee obligations over the preceding quarter. Reports were due within one month of the end of each quarter.

⁷³ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-incident-reporting-march-2019.pdf>

⁷⁴ Available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/energy-network-regulation-administrative-energy-licensing-website-documents/electricity-networks-reporting-manual-employment-guarantees-april-2018.pdf>