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1. Summary

This plan outlines TransGrid’s plan to proactively mitigate bushfire risks for the Deer Park Terminal Station (DPTS).

The plan also addresses risks which occur during the bushfire danger periods. This Bushfire Mitigation Plan supports the effective management of these risks to an acceptable risk level in accordance with TransGrid’s business wide Bushfire Formal Safety Assessment.

The Plan demonstrates compliance with Section 113A(1) of the Victorian Electricity Safety Act 1998 (incorporating amendments as at 1 January 2012) that requires that a major electricity company must prepare and submit to Energy Safe Victoria (ESV), for acceptance under this Division, a plan for the company’s proposals for mitigation of bushfire in relation to the company’s supply network at the end of each period of 5 years commencing on the latter of:

(a) the date when the accepted bushfire mitigation plan is first accepted under this Division; or
(b) the date of the most recent acceptance of a revision of the accepted bushfire mitigation plan submitted under this Division.

In accordance with the Electricity Safety (Bushfire Mitigation) Regulations 2013, this Bushfire Mitigation Plan provides the prescribed particulars as specified in Regulation 7.

A copy of the approved TransGrid DPTS Bushfire Mitigation Plan will be published on the TransGrid website (www.transgrid.com.au). This public version of the Plan is consistent with the full version of the plan approved by ESV on 1 March 2018 and contains the information required to be made public under s. 7A of the Electricity Safety (Bushfire Mitigation) Regulations 2013.

A copy of the accepted and current Bushfire Mitigation Plan will be available on site at DPTS by arrangement or at TransGrid’s headquarters offices on request.

The Plan is a living document and is subjected to annual internal and external review to provide an objective and robust framework for its continued development, including the adoption of emerging technologies and innovative ideas.
2. Foreword

This document is TransGrid’s Bushfire Mitigation Plan for Deer Park Terminal Station (DPTS).

The Plan outlines how we will manage our electricity transmission network to mitigate bushfire risk and fulfil our commitment to provide our customers with a reliable and safe electricity supply.

As the owner and operator of the DPTS asset, TransGrid is required under the Victorian Electricity Safety Act 1998 to provide a bushfire mitigation plan (5-yearly), including requirements set out in the Electricity Safety (Bushfire Mitigation) Regulations 2013, for approval by Energy Safe Victoria (ESV).

As the chairperson of our Asset Management Committee (AMC), I trust this Plan conveys key aspects of TransGrid’s Bushfire Mitigation Program and welcome contributions for the continued development of its effectiveness.
3. Abbreviations and Definitions

Table 1 - Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARMS</td>
<td>Actions and Risk Management System</td>
</tr>
<tr>
<td>Beon</td>
<td>Beon Energy Solutions Pty Ltd (ABN 32 610 914 059), the first response maintenance contractor engaged by TransGrid to assist as required with site with electrical maintenance and switching services.</td>
</tr>
<tr>
<td>BMP</td>
<td>Bushfire Mitigation Plan in accordance with the Electricity Safety (Bushfire Mitigation) Regulations 2013</td>
</tr>
<tr>
<td>CFA</td>
<td>Victorian Country Fire Authority</td>
</tr>
<tr>
<td>DHWA</td>
<td>Designated Hot Work Area</td>
</tr>
<tr>
<td>DPTS</td>
<td>Deer Park Terminal Station</td>
</tr>
<tr>
<td>ENSMS</td>
<td>The Electricity Network Safety Management System and associated formal safety assessments developed by TransGrid under the NSW Electricity Supply (Safety and Network Management) Regulation 2014</td>
</tr>
<tr>
<td>EPIRB</td>
<td>Emergency Position Indicating Radio Beacon</td>
</tr>
<tr>
<td>ESMS</td>
<td>Electricity Safety Management Scheme in accordance with the Electricity Safety (Management) Regulations 2009 Division 1</td>
</tr>
<tr>
<td>ESV</td>
<td>Energy Safe Victoria, the Victorian technical and safety regulator</td>
</tr>
<tr>
<td>FDP</td>
<td>Fire Danger Period means a period declared under section 4 of the Country Fire Authority Act 1958 to be a fire danger period</td>
</tr>
<tr>
<td>FSA</td>
<td>Formal Safety Assessment as defined under AS5577</td>
</tr>
<tr>
<td>LVMPRI</td>
<td>LV/MECH Preparation and Restoration Instruction</td>
</tr>
<tr>
<td>OM</td>
<td>Operating Manual</td>
</tr>
<tr>
<td>PSSR</td>
<td>TransGrid’s Power System Safety Rules</td>
</tr>
<tr>
<td>SCADA</td>
<td>Supervisory Control and Data Acquisition System</td>
</tr>
<tr>
<td>SMS</td>
<td>Safety Management Scheme in accordance with the Electricity Safety (Management) Regulations 2009 Division 2</td>
</tr>
<tr>
<td>TFB day</td>
<td>Total fire ban day means a day that has been declared to be a day of total fire ban under section 40(1) of the Country Fire Authority Act 1958</td>
</tr>
<tr>
<td>TSS</td>
<td>TransGrid Spatial System</td>
</tr>
</tbody>
</table>
### Table 2 - Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>As Far As Practicable</td>
<td>The reduction of risk in accordance with the <em>Victorian Safety Act (1998)</em> Section 83 and Part 10. This level of reduction exceeds the requirements for meeting ALARP under AS5577.</td>
</tr>
<tr>
<td>Bushfire Danger Period</td>
<td>CFA declares the Fire Danger Period for each municipality (shire or council) at different times in the lead up to the fire season. It depends on the amount of rain, grassland curing rate and other local conditions. DPTS is located in City of Melton. Maintenance planning is to plan for a bushfire danger period commencement date of the 1st September.</td>
</tr>
</tbody>
</table>
| Bushfire Prone Land              | Bushfire prone land defined by CFA\(^1\):
Bushfire Prone Areas are areas that are subject to or likely to be subject to bushfires.
The Victorian Minister for Planning has determined that specific areas are designated Bushfire Prone Areas for the purposes of the building control system.
| Deer Park Maintenance Plan       | The specific document within TransGrid owned by the Substations Asset Manager that described the activities and intervals required for maintenance and inspection activities at DPTS. |
| Deer Park Safety Case            | The specific document within TransGrid required by ESV for the identification or hazards and associated controls to ensure that safety risks are managed As Far as Practicable in line with the Victorian *Electricity Safety Act (1998)* |
| substation                       | General term for a facility in the electricity network that transforms electricity from one voltage to another and/or transfers electricity from a generator to the TNSP, and/or transfers electricity to a consumer or DNSP. Deer Park Terminal Station is considered a substation within TransGrid. |
| the Act                          | *Electricity Safety Act 1998* (Victoria)                                                                                                   |
| the Regulation                   | Electricity Safety (Bushfire Mitigation) Regulations 2013                                                                                   |
| The Wire                         | TransGrid’s internal intranet system                                                                                                       |

4. Compliance Information

Section 5 of this document has been structured in line with the Electricity Safety (Bushfire Mitigation) Regulations 2013 (the Regulations) to assist with demonstrating compliance as shown in Table 3.

Note that this is the publically available version of the plan and contains the content required s. 7A of the Electricity Safety (Bushfire Mitigation) Regulations 2013. The included information is consistent with the full version of the plan approved by ESV.

Table 3: Compliance Reference Table

<table>
<thead>
<tr>
<th>Regulation</th>
<th>7 - Prescribed particulars for bushfire mitigation plans—major electricity companies.</th>
<th>Location in BMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(1)(a)</td>
<td>the name, address and telephone number of the major electricity company;</td>
<td>Section 5.3</td>
</tr>
<tr>
<td>7(1)(b)</td>
<td>the position, address and telephone number of the person who was responsible for the preparation of the plan;</td>
<td>Section 5.3</td>
</tr>
<tr>
<td>7(1)(c)</td>
<td>the position, address and telephone number of the persons who are responsible for carrying out the plan;</td>
<td>Section 5.3</td>
</tr>
<tr>
<td>7(1)(d)</td>
<td>the telephone number of the major electricity company’s control room so that persons in the room can be contacted in an emergency that requires action by the major electricity company to mitigate the danger of bushfire;</td>
<td>Section 5.3</td>
</tr>
<tr>
<td>7(1)(e)</td>
<td>the bushfire mitigation policy of the major electricity company to minimise the risk of fire ignition from its supply network;</td>
<td>Section 5.4</td>
</tr>
<tr>
<td>7(1)(f)</td>
<td>the objectives of the plan to achieve the mitigation of fire danger arising from the major electricity company’s supply network;</td>
<td>Section 5.5</td>
</tr>
<tr>
<td>7(1)(g)</td>
<td>a description, map or plan of the land to which the bushfire mitigation plan applies;</td>
<td>Section 5.6</td>
</tr>
<tr>
<td>7(1)(h)</td>
<td>the preventative strategies and programs to be adopted by the major electricity company to minimise the risk of the major electricity company’s supply networks starting fires;</td>
<td>Section 5.7</td>
</tr>
</tbody>
</table>
| 7(1)(ha)   | details of the preventative strategies and programs referred to in paragraph (h) (including details in relation to timing and location) by which the major electricity company will ensure that—  
            | (i) in its supply network, each polyphase electric line originating from a selected zone substation has the required capacity; and  
<pre><code>        | (ii) on and from 1 May 2023, in its supply network, each polyphase electric line originating from every zone substation specified in Schedule 2 has the required capacity; | Section 5.8     |
</code></pre>
<p>| 7(1)(hb)   | details of testing that will be undertaken before the specified bushfire risk period each year by which the major electricity company will ensure that its supply network can operate to meet the required capacity in relation to each polyphase electric line in accordance with paragraph (ha); | Section 5.9     |
| 7(1)(hc)   | details of the preventative strategies and programs referred to in paragraph (h) (including details in relation to timing and location) by which the major electricity company will ensure that, on and from 1 May 2016, within an electric line construction area, each electric line with a nominal voltage of between 1 kV and 22 kV that is constructed, or is wholly or substantially replaced, in its supply network is a covered or underground electric line; | Section 5.10    |</p>
<table>
<thead>
<tr>
<th>Regulation</th>
<th>7 - Prescribed particulars for bushfire mitigation plans—major electricity companies.</th>
<th>Location in BMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(1)(hd)</td>
<td>details of the processes and procedures by which the major electricity company will ensure that, before 1 May 2023, the major electricity company has installed an Automatic Circuit Recloser in relation to each SWER line in its supply network;</td>
<td>Section 5.11</td>
</tr>
<tr>
<td>7(1)(i)</td>
<td>a plan for inspection that ensures that — the parts of the major electricity company’s supply network in hazardous bushfire risk areas are inspected at intervals not exceeding 37 months from the date of the previous inspection; and the parts of the major electricity company’s supply network in other areas are inspected at specified intervals not exceeding 61 months from the date of the previous inspection;</td>
<td>Section 5.12</td>
</tr>
<tr>
<td>7(1)(j)</td>
<td>details of the processes and procedures for ensuring that each person who is assigned to carry out inspections referred to in paragraph (i) and of private electric lines has satisfactorily completed a training course approved by Energy Safe Victoria and is competent to carry out such inspections;</td>
<td>Section 5.13</td>
</tr>
<tr>
<td>7(1)(k)</td>
<td>details of the processes and procedures for ensuring that persons (other than persons referred to in paragraph (j) who carry out or will carry out functions under the plan are competent to do so;</td>
<td>Section 5.14</td>
</tr>
<tr>
<td>7(1)(l)</td>
<td>the operation and maintenance plans for the major electricity company’s supply network— in the event of a fire; and during a total fire ban day; and during a fire danger period;</td>
<td>Section 5.15</td>
</tr>
<tr>
<td>7(1)(m)</td>
<td>the investigations, analysis and methodology to be adopted by the major electricity company for the mitigation of the risk of fire ignition from its supply network;</td>
<td>Section 5.16</td>
</tr>
<tr>
<td>7(1)(n)</td>
<td>details of the processes and procedures by which the major electricity company will— monitor the implementation of the bushfire mitigation plan; and audit the implementation of the plan; and identify any deficiencies in the plan or the plan’s implementation; and change the plan and the plan’s implementation to rectify any deficiencies identified under subparagraph (iii); and monitor the effectiveness of inspections carried out under the plan; and audit the effectiveness of inspections carried out under the plan;</td>
<td>Section 5.17</td>
</tr>
<tr>
<td>7(1)(o)</td>
<td>the policy of the major electricity company in relation to the assistance to be provided to fire control authorities in the investigation of fires near the major electricity company’s supply network;</td>
<td>Section 5.18</td>
</tr>
<tr>
<td>7(1)(p)</td>
<td>details of processes and procedures for enhancing public awareness of— the responsibilities of the owners of private overhead electric lines that are above the surface of the land in relation to maintenance and mitigation of bushfire danger; the obligation of the major electricity company to inspect private overhead electric lines that are above the surface of the land within its distribution area.</td>
<td>Section 5.19</td>
</tr>
<tr>
<td>7(1)(q)</td>
<td>a description of the measures to be used to assess the performance of the major electricity company under the plan.</td>
<td>Section 5.20</td>
</tr>
</tbody>
</table>
5. Bushfire Mitigation

5.1 Purpose

This plan sets out how TransGrid will proactively mitigate bushfire risk leading up to and during the bushfire danger period at the Deer Park Terminal Station (DPTS). The Plan has been communicated to both internal stakeholders, the contractor, and will be communicated with Country Fire Authority (CFA). The intention is to minimise bushfire risk As Far as Practicable at all times.

This document supports the Electricity Safety Management System (ESMS) in demonstrating the necessary bushfire risk controls as identified for each of the key hazardous events in achieving the objectives as set out within the DPTS Safety Case.

This plan serves to demonstrate compliance with the Electricity Safety Act 1998 (the Act) and the Electricity Safety (Bushfire Mitigation) Regulations (the Regulation), and alignment with AS5577-2013: Electricity Network Safety Management Systems.

The relevant key hazardous events pertaining to bushfires at DPTS are as follows:

> Explosive failure of substation equipment
> Hot work and fire risk activities

The objectives of the Regulation are to ensure that network operators, such as TransGrid, take all reasonable steps to support the following:

> Safety of persons working on the network,
> Protection of property (whether or not belonging to a network operator),
> Management of safety risks arising from the protection of the environment, and
> Management of safety risks arising from loss of electricity supply.

The DPTS Bushfire Mitigation Plan includes asset inspection, maintenance, vegetation management (buffer-zone and within the substation yard), performance monitoring and auditing. The planning and scheduling of the works supporting this plan is based principally on the system of asset inspection and maintenance reporting supported by a program of audits.

TransGrid is responsible for the Bushfire Mitigation Plan which is executed by TransGrid’s internal staff assisted by a first response contractor for the site, Beon Energy Solutions Pty Ltd (ABN 32 610 914 059) (Beon). Beon provides the following services to TransGrid at DPTS:

> A 24 hour a day, 7 day a week first response service;
> Provision of switching and isolation services;
> Assistance with maintenance to the substation assets as called upon in accordance with TransGrid requirements; and
> Site Management in the event of an Emergency (fulfil the TransGrid’s nominated Site Controller role as part of the emergency management team as described in the DPTS Emergency Response Manual²). During the Emergency/Incident the TransGrid Site Controller shall be the first Authorised Person on site.

The Bushfire Mitigation Plan makes reference to other plans, manuals, standards, policies, procedures, and work instructions that when combined with this plan, cover all of the activities that contribute to the overall reduction of bushfire risk.

² HP TRIM NO: D2017/04096 MNA-SUB-PRO-079

Per s.113A(3) (b) a copy of this Bushfire Mitigation Plan is available at the DPTS with agreement to meet onsite after contact is made with Richard Manderson, TransGrid Substations Manager, Perry Street, Yass NSW 2582 Ph: (02) 6226 9666 whom will deploy the contractor to site when given three working days prior notice.

5.2 **Background**

TransGrid operates and maintains the major high voltage electricity transmission network in NSW and ACT connecting generators, distributors and major end users. TransGrid’s network forms a major part of the backbone of the National Electricity Market (NEM), enabling energy trading between Australia’s three largest states along the east coast and supporting the competitive wholesale electricity market.

In addition to the above, TransGrid operate a number of ‘Non-Prescribed’ assets within Australia. This includes the 220kV/66kV DPTS on the western suburban fringe of Melbourne Victoria. TransGrid has a 30 year contract to own and operate DPTS.

The site has the following neighbours that are considered in development of this plan:

- Open paddock surrounds Deer Park on the Northern, Western, and Southern Sides that are a bushfire hazard;
- The nearest neighbour is Boral Deer Park Operations to the South and West of the site; and
- The Dame Phyllis Frost Correction Centre is situated 500m to the southwest of the substation site. The Site Controller and Emergency Services should be aware that this facility is difficult to evacuate. As such, if there is a risk of an emergency impacting the Correction Centre, liaison should be made with the Correction Centre at the earliest opportunity.

The 24hr phone number for the Correction Centre is 03 9217 8400.

5.3 **Prescribed Particulars (Regulation: 7(1)a - Reg: 7(1)d)**

For the purposes of section 113A(2)(b) of the Act, the following are the prescribed particulars related to sections 7(1)(a) – (da) of the Regulation:

<table>
<thead>
<tr>
<th>Regulation Reference</th>
<th>Prescribed particular – contact details</th>
<th>TransGrid Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(1)(a)</td>
<td>the name, address and telephone number of the major electricity company</td>
<td>NSW Electricity Networks Operations Pty Ltd (ACN 609 169 959) as trustee for NSW Electricity Networks Operations Trust (ABN 70 250 995 390)(operating as TransGrid) 180 Thomas Street Haymarket NSW 2000 T: (02) 9284 3000 Postal address: PO Box A1000 Sydney South NSW 1235</td>
</tr>
<tr>
<td>7(1)(da)</td>
<td>the telephone number of the major electricity company that members of the public can call in an emergency that requires action by the major electricity company to mitigate the danger of bushfire</td>
<td>Emergency Contact Number for general public: 1800 027 253</td>
</tr>
</tbody>
</table>
5.4 Policy Statement

Bushfires pose an ever present risk to life, property and the environment throughout rural and urban areas. Bushfires can be caused by a variety of factors, including but not limited to lightning strikes, sparks from farm machinery and incinerators, vehicle crashes, and electrical incidents such as fallen power lines.

TransGrid is committed to managing bushfire risks As Far As Practicable associated within its entire electricity transmission network assets to meet the safety expectations of its customers and the wider community. This commitment is demonstrated through TransGrid’s Corporate Risk Appetite Statement, Deer Park Safety Case, Electricity Safety Management System (ESMS), Asset Management System (AMS), Health and Safety Management System (SMS), and Environment Management System (EMS) and associated policies.

Specifically for the Victorian jurisdiction this Plan demonstrates compliance with Section 113A(1) of the Victorian Electricity Safety Act 1998 (incorporating amendments as at 1 January 2012) which requires that a major electricity company, such as TransGrid, must prepare and submit to Energy Safe Victoria, for acceptance under this Division, a plan for the company’s proposals for mitigation of bushfire in relation to the company’s supply network. The Safety Case which has been developed for DPTS demonstrates that control measures which have been put in place, with respect to bushfire mitigation, which has reduced these risks As Far As Practicable.
5.5 Objectives of the Bushfire Mitigation Plan

The objectives of the Bushfire Mitigation Plan are to:

> Minimise the risk of fires originating from within the Terminal Station;
> Minimise the risk of damage to the Terminal Station through an externally caused bushfire event;
> Achieve compliance with the relevant legislative requirements;
> Provide a structured approach to bushfire management that ensures that the risk of bushfire is either eliminated, or if this is not possible reduced as low as reasonably practicable;
> Provide the processes for prioritising corrective maintenance work orders prior and during the bushfire season; and
> Demonstrate a high level of commitment to demonstrating TransGrid’s proactive efforts in bushfire mitigation.

5.6 Description of the Land to which the Bushfire Mitigation Plan Applies

Description of Land

This plan applies to TransGrid’s electricity transmission network elements that are located at 279-329 Christies Rd, Ravenhall VIC 3023 (see Figure 1 and Appendix B consisting of a substation and associated sub-assets. In broad terms the assets that are within the scope of this plan are:

> Substation equipment;
> Property under the control of TransGrid; and
> Secondary systems, excluding metering systems.

For the operation of DPTS, TransGrid interfaces with other major electricity companies (MEC). Interconnection points of the DPTS to AusNet Services and Powercor are defined in Appendix B.

Figure 1 - Deer Park 220kV and 66kV switchyard
General Information Related to the Operation and Maintenance of the Site

Network operators in Victoria must operate in accordance with the principles of the Code of Practice on Electrical Safety for Work on or Near High Voltage Electrical Apparatus (the Blue Book). It however is not a direct equivalent of the TransGrid Power System Safety Rules (PSSR) and each network operator has additional rules and controls they implement downstream of the Blue Book.

AusNet Services are the owner and operator of the transmission network in Victoria. They have a document titled the ‘Health, Safety and Environment Rules for Field Employees and Contractors – Electricity’ which defines some of the entry and work requirements for working at AusNet sites.

Powercor is a distribution network owner and transmission network maintainer based in Victoria. It maintains the transmission network assets on behalf of AusNet Services in the North and West of Victoria.

Powercor do not have a set of ‘Safety Rules’ for working in transmission substations as they are ostensibly a Distribution MEC. Powercor work under the AusNet rules in those installations. At distribution levels (voltages up to 66kV) they work under the Victorian Electricity Safety Industry (VESI) Green Book.

The operation of the DPTS site is under the control of the TransGrid control room and is managed under the following Operating Rule Arrangements:

- For assets under their operational control (66kV Circuit Breakers and Switchgear), Powercor operate the equipment under their safety rules (the Green Book and its associated procedures); and
- Assets under TransGrid operational control are to be operated under the TransGrid PSSR, with any additional requirements required by the Blue Book implemented for work at DPTS. This requires that Beon be familiar with operating under both sets of rules.

5.6.1 Bushfire Rating of the Property

As shown in Figure 2, the DPTS is located on land identified as bushfire prone. The Country Fire Authority has confirmed that this site is classified as a High Bushfire Risk Area (HBRA) as evidenced in Appendix A.

Figure 2 - Victorian Government identification of areas which are bushfire prone around DPTS as at 11 December 2017
5.7 Preventative Strategies to Minimise Bushfire Risk

5.7.1 Identification of Critical Assets
All assets at the DPTS have been assessed to determine if they are critical assets from a Safety Case perspective using the following criteria:

- Would failure of the asset contribute significantly to a key hazardous event occurring? or
- Does the asset contribute significantly to preventing or mitigating a key hazardous event?

Critical assets (i.e. assets that trigger one or both of the above conditions) are identified in the DPTS Asset Register provided in Appendix C. Each asset is linked to the applicable safety related hazard.

5.7.2 Development of Maintenance Plan - Process
TransGrid identifies critical hazards for all substations and has identified critical controls in its Deer Park Safety Case. A list of these relevant to DPTS is provided in Appendix C that TransGrid identifies the critical controls related to the key hazardous event of bushfire on the bushfire Bow Tie assessment, the lifecycle component it is related to, and how the controls are implemented. The listing of controls and method of implementation is shown in Appendix C and Appendix D of this document.

The timing of reporting has been undertaken to align with reporting required for NSW so as to ensure complete reporting to all statutory compliance bodies.

5.7.3 Review Asset Maintenance Plan
The Deer Park Maintenance Plan is a preventative control used to prevent the key hazardous events from starting a fire or impacting the network’s reliability. The maintenance plan is reviewed to ensure that they minimise TransGrid’s exposure to bushfire risk to a level of as low as reasonably practicable as demonstrated in the Deer Park Safety Case.

Detailed inspection and maintenance tasks are scheduled with a frequency that aim to detect defects with sufficient warning to enable rectification prior to failure, and with a focus on identifying longer term condition-related deterioration of assets. Prior to each FDP, specific maintenance tasks are undertaken to provide a high degree of assurance that the assets do not present an elevated bushfire risk. These maintenance tasks are prioritised based on assets with the highest bushfire risk. These activities are detailed in the ‘Deer Park Maintenance Plan’.

Inspection tasks are scheduled such that there is sufficient time to rectify any resulting defects prior to the FDP. The maintenance plan provides guidelines for prioritising non-routine maintenance work to minimise TransGrid’s bushfire risk exposure before and during the FDP. Routine substation inspections, security inspections, fire inspections, and checks, vegetation control –weed spraying and property and buffer-zone inspections are undertaken once a year or less if the re-growth is deemed to be excessive.

5.7.4 Develop Routine Maintenance Program
The routine maintenance program is based on routine maintenance and inspection standard jobs within the scope of bushfire management as listed in Appendix C and includes the relevant controls as listed in Appendix D. Identification of work orders in scope of this plan is explained in Appendix E and referenced as bushfire work orders.

These processes convert the requirements in the Maintenance Plan into a scheduled maintenance program to be executed by Works Delivery.

The earliest start of routine maintenance tasks for this plan is the 1st of April or later, depending on when the FDP is declared by the CFA.

The routine maintenance plan is summarised in Appendix F.
5.7.5 Develop Non-Routine Maintenance Program

Risks, including bushfire risk from non-routine maintenance work are managed in accordance with ‘Non-Routine Maintenance Process’ document.

The non-routine maintenance program is based on defect and condition based standard jobs classified within the scope of bushfire risk management as listed in Appendix E. Identification of work orders in scope of this plan is explained in Appendix F and referenced as bushfire work orders.

A summary of the key tasks included in the Deer Park Maintenance Plan related to bushfire maintenance is included in Appendix F.

5.7.6 Implement Maintenance Program

General

The major activities involved in implementing the maintenance plan are:

> The maintenance plan is implemented and tracked via the series of reports listed in Section 5.17.
> Any new bushfire non-routine work orders created after the release of Report 1 is tracked in the Maintenance Performance Report (refer to Report 2 in Section 5.17).
> Changes in the program are handled using the ‘Maintenance Program - Variation Process’.
> How to prioritise overdue bushfire work orders in the lead up to and during the bushfire danger period is described in the following sections.
> The Work Instructions managed by Works Delivery detail the processes appropriately skilled resources follow when executing the work orders.
> Monitoring and auditing of the maintenance plan is covered in Section 5.17.
> The ongoing application of the maintenance plan is covered in section 5.17.

Change in FDP

In response to the declaring an early start to the bushfire season due to changes in climatic conditions approaching summer season additional risk review is undertaken as follows:

> A Bushfire risk review is performed on open bushfire work orders affected by the early declaration that are different to the statutory start date or the nominal date of 1st of September set by TransGrid.
> The bushfire risk assessment is completed by the asset Maintenance Managers with the oversight of the Asset Managers and is documented.
> The risk assessment involves the review of the appropriateness of the Planner Priority and Required by Date in conjunction bushfire risk information (bushfire risk category, bushfire consequence category, bushfire prone are or non-bushfire prone area. Any changes are then implemented in Ellipse and tracked by Report 2 (refer to ‘Variation Process’ for more information).
> The documented bushfire risk assessment is communicated to Manager Asset Management and Manager Maintenance Programs for information.

The CFA declared early start of the FDP is communicated by HSE to field staff including contractors, which instigates the use of HSE bushfire risk related work practices, such as the Hot Work and Fire Risk Work procedure document.

Staff use the following sources to identify any warnings and incidents regarding bushfire:

> Facebook (facebook.com/cfavic).
> Twitter (twitter.com/CFA_Updates).
> ABC local radio.
> Sky News and other emergency broadcasters.
> Victorian Bushfire Information Line (1800 240 667).
Variation Process

Any anticipated variation in ‘Required by Date’ of bushfire work orders requires a variation request to be submitted as per the Variation Process document.

Variations in Required by Date may be triggered by:

- Significant scope added to work order.
- Specific factors, such as weather events, affecting delivery.
- Bushfire danger period starts early.
- Planner Priority is inappropriate for the work order.
- Competing priorities of maintenance work required by this plan and business as usual maintenance work.

Overdue Work Orders

Works Delivery prepares the Maintenance Performance Report (Report 2), a tool that is used to manage the performance of bushfire work orders, including overdue bushfire work orders. Appendix G provides guidelines on using the report to manage overdue bushfire work orders. The tool is to be used in conjunction with the guidelines specified in the maintenance plan.

The Maintenance Performance Report uses the below matrix as given below - Table 4 is used to help manage the backlog of overdue bushfire work orders.

### Table 4 - Prioritisation of overdue work orders

<table>
<thead>
<tr>
<th>Planner Priority on Work Order or Severity in Issue</th>
<th>Bushfire Risk or Consequence Categorisation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Category 1</td>
</tr>
<tr>
<td>P1</td>
<td>A</td>
</tr>
<tr>
<td>P2</td>
<td>A</td>
</tr>
<tr>
<td>P3</td>
<td>B</td>
</tr>
<tr>
<td>P4</td>
<td>C</td>
</tr>
<tr>
<td>P5</td>
<td>D</td>
</tr>
</tbody>
</table>

Bushfire risk dollar value is used for categorisation of routine maintenance and inspection types of bushfire work orders into the five categories.

Bushfire consequence dollar value is used for categorisation of defect and condition based type of bushfire work orders into the five categories.

Description of the categories is as follows:

- **Category 1**: (pose greatest bushfire risk or consequence): assets ranked in the 80 (exclusive) -100th percentiles in the total asset population in the network.
- **Category 2**: assets ranked in the 60 (exclusive) - 80th percentiles in the total asset population in the network.
- **Category 3**: assets ranked in the 40 (exclusive) - 60th percentiles in the total asset population in the network.
- **Category 4**: assets ranked in the 20 (exclusive) - 40th percentiles in the total asset population in the network.
- **Category 5**: (pose lowest bushfire risk/consequence): assets ranked in the 0 - 20th percentiles in the total asset population in the network.


Variation Process

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Variations in Required by Date may be triggered by:

- Significant scope added to work order.
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Variations in Required by Date may be triggered by:

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Overdue Work Orders

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- **Category 4**: assets ranked in the 20 (exclusive) - 40th percentiles in the total asset population in the network.
- **Category 5**: (pose lowest bushfire risk/consequence): assets ranked in the 0 - 20th percentiles in the total asset population in the network.
Actions are to occur as follows:

> A – Immediate action
> B – Action as soon as practicable following ‘A’ items
> C – Action following ‘B’ items
> D – Action following ‘C’ items

5.8 Testing Plan for Polyphase Electric Lines

This is not applicable for DPTS as the minimum voltage is greater than 22 kV.

5.9 Testing Plan for Polyphase Electric Lines Prior to Bushfire Risk Period

This is not applicable for DPTS as the minimum voltage is greater than 22 kV.

5.10 Preventative Strategies for Lines within a Construction Area on an from 1 May 2016

This is not applicable for DPTS as the minimum voltage is greater than 22 kV.

5.11 Automatic Reclosers on SWER Lines

This is not applicable at DPTS as there are no SWER lines.

5.12 Inspection of the Supply Network

Inspection of the supply network is governed by the ‘Deer Park Maintenance Plan’ and this Bushfire Mitigation Plan. The inspection requirements dictated by these plans are implemented by the following processes:

> The maintenance plan and Bushfire Mitigation Plan requirements are created in the Ellipse ERP as standard jobs;
> The detailed inspections required are loaded into TransGrid’s Asset Inspection Manager (AIM) system. This system allows the actual inspection instructions and input of associated inspection results to be managed through the users’ smartphone by the specialised AIM application;
> A MST (Maintenance Scheduled Task) is created in Ellipse that is an object that schedules the standard jobs at the intervals required by the plan as a Scheduled Work Order;
> The planners assign competent resources to the scheduled work orders using TransGrid’s TRAC (TransGrid Resource Allocation Calendar) application. This application allows the planner to schedule the actual date of execution of the work order, allocate a competence resource (TransGrid or Beon), and attach Authority to Work (ATW) information that validates that the assigned resource has the required competency;
> Where required, the operators create a switching plan to isolate sections of plant that require resource access;
> Once assigned TransGrid staff are advised via the TRAC application of the work they are scheduled on. Where Beon resources are also required they are informed by TransGrid of the resource type, skills and date required;
> Work is then performed by the assigned resources in accordance with the work instructions provided for the job; and
5.13 Processes and Procedures for Ensuring Training Courses Approved by Energy Safe Victoria

This is not applicable at DPTS as there are no line works at DPTS performed by TransGrid or its nominated contractor.

5.14 Processes and Procedures to Ensure Competence of Personnel Working at DPTS

5.14.1 Roles of Personnel Interfacing with or Working at the Substation

Table 5 provides a list of the key personnel responsible for ensuring the management of activities related to DPTS and their key responsibilities.

Table 5: Roles of Personnel Related to DPTS

<table>
<thead>
<tr>
<th>Roles</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supervisory Staff</strong></td>
<td></td>
</tr>
<tr>
<td>Substations Asset Manager</td>
<td>&gt; Responsible for determining the overall maintenance strategy for DPTS. They perform this with the assistance of Asset Strategists and Engineers reporting to them with specific competency in Sub-station systems. The key documents produced are:</td>
</tr>
<tr>
<td></td>
<td>&gt; Substations Renewal and Maintenance Strategy (Covers all substations)</td>
</tr>
<tr>
<td></td>
<td>&gt; Deer Park Maintenance Plan</td>
</tr>
<tr>
<td>Maintenance Delivery Manager</td>
<td>&gt; Responsible for conversion of activities required under the Deer Park Maintenance plan into the Ellipse work management system and Asset Information Manager (AIM) system to allow scheduling and actioning in the field of the maintenance plan.</td>
</tr>
<tr>
<td>Substations Maintenance Manager</td>
<td>&gt; Responsible for managing the field delivery of the activities required for the maintenance of the DPTS in accordance with the maintenance plan.</td>
</tr>
<tr>
<td></td>
<td>&gt; Responsible for ensuring that defect work orders with a potential bushfire consequence are actioned and closed in accordance with this plan and open work orders are reported weekly in the period leading up to the bushfire danger period.</td>
</tr>
<tr>
<td>Senior Technical Support – Substations</td>
<td>&gt; Provides contractual management for field activities performed under the Beon First Response contract.</td>
</tr>
<tr>
<td></td>
<td>&gt; Develop the Deer Park Emergency Response Plan.</td>
</tr>
<tr>
<td></td>
<td>&gt; Responsible for reviewing work reports from Beon and authorising payment.</td>
</tr>
<tr>
<td>Manager Field Resources</td>
<td>&gt; Provides TransGrid field resources required for the delivery of work to be performed at DPTS.</td>
</tr>
<tr>
<td>Manager / Health Safety and Environment</td>
<td>&gt; Overall responsibility for delivery of systems and procedures for safety of workers (TransGrid and Contract) working at DPTS.</td>
</tr>
<tr>
<td></td>
<td>&gt; Develop all health and safety related procedures for TransGrid staff and contractors with the assistance of appropriate technical resources (internal and contract).</td>
</tr>
<tr>
<td>Role</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Asset Systems and Compliance Manager    | > Responsible for development and delivery of the electricity network safety management systems in compliance with AS5577 and regulatory authorities.  
   > Responsible for coordinating audit activities related to the safety management systems.  
   > Responsible for ensuring that actions that arise as a result of system audits are recorded in the ARMS system are actioned.  
   Key documents related to this are:  
   > Electricity Network Safety Management System (NSW)  
   > Electricity Safety Management Scheme (Vic)  
   > Deer Park Safety Case  
   > Deer Park Bushfire Mitigation Plan |
| Control Centre Manager                  | > Manages the processes, procedures and operations staff that control operation of DPTS from the TransGrid control room. |
| Asset Monitoring Centre Manager         | Manages the:  
   > Monitoring of asset performance including DPTS assets.  
   > Managing incident investigations for network and asset related events that occur at DPTS. |
| Control Room Operators                  | > Perform operational oversight of DPTS in accordance with the operating manual.  
   > Coordinating switching required for safe operation of the site.  
   > Initiating and supervising first response to events that occur at DPTS. This includes ensuring that delivered resources are authorised for work as per the contract requirements.  
   > Escalation of events that may require activation of the site emergency response plan. |
| Maintenance team leaders                | > Supervise field related maintenance activities at DPTS. This includes ensuring that Beon resources are authorised for work as per the contract requirements |
| Field / Site Staff                      |                                                                                  |
| TransGrid Maintenance Staff             | > Provide maintenance resources for the site for the majority of planned maintenance activities. |
| Beon (First Response Contractor)        | > Provide first response services for unplanned events that occur at the site.  
   > Provide assistance to TransGrid staff as required in the performance of planned maintenance activities. |
| Other contractors                       | Other contractors may be required to perform works at DPTS. Where required these contractors perform works under the direct supervision of TransGrid staff in accordance with all HSE procedures and Authority to Work requirements. |

### 5.14.2 Training

TransGrid has an integrated on-line system which performs the traditional approval to work function whilst ensuring access to areas is only granted to authorised and competent persons, the Authorisation to Work application (ATW). The ATW system has the following functionality within it:
Standardising/improving authorisation processes and alignment with the security cards/keys including a unified view of the status of authorisations and security access. This results in effective management of authorisations and security cards and improved safety and security;

Integrates with external organisations (ESI companies, direct customers and contractor organisations) by implementing a secured portal to capture authorisation, training recognition and security card/keys applications online, and;

Has integration with the TransGrid ERP system (Ellipse) to ensure competencies managed through ATW are up to date.

Where TransGrid staff are required to attend site, competence is managed through:

- PSSR;
- TransGrid's internal training and competency frameworks including requirements for relevant Victorian legislation and regulation.

For outsourced services from Beon, these are covered by provisions of Q30_17 Consolidated Specification for First Response and Maintenance Services for Deer Park Substation DPTS. This contract calls for:

- Provision of first response and Site Emergency Management
- Provision of switching and Isolation Services.
- Provision of safe site access for non-authorised person for observation purposes only.
- Provision of suitably trained and experienced staff to contribute to the delivery of Maintenance Services.

Beon’s workers are required to become authorised under the relevant categories of the TransGrid’s PSSR and Environmental Authorisations prior to working at the TransGrid’s sites. To become authorised, workers will be required to undertake training as prescribed in Table 6.

Authorised contractors are supplied with an access card to ensure that only authorised personnel have access to the site.

All such worker’s that are authorised under the TransGrid’s PSSR and Environmental Authorisations will be required to undertake ‘Refresher Training’ at regular intervals to maintain their authorisation. This training normally comprises of an assessment and/or learning. It is typically two-yearly or annually and the method of delivery is through eLearning and/or face to face training. TransGrid will notify Beon prior to ‘Refresher Training’ to identify training needs and provide a training estimate.

Table 6 - PSSR and Environmental Authorisations - Qualifications and Training Requirements

<table>
<thead>
<tr>
<th>PSSR or Environmental Category</th>
<th>Examples of work requiring this category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 5.5 – Operate HV Air Insulated Switchgear</td>
<td>Switching and isolation services for planned, unplanned, and Emergency work.</td>
</tr>
<tr>
<td>Category 5.4 – Issue HV Access Authority</td>
<td>Issuing an Access Authority for planned, unplanned, or Emergency work.</td>
</tr>
<tr>
<td>Category 5.2 &amp; 5.3 – Receipt of a HV Access Authority and HV Testing</td>
<td>Receive an Access Authority for work on or near HV conductors and act as the Authorised Person in Charge for works under an Access Authority. Supervise instructed persons for work in the switchyard.</td>
</tr>
</tbody>
</table>
Training for Categories 3.3, 4.1 and 5.3 will be as per the standard TransGrid training for contractors. Training for Categories 4.2, 4.3, 5.4 and 5.5 is a gap training which is intended to cover differences between the PSSR and the safe access to High Voltage management system, which Beon currently works by. All workers which Beon intends to utilise for First Response services must be qualified to at least an equivalent level within the TransGrid’s Contractors safe access to High Voltage management system. Beon must supply information on their most familiar ‘safe access to High Voltage management system’ alignment between their authorisation levels and those specified in the table above and the relevant qualifications of workers it intends to use for first response services.

TransGrid ensure persons who carry out work are competent by having individuals nominated in the contract (Q30/17 - Supply of First Response and Maintenance Services for Deer Park Substation, Returnable Schedule K - list of proposed on call staff and duty officers and their experience). TransGrid check the accreditations and specifically verify that these persons have completed the TransGrid PSSR training by interrogating the on-line ATW system before providing access to the site for performance of the works under the contract. As all industry workers in Victoria must now comply with the requirements of the Code of Practice on Electrical Safety for Work On or Near High Voltage Electrical Apparatus (the Blue Book 2017), it was a specific requirement of the contract that the company provided references for their experience under the Code of Practice by traceable references which TransGrid use to validate their experience.

Mandatory safety training and annual refresher training is required to maintain Authorisation to Work. A list of the various training requirements for each Authorisation category including contact details for booking training courses are provided in the contract Attachment 8 – PSSR and Environmental Authorisation. PSSR authorisation and access to TransGrid sites shall be terminated should staff competency not be maintained. The PSSR elements are audited via the on-line ATW and all aspects of the works under the contract are subject to an annual internal audit. Non-conformances reports (NCRs) of the work are to be reported by the contractor and PSSR authorisation and access to TransGrid sites shall be terminated should staff competency not be maintained.

It was a specific requirement of the contract that all work be carried out according to the following legislative and specific TransGrid Requirements:

“All work shall be carried out in strict accordance with the Occupational Health and Safety Act 2004 and Regulation 2007 as well as TransGrid specific Health and Safety requirements.

TransGrid expects all contractors to be committed to ensuring a safe workplace is a priority and have safe systems of work to prevent illness and injuries at work and be able to demonstrate this for the duration of the project life cycle from tender phase to site completion.

Audits, inspections and general workplace monitoring will be carried out in accordance with the Occupational Health and Safety Act 2004 and Regulation 2007.”

Pre-Work Risk Assessments are required to be carried out prior to commencing any work under the contract. Records of Pre Work Risk Assessments shall be kept for a period of two years and may be audited by TransGrid at any time. When requested, these Pre-Work Risk Assessments must be provided to TransGrid prior to commencing the work. This and other requirements such as random auditing requirements are
 contained in “Attachment 1, Health and Safety requirements – Non-Construction and Maintenance Work” of the contract for first response services with Beon.

The PSSR and Environmental Rules require specific Qualifications and Training requirements depending on which section of the works fall under the appropriate section of the PSSR. These requirements apply to TransGrid staff and Beon as required in Appendix 8 of the contract.

Figure 3 - Excerpts from Appendix 8 of Q30/17

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**5.14.3 Competency**

The competency of staff performing work is continually monitored by their Supervisors as follows:

- For TransGrid staff, the Works Leader responsible for delivering the work monitors the performance of TransGrid staff on each activity. In addition, TransGrid’s Performance Development Systems is used to maintain performance and development records for each staff member.

- For Contractors, the competency of staff performing work is monitored both by the contract staff supervisor as well as the TransGrid person responsible for the contracted works. Monitoring is carried out for each activity via feedback from the TransGrid staff initiating or interacting with the Contractors (e.g. TransGrid System Operator during a first response call-out or TransGrid Works Leader during a maintenance task) and through a review of the activity completion records. Quality Requirements including audits, and non-conformance/corrective actions are covered in section 8 of the Q30/17 ‘ First Response and Maintenance Services for Deer Park’. 
5.15 Operating plans in event of fire and on Total Fire Ban Days

5.15.1 Bushfire Risk Period

Victorian CFA declares the Fire Danger Period (FDP) in accordance with section 4 of the Country Fire Authority Act 1958 for particular municipalities. These dates may vary due to changes in local conditions; information of the FDP is obtained by TransGrid from the following location: [http://www.cfa.vic.gov.au/warnings-restrictions/restrictions-during-the-fire-danger-period/](http://www.cfa.vic.gov.au/warnings-restrictions/restrictions-during-the-fire-danger-period/)

Subject to an earlier declaration, TransGrid has identified the 1st of September as the start of the FDP to provide a clear target to complete bushfire risk management work to as low as reasonably practicable before the 1st October.

5.15.2 Bushfire Preparedness Process

The overall process in managing TransGrid’s bushfire risk to a risk level of as low as reasonably practicable is done through a bushfire preparedness process with the particular activities outlined within Figure 4.

Figure 4 - Implementation of the Bushfire Mitigation Plan

5.15.3 Operating Plans during Total Fire Ban days

There are no specific changes to operations or operating protocols applied to DPTS for operations on a total fire ban or code red day. DPTS will be managed in a consistent manner will all other TransGrid assets, such
as the requirement to advise AEMO of any present or anticipated risk to Power System Security. These protocols generally do not require any changes to recloser operation under such conditions.

The TransGrid control room operators and the Asset Monitoring Centre are aware of total fire ban days and will monitor DPTS for any issues but as per Section 5.15.4 provide oversight that Hot Work is not being performed on these days.

In the event of a fire on the site the ‘Deer Park Substation Emergency Response Manual’ will be actioned in addition to an activation of the Corporate Emergency Management Plan (CEMP).

5.15.4 Maintenance Plans During Total Fire Ban days

TransGrid does not perform any maintenance work that presents a fire risk on Total Fire Ban or Code Red days.

TransGrid currently have no standing exemptions for work in Victoria at DPTS from the CFA or other relevant agency. Until such an exemption is obtained TransGrid will not be undertaking any Hot Work or Fire Risk activities at DPTS unless required due to an emergency event. In the case of a need to perform Emergency or Essential Hot Work (as defined in the Hot Work and Fire Risk Work Procedure) on such a day TransGrid will liaise with CFA and ESV to obtain a temporary exemption to perform such work.

The Hot Work and Fire Risk Work Procedure details the requirements for performance of work on Total Fire Ban Days. The Hot Work and Fire Risk Procedure Procedure states:

'It is prohibited to carry out any Hot Work activity ‘in the open’ that causes, or is likely to cause a fire during a Total Fire Ban (TOBAN) unless authorised under an exemption issued by the RFS.'

TransGrid will be looking to obtain a similar exemption in Victoria with CFA. The hot work procedure and this plan will be updated when that is obtained.

5.15.5 Bushfire Preparation

The primary works that are undertaken prior to a bushfire season involve activities that will reduce the immediate risk for bushfire emanating or impacting on the DPTS site. These activities include:

> Ensuring that all bushfire related routine maintenance is performed prior to the commencement of the bushfire seasons. The routine maintenance is principally undertaken to ensure that all equipment is inspected for defects prior to the bushfire season.

> Identification and prioritisation of defect work orders (non-routine) that present a bushfire risk. Defects that present a bushfire risk are given a higher priority for completion with TransGrid.

> TransGrid aim to complete where practicable all Priority 1 and 2 bushfire work orders before the start of the declared bushfire period. Priority 3 work orders will be assessed and if required will be schedule to be completed as early as possible prior to or from the start of the bushfire season.

A list of the standard jobs contained with the Ellipse maintenance system that are related to bushfire maintenance is included in Appendix E

The process for preparing for the bushfire season is provided in Section 5.15 and 5.17.

5.16 Investigations, Analysis, and Methodology for Mitigation of Risk of Ignition

5.16.1 Overview

TransGrid strives to continually improve its safety and asset management systems through a series of processes and forums that are illustrated in Figure 5.

---

3 TOBAN – Total Fire ban day as defined by Rural Fire Service in NSW.
The key concept in this framework is to continually improve TransGrid’s Safety and Asset Management Systems through a closed loop approach utilising a combination of proactive and reactive monitoring and auditing.

5.16.2 Incident Identification and Reporting

The management or identification of asset related incidents and events, including asset failures and fire starts, is through the following processes:

> 24 hour monitoring:
   - Operators identify failures and events either through the SCADA monitoring systems, or from an external incoming call and record through the Operations Logging System (OpsLog) this generates an Irregularity that feeds into the Non-Routine Maintenance Process.

> Non-Routine Maintenance Process:
   - Operations and Field maintenance staff identify and record asset defects and failures by entering an issue (defect) into the Asset Inspection Manager Application. For serious events the control room operator is contacted to commence emergency management procedures.

> Events that have a safety or environment consequence are recorded as “Incidents” in the Action Risk Management System (ARMS) for safety to investigate.

TransGrid has instigated an incident management processes that is used to control people, activities and information following the occurrence of an event that has led to or could have led to injury to people, damage
to plant, machinery or the environment and/or some other loss including bushfire. The process for incident investigation is managed through the following processes at TransGrid:

> For Health, Safety, and Environment events not caused by a network asset, incidents are investigated through the ‘Health Safety and Environment Incident Investigation Process’. This is supported by a number of sub procedures including:
  – Incident investigation guidelines, High and Low Consequence
  – Incident investigation online training.

> For network asset initiated or network related incidents, these are investigated in accordance with the ‘Asset Event and Investigation Reporting Procedure’.

TransGrid uses an incident notification system for the recording and reporting of health, safety and environment incidents. To prevent a recurrence, all reported incidents are responded to and investigated to determine the causes and the corrective actions required. Serious incidents are reported to ESV and or Safe Work Victoria as required by those authorities.

The ‘Asset Event and Investigation Reporting Procedure’ requires that investigations into network incidents review whether they were a result of deficiencies in controls related to the Key Hazardous Events, this includes the controls related to the mitigation of bushfire related events. A listing of the investigation requirements is provided in Appendix H

Incidents involving network outages that do not result in HSE related events are reviewed at the Network Performance Review meeting and classification is confirmed as ‘Statistical’, ‘Minor’, or ‘Major’ in accordance with AER/NER reporting definitions. The level of reporting investigation and reporting required is identified in the ‘Asset Event and Investigation Reporting Procedure’ and the relevant section of this procedure containing the reporting matrix is included in Appendix H.

5.16.3 Implementing Corrective and Preventative Action (Mitigation)

Any critical corrective actions that are raised as part of the investigation processes are monitored in the Action and Risk Management System (ARMS), for improvement actions that are not related to mitigating critical events these are handled either through entry to the continuous improvement register or other business as usual processes. Corrective action records are maintained in accordance with legislative requirements and TransGrid practices.

5.17 Implementation, Auditing, Deficiencies and Rectification of the Plan

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.

5.18 Policy in Relation to Assistance to Provide Fire Control Authorities in Investigation of Fires Near DPTS.

TransGrid will provide assistance and advice to Country Fire Authority personnel to ensure that safe approach distances are maintained in accordance with the relevant ‘Limits of Approach’ contained within the Blue Book for the purposes of their response to fire incidents near network assets.

Assistance includes ensuring all un-safe electrical assets are made safe before the commencement of investigations and the provision of any reports relating to serious electrical incidents that TransGrid are required to provide in accordance with the Electricity Safety (Management) Regulations 2009.

5.19 Owners of Private Electric Lines

This regulation is not applicable at DPTS as it does not have private electric lines.
5.20 Measures to be Used to Assess the Performance of the Major Electricity Company Under the Plan

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix A Bushfire Risk

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix B Asset and Operational Responsibilities - Deer Park Terminal Substation

TransGrid operates and maintains the Deer Park Terminal Station (DPTS) located at 329/279-329 Christies Rd, Ravenhall VIC 3023 on a long term lease basis. The interfaces with other major electricity companies (MEC) at DPTS are described as following:

Interconnection between the AusNet Services and TransGrid Systems where the operational boundaries are as defined below:

> Geelong – Deer Park 2 220kV Transmission Line where the 220kV droppers connect to the landing span at TransGrid’s Deer Park 220kV Substation, and
> Keilor - Deer Park 2 220kV Transmission Line where the 220kV droppers connect to the landing span at TransGrid’s Deer Park 220kV Substation.

In addition at the DPTS there is an interface with Powercor, whereby Powercor has operational responsibility of all equipment located within the Powercor operating boundary. This includes the following TransGrid owned equipment:

> MLN No2⁴ feeder bay equipment;
> TNA No1 feeder bay equipment;
> MLN No1⁵ feeder bay equipment;
> SU No2 feeder bay equipment;
> TNA No2 feeder bay equipment, and
> SU No.1 feeder bay equipment.

The specific operational interface points at DPTS are shown in Figure 6. DPTS was energised in September 2017 and has been undergoing testing. Site commissioning is planned for December 2017. Overall Emergency Management is carried out by the Asset Monitoring Centre (AMC). Specific operating requirements are found in the Grid Operating Manual - OM 006, Substation Operating Notes in Southern Region.

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⁴ Operational Control of the circuit breaker resides with TransGrid on an interim basis until the feeder is commissioned in December 2017
⁵ Operational Control of the circuit breaker resides with TransGrid on an interim basis until the feeder is commissioned in December 2017
Figure 6 - Operational Boundary Points between TransGrid, Ausnet Services (220kV lines) and Powercor (66 kV)
Appendix C Critical Assets

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix D Preventative and Mitigative Controls

Summarised information is presented in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.

Definitions

Table 7 - Risk treatment effectiveness measures

<table>
<thead>
<tr>
<th>Risk treatment effectiveness</th>
<th>Qualitative description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully effective</td>
<td>Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, address the root causes and Management believes that they are effective and reliable at all times.</td>
</tr>
<tr>
<td>Substantially effective</td>
<td>Most controls are designed correctly and are in place and effective. Some more work to be done to improve operating effectiveness or Management has doubts about operational effectiveness and reliability.</td>
</tr>
<tr>
<td>Partially effective</td>
<td>While the design of controls may be largely correct in that they treat most of the root causes of the risk, they are not currently very effective; or Some of the controls do not seem correctly designed in that they do not treat root causes, those that are correctly designed are operating effectively.</td>
</tr>
<tr>
<td>Largely ineffective</td>
<td>Significant control gaps. Either controls do not treat root causes or they do not operate at all effectively.</td>
</tr>
<tr>
<td>Totally ineffective</td>
<td>Virtually no credible control. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.</td>
</tr>
</tbody>
</table>

‘Critical’ (C) or Non-Critical (NC) - Controls are considered to be critical where a failure of it will result in the occurrence of a Key hazardous event

Table 8 - List of Applicable Controls
Appendix E Standard Jobs in the scope of this plan

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix F Summary of Deer Park Maintenance Plan Activities

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix G Assessment of work orders in scope of this plan

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.
Appendix H Network Incident Reporting Matrix

Not available in this public version, for further details refer to TransGrid. Full details are included in the full Bushfire Mitigation Plan.