IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Electricity networks reporting manual – Incident reporting

Reporting Manual
Energy Networks Regulation

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The Independent Pricing and Regulatory Tribunal (IPART)

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Amendment record

Issue	Date issued	Amendments made
ENRM first issue up to version 4	June 2016 to May 2017	See previous issues for related amendments.
ENRM – Incident reporting	October 2017	Separate Reporting Manuals published for reporting requirements. Inserting Chapter 1 – The purpose and status of this reporting manual. Minor wording changes to improve clarity. Addition to description of escalation factors, footnote 6. Addition of section 2.1.5 on confidential information.
ENRM – Incident reporting	April 2018	Inserting sign-off requirements on reports. Inserting section on extensions to reporting deadlines. Minor formatting improvements.

Contents

1 The purpose and status of this reporting manual

This Reporting Manual and other Reporting Manuals are issued by IPART. IPART will review and amend these Reporting Manuals from time to time.

Licence conditions for the licensed Electricity Network Operators (ENOs) require that the licence holder complies with any Reporting Manuals issued by the Tribunal.[1] Although no regulatory requirement to comply with a Reporting Manual exists for non-licensed ENOs, IPART expects that all ENOs will comply with the Reporting Manuals where applicable to their specific reporting obligations. Each document may not apply to all ENOs, and this is specified where relevant.

The reporting requirements specified in these Reporting Manuals do not replace any requirements identified in licence conditions, legislation, statutory instruments or codes that apply to ENOs. Compliance with Reporting Manuals is required in addition to, not in substitution for, compliance with other applicable obligations.

The information gathered through the reporting arrangements outlined in this document will allow IPART to:

- determine whether ENOs are consistently and effectively meeting statutory obligations,
- identify immediate risks and long term trends, and
- identify trends that signify emerging issues across the industry with a view to developing safety measures or supporting industry safety initiatives where appropriate.

A review of the reporting requirements will be conducted periodically to accommodate any changes to statutory requirements and licence conditions.

IPART has also issued Audit Guidelines to guide networks on how to maintain compliance with their obligations.

1 *Schedule listing ministerially imposed licence conditions for distribution network service providers*, licence condition 7; the *Transmission Operator's Licence under the Electricity Supply Act 1995 (NSW)*, issued by the Minister for Industry, Resources and Energy, 7 December 2015, condition 11, p 7; the *Schedule of Ministerially imposed licence conditions for the operator of a transacted distribution system* issued to the Ausgrid Operator partnership on 1 December 2016, condition 14; and the *Schedule of Ministerially imposed licence conditions for the operator of a transacted distribution system* issued to the Endeavour Energy Operator partnership on 7 June 2017, condition 14.

2 Incident reporting

NSW ENOs have reporting obligations under the *Electricity Supply Act 1995* (NSW) (ES Act) in relation to serious electricity works accidents. Additional, but similar, obligations exist under the license conditions for transmission operators (TOs) and distribution network service providers (DNSPs) imposed by the Minister for Resources and Energy.

The incident reporting requirements identified in this reporting manual replace the Significant Electricity Network Incidents[2] reporting requirements that previously applied to ENOs under the ES Act. This manual describes the form in which ENOs are to report major network incidents.

The data collected will be used to monitor the safety and reliability of networks and the effectiveness of network operators' safety management systems. Data collected through incident reporting may be shared with SafeWork NSW to facilitate a collaborative regulatory response, unless the ENO claims, and IPART assesses, the information to be confidential and it is not required, or expressly authorised, by law (see section 2.1.5).

The full reporting requirements outlined in this document apply to:

- Ausgrid
- Endeavour Energy
- Essential Energy, and
- TransGrid.

The following ENOs are required under the ES Act to report Serious Electricity Works Accidents (SEWAs) that occur on their electricity networks within NSW. However, IPART expects these ENOs to comply with all the incident reporting requirements identified in this chapter.

- Sydney Trains
- Metro Trains Sydney
- Directlink
- Lord Howe Island Board
- ActewAGL Distribution (ACT)
- Ausnet Services (Victoria)
- PowerCor (Victoria), and
- Energy Queensland[3] (Queensland).

2 Issued by the NSW Department of Trade & Investment (now NSW Department of Industry).
3 Energy Queensland was formed following the merger of Ergon Energy and Energex, in 2016.

2.1 Timing and lodgement

Incident reports are to be submitted on an occurrence basis. Depending on the category of incident, reports may be staged to accommodate the investigation process. The notification and reporting requirements for each category of incident are summarised in Table 1.1 below.

Table 2.1 Notification and reporting requirements for incident categories

Category	Notification of SEWAs to SafeWork NSW	SEWA Site disturbance permission request to SafeWork NSW	Stage 1 report	Stage 2 report	Stage 3 report
1. Major incident	✓	✓	✓	✓	✓
2. Incident	✓	✓	✓	✓	✓
3. Other SEWAs	×[a]	✓	✓[a]	×	×
4. Significant near miss	×	×	✓	✓[b]	✓
5. Near miss	×	×	✓	✓ [b]	×

[a] The stage 1 report to IPART meets the notification requirement for category 3 incidents

[b] Stage 1 and stage 2 reports are combined with a due date of 30 days after the incident for category 4 and 5 incidents

A detailed description of the reporting timeframe and staging requirements for the submission of incident reports are in the reporting matrix in Appendix A.

2.1.1 Notification of SEWAs

IPART has developed a cooperative arrangement with SafeWork NSW for them to receive notifications of Category 1 and 2 SEWAs on IPART's behalf. ENOs are to provide notification of these SEWAs by contacting SafeWork NSW on 13 10 50. Where SafeWork NSW has been notified of a Category 1 or 2 SEWA, there is no requirement to contact IPART. Notification for Category 3 SEWAs is made through IPART's online incident reporting portal without requiring verbal or written correspondence.

2.1.2 Obtaining Permission to disturb the site of a SEWA

As part of the arrangement with SafeWork NSW, they will receive and process requests for site disturbance under the ES Act on IPART's behalf.

The obligation to obtain site disturbance permission applies to anyone that seeks to disturb or interfere with the site of a SEWA for any reason other than to make it safe, or before the site has been inspected by an appointed inspector. This request may be made to SafeWork NSW concurrently with the notification of a SEWA and any notification that may be required under the *Work Health and Safety Act 2011* (NSW).

Call 13 10 50 to contact a SafeWork NSW inspector to seek site disturbance permission.

An inspector appointed under the ESA Act may grant permission to disturb the site over the phone, or may decide an inspection is required prior to granting permission.

2.1.3 Submitting reports

Incident reports by TransGrid, Ausgrid, Endeavour Energy and Essential Energy should be submitted using the online reporting portal at ipart.huegin.com.au. Other ENOs may choose to use the online reporting portal, or submit reports to energyincidents@ipart.nsw.gov.au.

These staged reports are to be delivered to IPART in accordance with section 2.4.

It is the ENO's responsibility to delegate to the appropriate officers the authority to approve the submission of, or request the deletion of, incident reports.

Where an incident submission is made through the online reporting portal (OSIRIS), these officers must be assigned the role of 'manager' within their reporting portal profile. All officers identified as a manager in the OSIRIS reporting portal profiles must be delegated the authority to perform the actions identified above. An ENO is responsible for the management of their profiles in the portal.

Where a final incident report is submitted outside the portal, the report must include a statement that the individual providing the report has the delegated authority to do so.

2.1.4 Irrelevance of legal professional privilege to compliance with the requirements of this manual

Legal professional privilege protects certain confidential communications or the contents of certain confidential documents from being compulsorily disclosed if the communication or document was made or prepared for the dominant purpose of either:

- a lawyer providing legal advice to a client; or
- a client being provided with legal services relating to legal proceedings.

Reports required to be submitted under this manual are to be prepared specifically for the purpose of meeting the requirements of this manual. By definition, reports prepared for the purposes of meeting the requirements of this manual will not be subject to client legal privilege.

2.1.5 Extensions to reporting timeframes

For all stages of reporting (refer sections 2.4.1 to 2.4.3) the networks may seek an extension where the facts around an incident are unclear or unknown, or the incident may reasonably be expected to result in legal proceedings. The network should provide a statement to that effect to IPART before the due date of the report including:

- the reasons why the applicable time frame for that reporting stage cannot be met
- a request for an extension to submit the report for that stage, and
- an estimate as to when the network expects to complete and submit the report to IPART.

IPART recommends that networks submit any extension requests well in advance of the due date to ensure that IPART can consider the request and make a decision on a case by case

basis. As a guide, we recommend the networks submit any requests for extensions for stage 3 reports at least two weeks before the due date of the report.

2.1.6 Confidential information

Any information which an ENO claims, and IPART assesses, to be confidential will be held by IPART and not shared with government agencies except as required, or expressly authorised, by law.[4]

When providing an incident report, an ENO must clearly identify any parts of the report that it claims are confidential.

2.2 Incident definitions

Five event categories have been established for incident and near miss reporting. This allows for each event to be categorized, with sufficient information for each to be submitted within an appropriate timeframe. These event categories are listed below:

1. major incident
2. incident
3. serious electricity works accident – other
4. significant near miss, and
5. near miss.

Definitions and reporting requirements for each category have been provided in the reporting matrix in Appendix A.

These events shall be notified to IPART where electricity works are involved.

Electricity works are defined in the ES Act and mean any electricity power lines or associated equipment or electricity structures that form part of a transmission or distribution system.

The reporting matrix in Appendix A provides the relevant criteria for reporting incidents impacting the following classifications:

- people – safety of workers undertaking work on or near the network as well as members of the public,
- property of third parties, and
- reliability of the network.

Where an incident impacts on two or more of the above classifications, reporting requirements will be informed by the classification with the worst case severity, where category 1 is the most severe and category 5 is the least severe.

[4] See, for example, section 63V of the ESA.

2.2.1 Non-reportable incidents

The following incidents are not reportable to IPART:

- Electric shocks from static discharge.
- Electric shocks from defibrillators (this is an incident recovery action not an incident mechanism).
- Electric shocks where the system is operating nominally at extra-low voltage (note that incidents where the shock is at extra-low voltage level, but the nominal system voltage is greater than extra-low voltage, are still reportable).
- Incidents involving DC rail traction systems that are reportable to the Office of the National Rail Safety Regulator.
- Electric shocks from electrical installations, except as identified in Table A.1. These incidents are regarded as customer shocks. This information is to be reported by network operators to IPART as part of the annual reporting of performance against their safety management system (refer to Electricity networks reporting manual – safety management systems reporting).

2.3 Incident mechanism

Incidents are to be reported based on the event, sometimes referred to as the 'mechanism of incident', by which the incident occurred. To allow consistent entry of data, event classifications will be based upon the *Type of Occurrence Classification System 3rd Edition*, section F 'Mechanism of incident classification' published by the Australian Safety and Compensation Council in 2008. A summary of these events is provided in Appendix B.

2.4 Incident reporting stages

The reporting process has been designed to deliver timely reporting of an incident in a staged manner without compromising the ENOs ability to investigate and respond to the incident. Depending on the event category, up to three stages may apply to an incident report. Only the more significant events require reports at all three stages.

2.4.1 Stage 1 – Initial report

The initial report of an incident outlines the basic information regarding the event.

Details required at the initial stage are:

- A description of the event:
  - Where the incident occurred.
  - When the incident occurred.
  - Initial indication of incident mechanism.
  - Initial indication of incident extent.
- Details of the person submitting the Stage 1 report.

- Where the incident has been identified as a SEWA and notified to SafeWork, an incident notification number should be provided.

2.4.2 Stage 2 – Interim Report

The interim report stage allows the submission of factual information regarding the event.

Note that where actual details are yet to be confirmed, a best estimate should be used to populate data. Information can be revised when more accurate data becomes available, with notification to IPART.

The details required at the interim report stage are:

- General description of the geography and topography relating to the incident.
- Environmental conditions at time of incident including:
  - temperature
  - rainfall
  - visibility, and
  - wind.
- Whether the incident site is bushfire prone.
- Network assets related to the incident.
- Consequence of incident:
  - People:
    i) Identify who was affected.
    ii) Specify whether they were network operator workers, contractors, accredited service provider (ASP) workers, public workers or members of the public.
    iii) Contact details of affected persons.
    iv) Extent of injury.
    v) Treatment details.
  - Property:
    i) Value of damage.
    ii) Area burnt by network initiated fire.
    iii) Environmental, cultural and heritage impact of incident.
  - Reliability:
    i) Total outage duration (the amount of time in minutes that electricity supply was unavailable during an outage). For a Major Event Day (MED), the total outage duration refers to the highest customer minute impact (SAIDI) outage related to the MED.
    ii) Calculated system average interruption duration index (SAIDI), system average interruption frequency index (SAIFI) and customer average interruption duration index (CAIDI) impacts.

- Incident management/recovery steps and resource utilisation.[5]

2.4.3 Stage 3 – Final Report

The final report stage is where all the details surrounding the event and subsequent investigations, including causal information and management review outcomes, will be submitted. This stage is used to demonstrate that the ENO has responded to an incident in accordance with section 4.5.2 of Australian Standard AS 5577. Sufficient detail must be submitted to allow IPART to determine if the requirements of section 4.5.2 have been adhered to, and a full understanding of the incident and the ENO's response can be achieved without inferences being drawn or clarifications being sought.

The details required at the final report stage are:

- Investigating the incident – Identifying the cause of the incident (descriptive text and a list of causal factors).
  - Network operators should provide a description of the factors and events that have led to the occurrence of the reported incident and to the outcome of the incident.
  - The causal factors are to be identified from the list in Appendix C.
- Investigating the incident – Identifying the escalation factors[6] and how they escalated the incidents.
  - Network operators should provide a description of any escalation factors that have contributed to the failure of a preventative or mitigative control relating to the incident. For example, weather or environmental conditions.
  - Escalation factors can also be selected from the list in Appendix C.
- Investigating the incident – Network operators should identify any controls that were in place to prevent the event from occurring and describe why they did not work as expected.
  - Preventative control that were ineffective – a description of all the controls designed to prevent the event from occurring and why they did not work as expected.
  - Mitigative controls that were ineffective – a description of all the controls designed to mitigate the outcome of the event that failed to achieve that outcome and an explanation of why they did not work as expected.
- Management response – network operators should provide details of the analysis and decisions undertaken to identify preventative or mitigative actions to be adopted by the network.

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5 Note that incident management/recovery steps are part of incident management controls and should be distinguished from corrective and preventative actions. Corrective and preventative actions are determined through the risk assessment process before or after an incident while incident management/recovery steps are taken during an incident.

6 Escalation factors are factors external to the incident which have contributed to the failure of a preventative or mitigative control. For example, these factors may have contributed to the escalation of a near miss (category 4 and 5) to an incident (category 1, 2 and 3), and/or have contributed to the escalation in an injury's severity (e.g. from a category 2 incident to a category 1 incident, or increased the severity of an injury within a single incident classification category).

- Details of all control options that have been identified to correct any gaps identified within the ENSMS, and to prevent any repeat incidents of the same nature.
- Details of the assessment of each identified control option to determine whether it is able to, as far as reasonably practicable, eliminate or mitigate an identified risk.
- Details of the assessment of each identified control option to determine whether it is appropriate and commensurate to the identified risk (i.e. explain how the control does or does not address the risk).

- An outline of how the ENO's management has responded to the incident investigation and outcomes, including:
  - Which control options have been approved or agreed upon.
  - An explanation of why these control options have been approved or agreed upon.
  - Estimates on when the control option will be implemented (i.e include specific calendar dates for milestones and completion).

Specific requirements are included in the reporting matrix in Appendix A.

Appendices

A Incident reporting matrix

A.1 Introduction

The definitions of reportable events in Table A.1 below apply to the following situations:

- where *electricity works* are involved,[7] ie, any electricity power lines or associated equipment or electricity structures that form part of a transmission or distribution system[8] (also known within industry as electrical mains and apparatus), or
- incidents or near-misses involving network operator employees and contractors relating to bushfire risk management work within private electrical installations.

The term "Serious Electricity Works Accident" (SEWA) used in Table A.1 below has the meaning given in the ES Act. That is, it is an accident:

- 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 healthcare professional or is unable to attend work for any period of time.

Shocks from electrical installations, except where identified in the table below, are not reportable to IPART as a SEWA, however they may be reportable to the Office of Fair Trading as Serious Electrical Accidents under the *Electricity (Consumer Safety) Act 2004* (NSW).

7 The term *electricity works are involved* refers to where the involvement of the electricity works has played a role in the occurrence or outcome of an incident.

8 As defined in the ES Act.

Table A.1 Incident Reporting Matrix

Category	Notification/Report timeframe; information required	People – to both workers and members of public	Property - third party[a]	Reliability
1. Major Incident[b] (Licence condition for distributors to report within 24 hours to Minister and IPART)	Notification to Minister ▼ Immediate / 24 hours notification Notification of SEWAs to SafeWork ▼ Immediate / 24 hours notification Stage 1 report to IPART: ▼ as soon as practicable after becoming aware – no later than 2 business days Stage 2 report to IPART: ▼ no later than 14 calendar days Stage 3 report to IPART: ▼ no later than 90 calendar days[g]	SEWAs, or events rising from bushfire risk management work being undertaken on private overhead electricity lines, where there is significant injury to a person/s, resulting in: ▼ fatality ▼ permanent disability ▼ permanent life changing injuries, or ▼ life threatening injuries. Excludes motor vehicle accidents on dedicated roadways defined in *Category 3 – Other SEWAs.* (Also see *Note* ***c*** regarding fatality or serious injury or illness notification under the WHS Act)	Significant loss of property – damage >$500,000 Fires for which the Commissioner has taken charge under s44 of the *Rural Fires Act 1997* (NSW), where the network operator has reasonable suspicion that the cause of the fire may have been from electricity works	**Widespread supply interruption** **All Network Operators** ▼ Where a state of emergency has been declared under the *State Emergency and Rescue Management Act 1989* (NSW) due to the impact of an outage, or the cause of the state of emergency places the network at risk of loss of supply/failure. ▼ The network operator has classified it as a significant outage (as part of their ENSMS or incident management system) due to adverse impact or disruption to the community. ▼ Where the outage causes the loss of network supply, for greater than 2 hours, to significant community infrastructure such as: – Peer group A1, A2, A3 and B hospitals.[d] – Road tunnels on motorways that have emergency evacuation systems.[e] – Rail and air transport systems where travel is affected. – Events and buildings where greater than 5000 people could be affected by an

Category	Notification/Report timeframe; information required	People – to both workers and members of public	Property - third party[a]	Reliability
				outage. – Other community infrastructure determined by the Network Operator to be of National, State or Regional significance. **Distribution** ▼ > 5000 customers for > 4 hours **Transmission** ▼ An interruption amounting to >0.25 System Minutes[f] System Minutes is to be calculated in accordance with the loss of supply event frequency parameter applicable to the transmission operator in terms of the current AER STPIS determination.
2. Incident	Notification of SEWAs to SafeWork ▼ Immediate / 24 hours notification Stage 1 report to IPART: ▼ as soon as practicable after becoming aware – no later than 2 business days Stage 2 report to IPART: ▼ no later than 14 calendar	Serious Electricity Works Accident – injury that does not meet the criteria for a Category 1 – major incident, but leads to a person/s: ▼ being hospitalised (where hospitalised means 'is admitted as an in-patient'), or ▼ receiving treatment from a health care professional[h] and is unable to attend work for a full shift or more (this does not include the shift during which	Loss of property – damage >$100,000 or Fires for which the Commissioner has not taken charge under s44 of the *Rural Fires Act 1997* (NSW), but have burnt an area >10ha and where the network operator has reasonable suspicion that the cause of the fire may have been from the	**All Network Operators** ▼ An outage that has contributed to the declaration of, or resulted from, a Major Event Day (MED). Note that all outages related to a declared MED will be regarded as a single incident if the MED is declared subsequent to the outages. **Distribution** N/A (addressed by quarterly

Category	Notification/Report timeframe; information required	People – to both workers and members of public	Property - third party[a]	Reliability
	days Stage 3 report to IPART: ▼ no later than 90 calendar days[g]	the incident occurred). Excludes motor vehicle accidents defined in **Category 3 – Other SEWAs** (Also see *Note* ***c*** regarding fatality or serious injury or illness notification under the WHS Act)	electricity network or Fires that have impacted on environmentally sensitive areas, cultural or heritage sites	license compliance reporting) **Transmission** ▼ An interruption amounting to >0.05 System Minutes System Minutes is to be calculated in accordance with the loss of supply event frequency parameter applicable to the transmission operator's current AER STPIS determination.
3. Other SEWAs	Report to IPART ▼ Stage 1 report no later than 7 (calendar) days Note: the Stage 1 report to IPART meets the notification requirement for category 3 incidents	SEWAs that do not meet a category 1 or category 2 incident, including motor vehicle accidents (eg, vehicle impact to pole) where electricity did not contribute to the fatality/injury.	N/A	N/A
4. Significant Near Miss	Combined Stage 1 and Stage 2 report to IPART: ▼ no later than 30 calendar days Stage 3 report to IPART: ▼ no later than 90 days[g]	Where a dangerous incident[i] relating to electricity works has occurred or, as a result of failures in procedural controls (eg, network access permits/authorities), may have occurred resulting in a serious risk to any person's health or safety (including if no injury was received) emanating from an immediate or imminent exposure to: ▼ an uncontrolled escape, spillage or leakage of a substance	Electric shock, electrical burns or flash burns that cause fatalities only of livestock or domestic pets as a result of contact with electricity works.	N/A

Category	Notification/Report timeframe; information required	People – to both workers and members of public	Property - third party[a]	Reliability
		▼ an uncontrolled implosion, explosion or fire ▼ an uncontrolled escape of gas or steam ▼ an uncontrolled escape of a pressurised substance ▼ electric shock where only diagnostic monitoring eg, ECG, has been carried out ▼ the fall or release from a height of any plant, substance or thing ▼ the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised for use in accordance with the regulations ▼ the collapse or partial collapse of a structure ▼ the collapse or failure of an excavation or of any shoring supporting an excavation ▼ the inrush of water, mud or gas in workings, in an underground excavation or tunnel, or ▼ the interruption of the main system of ventilation in an underground excavation or tunnel.		

Category	Notification/Report timeframe; information required	People – to both workers and members of public	Property - third party[a]	Reliability
5. Near Miss	Combined Stage 1 and Stage 2 report to IPART: ▼ no later than 30 days	Where an event meeting one of more of the categories below occurred and a person could have been injured due to electricity works: ▼ contact made with OH assets by public workers or general public ▼ contact made with UG assets by public workers or general public ▼ contact with navigable waterway crossings (overhead or submarine) to be specifically identified ▼ breach of network operator's safe approach distances to network assets. This distance is as defined by the network operator's safety management system for the authorisation/class of the person ▼ unauthorised access of a person to electricity works (including substation grounds and buildings) by public ▼ unassisted pole failures[i] where no injury results ▼ reverse polarity or defective neutral connections of service connections that resulted from work carried out by a network operator worker or contractor, or an ASP.	N/A	N/A

a Third party property damage is defined as property damage that is not loss or damage to network assets.

b Major incidents are regarded as 'High Level Severity' for the purpose of Licence Conditions for Distribution Network Service Providers.

c Section 38 of the *Work Health and Safety Act 2011* (NSW) requires that incidents that involve a worker or workplace resulting in a fatality or a serious injury or illness of a person, as defined by section 36 of WHS Act, are notifiable to SafeWork NSW. Where these incidents involve electricity works they are also to be notified to IPART as an Incident or Major Incident as applicable. In practice these incidents are likely to meet the definition of a Serious Electricity Works Accident. For reference, serious injury or illnesses that are notifiable include where immediate treatment is required as an in-patient in a hospital, or is required for:

- the amputation of any part of his or her body
- a serious head injury
- a serious eye injury
- a serious burn
- the separation of his or her skin from an underlying tissue (such as degloving or scalping)
- a spinal injury
- the loss of a bodily function
- serious lacerations, or
- where medical treatment has been provided within 48 hours of exposure to a substance.

d As identified in the Bureau of Health Information – Hospital Quarterly – Activity and performance in NSW public hospitals, October to December 2015.

e Motorways are roads designated with an 'M' prefix as per the Roads and Maritime Services (www.rms.nsw.gov.au/roadnumbers).

f Due to the unique nature of the DirectLink network, it is not required to report on reliability incidents.

g Where a network operator considers a 90 day reporting date is not achievable it may apply for an extension.

h Where treatment is 'any medical procedure, other than diagnostic medicine' and health care professional is defined in the ES Act.

i A dangerous incident as defined by section 37 of the *Work Health and Safety Act 2011* (NSW).

j Unassisted pole failures are defined as the pole breaking or collapsing otherwise than because of:

- a force exceeding the failure limit or design wind load specified in the applicable standard, or
- a lightning strike, earthquake, fire or flood, or
- malicious damage, or
- excavation other than by a person for whom the network operator is responsible, or
- any other similar occurrence beyond the control of the network operator.

References/Definitions:

ASP	Accredited Service Provider as per Part 3 of the *Electricity Supply (Safety & Network Management) Regulation 2014* (NSW).
ENSMS	Electricity Network Safety Management System
OH	Overhead
UG	Underground

B Event classifications

The event classification allows for consistent reporting of event types associated with incidents and near misses. Each classification has been assigned a code as described by the *Type of Occurrence Classification System 3rd Edition*,[9] section F 'Mechanism of incident classification' published by the Australian Safety and Compensation Council in 2008. The event codes and associated classifications have been summarized below.

Table B.1 Event classification table

Code	Descriptor
GROUP 0	**FALLS, TRIPS AND SLIPS OF A PERSON**
01	Falls from a height
02	Falls on the same level
03	Stepping, kneeling or sitting on objects
GROUP 1	**HITTING OBJECTS WITH A PART OF THE BODY**
11	Hitting stationary objects
12	Hitting moving objects
13	Rubbing and chafing
GROUP 2	**BEING HIT BY MOVING OBJECTS**
21	Being hit by falling objects
22	Being bitten by an animal
23	Being hit by an animal
24	Being hit by a person accidentally
25	Being trapped by moving machinery or equipment
26	Being trapped between stationary and moving objects
27	Exposure to mechanical vibration
28	Being hit by moving objects
29	Being assaulted by a person or persons
GROUP 3	**SOUND AND PRESSURE**
31	Exposure to single, sudden sound
32	Long-term exposure to sounds
38	Explosion
39	Other variations in pressure
GROUP 4	**BODY STRESSING**
41	Muscular stress while lifting, carrying, or putting down objects
42	Muscular stress while handling objects other than lifting, carrying or putting down
43	Muscular stress with no objects being handled
44	Repetitive movement, low muscle loading

9 Australian Safety and Compensation Council Canberra, Type of Occurrence Classification System, Third Edition (Rev 2), May 2008.

Code	Descriptor
GROUP 5	**HEAT, ELECTRICITY AND OTHER ENVIRONMENTAL FACTORS**
51	Contact with hot objects
52	Contact with cold objects
53	Exposure to environmental heat
54	Exposure to environmental cold
55	Exposure to non-ionising radiation
56	Exposure to ionising radiation
57	Contact with electricity
58	Drowning/immersion
59	Exposure to other and unspecified environmental factors
GROUP 6	**CHEMICALS AND OTHER SUBSTANCES**
61	Single contact with chemical or substance
62	Long term contact with chemicals or substances
63	Insect and spider bites and stings
64	Contact with poisonous parts of plant or marine life
69	Other and unspecified contact with chemical or substance
GROUP 7	**BIOLOGICAL FACTORS**
71	Contact with, or exposure to, biological factors of non-human origin
72	Contact with, or exposure to, biological factors of human origin
79	Contact with, or exposure to, biological factors of unknown origin
GROUP 8	**MENTAL STRESS**
81	Exposure to a traumatic event
82	Exposure to workplace or occupational violence
84	Work pressure
85	Suicide or attempted suicide
86	Other mental stress factors
87	Work related harassment and/or workplace bullying
88	Other harassment
GROUP 9	**VEHICLE INCIDENTS AND OTHER**
91	Slide or cave-in
92	Vehicle incident
93	Rollover
98	Other and multiple mechanisms of incident
99	Unspecified mechanisms of incident

C Incident reporting – classification of causal factors

The system of causal factor classifications provides a consistent approach to categorising the causal factors identified during the investigation of an incident. When reporting, each incident is to have its causal factor identified and classified to the most appropriate tier.

Table C.1 Classification of causal factors

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Organisational and System Factors	Hardware		
	Training		
	Organisation		
	Communication		
	Incompatible Goals		
	Procedures		
	Maintenance Management	Maintenance regime	
		Last maintained	
		Last inspected	
	Technical/Asset Management	Conductor clashing	
		Design and maintenance	
		Lubrication	
		Calibration	
		Moisture ingress	
		Incorrect design	
		Age	
		Degradation	
		Rot	
		Fungal body	
		Fatigue	
		Electrical	
		Neutral fault	
		Earth fault	
		Induction	
		HV injection	
		Out of balance load	
		Reverse polarity	
		Failure	
		Electrical breakdown	
		Electrical overload	
		Mechanical breakdown	

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Organisational and System Factors (continued)	Technical/Asset Management (continued)	Mechanical overload	
		Mechanical vibration	
		Insulator	
		Defective component	
	Design		
	Risk Management		
	Management of Change		
	Contractor Management		
	Organisational Culture		
	Regulatory influence		
	Organisational Learning		
	Vehicle Management	Vehicle impact	Pole
			Tower
			Conductor
			Pillar
			Substation
		Manned Aircraft impact	Pole
			Tower
			Conductor
			Overhead electricity network maps requested
		Unmanned Aircraft impact	
		Boat impact – waterway crossing	Pole
			Tower
			Conductor – Overhead
			Conductor – Submarine
Task and Environmental Conditions	Management Systems		
	Workplace/ Environment	Task planning / preparation / manning	
		Hazard analysis / Job Safety analysis / take 5	
		Work procedures availability and suitability	
		Permit to Work availability and suitability	
		Abnormal operational situation / conditions	
		Tools / equipment condition / availability	
		Material availability and suitability	

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Task and Environmental Conditions (continued)	Workplace/Environment (continued)	Equipment integrity	
		Housekeeping	
		Environmental	Weather conditions
			Lightning
			Precipitation
			Fire
			Flood damage
			Wind
			Humidity
			Climate
			Heat
			Cold
		Congestion / restriction / access	
		Routine / non-routine tasks	
		Fire and explosion hazard	
		Lighting	
		Equipment / material temperature / conditions	
		Noise	
		Ventilations	
		Gas, dust or fumes	
		Radiation	
		Chemical	
		Wildlife	Bird (large wader)
			Bird (raptor)
			Bird (other)
			Bat
			Reptile
			Possum (glider)
			Possum (other)
			Rodent
			Insect infestation
			Termites
			Other (specify)
		Tree	Alive/dead
			Falling/blown
			Pruning/clearing
			Within clearances
		Location	Erosion
			Unstable soil
			Pollution

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Task and Environmental Conditions (continued)	Workplace/ Environment (continued)	Location (continued)	Coastal proximity
		Surface gradient/conditions	
		Community	Building structure Too close to no-go zone?
			No go zone (working too close) Overhead Underground/Submarine Cable plans (Dial before you dig) on site? Cable plans (Dial before you dig) request from network operator?
			Switchyard
			Wilful act
			Vandalism
			Theft
			Terrorism
			Interference
			Unauthorised work
			Public
			Recreation
			Fishing
			Kites
			Helium (party) balloons
		Other factors	
	Human factor	Complacency/ motivation	
		Drugs/alcohol influence	
		Familiarity with task	
		Fatigue	
		Situational awareness	
		Time/productivity pressures	
		Peer pressure/supervisory example	
		Physical capability	
		Mental capability	
		Physical stress	
		Mental stress	
		Confidence level	
		Secondary goals	
		Personal issues	

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Task and Environmental Conditions (continued)	Human factor (continued)	Distraction/pre-occupation	
		Experience/knowledge/skill for task	
		Competency	
		Behavioural beliefs (gains > risks)	
		Personality/attitude	
		Poor communications	
		Poor shift patterns & overtime working	
		Passive tolerance of violations	
		Perceived licence to bend rules	
		Change of routines	
		Reliance on undocumented knowledge	
		Training	
		Other Human Factors	
Individual and Team Actions	Supervisory error or violation		
	Operating authority error or violation		
	Operating speed		
	Equipment use error or violation		
	PPE use error or violation		
	Procedural compliance		
	Electrical isolation and/or permits		
	Change management error		
	Equipment/material handling error or violation		
	Horseplay/thrill seeking error or violation		
	Hazard recognition/ perception		
	Hazard management error or violation		
	Work method error or violation		
	Occupational hygiene practices		
	Other		

Tier 1 causal factor	Tier 2 causal factor	Tier 3 causal factor	Tier 4 causal factor
Absent or Failed Defences	Awareness	Hazard identification	
		Communication	
		Competence knowledge	
		Supervision	
	Detection	Visual warning systems	
		Aural warning systems	
		Speed / movement detectors	
		Vigilance / fatigue	
		Gas / substance	
	Control and Recovery	Procedures	
		Bypass valves / circuits	
		Emergency shut down	
	Protection and Containment	PPE	
		Fire fighting	
		Split response	
		Bunding / barricading / exclusion zones	
	Escape and Rescue	Safe access / egress	
		Emergency planning / response	
		Emergency communication	
	Other		