



TransGrid

Bushfire Risk Management Report

TransGrid 2018

31 October 2018

Contents

1. Introduction	3
2. Climate Conditions	4
3. Statistical Reporting	6
4. TransGrid Comments	9
4.1 TransGrid’s application of the asset defect categorisation	9
4.2 Commentary on Statistical Reporting Section 3	9
4.3 Bushfire Risk Management Actions	11
4.4 Audit Reports on the ENSMS	12
4.5 Compliance with any Direction from IPART	12

List of Tables

Table 1: Data on bushfire risk preparation works	6
Table 2: Bushfire starts and risk management	7
Table 3: Asset defects impacting bushfire risk	8
Table 4 Bushfire risk profile of open vegetation defects	10
Table 5 Bushfire risk profile of overdue vegetation defects	10
Table 6 Bushfire risk profile of open asset defects across asset streams	10
Table 7 Bushfire risk profile of overdue asset defects across asset streams	11

List of Figures

Figure 1 Monthly maximum temperature in the state of NSW and ACT	4
Figure 2 Monthly rainfall in the state of NSW and ACT	4

1. Introduction

The annual Bushfire Risk Management Report allows TransGrid to provide meaningful data to IPART and the broader community on bushfire risk mitigation programs as well as our performance in managing bushfire risk.

The report covers the 12 month period beginning at the commencement of the nominal bushfire season i.e. 1 October last calendar year through to 30 September 2018. The report must be submitted to IPART by 31 October 2018 and subsequently made available on TransGrid's website.

For the purpose of this document a bushfire is 'a fire that burns in grass, bush or woodland and can threaten life, property and the environment', as defined by the ACT Rural Fire Service¹.

The report is prepared in accordance with IPART's Electricity Networks Reporting Manual - Bushfire risk management reporting (April 2018).

¹ ACT Rural Fire Service, Dictionary/Terminology, <http://esa.act.gov.au/community-information/bushfires/what-is-a-bushfire/>, accessed 12 October 2018.

2. Climate Conditions

Climate factors relating to bush fire risk include temperature, humidity, wind and the dryness of the landscape. These factors are reflected in Fire Danger Ratings and Total Fire Bans issued by the Rural Fire Service (RFS). Of these factors, historical data for maximum temperature is available from the Australian Government Bureau of Meteorology, as shown in Figure 1 and Figure 2.

Figure 1 Monthly maximum temperature in the state of NSW and ACT²

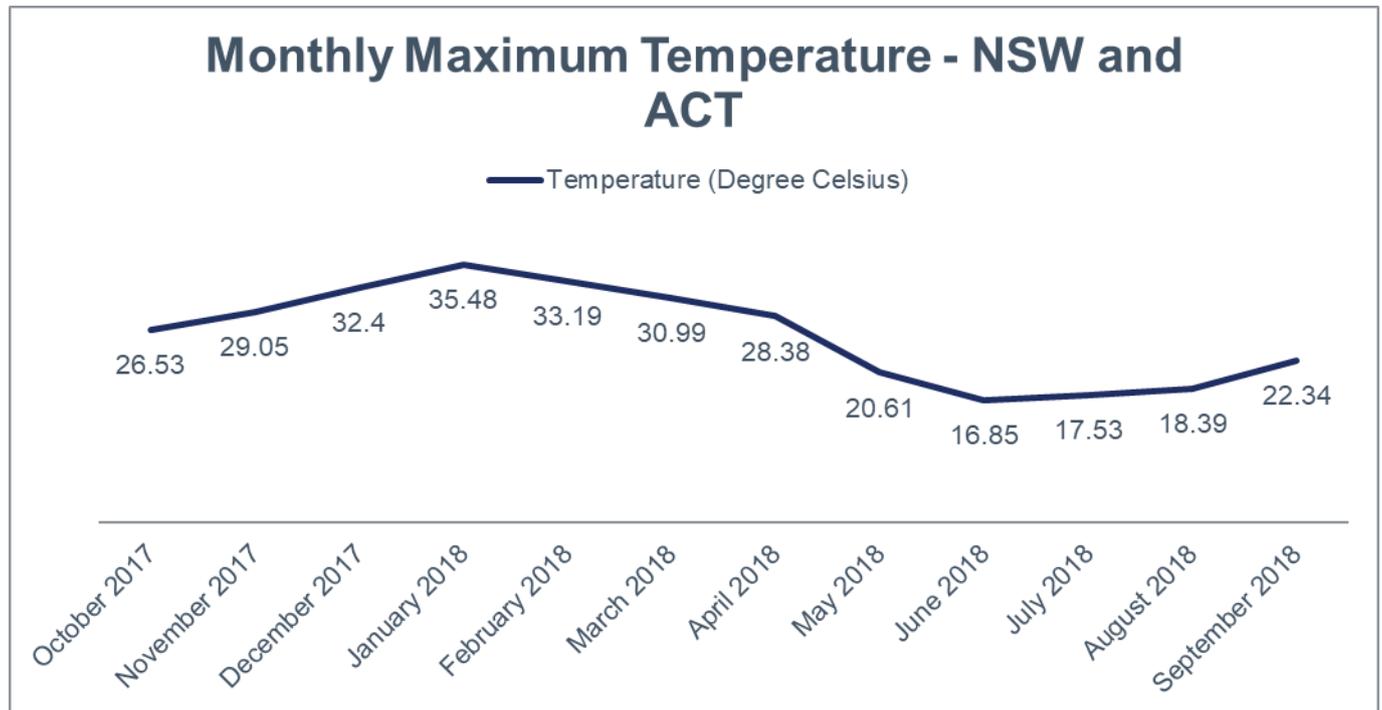
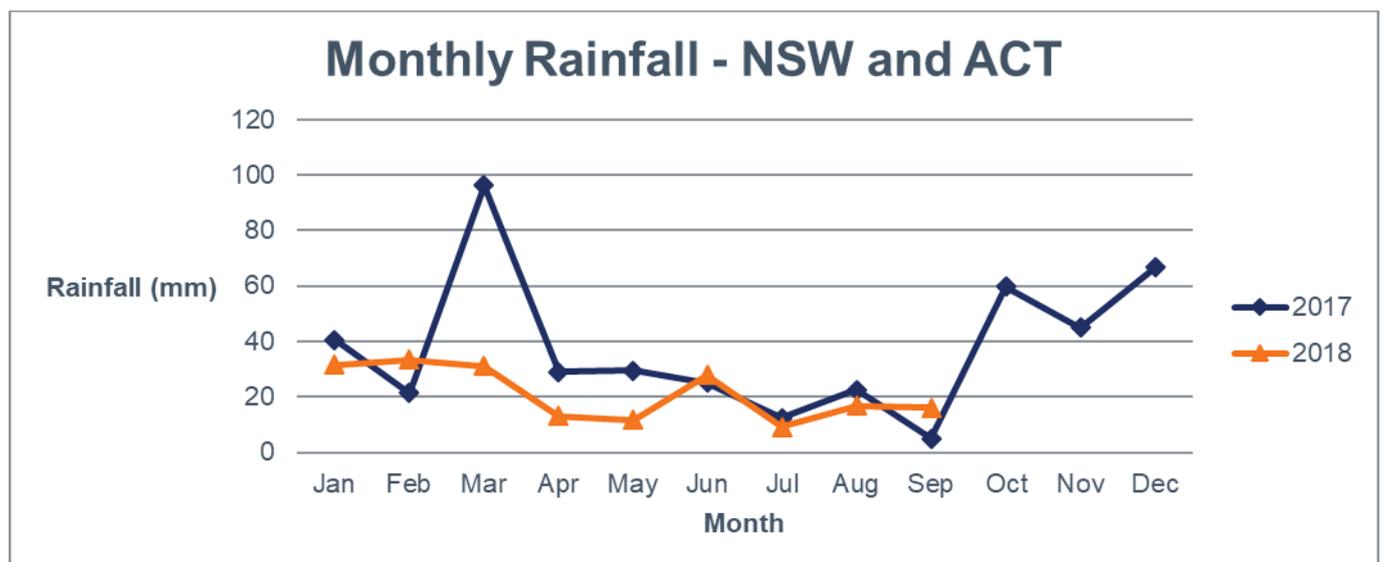


Figure 2 Monthly rainfall in the state of NSW and ACT



² Timeseries taken from <http://www.bom.gov.au/climate/change/#tabs=Tracker&tracker=timeseries>.

TransGrid has taken action to address the permanent change of the statutory start date of the bushfire danger period for some local government areas from 1 October to either 1 August or 1 September communicated by NSW Rural Fire Service (RFS). TransGrid has shifted the transmission line and easement inspections of assets in affected local government areas with 1 August and 1 September start dates, with the aim of completing them by the date when practicable to do so. This reduces TransGrid's bushfire risk exposure from transmission line defects and vegetation encroachments during the bushfire danger period.

The ACT RFS did not declare an early start to the bushfire danger period, which has remained as 1 October 2018.

TransGrid's Bushfire Risk Management Plan states that a bushfire risk assessment is to be completed on open bushfire related maintenance work orders at the start of the bushfire danger period in NSW and ACT. This is to account for the temporary variations (i.e. early start) of the bushfire danger period in some local government areas. Following the notification of the early start, this risk assessment was completed prior to 1 October and priorities for maintenance work adjusted where necessary.

TransGrid has work practices that take into account the Fire Danger Ratings and Total Fire Bans issued by the NSW and ACT RFS. For example, Total Fire Ban notifications from NSW and ACT RFS are forwarded to all field staff for their awareness when assessing the risk for work to be undertaken on a day-to-day basis, such as hot work. These work practices were commenced early in response to the climatic conditions.

3. Statistical Reporting

This section provides statistics on the current bushfire season’s risk management works as well as providing detail of outstanding works from previous seasons. The statistics in this report have been prepared in accordance with TransGrid’s Bushfire Preparedness Reporting Procedure and reviewed and signed off by the relevant managers.

Table 1: Data on bushfire risk preparation works

Criteria	Target this season	Actual this season	Outstanding from previous seasons	Actual from previous seasons
Line route length of the ENO’s network inspected in bushfire prone areas within the reporting year.	6024km	6024km	92km ^b	6598km ^b
Private lines checked by the ENO’s in pre-season inspections by the conclusion of the reporting year.	NA	NA	NA	NA
Number of HV customers ³ advised to undertake preseason bushfire checks in accordance with ISSC 31 ^a .	NA	NA	NA	NA

^a New South Wales Department of Industry, *ISSC 31 Guideline for the Management of Private Overhead Lines*, 1 July 2004.

^b Refer to Section 4.2.1 for detail.

³ Although ISSC 31 is not directly applicable to TransGrid, as good business practice letters have been sent to directly connected HV customers to notify them of early start in bushfire danger period

Table 2: Bushfire starts and risk management

Criteria	Inside bushfire prone areas	Outside bushfire prone areas
Number of reported bushfire ignitions by private installations ^a (High Voltage and Low Voltage).	NA	NA
Number of reported bushfire ignitions by the ENO's electricity network.	2	3
Number of identified vegetation defects open at the conclusion of the reporting year within bushfire prone areas. ⁴	3	6
Number of directions for bushfire risk mitigation issued to private LV customers by the ENO that are outstanding as of 30 September.	NA	NA
Number of directions for bushfire risk mitigation issued to private LV customers by the ENO that are outstanding by more than 60 days.	NA	NA
Number of HV customers providing statements of compliance in accordance with ISSC 31 by 30 September.	NA	NA

^a A private installation has the same meaning as electrical installation as defined by the Electricity Supply Act 1995 (NSW).

⁴ For category based breakdown of the vegetation defects, please refer to Section 4.2.2.

Table 3: Asset defects impacting bushfire risk

Criteria	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1 ^a	Cat 2 ^b	Cat 3 ^c	Cat 4 ^d	Cat 1 ^a	Cat 2 ^b	Cat 3 ^c	Cat 4 ^d
Number of identified asset defects impacting bushfire risk within bushfire prone areas that were open at the conclusion of the reporting year.	0	11	53	154	0	14	48	88
Number of directions for bushfire risk mitigation work on private land issued to LV customers by the ENO.	NA	NA	NA	NA	NA	NA	NA	NA

^a Category 1 Defects: Defects that pose a direct and immediate risk to the safety of the public/staff and requiring immediate rectification.

^b Category 2 Defects: Defects that pose a risk to the safety of the public/staff and require rectification with one month.

^c Category 3 Defects: Defects that pose a predictable future risk to the safety of the public/staff and require rectification within 6 months.

^d Category 4 Defects: Defects that pose a predictable future risk to the safety of the public/staff but can be rectified through planned maintenance.

4. TransGrid Comments

4.1 TransGrid's application of the asset defect categorisation

TransGrid sets a required timeframe for completing rectification work on asset defects.

TransGrid maps the timeframe to the 4 categories identified defined by IPART in Table 3 of Section 3 as follows:

- > Category 1: TransGrid Priority 01 – Within 24 hours
- > Category 2: TransGrid Priority 02 – Within 1 month
- > Category 3: TransGrid Priority 03 – Within 3 months
- > Category 4: TransGrid Priority 04 – Within 12 months and Priority 05 – Next Outage/Maintenance

TransGrid has a procedure that explains how the values reported in Section 3 are identified as per the data collected by TransGrid.

4.2 Commentary on Statistical Reporting Section 3

4.2.1 Table 1 - Data on bushfire preparation works

The target line route length of network inspected on bushfire prone area land is determined by identifying the transmission lines on bushfire prone land that are scheduled for the required yearly aerial inspections of the network by 30 September.

At 30 September 2017, 92km were not inspected by aerial inspections due to access or weather issues. Ground based inspections (compliance inspections) were substituted for the majority of these lines to mitigate this risk, with 1.1km remaining to be inspected as noted in the 2017 Report. The 1.1km of line was inspected and communicated to IPART November 2017.

The required inspections of transmission lines required by 30 September 2018 were completed through aerial or ground based inspections.

4.2.2 Table 2 - Bushfire starts and risk management

The 5 bushfire ignitions were attributed to fire ignitions from a transmission line conductor hot joint, hot work activities on transmission line structures (three) and from a mobile plant failure.

TransGrid's hot work and incident management procedures were followed in each case. These controls ensured there was no significant risk of an uncontrolled fire developing. The fires did not meet the IPART Incident Reporting Manual criteria as reportable incidents.

Additional information on the risk profile of the reported open and overdue vegetation defects as at the end of the reporting period is provided in Table 4 and Table 5, respectively.

The Category 3 vegetation defects are currently being completed on a prioritised risk basis and are expected to be rectified by December 2018.

The Category 4 vegetation defects will be programmed for completion as business as usual.

Table 4 Bushfire risk profile of open vegetation defects

Criteria	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 1	Cat 2	Cat 3	Cat 4
Number of identified open vegetation defects within bushfire prone areas that were open at the conclusion of the reporting year.	0	0	3	469	0	0	6	190

Table 5 Bushfire risk profile of overdue vegetation defects

Criteria	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 1	Cat 2	Cat 3	Cat 4
Number of identified open vegetation defects within bushfire prone areas that were overdue at the conclusion of the reporting year.	0	0	0	1	0	0	0	0

4.2.3 Table 3 - Asset defects impacting bushfire risk

Additional information on the bushfire risk profile of open and overdue work orders per asset stream is provided in Table 6 and Table 7, respectively, to provide further granularity around the bushfire risk.

TransGrid has a risk based prioritisation process to manage the open asset defects to ensure the bushfire risk is managed as low as reasonably practicable during the bushfire danger period.

Table 6 Bushfire risk profile of open asset defects across asset streams

Criteria	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 1	Cat 2	Cat 3	Cat 4
Substation	0	1	15	9	0	1	6	15
Transmission Line	0	4	36	143	0	11	40	71
Automation	0	0	0	0	0	0	0	0
Network Property	0	0	1	0	0	0	1	0

Table 7 Bushfire risk profile of overdue asset defects across asset streams

Criteria	Inside bushfire prone areas				Outside bushfire prone areas			
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 1	Cat 2	Cat 3	Cat 4
Substation	0	1	1	0	0	0	1	2
Transmission Line	0	5	0	2	0	2	0	0
Automation	0	0	0	0	0	0	0	0
Network Property	0	0	0	0	0	0	0	0

4.3 Bushfire Risk Management Actions

The following activities have been undertaken by TransGrid in preparation for the upcoming bushfire danger period:

- > An initiative to improve our quarterly bushfire strategic risk reporting to the Board.
- > TransGrid’s Bushfire Risk Management Plan is being updated to incorporate the feedback from the bushfire danger period 2017-2018.
- > Asset defects have been prioritised in accordance with the guidelines in the Bushfire Risk Management Plan, and the specific asset maintenance plans to ensure bushfire risk is addressed when identifying the priority of a defect work order.
- > Routine maintenance tasks have been completed in accordance with the maintenance plan.
- > Substation and radio repeater site buffer zones, gutters and compounds have been checked for any issues prior to the bushfire season.
- > A review of system adequacy for NSW for the expected summer peak loads has been undertaken with no significant issues identified. This review considered the expected demand / generation capacity, the risk associated with a credible contingency (losing key network elements) during peak times and the current availability and operational issues associated with critical network plant.
- > All operational systems used by the TransGrid control room are in place ahead of the bushfire season. These systems include the RFS Incident Control Online Notification (ICON) system which provides a real time interface on fire activity with the RFS and the Indji Watch spatial information system which provides rain, wind, lightning and storm tracking capability.
- > TransGrid has written to directly connected customers to notify them of the early start of the bushfire danger period, and the types of risk based activities they should consider within their installation.
- > A new initiative has commenced to use on the ground results from routine easement inspections to validate TransGrid’s Vegetation Risk Model (VRM). This will strengthen TransGrid’s risk based approach to vegetation maintenance.
- > TransGrid has also initiated the following new programs to promote the safe management of bushfire risk associated with the electricity network:
 - LiDAR response notification program
TransGrid implemented a property owner notification process to establish awareness of the bushfire risk of the vegetation violations on their property
 - Property owner database update program
A program has been initiated to review the transmission lines in their current maintenance cycle and obtain and insert more accurate property owner information into the database resulting in a reduction in the effort required to locate property owners prior to entering their land

- Spatial systems access track verification program

TransGrid has initiated an access track verification program to capture verification of access track conditions and locations in the corporate spatial systems and to publish the files to handheld devices. Further information can be sought in Section 1.3 of TransGrid's Electricity Network Performance Report 2017, available on TransGrid's website.

4.4 Audit Reports on the ENSMS

No formal audit of the ENSMS relating to bushfire risk management was required during the reporting period.

4.5 Compliance with any Direction from IPART

No Notice of Direction relating to bushfire risk management was issued during the reporting period.