



Independent Pricing and Regulatory Tribunal
New South Wales

Annual Compliance Report

Energy network operator compliance during 2017-18

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1 Executive summary

This is the Independent Pricing and Regulatory Tribunal's (IPART's) annual report on the energy network operators' compliance with their obligations for the year 2017-18, as required by section 88 of the *Electricity Supply Act 1995* (ES Act) and section 75A(3C) of the *Gas Supply Act 1996* (GS Act). It summarises our findings on the extent to which the network operators that are licensed or authorised to operate in NSW¹ complied with the conditions of their licences or their gas reticulator authorisations during this year, based on self-reporting of non-compliances, the results of independent audits and our records.

The report also outlines our findings on whether network operators with electricity network assets in NSW (licensed, unlicensed, and interstate)² took all reasonable steps to ensure the safety of their networks during the year, in line with the *Electricity Supply (Safety and Network Management) Regulation 2014* (ESSNM Regulation). Refer to Table 4-1 for details of all network operators with assets in NSW.

Box 1.1 provides an overview of the legal framework applicable to the energy network operators' safety and reliability regulatory obligations.

Box 1.1 The energy network safety and reliability legal framework

Licensed electricity networks

Ausgrid, Endeavour Energy and Essential Energy each hold a distributor's licence. TransGrid holds a transmission operator's licence. All four of these 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 only to TransGrid, Ausgrid and Endeavour Energy. 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. Since 2017, TransGrid has also been required to comply with a *transmission reliability and performance standard*, and is required to submit a compliance report to IPART annually.

¹ TransGrid, Ausgrid, Endeavour Energy and Essential Energy (electricity); Evoenergy, Allgas Energy Pty Ltd, Australian Gas Networks (Albury) Ltd, Australian Gas Networks (NSW) Ltd, Central Ranges Pipeline Pty Ltd, and Jemena Gas Networks (NSW) Ltd (natural gas); and Elgas Ltd and Elgas Reticulation Pty Ltd, and Origin Energy LPG Ltd (LPG).

² TransGrid, Ausgrid, Endeavour Energy and Essential Energy (licensed); Directlink, Lord Howe Island Board, Metro Trains Sydney, and Sydney Trains (unlicensed); Ausnet Services (Victoria), Energy Queensland, Evoenergy (ACT) and Powercor (Victoria) (interstate).

Safety regulation

The *Electricity Supply (Safety and Network Management) Regulation 2014* requires **all** electricity network operators to have in place, and implement, safety management systems that comply with Australian Standard 5577 and deal with specified matters. This 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 those network operators that are based in other states but have assets located within NSW's borders.

The 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 their safety management system or to take specified action to implement their safety management system.

Additional obligations that relate to TransGrid, Ausgrid and Endeavour Energy

TransGrid, Ausgrid and Endeavour Energy are required to comply with:

- ▼ employment guarantees that apply to their employees for a five year period, ending on 30 June 2020, and
- ▼ the Code of Practice for Authorised Network Operators (2015) for environmental assessment of activities they undertake (as a condition of their licences).

TransGrid, Ausgrid and Endeavour Energy must also submit an annual report to IPART on any non-compliance with the Code of Practice (or an immediate report if the breach is serious in nature).

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 and report to IPART on the extent to which they have complied each year.

Some of the non-compliances in this report have been identified by an auditor and in many cases assessed as either material or non-material. These terms are defined in our audit guidelines. Where non-compliances have been self-reported or have not been assessed as material or non-material by an auditor, the Tribunal has considered whether these are significant or minor in nature. Details of the compliance framework applicable to each condition is provided in the following chapters.

We note the following key points about the electricity network operators' performance against their licence conditions and the gas network operators' performance against their authorisation or licence conditions in the 2017-18 financial year:

- ▼ TransGrid was fully compliant with the critical infrastructure conditions, while Ausgrid reported non-material non-compliances only, and Endeavor Energy was fully compliant with its approved transition plan for compliance with these conditions. Refer to section 2.1 for further details.
- ▼ Ausgrid, Endeavor Energy and Essential Energy were non-compliant with some aspects of the reliability and performance standards but these non-compliances were minor³ in nature. Refer to section 2.2 for further details.
- ▼ All gas network operators were fully compliant with their gas reticulator authorisation or their LPG distributor licence conditions. Refer to Chapter 3 for further details.

We also assessed licensed and unlicensed electricity network operators' compliance with the ESSNM Regulation and their electricity network safety management systems. We identified several material non-compliances in some of these systems. We consider that all electricity network operators have opportunities for continued improvement in their safety and network management functions. Refer to section 4.1 for further details.

Box 1.2 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 Utilities (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.⁴

In 2015, we became responsible for regulating the reliability and safety of NSW electricity 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.

IPART improved our risk-based approach to compliance regulation, and to our reporting frameworks and guidance materials. In line with this approach, we identified priority areas

³ These non-compliances have not been assessed by an auditor as material or non-material. However, the Tribunal has assessed that these non-compliances will not significantly affect reliability and performance standards.

⁴ Under section 88(1) of the ES Act and section 75A(3C) of the GS Act.

for improving electricity network operators' compliance with safety management requirements over the next five years based on the risk of harm that could arise.

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, a code of practice related to environmental impact statements, and compliance reporting and auditing. Conditions include those related to critical infrastructure (TransGrid, Ausgrid and Endeavour Energy) and to reliability and performance standards (Ausgrid, Endeavour Energy and Essential Energy).

1.1.1 Critical infrastructure licence conditions

Performance against the critical infrastructure conditions is self-reported annually, and subject to an annual independent audit. In 2017-18, the audits found:

- ▼ TransGrid was fully compliant with all conditions.
- ▼ Ausgrid was non-compliant with four of the conditions related to this area. The auditor noted that these non-compliances were non-material in nature, and three of the four non-compliances were promptly rectified.
- ▼ Endeavour Energy was fully compliant with its approved transition plan to become compliant with its critical infrastructure conditions by 2020. The auditor noted the network operator had progressed against the plan, and made 16 key recommendations to ensure it achieves full compliance within the approved timeframe.

Refer to section 2.1.1 for details of the critical infrastructure compliance framework and to section 2.1.2 for a summary of the network operators' performance against their critical infrastructure licence conditions.

1.1.2 Reliability and performance standards licence conditions

Performance against the reliability and performance standards licence conditions is self-reported quarterly, and subject to annual, independent limited assurance audits. In 2017-18:

- ▼ Ausgrid, Endeavour Energy and Essential Energy all reported minor⁵ instances of non-compliance with network overall reliability standards, which stemmed from errors in their calculations for SAIDI⁶ and SAIFI.⁷
- ▼ TransGrid reported full compliance with its reliability licence conditions.

⁵ These non-compliances have not been assessed by an auditor as material or non-material. However, the Tribunal has assessed that these non-compliances will not significantly affect reliability and performance standards.

⁶ System average interruption duration index.

⁷ System average interruption frequency index.

- ▼ Endeavour Energy was not fully compliant with individual feeder standards obligations, as it did not appear to have considered non-network solutions for poor performing feeders.
- ▼ Ausgrid and Essential Energy had minor⁸ issues related to compliance with customer service standards. Ausgrid did not include the timing of payments in its notice of determination for payment of customer claims. Essential Energy under-reported customer claims in its quarterly reports, and was found to have maintained inadequate records in two instances.

Refer to section 2.2.1 for details of the reliability and performance standards compliance framework and to section 2.2.2 for a summary of the network operators' performance against their reliability and performance standards licence conditions.

1.2 Gas network operators fully complied with authorisation or licence conditions

Gas network operators' performance against the conditions of their authorisations or licences is self-reported. We do not have an audit function in relation to compliance with these conditions.

In 2017-18, all six natural gas reticulators (authorisation holders) and three liquid petroleum gas distributors (licence holders) reported they were compliant with their respective authorisation/licence conditions. Refer to Table 3-1 and Table 3-2 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

Electricity network operators' compliance with the requirements of the ESSNM Regulation in 2017-18 was assessed by independent audits that focused on:

- ▼ planning and preparation of the large network operators (TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains) for the development of comprehensive safety management systems
- ▼ systems for mitigating the risk of bushfire ignition of the large network operators (TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains).⁹
- ▼ systems for managing work on energised (live) assets of the large distribution network operators (Ausgrid, Endeavour Energy, Essential Energy), and
- ▼ entire safety management systems of the small network operators (Lord Howe Island Board, Directlink and Metro Trains Sydney).

⁸ These non-compliances have not been assessed by an auditor as material or non-material. However, the Tribunal has assessed that these non-compliances will not significantly affect reliability and performance standards.

⁹ The audit was started in 2015-16 and largely completed in 2017-18.

We assessed the electricity network operators' compliance with safety incident reporting requirements through their self-reporting and our records. Refer to section 4.1 for further details of safety management system obligations, and the network operators' compliance.

For Ausnet Services (Victoria), Energy Queensland, Evoenergy (ACT) and Powercor (Victoria), whose networks span across NSW borders, we engaged with the interstate regulators to share information about interstate network operators' compliance with safety obligations.

1.3.1 Large network operators compliance with planning and preparation requirements

TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains, were found to be moving towards full compliance with the planning and preparation requirements for developing comprehensive safety management systems. However, all had non-compliances related to undertaking formal safety assessments to identify risks across their networks and develop appropriate controls. While most of these were non-material in nature, two were assessed as material. These were Endeavour Energy's failure to adequately consider the risks from street lighting assets, and Essential Energy's failure to undertake a completeness check across its risk assessments.

Sydney Trains had material non-compliances because its analysis and results were not presented as Formal Safety Assessments as required by the standard and they did not adequately consult stakeholders.

1.3.2 Large network operators bushfire risk mitigation systems

TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains, all improved their bushfire risk mitigation systems in response to the enforceable directions we issued in 2016. However, Essential Energy was found to be materially non-compliant as it failed to complete the vegetation clearance works required by our enforceable direction. It has committed to completing these works in areas with high bushfire risk by October 2019, and in the remaining areas by 2021. An audit also found that Sydney Trains had some non-compliances relating to its system for bushfire risk management, but it had adequately rectified vegetation and asset defects. We will continue to monitor all network operators' progress in implementing their systems for managing bushfire risk.

1.3.3 Distribution network operators' processes for managing work on live assets

Ausgrid, Endeavour Energy and Essential Energy were found to have inadequacies in their processes for managing live work, or their implementation of these processes. Ausgrid and Endeavour Energy had non-compliances related to their documented risk assessment processes for planning for live work. Essential Energy had a non-compliance related to the documentation of resourcing requirements for managing the risks relating to live work. All have committed to rectifying these non-compliances within a specified timeframe, and we will monitor their progress.

1.3.4 Small network operators

Directlink, Lord Howe Island Board and Metro Trains Sydney had material inadequacies in many areas of their safety management systems. However, due to the nature of these networks they are considered low risk. Metro Trains Sydney was transitioning from the design and construction stage to being operational at the time of the audit. All three network operators have made commitments to become compliant with the ESSNM Regulation, and we are monitoring their progress.

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

During 2017-18, Ausgrid, Endeavour Energy and Essential Energy continued to report 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). Further details are in section 4.2, Table 4-2 and Table 4-3.

1.5 We improved our risk-based approach to compliance regulation

Our role in regulating energy network operators' compliance with their licence conditions and/or other legislative obligations is to hold network operators accountable for compliance. We continue to use a risk based approach to hold them accountable, whilst managing the regulatory burden.

In 2017-18, we revised our *Compliance and Enforcement Policy* to make our risk-based approach more transparent, and our guidance materials to better support network operators in understanding and complying with their obligations. In relation to safety management, we assessed the risk of harm that could arise from the electricity networks' operations. Based on this risk, we have identified priority areas to target our compliance resources over the next five years.

1.6 Report structure

The remainder of this report discusses the compliance performance of the network operators during 2017-18 in more detail:

- ▼ 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, and
- ▼ Chapter 5 discusses our approach and activities in regulating energy networks' compliance.

2 Licensed electricity network operators' compliance with their licences

NSW's transmission network operator, TransGrid, and the distribution network operators, Ausgrid, Endeavour Energy and Essential Energy, have been issued with operating licences. These licences set out their conditions and standards of operation, which relate to some or all the following areas: critical infrastructure, reliability and performance standards, the code of practice for environmental impact statements assessment, and compliance reporting and auditing.

2.1 Critical infrastructure licence conditions

TransGrid, Ausgrid and Endeavour 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 and responsible officers for operational technology, network and security operations, who hold security clearance.
- ▼ Have certain data security measures related to load data and privacy of personal information.
- ▼ Comply with certain reporting and auditing requirements.

Since our last report, the Minister varied the operating licences issued to TransGrid and Ausgrid to amend conditions relating to the protection of critical infrastructure.¹⁰

Table 2-1 summarises the compliance of TransGrid, Ausgrid and Endeavour Energy against their critical infrastructure licence conditions. Further details of their compliance follow the table.

¹⁰ Essential Energy continues to operate under the *Ministerially Imposed Licence Conditions for Distribution Network Service Providers*, which does not include critical infrastructure conditions. During 2017-18 we reviewed the Essential Energy licence to recommend to the Minister whether updates were warranted for consistency with the Ausgrid and Endeavour Energy licences. However, no decision has been made at this stage.

Table 2-1 Summary of compliance with critical infrastructure licence conditions 2017-18

| Network operator | Non-compliant licence conditions | Compliance grade | Compliant with reporting and auditing obligations |
|------------------|----------------------------------|---|---|
| TransGrid | N/A (full compliance) | Compliant | ✓ |
| Ausgrid | Condition 9.1(a) | Non-compliant (non-material) | ✓ |
| | Condition 9.3(b) | Non-compliant (non-material) | |
| | Condition 10.1(a) | Non-compliant (non-material) | |
| | Condition 10.1(c) | Non-compliant (non-material) | |
| Endeavour Energy | N/A (full compliance) | Compliant with a Ministerially approved transition plan | ✓ |

2.1.1 Critical Infrastructure – Compliance framework

In accordance with our *Electricity networks reporting manual – Critical infrastructure licence conditions*¹¹, TransGrid, Ausgrid and Endeavour Energy, must report annually to us on whether or not they have complied with the 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 a certification in writing supported by a resolution of the Board of the licence holder.

TransGrid, Ausgrid and Endeavour Energy must also engage an independent auditor from IPART's critical infrastructure audit panel (or have their nominated auditor approved by IPART), and submit an audit report for the preceding financial year by 30 September each year¹². Auditors must assess the network operators' compliance against all applicable critical infrastructure licence conditions, and for each licence condition which was applicable during the licence period, assign one of the following grades of compliance:

- ▼ Compliant
- ▼ Non-Compliant (non-material), or
- ▼ Non-Compliant (material).

¹¹ 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-critical-infrastructure-licence-conditions-audits-april-2018.pdf>

¹² TransGrid Licence condition 8.1, Ausgrid Licence condition 11.1, and Endeavour Energy Licence condition 11.1.

2.1.2 Compliance with critical infrastructure licence conditions

Ausgrid did not comply with all critical infrastructure licence conditions

Ausgrid had non-material non-compliances against four critical infrastructure licence conditions:

- ▼ Licence condition 9.1(a). A failure to follow policy meant that a senior responsible officer did not ensure that a maintenance activity was undertaken in line with security requirements. This occurred because staff were unaware of Ausgrid's revised policies. The policies were communicated to the team following the incidents and the affected devices were inspected and tested appropriately. No customers were affected.
- ▼ Licence condition 9.3(b). A senior officer did not hold an appropriate security clearance, as the granting of clearance was delayed. Ausgrid committed to follow up with the appropriate parties.
- ▼ Licence condition 10.1(a). Documentation and ICT infrastructure became accessible to all system users with an Ausgrid account for a short time. Some documents were accessible by staff that had travelled overseas. Ausgrid reactivated the restricted access as soon as it became aware of the unintended consequences of the changes to security settings. No evidence was found that any access from an offshore location occurred.
- ▼ Licence condition 10.1(c). Ausgrid discovered that a service provider operating overseas had inadvertently been granted access to some reporting functionality that would have allowed it to export customer data. Access was revoked once the error was discovered.

We note that three of the four non-compliances were promptly rectified. IPART will consider whether enforcement actions are required in response to Ausgrid's non-compliances.

Endeavour Energy was compliant with its Ministerial approved transition plan

Endeavour Energy has a Ministerial approved transition plan, which states that it must be fully compliant with all licence conditions by 14 June 2020. The auditor noted that Endeavour Energy had made progress against the plan, and that some past delays had been rectified. It also made 16 key recommendations to ensure Endeavour Energy's approved plan continues to progress appropriately in order to achieve ultimate compliance within the approved timeframes.

2.2 Reliability and performance standards licence conditions

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

- ▼ not exceed reliability standards
- ▼ investigate each individual feeder that exceeds the feeder 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
- ▼ 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.

Table 2-2 Summary of compliance with reliability and performance standards in licence conditions 2017-18

| Network operator | Non-compliant licence conditions | Compliance grade | Compliant with reporting and auditing obligations |
|------------------|----------------------------------|-----------------------------|---|
| Ausgrid | Condition 7.1 | Non-compliant | ✓ |
| | Condition 7.2 | Non-compliant | |
| Endeavour Energy | Condition 7.2 | Non-compliant | ✓ |
| Essential Energy | Condition 15.1 | Non-compliant | ✓ |
| | Condition 15.2 | Non-compliant | |
| TransGrid | | Compliant (full compliance) | ✓ |

Note: audits of reliability standards do not assess non-compliances as material or non-material.

2.2.1 Reliability and performance standards – Compliance framework

Under IPART’s *Electricity networks reporting manual – Transmission reliability standard*, 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*, Ausgrid, Endeavour Energy and Essential Energy, must report quarterly to IPART against the reliability and performance licence conditions over the preceding quarter. Reports are due within one month of the end of each quarter. Essential Energy must also provide reports to the Minister.

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.

2.2.2 Compliance with reliability and performance standards

TransGrid reported full compliance with the transmission reliability standard.

The audits of compliance with reliability and performance standards for Ausgrid, Endeavour Energy and Essential Energy found that all three were non-compliant with some aspects of the reliability and performance standards. However, these non-compliances did not substantially detract from their data reliability measurement and data accuracy. IPART will consider the network operators' responses¹³ to these non-compliance and continue to monitor their compliance with the reliability and performance standards during the year.

Ausgrid reported non-compliances

- ▼ **Network overall reliability standards** – not all excluded interruptions were disregarded from SAIDI¹⁴ and SAIFI¹⁵ calculations.
- ▼ **Customer service standards** – the notice of determination for customers eligible for payment resulting from interruptions did not include the timing of the payment as required.
- ▼ **Incident reporting** – Ausgrid did not always comply with reporting timeframes.

Endeavour Energy reported non-compliances

- ▼ **Network overall reliability standards and individual feeder standards** – data reported to IPART included errors due to the high amount of data handling.
- ▼ **Individual feeder standards** – Endeavour Energy was not able to provide evidence that non-network solutions were considered for all poor performing feeders. Endeavour Energy is considering the auditor's recommendation to assess non-network strategies to rectify poor feeder performance, and to provide technical or commercial justification where these solutions are not justifiable.
- ▼ **Incident reporting** – Endeavour Energy did not always comply with incident reporting timeframes.

Essential Energy reported non-compliances

- ▼ **Network overall reliability standards** – some individual outages were misclassified. This resulted in some relevant outages on a major event day (MED) not being included in the SAIDI and SAIFI calculations, while other outages that occurred after a MED were included.
- ▼ **Customer service standards:**
 - In one instance, no record of notifying one customer with the results of their claim determination within the legislated timeframe was found. In another, a claim was denied due to severe weather but no evidence supporting a weather event for that date was found.
 - Essential Energy also underreported claims in two quarters of the year. This was due to a counting error, as some customer claims were labelled in its system as "enquiries"

¹³ IPART invited network operators to provide a response to the audit findings.

¹⁴ SAIDI is the *System Average Interruption Duration Index* and means 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.

¹⁵ SAIFI is the *System Average Interruption Frequency Index* and means 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.

and were accidentally omitted from the reports. The auditors found that all claims had been investigated.

2.3 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). The *Code of Practice for Authorised Network Operators 2015* (Code of Practice) published by the Department of Planning and Environment provides a framework for undertaking environmental impact assessments under Part 5 of the EP&A Act and is mainly process based.

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.¹⁶

Table 2-3 summarises the compliance of TransGrid, Ausgrid and Endeavour Energy against their Code of Practice obligations.¹⁷

Table 2-3 Summary of compliance with Code of Practice for environmental assessment 2017-18

| Network operator | Requirement in the Code of Practice | Compliance with Code of Practice | Compliant with reporting and auditing obligations |
|------------------|-------------------------------------|----------------------------------|---|
| Ausgrid | Publication of documents | Non-compliant | Non-Compliant (refer to 2.3.2) |
| | Publication of documents | Non-compliant | |
| | Publication of documents | Non-compliant | |
| Endeavour Energy | Work site failure ^a | Non-compliant | Non-Compliant (refer to 2.3.2) |
| | Work site failure ^a | Non-compliant | |
| | Work site failure ^a | Non-compliant | |
| | Work site failure ^a | Non-compliant | |
| | Work site failure ^a | Non-compliant | |
| TransGrid | | Compliant | Non-Compliant (refer to 2.3.2) |

a: The reported non-compliances appear to relate to failures of process at work sites. Work site processes are not covered under the Code of Practice.

2.3.1 Code of Practice – Compliance Framework

In accordance with IPART's *Electricity networks reporting manual - NSW Code of Practice for Authorised Network Operators*¹⁸ TransGrid, Ausgrid and Endeavour Energy are required to report non-compliances with the Code of Practice annually for the calendar year to IPART, or immediately if the breach is serious in nature.

TransGrid, Ausgrid and Endeavour Energy are also required to provide an annual compliance report in accordance with IPART's *Electricity networks reporting manual - Annual compliance*

¹⁶ Code of Practice, p 6.

¹⁷ Clause 6A, Schedule 2 to the ES Act.

¹⁸ 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-nsw-code-of-practice-for-authorised-network-operators-april-2018.pdf>

*reporting.*¹⁹ As compliance with the Code of Practice is a condition of their licence, they are also required to report compliance for the financial year as part of their annual licence compliance report.

2.3.2 Compliance with Code of Practice

TransGrid's, Ausgrid's and Endeavour Energy's compliance with the Code of Practice is detailed below. We will continue to monitor compliance with the Code of Practice, and consider whether it is necessary to have compliance audits undertaken to provide further assurance of their compliance.

TransGrid, Ausgrid and Endeavour Energy did not comply with all reporting requirements

TransGrid, Ausgrid and Endeavour Energy failed to include details of their compliance with the Code of Practice for the financial year in their annual licence compliance report. This appears to result from some confusion around reporting requirements, and all three agreed to provide the updated information when requested. IPART will review the reporting process, to simplify the reporting of non-compliances against the Code of Practice and to clarify our requirements.

Ausgrid reported non-compliances with the Code of Practice

Ausgrid reported three non-compliances with section 4.4 of the Code of Practice, which requires publication of certain final documentation within 20 business days of the issue of a Decision Statement. It reported that two of the three oversights were due to a change of staff, and published the required documents once it was aware of the failure to publish. It has updated its internal systems to prevent a repeat of the same non-compliance and we consider this is an appropriate response.

Endeavour Energy reported non-compliances with the Code of Practice

Endeavour Energy reported five non-compliances that appear to relate to failures of process at work sites rather than failures to properly assess environmental impacts, and has taken steps to rectify them.

2.4 Reporting in accordance with reporting manuals

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

¹⁹ 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-april-2018.pdf>

Ausgrid, Endeavour Energy and Essential Energy all failed to meet reporting timeframes set in our Incident Reporting Manual. These non-compliances are discussed in more detail in section 4.2.

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.²⁰ This authorisation/licence sets out their conditions of operation.

Table 3-1 provides details of the licensed LPG distributors.

Table 3-2 provides details of the natural gas reticulators and the operating statistics that they are required to report (refer to section 3.1).

Table 3-1 Licensed LPG distributors, 2017-18

| LPG distributor | | |
|-----------------|----------------------------|-----------------------|
| Elgas Ltd | Elgas Reticulation Pty Ltd | Origin Energy LPG Ltd |

Table 3-2 Overview of natural gas reticulators and operating statistics, 2017-18

| Reticulator | Number of customers | | | Kilometres of gas mains |
|--------------------------------------|---|---|---|-------------------------|
| | DPIs ^a supplied as at 30 June 2018 | DPIs ^a taking less than 1 TJ | DPIs ^a taking more than 1 TJ | |
| Allgas Energy Pty Ltd | 1,225 | 1,213 | 12 | 34 |
| Australian Gas Networks (Albury) Ltd | 28,540 | 28,452 | 88 | 752 |
| Australian Gas Networks (NSW) Ltd | 30,030 | 29,952 | 78 | 1,237 ^b |
| Central Ranges Pipeline Pty Ltd | 3,591 | 3,547 | 44 | 241 |
| Jemena Gas Networks (NSW) Ltd | 1,383,862 | 1,380,443 | 3,419 | 27,006 |
| Evoenergy ^c | 19,285 | 19,230 | 55 | 685 |
| Total | 1,466,533 | 1,462,837 | 3,696 | 28,718 |

^a Delivery Point Identifier.

^b Excludes 64 km for the Tumut Valley pipeline.

^c Formerly ActewAGL Distribution Ltd.

Source: 2017-18 annual compliance reports of the natural gas reticulators.

3.1 Gas network operators - Compliance and reporting framework

The gas network operators are required to provide an annual compliance report to IPART.

²⁰ Gas transmission pipelines are regulated under the *Pipelines Act (NSW) 1967*.



The natural reticulators are also required to provide their operating statistics as part of their annual compliance reports.

3.2 Gas network operators' compliance

3.2.1 Natural gas reticulators were compliant

The natural gas reticulators reported no non-compliances in 2017-18, and are therefore compliant with the conditions of the reticulator authorisations.

3.2.2 LPG distributors were compliant

The LPG distributors reported no non-compliances in 2017-18, and are therefore compliant with the licence conditions.

We note that Elgas Ltd had a non-compliance in 2016-17 relating to unlicensed distribution. This non-compliance was resolved in 2017-18 through a variation to Elgas Ltd's licence.

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, safety incident reporting,²¹ and employment guarantees. For completeness, we take this opportunity to present compliance information 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* 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.²² Table 4-1 provides details of the network operators with assets in NSW.

Table 4-1 Electricity network operators with assets in NSW, 2017-18

| Large electricity network operators | | |
|--|--|--|
| TransGrid (licensed transmission network operator) | Ausgrid (licensed distribution network operator) | Endeavour Energy (licensed distribution network operator) |
| Essential Energy (licensed distribution network operator) | Sydney Trains (unlicensed distribution network operator) | |
| Small electricity network operators | | |
| 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) | | |

The primary objectives of an electricity network operator's safety management system are to support the safety of the public and people working on its network, the protection of property,

²¹ 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.

²² Under Part 2 of the ESSNM Regulation.

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.)

4.1.1 Safety management system - Compliance framework

We take a risk-based approach to prioritise how we target compliance, including auditing the safety management systems. This means that we target our compliance resources toward the areas of highest risk and where we can have the biggest impact.

We may direct audits of the electricity network operators' safety management systems. Auditors must assign one of the following grades of compliance:

- ▼ Compliant
- ▼ Non-Compliant (non-material), or
- ▼ Non-Compliant (material).

Based on the results of these audits, we have directed the network operators to amend or implement their safety management systems within a specified timeframe.

For 2017-18, we assessed electricity network operators' compliance with the obligations of the ESSNM Regulation based on the findings of independent audits that focused on the following high-risk areas:

- ▼ planning and preparation of the large network operators (TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains) for the development of comprehensive safety management systems
- ▼ systems for managing the risk of bushfire ignition of the large network operators (TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains)
- ▼ processes and procedures for managing work on energised (live) assets of the large network operators (TransGrid, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains), and
- ▼ entire safety management systems of the small network operators (Lord Howe Island Board, Directlink and Metro Trains Sydney).

To minimise regulatory duplication for interstate network operators (Ausnet Services (Victoria), Energy Queensland, Evoenergy (ACT) and Powercor (Victoria)) where necessary, we engaged with the regulators in other jurisdictions to share information about interstate network operators' compliance with safety obligations where networks span across NSW borders. These interstate network operators have a relatively small amount of assets in NSW, and these assets are mostly in lower risk areas.

4.1.2 Compliance with safety management systems obligations

Large electricity network operators - Compliance with planning and preparation obligations

We found that the large electricity network operators are moving toward achieving compliance with the planning and preparation aspects of developing comprehensive safety

management systems. This is important because proper planning and preparation means that all the safety risks are properly considered and appropriate controls are identified and planned for.

In 2018, we required each large electricity network operator to have an independent audit undertaken of this requirement. These audits found each network operator to be mostly compliant, but each had some areas of non-compliance:

- ▼ **TransGrid** was found not to have undertaken sufficient consultation in developing its risk assessments, or a completeness check across its risk assessments. These non-compliances were assessed as non-material.
- ▼ **Ausgrid** was found not to have undertaken sufficient stakeholder consultation in developing its risk assessments. This was considered a material non-compliance.

Ausgrid was also found not to have a system to manage and track departures from standards, or to identify and manage emerging risks and technologies. Further, its formal safety assessments did not consider high voltage live work (only low voltage live work), and its risk assessment did not have a sufficient degree of granularity for assessing residual risks. All these non-compliances were assessed as non-material.

- ▼ **Endeavour Energy** was found not to have undertaken sufficient consultation in developing some of its formal safety assessments; and although Endeavour Energy had an Environmental Management system, it had not developed a formal safety assessment which considered the management of safety risks arising from the protection of the environment. These non-compliances were assessed as non-material.

Endeavour Energy had not undertaken a risk assessment to ensure that the risks of using a dedicated street lighting circuit were as low as reasonably practicable, and had not developed a high voltage work planning framework. These non-compliance were considered material.

- ▼ **Essential Energy** was found not to have undertaken sufficient consultation in the development of its risk assessments, and to have some deficiencies in its formal safety assessments regarding the protection of property and safety risks arising from the loss of supply. These non-compliances were assessed as non-material. It was also found not to have undertaken a completeness check across its risk assessments, which was assessed as material.

- ▼ **Sydney Trains** was found to be materially non-compliant with a number of the audit criteria because the analysis and results were not presented in a Formal Safety Assessment, as required by the standard; and because it did not adequately consult stakeholders. These two issues affected a number of audit criteria and resulted in a number of non-compliances. Sydney Trains did, however have a sophisticated risk register with a comprehensive list of hazards and a sophisticated risk management system which it had developed to comply with the long standing rail safety legislation. It also appears to have a strong safety culture. Sydney Trains response is that it will develop the required Formal Safety Assessments in 12 months.

We expect the electricity network operators to continually review and update their safety management systems to ensure that any new or changing risks are captured and these risks are reduced to as low as reasonably practical.

Large electricity network operators - Bushfire risk mitigation

In 2016, we issued enforceable directions²³ to the large electricity network operators, compelling them to amend their safety management systems in relation to bushfire risk mitigation to rectify non-compliances found in a 2015 audit.²⁴ The directions required them to submit audit reports to IPART to verify that each stage of the improvement program had been completed. This was timed to achieve compliance by 30 September 2017, before the start of the bushfire season.

We found that all the large network operators had improved their systems relating to bushfire risk mitigation. Our findings are based on the results of an extensive audit and improvement program, which we rolled out over three years.

In October 2017, the last of these staged audits found that:

- ▼ **TransGrid** had adequately implemented its bushfire risk mitigation system in the required timeframe. We note that transmission networks generally present a lower bushfire risk than other networks, because of the way that transmission lines are designed and managed.
- ▼ **Ausgrid** had mostly implemented its bushfire mitigation in the required timeframe, apart from two non-material non-compliances which it addressed before the end of October 2017, resulting in Ausgrid becoming compliant with applicable regulatory requirements.
- ▼ **Endeavour Energy** had mostly implemented its bushfire mitigation in the required timeframe, apart from two non-material non-compliances relating to outstanding vegetation and asset defects that posed a bushfire risk. Endeavour Energy has committed to rectifying these non-compliances.
- ▼ **Essential Energy** was materially non-compliant with the regulatory requirements to implement its safety management system to manage bushfire risk, as it failed to complete the vegetation clearance work required. Essential Energy has committed to address the vegetation defects in the highest risk bushfire areas by October 2019 and complete the remaining low risk areas by 2021. It has also committed to take every opportunity to address outstanding vegetation defects ahead of schedule. After considering the practicality of addressing all vegetation defects prior to 2021, the Tribunal has accepted Essential Energy's vegetation management plan.
- ▼ **Sydney Trains** had mostly implemented its bushfire risk mitigation system in the required timeframe, apart from a number of non-material non-compliances related to vegetation clearance and asset defects. The audit noted that outstanding non-compliances found in earlier audits had been rectified or improved, indicating that Sydney Trains is working to achieve compliance.

We note that by not completing the work by the dates specified in our 2016 enforceable direction, Ausgrid, Endeavour Energy, Essential Energy and Sydney Trains failed to comply with clause 13 of the ESSNM Regulation. However, we chose not to take enforcement action as we considered the network operators had made sufficient progress to substantially achieve

²³ Under clause 13 of the ESSNM Regulation.

²⁴ In 2015, we audited the electricity network safety management systems of five network operators as they relate to bushfire risk. Ausgrid, Endeavour Energy, Essential Energy, TransGrid, and Sydney Trains were all found to have a number of areas of non-compliance with regulatory requirements and the Australian Standard AS 5577 – Electricity Network Safety Management Systems.

the required improvements, and were continuing work to achieve compliance. Instead, IPART will continue to monitor the progress of outstanding amendments to safety management systems, including through network operators' annual reports and specific progress reports, and will take appropriate action should we deem it necessary.

Large electricity distribution network operators – Management of work on energised assets

Following the reporting of two significant electricity works accidents that occurred during work on energised or 'live' assets, we required Ausgrid, Endeavour Energy and Essential Energy to have independent audits undertaken of their live work processes, and the implementation of these processes.

Ausgrid and Endeavour Energy were found to be non-compliant because they did not explicitly consider, as the first option, de-energising the assets before undertaking the required work to reduce the risk to workers. Ausgrid's auditor considered this non-compliance to be non-material. Endeavour Energy's auditor considered its non-compliance to be material, but it was shown as an 'opportunity for improvement' in the audit summary as Endeavour Energy had a plan to address the issue for low voltage live work, although the plan had not yet been implemented.

Although consideration of de-energising is an important part of a risk based approach to managing live work, we understand that live work can proceed with a high degree of safety where proper planning has occurred and controls are in place.

Essential Energy was found to have a material non-compliance due to deficiencies in its documentation of resourcing and management requirements, as well as a non-material non-compliance related to its incident investigation system.

In all cases, the network operators have committed to address the non-compliances within given timeframes. We will monitor their progress and consider whether another audit or further enforcement action is appropriate.

Small electricity network operators - Safety management systems

A safety management system should be proportional to the size of the electricity network. While we only audited the planning and preparation aspects of a safety management system for the large network operators, we required the small network operators (Lord Howe Island Board, Directlink and Metro Trains Sydney) to have an independent audit undertaken of their entire safety management systems to assess compliance with the ESSNM Regulation.

Lord Howe Island Board and Directlink

The audits of Lord Howe Island Board and Directlink found a number of material non-compliances. These non-compliances related to:

- ▼ a lack of compliant formal safety assessments, or systems and processes; and where systems and processes existed, there was often a failure to adequately document them, and
- ▼ a lack of sufficient stakeholder consultation in the development of their safety management system.

Lord Howe Island Board has made substantial improvements since the audit, and Directlink is on track to achieve compliance by early 2019. We are continuing to monitor their progress and have required each operator to provide us with regular updates. We consider these networks to be relatively low risk.

Metro Trains Sydney

Metro Trains Sydney was transitioning from the design and construct stages to being operational at the time of the audit.²⁵ Its non-compliances were found to be material and related to inadequate hazard assessment, inadequate documentation of applicable standards and codes, failing to have a description of the network, and some resourcing and monitoring requirements.

Metro Trains Sydney has acknowledged the need for improvement to become compliant and made commitments to achieve this. However, it has missed some of its improvement targets and we will undertake further compliance work to hold Metro Trains Sydney accountable for ensuring its network is safe before operations commenced. We are monitoring its progress and have required it to provide us with regular updates.

4.2 Incident reporting

All network operators have a legislated requirement to report serious electricity works accidents (SEWAs) to IPART within seven days of them occurring, under section 63R of the ES Act. 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.”²⁶ Table 4-2 sets out the network operators that have missed the SEWA 7-day reporting deadline.

In addition to this legislated requirement, TransGrid, Ausgrid, Endeavour Energy and Essential Energy as licensed network operators are required as a condition of their licence to report safety incidents, and incidents which affect reliability and third party property in accordance with our Incident Reporting Manual. While unlicensed network operators do not have to comply with our Incident Reporting Manual, we have requested that they do so.

Significant safety incidents occurred

In 2017-18, we found that there were no fatalities on the electricity networks. There were, however significant safety incidents.

During 2017-18, the electricity network operators reported 14 significant incidents. These included:

- ▼ Three incidents where a person was significantly injured. In all incidents, the injured person was a public worker who made contact with the electricity network assets.
- ▼ Seven incidents that involved major loss of supply for more than two hours.

²⁵ The safety management system requirements include consideration of five lifecycle stages, from design through to decommissioning. Clause 5 of the ESSNM Regulation.

²⁶ Dictionary to the ES Act.

- ▼ Four incidents that involved fire starts that were, or may have been, caused by electricity network assets. Three of these were relatively minor²⁷ and were reported because they occurred in an area where the NSW Rural Fire Services Commissioner had taken charge under section 44 of the *Rural Fires Act 1997 (NSW)*. The other incident related to the Tathra bushfire in March 2018.

Box 4.1 Tathra Bushfire

The Tathra region of south-east NSW was impacted by significant bushfires that occurred in March 2018. Preliminary investigations by the Rural Fire Service found that electricity infrastructure on Reedy Swamp Road was the likely cause. IPART staff attended the affected area in the days after the site was made safe, and we have been communicating with the relevant authorities as needed.

This incident was referred to the NSW Coroner to confirm the cause of the fire. IPART will continue to monitor the investigation and co-operate and take action as needed.

4.2.1 Incident reporting – Compliance framework

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 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.

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

Table 4-2 presents the number of late SEWA reports and Table 4-3 presents the total number of reports related to incidents detailed in our Incident Reporting Manual that were not submitted on time.

²⁷ Based on information provided by the network operator, these fires did not have a significant effect on people, third party property or reliability.

Table 4-2 Total number of SEWA 7-day reporting deadlines missed, 2017-18

| | Number of reports that missed the s63R deadline | Total number of reports made under s63R | Percentage of reports that were late |
|----------------------------|---|---|--------------------------------------|
| Ausgrid | 8 | 58 | 14% |
| Endeavour Energy | 16 | 42 | 38% |
| Essential Energy | 20 | 94 | 21% |
| TransGrid | 0 | 1 | 0% |
| Sydney Trains ^a | 0 | 1 | 0% |

Source: IPART data

^a This table applies to both licensed and unlicensed network operators and includes Sydney Trains. Table 4.3 below only applies to licensed network operators.

Table 4-3 Total number of reporting deadlines missed (licensed network operators only), 2017-18

| | Number of reports that missed Reporting Manual deadlines ^a | Total number of reports made ^b | Proportion of reports that were late |
|------------------|---|---|--------------------------------------|
| Ausgrid | 34 | 845 | 4% |
| Endeavour Energy | 344 | 953 | 36% |
| Essential Energy | 94 | 704 | 13% |
| TransGrid | 0 | 5 | 0% |

Source: IPART and Network operators' data

^a This table includes all late reports, including those listed in Table 4-2.

^b 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.

Note: Unlicensed network operators are not required to comply with our Incident Reporting Manual requirements.

We note the following key points about the missed reporting deadline:

- ▼ TransGrid, Ausgrid and Essential Energy improved the timeliness of their reporting compared to 2016-17.
- ▼ Endeavour Energy submitted a significantly larger proportion of its reports late than it did in the previous reporting year. Endeavour Energy informed us that it improved its reporting systems in 2017-18, and this resulted in it reporting significantly more incidents than in the previous year. Our records show that the majority of late reports were submitted earlier in the year and that the timeliness of Endeavour Energy's reporting improved over the course of 2017-18. We expect it to continue improving as its systems mature.
- ▼ Essential Energy advised us that it undertook self-audits of its reporting systems in the early part of 2017-18, to identify and correct issues with reporting. These audits found a number of issues that had not been reported at the time of the incident. Essential Energy reported these incidents following the audit, resulting in a number of late reports.

4.3 Employment guarantee obligations

On 1 July 2015, employment guarantee obligations under Schedule 4 of the *Electricity Network Assets (Authorised Transactions) Act 2015* commenced, and applied to TransGrid, Ausgrid and Endeavour as detailed in Table 4-4.

Table 4-4 Electricity network operators with employment guarantee obligations, 2017-18

| Network Operators | | |
|-------------------|---------|------------------|
| TransGrid | Ausgrid | Endeavour Energy |

These obligations include minimum employee numbers and some conditions of employment such as restrictions on changes to workplace locations.²⁸ There is also an obligation to employ apprentices if the number of full time equivalent (FTE) staff is less than 110% of the minimum number required.

4.3.1 Employment guarantee – Compliance framework

In accordance with IPART's *Electricity networks reporting manual - Employment guarantees*,²⁹ TransGrid, Ausgrid and Endeavour Energy must report quarterly to IPART against their employment guarantee obligations over the preceding quarter. Reports are due within one month of the end of each quarter.

4.3.2 Compliance with employment guarantee obligations

TransGrid, Ausgrid and Endeavour Energy reported full compliance with the employment guarantee provisions in 2017-18.³⁰

²⁸ Under Schedule 4 of the *Electricity Network Assets (Authorised Transactions) Act 2015*.

²⁹ 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>

³⁰ We required TransGrid, Ausgrid and Endeavour Energy to report to us quarterly on their compliance with the employment guarantees, starting from the quarter January to March 2016. Fact Sheets on the IPART website provide a summary of the quarterly compliance reports.

TransGrid employed apprentices as required

During 2017-18, TransGrid was required to employ at least five apprentices, because its total number of full time equivalent employees (FTEs) during the fourth quarter of 2016-17 was less than 110% of the minimum legislated requirement. It reported having employed sufficient apprentices.

TransGrid, Ausgrid and Endeavour Energy had more than 110% of the minimum required staff

Table 4-5 shows the reported number of FTEs in the final quarter of 2017-18, compared to the minimum number required.

Table 4-5 Reported full time equivalent staff numbers, 2017-18

| | Required minimum FTE staff | FTE staff reported for Q4, 2017-18 |
|------------------|----------------------------|------------------------------------|
| Ausgrid | 3,570 | 4,431 |
| Endeavour Energy | 2,100 | 2,481 |
| TransGrid | 1,000 | 1,107 |

Source: *Electricity Network Asset (Authorised Transaction) Act 2014* and network operators' quarterly compliance reports by Ausgrid, Endeavour Energy and TransGrid.

As TransGrid, Ausgrid and Endeavour Energy reported having more than 110% of the minimum FTE number in the final quarter of 2017-18, the requirement to employ apprentices will not be triggered for 2018-19.

Ausgrid has rectified a previous non-compliance

In late 2017, we requested that TransGrid, Ausgrid and Endeavour Energy have an independent audit to assess their compliance with the obligations that relate to the minimum number of employees, forced redundancies, existing locations, and future and existing apprentices. Endeavour Energy and TransGrid were found to be fully compliant, while the auditor found that Ausgrid had a non-material non-compliance with its system to calculate the number of employees. This had no practical impact on the number of employees calculated and it was compliant with the other obligations tested.

Ausgrid has reported that it amended its system to rectify the non-compliance.

5 Our compliance approach and activities

We monitor the electricity network operators' compliance with their obligations using a risk-based reporting and auditing regime. We use a range of tools to monitor compliance levels and where a non-compliance is found, we determine a suitable response to improve compliance and drive further improvements.

During 2017-18, we made improvements to our approach. For example, we:

- ▼ revised our compliance and enforcement policy
- ▼ assessed and responded to safety risks
- ▼ revised our reporting frameworks
- ▼ engaged with other government departments and regulatory bodies, and
- ▼ contributed to improvements in NSW energy policy.

5.1 We revised our compliance and enforcement policy

In December 2017, we revised our *Compliance and Enforcement Policy*³¹ to ensure it makes our risk-based approach to compliance transparent to all stakeholders. As part of this, we consulted with all stakeholders subject to compliance regulation.

5.2 We identified and responded to risks

The nature of electricity networks inherently pose potential for high consequence events if sufficient risk controls are not developed and implemented. In the area of safety management, and in accordance with our Compliance and Enforcement Policy, we assessed the risks of harm that could arise from the electricity networks' operations, and identified specific areas to target our resources over the next five years. Our program remains flexible to prioritise and respond to new information or risks as they arise.

We used various tools during the year to monitor compliance, prioritising by risk and expected compliance levels. These tools ranged from informative discussions with network operators regarding their practices and participation in industry events, to audits that assess compliance with broad or more targeted aspects of safety management systems. This approach allows us to minimise regulatory burden on the network operators while gathering compliance information and improving safety outcomes.

³¹ 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>

5.2.1 We revised our reporting frameworks

We provide guidance and support to the regulated entities to inform them of their obligations, clarify expectations, and help them comply with our regulatory framework.

During 2017-18 we revised or commenced a review of some reporting manuals:

- ▼ We refined our reporting frameworks for safety management system performance measures to ensure the information collected and published provides meaningful information to determine risk whilst minimising regulatory burden.
- ▼ We began refining our incident reporting framework to ensure the information we collect can contribute to meaningful analysis and identify trends and risks. Some of the information is best tracked annually rather than on an as-happens basis, allowing for regulatory efficiencies.

5.2.2 We engaged with other government departments and regulatory bodies

We maintain working relationships with the Department of Planning and Environment, SafeWork NSW, and share information with other Government departments and regulators, (in NSW, interstate, and at the Commonwealth level) as necessary to ensure effective and efficient regulation.

We also provided incident information to the Industry Safety Steering Committee, which is hosted by the Department of Planning and Environment, and participated as an observer. We also held two forums with the regulated electricity network operators to discuss safety and regulatory issues, and will continue to hold forums on an as-needs basis.

5.3 We contributed to improvements in energy policy in NSW

During 2017-18, we also:

- ▼ Made a submission to the Department of Planning and Environment's review of policy surrounding the regulation of micro-grids and embedded networks.³²
- ▼ Reviewed the Essential Energy operating licence for consistency with the recently revised operating licence for other distributors, and made recommendations to the Minister.
- ▼ Reviewed the definition of 'feeder' in the reliability and performance licence conditions to ensure that all NSW customers are included and protected under these conditions, and made recommendations to the Minister.
- ▼ Contributed to the Department of Planning and Environment's review of the Public Lighting Code applicable to network operators.

³² Department of Planning and Environment, *Protecting consumers in a changing energy world Discussion Paper*, November 2017 (accessed October 2018)



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 compliance performance.

A.1 Electricity network operators – licensed

Table A.1 Overview of electricity licence holders, 2017-18

| Licence holder | Network type | Number of customers | Area of operation |
|------------------|--------------|-----------------------|---|
| TransGrid | Transmission | 20 directly connected | NSW excluding the central and north western areas. |
| Ausgrid | Distribution | 1.7 million | Sydney, Central Coast, Newcastle and Hunter regions. |
| Endeavour Energy | Distribution | 0.95 million | Wollongong, Western Sydney. Most of the NSW south coast, Southern Highlands, the Blue Mountains, and parts of the mid-west of NSW. |
| Essential Energy | Distribution | 0.8 million | Areas not covered by Ausgrid and Endeavour, which is more than three quarters of New South Wales. |

Source: Ausgrid website, 'About us', accessible [here](#); Endeavour Energy website, 'Our Network', accessible [here](#); Essential Energy, Energy Everywhere, Essential Energy website, 'Our Network Area', accessible [here](#); TransGrid, website, 'What We Do', accessible [here](#). *Connecting you Annual Report 2015*, p12.

Electricity network operator licences are available on our website. During 2017-18, the Minister varied the Ausgrid and TransGrid licence conditions relating to critical infrastructure. The other conditions remained the same throughout the year.

- ▼ For Ausgrid, the variation to critical infrastructure licence conditions was made on 4 December 2017, and
- ▼ For TransGrid, the variation to critical infrastructure licence conditions was made on 29 November 2017.

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), and
- ▼ Sydney Trains.

A.3 Gas network operators

Table A.2 Overview of gas authorisation holders in 2017-18

| Authorisation holder | Network type | Number of customers | Area of operation ^a |
|--|--------------------------|---------------------|--|
| Evoenergy ^b | Natural gas reticulation | 19,285 | Eastern Capital City Regional, Greater Queanbeyan, Shoalhaven, Tumut |
| Allgas Energy Pty Ltd | Natural gas reticulation | 1,225 | Tweed, Narrabri |
| Australian Gas Networks (Albury) Ltd | Natural gas reticulation | 28,540 | Riverina and Murray regions |
| Australian Gas Networks (NSW) Ltd | Natural gas reticulation | 30,030 | Canberra Region (within NSW), Murrumbidgee and Riverina regions |
| Central Ranges Pipeline Pty Ltd | Natural gas reticulation | 3,591 | North Western, Northern and Central West Regions |
| Jemena Gas Networks (NSW) Ltd | Natural gas reticulation | 1,383,862 | 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 | LPG distribution | 1,377 | Elgas: Adelong, Batlow, Gundagai, Tumut Elgas Reticulation: Hunter, Richmond-Tweed and Mid North Coast regions Murray Downs Estate, Shire of Tweed, City of Armidale |
| Origin Energy LPG Ltd | LPG distribution | 940 | 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 drawn on

For this report we have relied on information provided from licensees' self-reporting, from independent audits of the electricity network operators, and our own records from our enquiries 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 licence) to provide annual compliance reports in accordance with our published reporting manuals. We request gas distributors provide these reports, even though they are not required by law to do so. We have not published a reporting manual for these licensees as gas distribution authorisations are not standardised.

Further, all 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, and
- ▼ bushfire risk mitigation activities.

The three electricity network operators subject to employment guarantees also report on their compliances 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’ licences is subject to annual limited assurance audits.
- ▼ Compliance with the critical infrastructure licence conditions in the TransGrid, Ausgrid, and Endeavour Energy licences is subject to a full compliance audit.

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.³³ 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 conduct or request ad hoc audits of compliance with:

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

We have produced audit guidelines 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.

³³ Clause 8A, Schedule 2 of the ES Act.

B Overview of safety management system obligations and employment guarantees

B.1 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 Australian Standard (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, and
 - 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, and
 - 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 Summary of the employment guarantees

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 current employment conditions during the transfer from a State-owned corporation to a private operator.