



ANNUAL BUSHFIRE RISK MANAGEMENT REPORT

2017/18



Annual Bushfire Risk Management Report 2017/18

1. Introduction

Essential Energy's Annual Bushfire Risk Management Report is provided in accordance with the Independent Pricing and Regulatory Tribunal's (IPART) Electricity Networks Reporting Manual – Bushfire Risk Management Reporting April 2018 and covers the period 1 October 2017 to 30 September 2018. Essential Energy has provided additional information throughout this report to provide IPART with a detailed view and understanding of Essential Energy's bushfire preparedness and risk management. In providing this view, Essential Energy has used, in some instances, classifications and reporting periods consistent with established internal reporting. It is noted that this is the last report required by IPART in this format and requirements will change for the 2019 reporting period.

Bushfire risk is managed through a range of asset management policies and operational activities. These are discussed in section 2. Principle to bushfire risk management are condition monitoring (inspection), maintenance of the network (including vegetation management), and understanding of network bushfire risk profiles as informed by network modelling.

In 2018 the approach to vegetation management included submission to IPART of a compliance implementation plan to meet the requirements of NSW industry guideline ISSC3. This included assurance of progressive compliance and priority planning based on bushfire risk classification over a four-year period. Essential Energy accomplished the first part of this plan by completing the compliance objectives in the highest bushfire risk areas by October 2018, in preparation for the 2018-19 bushfire danger period. The bushfire risk classifications are described later in this document.

Essential Energy representatives met with NSW Rural Fire Services (RFS) and other agencies at the State Emergency Operations Centre in September 2018 to review the 2018-19 fire season outlook. The 2018-19 fire season arrived early this year with the fire danger period being declared in several districts across the state. This included districts in the north of the state being declared in August 2018 and a large number of districts in the eastern and south eastern parts being declared in September 2018.

The maintenance tasks statistics contained in this report highlight completion of a significant proportion of all maintenance activities in bushfire-prone areas. This includes completion of 2018 Pre-Summer Bushfire Inspections (PSBI) and rectification of the associated vegetation and asset maintenance tasks in high bushfire risk areas.

Essential Energy's bushfire risk management approach seeks to balance various stakeholder's interests with a focus on public safety.

Key stakeholders include:

- Customers and the communities we serve
- IPART – the NSW Network Safety and Technical Regulator
- Essential Energy Board and Shareholders
- Australian Energy Regulator (AER) – Economic Network regulator.

Essential Energy continues to invest significant resources into bushfire mitigation activities directly and indirectly through its operating and capital programs.

In addition to this we look for opportunities to enhance the risk outcomes through ongoing research and development, and ongoing collaboration such as:

- > participation in industry forums with focus on reduced bushfire risk such as the National Utility Bushfire Industry Forum and the Utility Arboreal Association of Australasia (UAAA)
- > Energy Networks Australia projects relating to bushfire risk management e.g. project: Quantifying the costs of major bushfires
- > working with partners such as NSW RFS, University of Melbourne Fire Ecology division, Bushfire and Natural Hazards CRC and other research organisations
- > working with suppliers and manufacturers to enhance the quality of assets or development of new products to reduce bushfire risk
- > trialling and assessing new technologies which reduce the risk of bushfires
- > participation with district NSW RFS Bushfire Risk Management Committees.

Essential Energy will continue monitoring bushfire risk associated with the network and the effectiveness of its related bushfire mitigation programs.

2. How we manage bushfire risk

Essential Energy has various processes and programs in place to prevent or minimise the occurrence of fire ignition originating from its network assets. These include:

- condition monitoring: inspection programs including PSBI
- bushfire risk management committees
- communications strategies (internal and external)
- engagement with experts and industry stakeholders
- identification of hazardous bushfire areas
- asset maintenance and renewal programs
- fire start analysis and reporting
- vegetation management programs

Each of these are discussed further below.

Condition Monitoring: Inspection Programs including PSBI

Network inspection programs include a cyclical ground-based pole and line inspection program, and radial transmission and sub-transmission inspections. Other aerial inspection programs are applied to complement the ground-based inspections. These include Light Detection and Ranging (LiDAR) and pole top imagery capture, and PSBI. The PSBI inspection provides an additional focus on asset condition prior to the bushfire danger period in our highest risk parts of the network.

Essential Energy has continued investment in inspection technologies such as aerial LiDAR survey and Pole-Top Hi Definition imagery to better understand the condition of assets and to improve identification of potential asset failures that could lead to fire starts.

Bushfire Risk Management Committees

Essential Energy has demonstrated an ongoing commitment to reduce the impact of fires by ensuring internal focus through a senior management organisational structure which includes a Bushfire Risk Assurance Panel (BRAP) and a Bushfire Risk Working Group (BRWG), both operating under a charter.

The BRAP have oversight of bushfire risk strategy development and performance, as well as providing support or endorsement for resourcing bushfire mitigation activities. The BRWG review the network fire start performance and causal factors to ascertain if business changes or actions are required and make recommendations to the BRAP.

Both provide attention to the risk of bushfires caused by network assets and operation on behalf of the organisation.

Employee and Public Engagement

Essential Energy communicates matters relating to management of bushfire risk to all field employees each year to ensure they are aware of the dangers and consequence of fires to themselves and the communities they serve. This includes clear priorities for bushfire mitigation-related work activities and programs. Essential Energy also targets community bushfire preparedness messaging in its Public Electrical Safety Awareness Plan (PESAP), and through publicly accessible information provided on our website. Engagement in relation to bushfire risk and network safety is also conducted with community representatives through Essential Energy's Customer Advisory Group.

Engagement with Experts and Industry stakeholders

In 2018, Essential Energy representatives engaged with external stakeholders on bushfire risk-related matters including industry forums, workshops and other activities to enhance bushfire risk management understanding and capability. Examples include:

- > The Utility Arborist Association of Australasia (UAAA) hosted an arboreal conference including international guest speakers in Hobart in 2018. A focus of the conference was vegetation management for utilities.
- > The Australian Energy Network Association (ENA) engages in a number of industry specific projects run by sub-committees made up of member representatives. In 2018, Essential Energy representatives participated in projects relating to Vegetation Management and Bushfire risk.

- > Essential Energy is a member of the NSW Industry Safety Steering Committees (ISSC) including review of industry codes and guidelines relating to bushfire risk. These codes and guidelines are published for state-wide access and use.
- > Essential Energy engaged in dialogue with other utilities nationwide to share knowledge on a range of issues including asset maintenance practices as they relate to bushfire risk management.
- > Annually, NSW RFS and Essential Energy engage through district bushfire committees and bushfire season outlook briefings held at various sites around the state in preparation for the coming bushfire season.
- > Essential Energy conducted meetings with network equipment manufacturers and service suppliers to investigate opportunities to improve performance of assets and services with potential to lower fault or ignition risk.
- > Essential Energy participates in an annual Bushfire Risk Industry Forum with nationwide attendees (industry and expert) to share experiences and learnings. This includes consideration of new and emerging technologies aimed at reducing network fire ignitions and comparison of practices.

Identification of Hazardous Bushfire Areas

Essential Energy has identified locations which are generally bushfire prone. The bushfire-prone lands are further segmented into bushfire risk classifications based on scientific bushfire risk modelling. The modelling considers the impact of fires which may originate from network assets.

Bushfire risk priority classifications (P1, P2, P3, & P4) are applied and determine bushfire mitigation work priorities, pre-summer inspection requirements, investment program priorities, and operational procedures. Below is a sample map of these zones based on designated maintenance areas within the Essential Energy footprint.

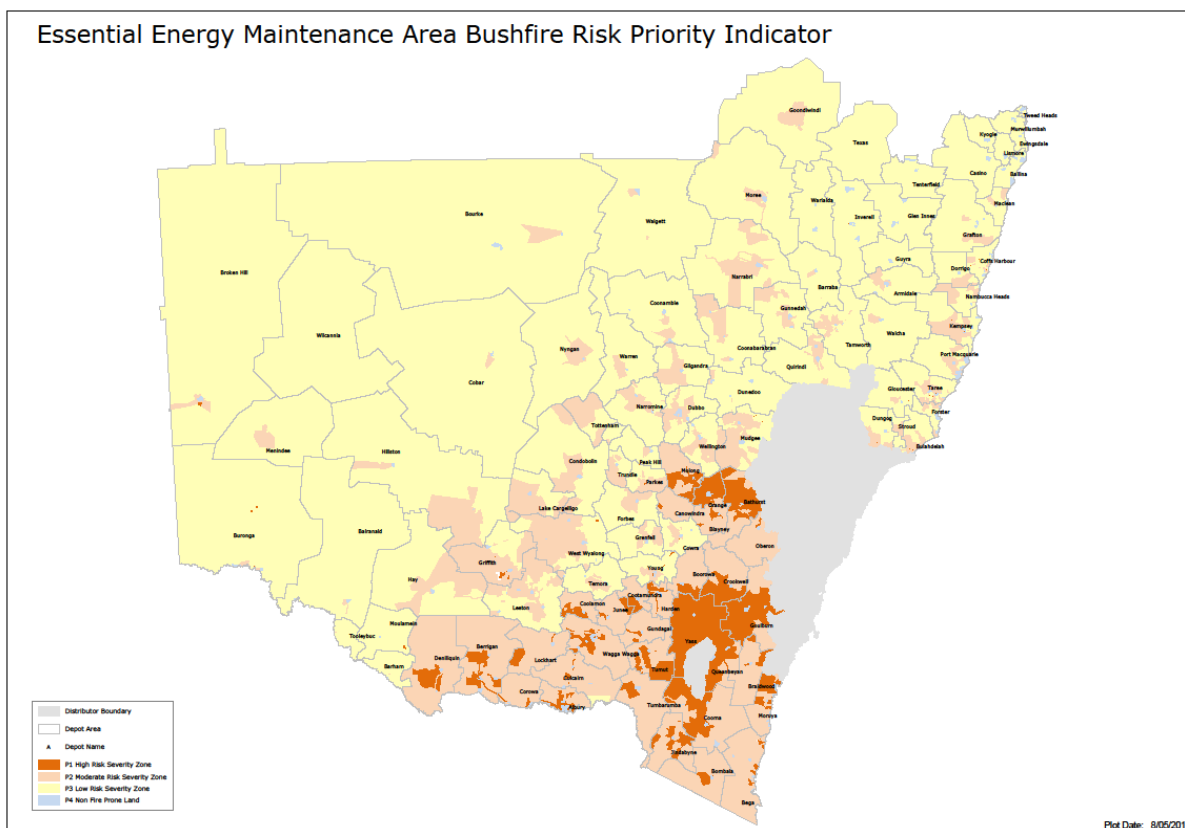
The P1-P4 classifications are a blend of ratings from two different bushfire risk models: (i) Essential Energy Fire Risk model and (ii) Phoenix Rapid Fire model. These are defined in Table 1.

Table 1: P1 to P4 Bushfire risk classification definition

Priority – network bushfire risk	Definition
P1	<ul style="list-style-type: none"> • Phoenix Level 1 • Phoenix Level 2; or • Phoenix Level 3 inside EE High Bushfire Zone • Other areas determined as High Risk
P2	<ul style="list-style-type: none"> • Phoenix Level 3 outside of; or • Phoenix Level 4 inside EE High Bushfire Zone
P3	<ul style="list-style-type: none"> • Phoenix Level 4 not in EE High Bushfire Zone
P4	<ul style="list-style-type: none"> • Non-Bushfire Prone e.g. wetlands, riparian bushlands, urbanised

A sample of the mapping of these classifications by geographic maintenance areas is shown in Figure 1.

Figure 1: Map indicating fire risk prioritisation zones



Legend

- P1 – Highest bushfire risk maintenance areas
- P2 – Moderate bushfire risk maintenance areas
- P3 – Lower bushfire risk maintenance areas
- P4 – non-bushfire risk maintenance areas (not visible due to map scale - urban areas)

Review of Bushfire Risk Classifications

The review of the Bushfire Risk Classifications is outlined in Essential Energy policy. This describes the process for classifications and review of underlying fire risk models. Modelling review includes:

- *Essential Energy Fire Risk model review*: Updating of input data such as the Network fire starts and RFS Total Fire Ban information by relevant areas. The target review period is within a three-year cycle.
- *Phoenix Rapid Fire model review*: The target review period for Phoenix values is within a three-year cycle. Earlier review may be triggered by circumstances which have potential to materially impact the classification. Examples of such circumstances include:
 - an abnormal or unusual extreme weather event (e.g. record heatwave defined by Bureau of Meteorology - BOM)
 - a significant change in the underlying dataset (e.g. ACT house connection point data availability resulted in model refresh initiation in 2017-18)
 - a Phoenix modelling tool / software version enhancement - step change
 - environmental changes (e.g. significant fire/s in the landscape, fuel loadings).

Expert guidance is sought by Essential Energy in regard to use of bushfire risk models.

Expert recommendations relied upon include the University of Melbourne Fire Ecology department, NSW RFS or other relevant experts.

Implementation of New Classifications Post Review

The review of classifications (P1-P4) has potential implications for the business, customers, contractors and other external stakeholders with regard to the timing of reclassification and implementation. As a result, there is a natural lag between classification review and business implementation.

For example, reclassification requires incorporation and alignment with:

- > Corporate Risk Management Policy
- > Asset Management Programs and Risk determinations
- > reporting including internal reporting relied upon to prioritise works and understand risk exposure, and external performance reporting e.g. IPART
- > program investment cases and regulatory submissions
- > program delivery resource planning, including changes to contracted service arrangements
- > regulatory safety expectations.

Asset Maintenance and Renewal programs

Essential Energy implements maintenance programs based on industry standards and emerging new methodologies. Targeted capital renewal programs have been developed and are continuously reviewed for effectiveness. These programs drive replacement through ongoing monitoring and assessment prior to asset failure.

Fire Start Analysis and Reporting

Fire start investigation, reporting and analysis is used as an opportunity to review performance and improve risk management. Analysis includes consideration of events within the operational footprint as well as the wider industry. Reporting includes monthly fire reporting, annual reporting and statistical analysis to identify causes and program effectiveness.

Vegetation Management Programs

Essential Energy has implemented a plan to achieve compliance with vegetation clearances in accordance with NSW industry guideline ISSC3. This plan is prioritised in the P1-P4 risk classifications and has been approved by IPART. The highest bushfire risk areas (P1) became compliant in September 2018 prior to the commencement of the bushfire danger periods. Essential Energy is focussed on achieving compliance in other areas as specified in the implementation plan provided to IPART.

Regrowth Management

One of the main objectives in Vegetation Management is to avoid encroachment into the Minimum Vegetation Clearance between cutting cycles as far as reasonably practicable. While this results in preventing clearance incursions between cutting cycles in most spans, it will not necessarily negate all incursions due to uncontrollable variables and practical limitations in management of vegetation, such as:

- seasonal weather variability impacting regrowth forecasting
- natural variation which occurs in individual plant behaviour
- site condition variability
- practical limitations applying to work practices. This includes limits of field based arboreal assessments and using the naked eye and judgement to estimate clearance distances. Whilst not absolute, these are common practices adopted within the industry.

Additional cutting of the vegetation beyond the minimum clearance may be required to minimise the likelihood of vegetation incursions due to regrowth between cutting cycles. It is the Authorised Officer's role to determine the extent of cutting with an allowance for forecast regrowth to the best of their capability and within the practical constraints mentioned previously.

When determining the regrowth allowances, consideration is also given to sound environmental outcomes and community expectations including consideration for significant trees, streetscape concerns and cultural or heritage values.

Essential Energy invests in additional programs and is developing vegetation data modelling which assists in management of the risk associated with regrowth allowance accuracy limitations. This includes:

- > investment in aerial LiDAR inspection technologies deployed at intervals in bushfire risk areas to identify vegetation encroachments that may occur inside routine cyclic maintenance. Tasks identified from these programs are assigned a maximum rectification timeframe (MRT) for completion based on risk classification. This provides some contingency where regrowth may be under-estimated
- > annual PSBI are conducted over Essential Energy's highest bushfire risk areas prior to the declared bushfire danger periods and works are prioritised for completion before 1 October each year
- > vegetation growth analysis models currently being developed to better understand some of the variability and provide insights. This provides opportunities to better understand and treat risk in the medium to long-term
- > employment of targeted tree removal programs. This allows for the removal of trees where minimum clearances are unable to be achieved or sustained for the nominated cutting cycle.

Vegetation Data Management

Essential Energy has a Vegetation Information Management system (VIMs) which is utilised to collate vegetation works and dispatch to mobile devices in the field and to contractors' systems. Tasks are prioritised and classified for loading to the VIMs. All tasks reported by the groundline cyclic program including field scoping (internal and contract), customer reports, and staff reports are loaded into the VIMs. Due to the significant volume of data associated with LiDAR scanning, all LiDAR derived tasks are currently loaded and managed in a Structured Query Language (SQL) database where they can be analysed in their entirety, risk assessed and prioritised. A portion of these (high risk tasks) are subsequently loaded to the VIMs for work packaging and field completion.

The remaining LiDAR tasks are stored within the database. This database provides the capacity to analyse large volumes of tasks and apply modelling tools. All LiDAR task data is subsequently provided to the Contractor to inform cyclic program frequency optimisation and prioritisation of cyclic treatment. Lower risk LiDAR reported spans are not loaded directly to VIMs from the database and are used to inform the contracted groundline cyclic program to ensure an orderly and efficient approach. These tasks are also monitored via subsequent LiDAR and PSBI (in P1 areas) inspections. If the span incursion risk level escalates due to regrowth prior to the cyclic maintenance, it is then loaded to VIMs for completion outside of the maintenance cycle, and within specified Maximum Rectification Timeframes (MRTs).

Cutting crews attending spans with high risk tasks issued from VIMs must complete all A1 to A4 tasks within the span, regardless of the severity whilst at the span, to ensure full compliance.

3. Climatic Conditions – Consideration by Essential Energy

Essential Energy acknowledges that climatic conditions vary over the different bushfire seasons and uses the assessment of the NSW RFS for bushfire danger periods. The NSW RFS assess the bushfire danger for the state.

RFS segregate bushfire declaration periods into:

- > nominal declaration (1 October – most state areas)
- > permanent variations (most years declaration occurs on this date for certain areas)
- > temporary variations (changed declaration date for the current season only).

Variations to the nominal declaration date (of 1 October) are based on assessment of conditions and recommendations of the local Bush Fire Management Committees.

The permanent variations are shown in Table 2. This means that in most years these declarations are permanently adjusted to commence earlier or later than 1 October.

Table 2: RFS permanent variations to bushfire danger period declaration

Nominal declaration	Permanent variation date	Area
1 October	1 August	Tenterfield, Inverell, Glenn Innes Severn, Guyra/Armidale Dumaresq, Uralla and Walcha
1 October	1 September	Tweed, Kyogle, Byron, Lismore, Ballina, Richmond Valley, Clarence Valley, Coffs Harbour, Bellingen, Nambucca, Kempsey, Gunnedah, Liverpool Plains, Bega Valley, Upper Hunter, Muswellbrook, Singleton (Ausgrid), South Coast: Shoalhaven (Endeavour)
1 October	1 November	Blayney, Cabonne, Cowra, Orange City, Berrigan, Corowa, Albury City, Greater Hume, Griffith City, Leeton, Murrumbidgee, Narrandera, Coolamon, Junee, Lockhart, Urana, Wagga Wagga City

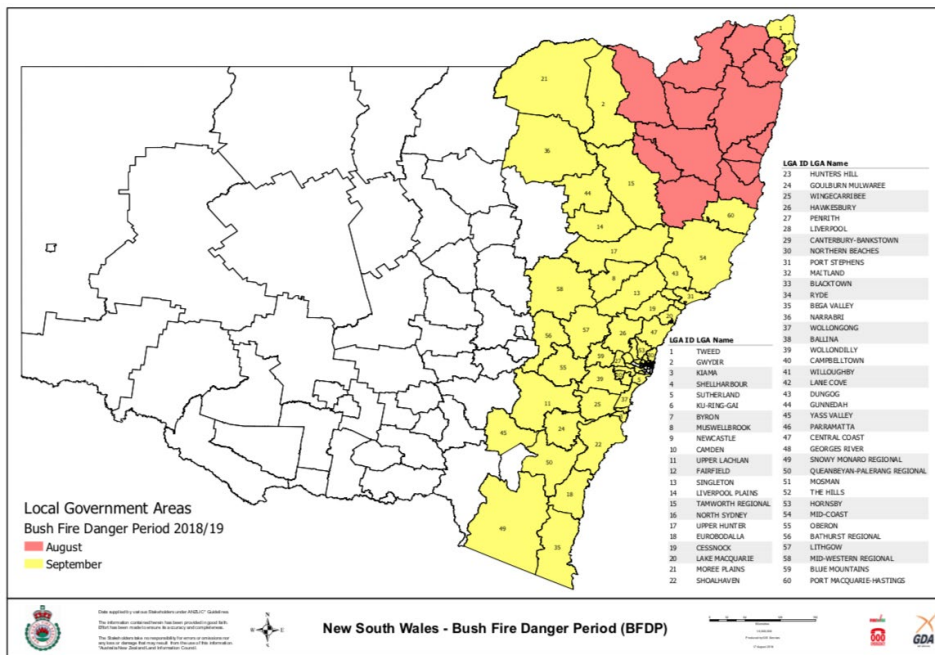
In 2018 the NSW RFS made temporary variations to the bushfire danger period declarations for many of the Local Government Areas (LGAs). Refer to Table 3.

Table 3: RFS temporary variations to bushfire danger period declaration

Normal declaration	Temporary 2018-19 variation date	Local Government Area
1 September	1 August	Clarence Valley, Kyogle, Lismore, Richmond Valley
1 September	17 August	Coffs Harbour, Bellingen, Nambucca, Kempsey
1 October	1 September	Ballina, Bathurst, Bega Valley, Byron, Dungog, Eurobodalla, Goulburn Mulwaree, Gunnedah, Gwydir, Kyogle, Lismore, Liverpool Plains, Mid Coast, Mid-Western, Moree, Narrabri, Oberon, Port Macquarie Hastings, Queanbeyan Palerang, Richmond Valley, Snowy Monaro, Tamworth, Tweed, Upper Lachlan, Yass Valley

The map of LGAs (Figure 2) highlights those LGAs where the bushfire danger period declarations came into effect in 2018 up to 30 September 2018.

Figure 2: RFS bushfire danger period 2018/19 – September 2018



Essential Energy conducts bushfire mitigation activities on a continuous cycle all year round, balancing bushfire risk consideration with program efficiencies and affordability. The effort is continuous recognising the variability in seasons from year to year. The combined effect of all bushfire mitigation-related work programs and activities contribute to management of the bushfire risk prior to, during, and after declared bushfire danger periods.

Essential Energy manages variation in seasonal conditions and declared bushfire danger periods through the following actions:

- > monitoring of conditions – Essential Energy monitors the state bushfire risk conditions through communication with RFS, including formal agency briefings regarding climate outlooks and accessing feeds from BOM via RFS which are integrated into Essential Energy alert systems. Other methods for monitoring upcoming climatic conditions include:
 - information provided in media releases
 - Bushfire Risk Working Group review of the BOM season outlooks
 - information provided by the Bushfire and Natural Hazards Cooperative Research Centre.
- > assessment of the risk situation through fortnightly Bushfire Preparedness Operational meetings. This includes consideration of the conditions, locations, and type of maintenance tasks open. These meetings include field managers responsible for delivery of the pole and line maintenance program, as well as other program managers. Resource deployment to help meet priorities is considered as part of this risk assessment process
- > Total Fire Ban (TFB) considerations – special precautionary conditions for TFB days are adopted regardless of when they occur, thereby ensuring activation inside or outside declaration dates. It includes changes to network devices to prevent automatic line re-energisation should a fault be detected, to reduce the probability of a bushfire ignition. Lines are also patrolled after faults before re-energisation
- > planning of Essential Energy’s PSBI program and the cycle length takes into consideration possible variations to declaration periods
- > Essential Energy internal communications are released each year leading up to the bushfire danger periods. This includes information about the temporary earlier declarations to make field crews aware of the conditions and why maintenance priorities are required. Ongoing communications are issued throughout the season to ensure all staff are cognisant of the dangers associated with bushfire season.

4. Statistical Reporting

The following statistical data is provided in accordance with requirements of the IPART reporting guideline.

Table 4 provides information relating to management of private overhead powerlines. This includes the numbers of private line poles inspected as part of the bushfire pre-season PSBI program, and private high voltage sites contacted in regard to their bushfire risk management obligations.

Table 4: Data on bushfire risk preparation works

Criteria	Target this season	Actual this season	Outstanding from previous seasons	Actual from previous seasons
<i>Line route length of the ENOs network inspected in bushfire prone areas within the reporting year.</i>	Refer to Tables 5, 6, and 7			
<i>Private lines checked by the ENOs in pre-season inspections by the conclusion of the reporting year.</i>	4,769 poles ¹	4,769 poles	0	4,769 poles
<i>Number of HV customers advised to undertake pre-season bushfire checks in accordance with ISSC31.</i>	129 sites	129 sites	0	258 sites ²

Results to September 30/09/18

Table 5 refers to Essential Energy's routine ground line inspection program including network assets inspected and their associated fire risk priority classifications.

Table 5: Data on bushfire risk preparation works - Ground Line Inspections

Ground line inspection – 4.5-year cycle				
Bushfire Risk Priority	Total Pole Population	Target Poles Inspected	Actual 2018 Season	Outstanding 2018 Season
P1	119,764	24,883	24,880	3
P2	388,322	81,351	77,361	3,990
P3	605,245	126,533	122,024	4,509
P4	267,983	68,145	64,146	3,999
Total	1,381,314	300,912	288,411	12,501

Outstanding as reported at 27/09/18. Excludes decommissioned assets

Table 6 provides information relating to aerial inspections of network overhead powerlines. This includes two programs (i) capture of pole top imagery and (ii) LiDAR scanning inspection programs. These complement the ground line inspection program by enhancing Essential Energy's understanding of the condition of the network.

These programs are relatively new to the industry and continuing to develop due to technology advances. The aerial inspection program has delivered improvement in reducing bushfire risk in the Essential Energy footprint through the identification of significantly higher volumes of maintenance works since 2014.

This program runs continuously throughout the calendar year. The table indicates the program is on schedule in 2018.

¹ Private poles inspected by the pre-season inspection (PSBI). This includes all poles in P1 classified areas. The 2017-18 number of poles was higher as it included all inspections rather than just pre-season (PSBI)

² A higher number of sites were sent letters in 2016-17 due to database anomalies. The population in 2016-17 had not been reviewed or updated for considerable time. A subsequent refresh resulted in lower numbers of sites.

Table 6: Data on bushfire risk preparation works – aerial inspections – HD Imagery & LiDAR

HD Pole-top photography & LiDAR Inspection – annual proportion of network YTD 30 September				
Bushfire Risk Priority	Inspection type	Target kms	Actual kms	Outstanding kms
P1	HD Photos + LiDAR	16,821	16,821	0
P2	HD Photos + LiDAR	45,251	45,251	0
P3	HD Photos + LiDAR	47,248	47,248	0
P4	HD Photos + LiDAR	2,262	2,262	0
Total		112,847	112,847	0

The aerial inspection program (HD Photos + LiDAR) is active all year round based on a calendar year schedule for flights, data capture, and reporting of tasks by vendors to Essential Energy systems. The "Target kms" indicates the kilometres required to be inspected by 30 September (the reporting period) according to the contracted schedule.

The PSBI program is an additional aerial inspection conducted over the network areas of highest bushfire risk. It provides for an assessment of the network condition prior to the commencement of the nominal declaration of the bushfire danger period as a contingency to detect potential ignition risk maintenance tasks due to storm damage or other network damage outside routine programs. Table 7 indicates this inspection program was completed prior to 30 September.

Table 7: Data on bushfire risk preparation works - aerial inspections - PSBI

Aerial pre-summer bushfire inspection (PSBI) – annual high fire risk locations			
Bushfire Risk Priority	Target kms	Actual kms	Outstanding kms
PSBI (P1 – Visual Aerial Patrol)	14,698	14,698	0

Results to September 30/09/18

Table 8 below provides information relating to reportable bushfire ignitions suspected as being associated with the network. These were reported to IPART throughout the reporting period. It also contains the number of directions issued by Essential Energy to owners of private lines to address defects identified by our asset inspectors which are their responsibility and where they have not responded within the 30-day notice period. This notification is in accordance with the requirements of the Electricity Supply Act. These outstanding notices result in a follow-up letter by Essential Energy warning owners that action will be taken to make these safe.

Table 8: Bushfire starts and risk management

Criteria	Inside bushfire prone areas	Outside bushfire prone areas
Number of reported bushfire ignitions by private installations (High Voltage and Low Voltage).	0	0
Number of reported bushfire ignitions by the ENO's electricity network.	17 ³	0
Number of identified vegetation defects open at the conclusion of the reporting year within bushfire prone areas.	Refer to table 10 – Vegetation Spans Open & Outstanding	
Number of directions for bushfire risk mitigation issued to private LV customers by the ENO that are outstanding as of 30 September.	206 ⁴	26
Number of directions for bushfire risk mitigation issued to private LV customers by the ENO that are outstanding by more than 60 days.	1 (task issued to maintenance crew for action)	1 (task completed by customer but waiting on formal completion advice)
Number of HV customers providing statements of compliance in accordance with ISSC 31 by 30 September.	43 ⁵ (confirmed compliance notices or statement n/a.)	Private HV sites are not separated into bushfire prone areas so all are treated as requiring compliance statements

Results to September 30/09/18

In the following data tables, reference is made to task classifications Cat 1-4 (asset repairs) and A1-4 (vegetation). Tasks identified are allocated risk severities based on industry experience to determine failure probability. The risk severity classifications are defined in Table 9.

Table 9: Task severity classifications

Asset tasks	Task severity
Cat 1	Emergency(48hrs)
Cat 2	Urgent (30days)
Cat 3	Risk (9mths)
Cat 4	Next Maintenance (next maintenance visit)
Vegetation tasks (safety clearance encroachments)	
A1	75 - 100% encroached
A2	50 - 75% encroached
A3	25 - 50% encroached
A4	0 - 25% encroached

Table 10 provides information in relation to the vegetation management program. It contains the number of spans where work has been identified and in progress (Open) as well as spans where work to clear vegetation is past the nominated date for completion (Outstanding).

³ IPART reportable fires

⁴ These activate a second letter follow up to owners advising Essential Energy will come onto the property to make these safe within a specified timeframe.

⁵ As at 21/09/18. This is the total number of sites as HV sites are not defined as Bushfire Prone or Non-Bushfire Prone. 86 sites are yet to provide compliance statements.

Table 10: Vegetation spans open and outstanding

Bushfire priority	Status	A1	A2	A3	A4	Hazard trees ⁶
PSBI (P1)	open ⁷	0	0	0	0	0
	outstanding ⁸	0	0	0	0	0
Other (P1)	open	5	92	1,384	4,023	235
	outstanding	1	59	0	0	0
P2	open	426	979	1,788	1,078	188
	outstanding	43	16	19	7	0
P3	open	791	1,263	2,029	1,520	213
	outstanding	154	13	15	15	3
P4 (non-bushfire prone)	open	2,157	2,533	2,114	2,560	146
	outstanding	744	250	266	408	0
Total	open	3,379	4,867	7,315	9,181	782
	outstanding	942	338	300	430	3

Results as reported at 25/10/18.

Table 11 provides further information relating to management of bushfire risk associated with private lines. The table indicates the total number of private line notices issued by the defect severity of the task where Cat 1 tasks are the highest severity to Cat 4 being the lowest (refer to Table 9).

Table 11: Asset maintenance tasks impacting bushfire risk – private lines

	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 1	Cat 2	Cat 3	Cat 4
<i>Number of identified asset maintenance tasks impacting bushfire risk within bushfire prone areas that were open at the conclusion of the reporting year.</i>	Refer to table 12							
<i>Number of directions for bushfire risk mitigation work on private land issued to LV customers by the ENO.</i>	0	42	482	180	0	8	193	21

Results as reported at 30/09/18

Table 12 contains information relating to the number of network maintenance tasks identified which are in progress (Open) and those where the nominated rectification timeframe has elapsed (Outstanding) before completion. Outstanding tasks are monitored on a fortnightly basis and risk assessed to determine the appropriate course of action. Tasks may be outstanding due to wet weather and access issues or where time extensions have been

⁶ Hazard trees are trees outside or inside minimum clearances which are assessed as a hazard due to their condition and proximity to the powerline.

⁷ Open spans include the outstanding spans from the groundline inspection & LiDAR capture.

⁸ Outstanding spans represent open spans that have not been rectified within the assigned timeframe. A proportion of these outstanding spans may have approved time extensions subject to risk assessments.

approved based on a risk assessment. Tasks in the table are separated into the respective bushfire priorities and severity.

Table 12: Asset maintenance tasks impacting bushfire risk – network

Severity	Cat 1 (emergency – 48hrs)		Cat 2 (Urgent -1mth month)		Cat 3 (risk – 9 months)		Cat 3A (risk – 24 months)		Cat 4 (next maintenance)		Totals
	Open ⁹	Outstanding ¹⁰	Open	Outstanding	Open	Outstanding	Open	Outstanding	Open	Outstanding	Open
P1	0	0	12	0	3,635	313	0	0	2,053	7	5,700
P2	1	1	49	18	11,626	799	360	0	6,432	24	18,468
P3	2	3	129	55	22,362	2,476	612	0	14,704	29	37,809
P4	0	1	18	6	6,821	472	12	0	2,985	9	9,836
Total	3	5	208	79	44,444	4,060	984	0	26,174	69	71,813

Results as reported at 15/10/18.

⁹ Open maintenance tasks include the outstanding maintenance tasks.

¹⁰ Outstanding maintenance tasks represent tasks that have not been rectified within the assigned timeframes. This may include a proportion of tasks with approved time extensions based on risk assessment e.g. a task in a wet inaccessible area.