Valley Power Gas Power Station (VPPS) Owned By Snowy Hydro Ltd

Bushfire Mitigation Management Plan 2019-2020



Preparation by Worley Parsons for Snowy Hydro Ltd in accordance with the Electricity Safety (Bushfire Mitigation) Regulations 2013

 1^{st} JULY 2019 – 30^{th} JUNE 2020

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1 CONTACTS & APPROVALS

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1.1 Specified Operator – Snowy Hydro Ltd, owner of Valley Power Gas Power Station

VPPS Address:	Barton's Lane, Traralgon, VIC, 3844
Mailing Address:	PO Box 988, Traralgon, VIC,3844
Telephone:	03 9425 5525

1.2 Person Responsible for Plan Preparation: Gary Blanch		
Position:	Area Manager Gas & Diesel	
VPPS Address:	Barton's Lane, Traralgon, VIC, 3844	
Mailing Address:	PO Box 988, Traralgon, VIC,3844	
Telephone:	Mob 0417 453 320	

1.3 Person Responsible for Carrying out the Plan: Marden Taylor		
Position:	Plant Manager	
VPPS Address:	Barton's Lane, Traralgon, VIC, 3844	
Mailing Address:	PO Box 988, Traralgon, VIC,3844	
Telephone:	Mob 0408 218 145	

1.4 VPPS Emergency Contact - Phone Number, 24hrs, Everyday:

Snowy Mountains Control Centre (SMCC) Controller - 02 6453 2484

1.5 Country Fire Au	Ithority, District 27 Headquarters
Address:	20 Hazelwood Road, Morwell, Victoria 3840
Telephone:	(03) 5120 3700

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2 DOCUMENT REVISION HISTORY

Author:	Checked:	Approved:	Issue Date:
	Marden Taylor	grou	
Gary Bennett	Marden Taylor	Gary Blanch	July 2019
Worley Parsons	Plant Manager	Area Manager Gas & Diesels	
	Rachael Williams Senior Environmental Advisor		

Issue	Summary of Changes	Date
1	Initial Release	3 Apr 08
2	Minor changes to contacts list	27 Jan 10
3	No Changes	17 Feb 11
4	Plan updated in response to ESV audit	7 Nov 11
5	Plan reviewed and updated	11 Sep 13
6	Plan updated in response to ESV audit	24 Oct 13
7.1	Review & redraft by Worley Parsons for approval	6 Jun 15
7.2	Plan Approved	12 Jun 15
7.3	Review following ESV comments	Oct 15
7.4	Update plan period to yearly	Jan 16
8	Update for 2016-2017 financial year. Update information on	June 2016
	SHL competencies to manage the plan (section 12)	
9	Update for 2017 2018 Financial Year	July 2017
10	Update for 2018 2019 Financial Year	June 2018
10.1	Review following ESV comments	August 2018
10.2	Review following ESV comments	September 2018
11	Update for FY20	July 2019

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3 DEFINITIONS & ABBREVIATIONS

Act	Electricity Safety Act 1998
Fire Danger Period	means a period declared under section 4 of the <i>Country Fire</i>
	Authority Act 1958 to be a fire danger period
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.
VPPS	Valley Power Gas Power Station
AMGD	Area Manager Gas & Diesels
SMCC	Snowy Mountains Control Centre, COOMA, NSW (24hr everyday)
OiC	Operator in charge
CFA	Country Fire Authority
ESV	Energy Safe Victoria
BMMP	Bushfire Mitigation Management Plan
DFS	Declared Fire Season
LBRA	Low Bushfire Risk Area
HBRA	Hazardous Bushfire Risk Area
VMP	Vegetation Management Plan
TFB	Total Fire Ban
AEMO	Australian Energy Market Operator

4 COMPLIANCE INFORMATION

Assistance to quickly identify/locate in the VPPS Plan, the specific items required in Regulation 6 of the "Electricity Safety (Bushfire Mitigation) Regulations 2013".

g. the purposes of section 83BA(2)(b) of the Act, the following are the prescribed particulars— (a) the name, address and telephone number of the specified operator; (b) the position, address and telephone number of the person who was responsible for the preparation of the plan; (c) the position, address and telephone number of the persons who are responsible for carrying out the plan; (d) the telephone number of the specified operator's control room so that persons in the room can be contacted in an emergency that requires action by the specified operator to mitigate the danger of bushfire; (e) the bushfire mitigation policy of the specified operator to minimise the risk of fire 8 ignition from its at-risk electric lines; (f) the objectives of the plan to achieve the mitigation of fire danger arising from the 9 specified operator's at-risk electric lines; 			
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(h)	the preventative strategies and programs to be adopted by the specified operator to minimise the risk of the specified operator's at-risk electric lines starting fires;	11
(i)	a plan for inspection that ensures that all of the specified operator's at-risk electric lines are inspected at regular intervals of no longer than 37 months;	11.1
(j)	details of the processes and procedures for ensuring that each person who is assigned to carry out the inspections referred to in paragraph (i) has satisfactorily completed a training course approved by Energy Safe Victoria and is competent to carry out such inspections;	11812
(k)	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;	12
(I)	 the operation and maintenance plans for the specified operator's at-risk electric lines— (i) in the event of a fire; and (ii) during a total fire ban day; and (iii) during a fire danger period; 	11.5
(m)	the investigations, analysis and methodology to be adopted by the specified operator for the mitigation of the risk of fire ignition from its at-risk electric lines;	5.5 & 11
(n)	details of the processes and procedures by which the specified operator will—(i)monitor the implementation of the bushfire mitigation plan; and(ii)audit the implementation of the plan; and(iii)identify any deficiencies in the plan or the plan's implementation; and(iv)change the plan and the plan's implementation to rectify anydeficiencies identified under subparagraph (iii); and(v)monitor the effectiveness of inspections carried out under the plan; and(vi)audit the effectiveness of inspections carried out under the plan;	11.2, 11.6 & 13
(o)	the policy of the specified operator in relation to the assistance to be provided to fire control authorities in the investigation of fires near the specified operator's at-risk electric lines.	11.5.3

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5 BACKGROUND AND CONTEXT

This section provides background to this BMMP and outlines the process described within. This provides the background and context to the level of detail and description of processes in the BMMP.

This background is provided due to the very small nature of the transmission line subject to the plan, minimal vegetation near the transmission line, and location in a heavily industrialised location.

5.1 Consultation with ESV

The size and nature of the transmission line was discussed with ESV in a meeting in July 2015 during preparation of the plan, during which the limited extent of the transmission asset was agreed to warrant a less extensive BMMP than might be considered appropriate for a larger transmission line, or transmission line in a sensitive environmental context. As agreed with ESV, each of the regulatory requirements are addressed, and done so in a manner that is proportional to the asset and level of risk it represents.

5.2 ESV Philosophy

ESV have also advised that as a regulator they are adopting a philosophy of including an overview of process/procedures to ensure that the plan is implemented and managed effectively, including particularly the following two items.

• The person who is ultimately responsible for ensuring that various stages of a BMMP is implemented and managed effectively.

This is addressed in **Section 5.3** below, in the same manner as the Snowy Hydro Vegetation Management Plan (VMP) and as agreed with ESV during the preparation of the VMP.

• The process/procedures/steps taken to ensure all reasonable actions are considered, and how these steps are taken.

Detail on this point is included in this Plan, with the primary aspects being an asset inspection and monitoring schedule, a pre-fire season review meeting, and auditing - including by independent auditors certifying Snowy Hydro to ISO14001.

5.3 Site description

The VPPS site and transmission line, the subject of this plan, are located in a Hazardous Bushfire Risk Area (HBRA) and depicted in the Appendices. There are no sections of the line located in a Low Bushfire Risk Area (LBRA.)

The transmission line is relatively short, approximately 1.5 km in length, and in a highly disturbed area that has been developed for power station operations over a number of decades, and maintained in that condition. The majority of the line is without surrounding vegetation of any kind, other than low lying grasses, with one section of the line located towards the Loy Yang switchyard having some trees in the vicinity of the transmission line easement.

As such the BMMP has been developed in accordance with the regulatory requirements and advice from ESV, and with regard to the particular context of the site as noted above in **Section 5.1**.

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5.4 Responsibilities

The persons identified in section one are ultimately responsible for ensuring that each stage of the plan is prepared, implemented and managed effectively. Due to the small nature of the asset and BMMP, these responsibilities have not been repeated in each stage of the BMMP.

5.5 Significant Vegetation

The location has been heavily disturbed for many years, since the development of the Loy Yang power station complex, and maintained in that condition. The Council planning scheme and available online information does not identify the presence of any significant vegetation in the location, including grasses. As such, there is no indication that significant vegetation might exist in the easement or fringe area. As the stakeholders require the location of the transmission easement for ongoing power station operations, there is no interest in establishing significant vegetation in the line route or fringe area.

5.6 Stakeholders

Due to the small scale and location of the site there are no stakeholders other than the neighbouring Loy Yang B power station. Loy Yang and Valley Power representatives responsible for this Plan preparation and implementation are in regular contact regarding activities that may interact. As such a dispute resolution process is not included in this BMMP. Similarly, there are no mandatory notifications required as part of the maintenance work. Snowy Hydro representatives would inform Loy Yang of works and identify themselves to Loy Yang while gaining access to the transmission line.

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5.7 BMMP process

The overall process for implementation of the BMMP is set out in **Figure 1** below. This process is the overarching methodology used for mitigation of risk of fire from the Valley Power transmission line, classified as an 'at-risk electric line' under the Regulations.

Figure 1 Overall process of Valley Power BMMP

Preparation of Bushfire Mitigation Management Plan (BMMP)

The Bushfire Mitigation Management Plan was initially prepared utilising an independent expert external to Snowy Hydro.

Submit Plan to ESV for review

The Bushfire Mitigation Management Plan submitted to ESV for review and approval.

Integration of actions into Snowy Hydro work planning process

Actions identified in the Bushfire Mitigation Management Plan are incorporated into the Snowy Hydro planning and scheduling process to ensure continuity of line management.

Contractor selection and qualification process

Service Provider is assessed before being engaged to work for Snowy Hydro. Qualifications suitable for the services and safety performance are evaluated before being permitted to work Snowy Hydro.

Pre-fire season review meeting

A scheduled review is completed of the site performance and fire risk prior to each summer and changes incorporated into this Plan if required. This includes a review of capabilities of the contractors engaged for the inspection and maintenance work for the upcoming season.

Annual line inspections and vegetation maintenance

Engage selected contractor for line inspection and maintenance following pre-fire season review. Bushfire risk and vegetation management is able to be conducted at the time of the inspection as there is generally no or minimal vegetation maintenance required.

Audits & Review

In addition to the pre-fire season review, internal or external audits of management system components conducted as set out in the Plan.

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6 LEGISLATION

6.1 Electricity Safety Act 1998

Version No. 075 incorporating amendments as at 1 April 2019.

In accordance with the Electricity Safety (Bushfire Mitigation) Regulations 2013 this Bushfire Mitigation plan provides the prescribed particulars as specified in Regulation 6 applicable to specified operators.

6.2 Bushfire Mitigation Regulations 2013

This plan is developed to comply with the Electricity Safety (Bushfire Mitigation) Regulations 2013 - S.R. No. 62/2013.

6.3 Vegetation Clearance Regulations 2015

Vegetation is cleared according to the Electricity Safety (Electric Line Clearance) Amendment Regulations 2015 S.R. No. 67/2015 dated 23 June 2015.

7 AVAILABILITY OF THIS PLAN

A copy of the current accepted bushfire mitigation plan is available on request from the Area Manager Gas & Diesels via reception at the VPPS office address nominated in the Contact Details section of this plan. Office business hours are 7 am to 4 pm Monday to Friday.

A copy of the plan is also available from the Snowy Hydro internet site http://www.snowyhydro.com.au/our-energy/gas/valley-power

This plan is a living document and will evolve as the fire danger period approaches. Appendices to this document will be reviewed and additional information will be added to the appendices as it becomes available.

8 BMMP SCOPE & POLICY

VPPS's bushfire mitigation management plan includes asset inspection, maintenance, repair, vegetation management and performance monitoring of the site. The planning and scheduling of this program is based principally on the system of asset inspection, maintenance reporting, faults and regular review.

The scope of the BMMP is specific to the VPPS transmission line asset.

This plan is to be read as the Bushfire Management Policy for the site.

This strategy plan makes reference to other plans, manuals, standards, policies, procedures, service providers and work instructions which, when combined with this plan, cover all of the activities that contribute to the reduction of bushfire risk.

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9 OBJECTIVE OF THIS PLAN

The objectives of this plan are to:

- minimise the risk of fire starts from the VPPS and associated 220kV Transmission Line Assets
- achieve compliance with the relevant legislative and regulatory requirements
- define the companies approach to the management of the risk of bushfires caused by electricity assets

10 SITE - VALLEY POWER POWER STATION (VPPS) & 220kV TRANSMISSION LINE

VPPS is an established site owned by Snowy Hydro Ltd and is located at Barton's Lane, Traralgon. The surrounding area is industrial with some open grassed areas in proximity. The ground surface of each switchyard is crushed rock gravel. All trees have been cleared to grasslands under the line route. There are areas of vegetation along the boundary of the line easement.

There are;

- No Distribution Network connections to the transmission line
- no trees of cultural or environmental significance on the site
- small sections along the line route easement where new tree growth could enter the clearance space if not maintained
- no Private Overhead Electric Lines or Distribution Network connections to the transmission line.

The Site is remotely monitored by SMCC 24hrs a day 7 days a week. SMCC is located in Cooma NSW. The site is locally managed by the Plant Manager, and there are local staff on call outside normal business hours for emergency response via the SMCC callout.

The site is electrically connected via an overhead 220 kV line from the 220kV Switchyard to the nearby Loy Yang Power Station 500kV Switchyard. The six generators are connected to the generator transformers located in the 220kV switchyard via 11kV cables situated underground in concrete culverts.

Appendix A Parts 1 to 3 shows the site map and location of Valley Power & its 220kV Switchyard (including the overhead 220 kV line to Loy Yang Power Station 500kV Switchyard).

11 OPERATING & PREVENTATIVE MAINTENANCE PROGRAM

Snowy Hydro corporate procedures, Access Rules and site specific Operating Instructions are designed to ensure that all activities conducted on site are performed in a safe manner by competent personnel. Transmission inspection and maintenance activities are undertaken only by service provider personnel who comply with the applicable training requirements detailed within this plan.

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Regular planned inspections are completed of the site switchyards and the 220KV Transmission Line. All maintenance identified is completed to agreed timeframes within this plan. The frequency is set out in the following section.

Snowy Hydro will employ the services of an experienced Service Provider to inspect and maintain the site in relation to the BMMP activities nominated the following table. Snowy Hydro Service Providers are required to have proven safe work practices prior to engagement and have a system of work that meets Snowy Hydro's contract qualification requirements.

A scheduled review is completed of the site performance and fire risk prior to each summer and changes incorporated into the plan if required. The capabilities, progress and services provided by the Service Provider will be assessed by Snowy Hydro annually as part of the pre-season review.

11.1 Asset Inspection/Monitoring

A program of asset inspection is scheduled and records of completion using the Snowy Hydro "Ellipse" works management system as follows;

Item	Frequency	Competent Resource
Thermographic Survey of 220 kV line	Annually	Service Provider
Line Route Vegetation Inspection &	Annually	Service Provider
Clearance		
Switchyard Earthing	Annually	VPPS personnel
Fault & Fire Performance	Annually	VPPS Management
Tower & Line Inspection	3 yearly	Service Provider
Line Protection Testing	3 yearly	Protection Team
BMMP & VMP Plan Review	Annually	VPPS Management

11.2 Assessment and Analysis

Results and observations identified in the inspection program above and during operations are assessed against performance specifications for the Asset (Valley Power Transmission line), potential for safety incidents, and potential fire risk, by local site engineering and the Snowy Hydro Asset Engineer responsible for the Asset. Each recommendation identified by the qualified external service provider who conducts the inspections is reviewed and the action agreed upon with the person responsible for implementing this plan (the Plant Manager identified in **Section 1**) before being uploaded into the Snowy Hydro "Ellipse" works management system to be completed. Completion of this recommended work is tracked using the Snow Hydro "Ellipse" works management system.

Reports received from the qualified external service provider are stored in Snowy Hydro's internal document management system.

Should any results or observations indicate this plan should be amended, this is done as part of the annual review process outlined in **Section 13**, or immediately as required.

11.3 Site Maintenance

Maintenance strategies exist to maintain assets to a high standard of operational reliability and minimal risk of in service failure. All maintenance found during inspections (or faults) is immediately planned and completed as soon as practical to organise the works package and competent resources.

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All employee activities likely to cause naked flames, sparks & high temperatures are required to be conducted in accordance with Snowy Hydro Hot Work Procedures and a job specific risk assessment (Work Method Statement).

Service Providers engaged for actions under this plan are required to have a safe system of work to inspect and maintain the assets and use only competent personnel for the activities allocated under this plan. Training qualifications are identified in a subsequent section of the plan. Service Providers qualifications are verified during contract engagement with Snowy Hydro, which operates a pre-qualification process, and then again when engaged for a specific task. This requirement is identified in the engagement documentation with each Service Provider.

The following table should be used as a guideline to planning maintenance works required;

Maintenance Completion Required	TFB	Declared	No Declared
		Fire Season	Fire Season
		(DFS)	
Line or Vegetation	Immediately	<7 days	Prior to DFS

11.4 220kV Line Protection

Protection tripping settings for the line route are fixed at the highest sensitivity level at all times. Therefore the settings require no further level of adjustment to take place during the declared fire season, high fire danger or (TFB) days.

Upon a 220kV line protection operation there is no auto reclose feature. Protection relay data has to be downloaded and reviewed before permission is granted to restore supply. For a genuine line protection operation the line must be physically inspected before permission is granted to restore supply.

This 220kV operating procedure applies at all times and no extra operational procedures apply for high Fire Danger or TFB days. VPPS will cease generation upon request by the relevant agency (CFA, AEMO) eg fire approaching. At that point VPPS personnel will evacuate the site.

11.5 Fire Risk & Fires

11.5.1 Declared Fire Season

Prior to each summer season the site will apply for exemption to use the "Hot Works Procedure" during the Declared Fire Season or works will be carried out by the Service Provider under their permits/approvals.

11.5.2 Total Fire Ban Days

On days of Total Fire Ban;

- Although no 'hot' work is intended to be carried out, this sort of work will not, as a matter of policy, be carried out during total fire ban days. For the event of an emergency VPPS may arrange permits allowing this work under particular circumstances eg cable repair. Any required work on the overhead lines would be carried out by the Service Provider and they would operate under their particular constraints and permits.
- no vegetation works will be completed with anything but saw/axe i.e. no chainsaws etc
- if vehicles are required to access the line route for any reason it will be a diesel vehicle and carry a large volume hand held extinguisher.

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11.5.3 Fires

If there is a known fire risk approaching or within the site, inside or outside a declared fire season;

- VPPS will liaise with the relevant fire control agency regarding appropriate actions underway/or as required as well as assist with any ensuing investigation
- VPPS will cease generation and/or de-energise the 220KV line upon request by the relevant agency (CFA, AEMO). At that point VPPS personnel will evacuate the site.
- the Transmission Line is to be de-energized as soon as possible until the risk has dissipated

11.6 Auditing

VPPS has a series of audits to ensure the BMMP plan is effective in fire prevention as follows;

- Request for relevant competencies of employees and service providers employees that inspect and maintain the site to meet the training requirement in this plan prior to starting works
- Management review and approval of the BMMP plan prior to the DFS.
- The site is certified to ISO14001, and audited by an independent external auditor to verify certification
- Internal Snowy Hydro audits of the presence and effectiveness of environmental management system

External audits to ISO14001 are conducted annually across Snowy Hydro, with recertification on a 3 yearly cycle. Inclusion of Valley Power in the schedule is determined by the independent external auditors based on previous performance of the site and audit coverage required to demonstrate compliance to the international Standard ISO14001.

Non-conformances from all audits are recorded in the Snowy Hydro incident management database together with responsibilities and timings for action completion. These may be preventative or corrective actions. If relating to asset management, actions will be recorded in the Snowy Hydro defect management system, which similarly identifies responsibilities and timings for completion.

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12TRAINING

12.1 Training and qualifications for BMMP implementation

Records of employee training and employee and service provider records are kept in the company's database I-Learn.

A Request for evidence of relevant competencies of Service Provider's employees that inspect and/or maintain the site in this plan are requested prior to starting works, and are required during the Snowy Hydro contract qualification process prior to the Service Provider being appointed.

All Asset Inspectors working on the VPPS network are required to hold a Certificate II in Asset Inspection. The VESI Skills and Training Matrix stipulate the requirements and frequency of refresher training for asset inspectors. The matrix is available at <u>www.vesi.com.au</u>

All persons carrying out the cutting or removal of trees must have successfully completed and maintained as a minimum the following training elements;

- Manual Handling
- First Aid in an ESI environment UETTDRRF010A
- CPR HLTCPR201A
- VESI Environmental Framework
- VESI Safety Framework
- Construction Industry induction White/Red card
- Apply ESI safety rules, codes of Practice and Procedures for work on or near electrical apparatus (Green Book/Blue Book) UETTDRRF01A
- Certificate II in ESI Powerline Vegetation Control UET20312
- National Certificate Level IV in Horticulture and Arboriculture, including the "Assess Trees" module, or an equivalent qualification for assessments
- Safe Approach Distances,
- Pruning in an Electrical Environment
- Competency based training in the equipment and/or chemicals used

Arborists employed will be suitably qualified and have a minimum of 3 years experience.

Snowy Hydro personnel managing this plan are experienced Operational Managers in the electricity industry, selected through Snowy Hydro's recruitment process, and are experienced in coordinating the preparation and implementation of management plans required for operational sites. All Snowy Hydro employees are performance managed as per Snowy Hydro's internal system with their performance reviewed on a yearly base against their position description. The Operational Managers identified on the plan are also supported by the Snowy Hydro Environmental Group which comprises of professional environmental advisors.

12.2 Qualifications for preparation of this BMMP

Snowy Hydro engaged an external expert for preparation of the BMMP. This was Mr Gary Bennett from Worley Parson's who prepared the original version of this plan. His qualifications include extensive asset management experience in the Victorian, Queensland and New Zealand power distribution industries such as;

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- Establishing Powercor's first 5 year Asset Maintenance Strategy and risk tolerances, updating major asset inspection, replacement cycles materially reducing operating and insurance costs.
- Management of Ergon Energy's Work Plan from 2008-2010, including delivery of asset maintenance and regulatory compliance with respect to transmission lines; and
- Responsibility for Tenix network business from 2011-2015.

13 REVIEWING

The Bushfire Mitigation Management Strategy Plan is reviewed each year and adjustments/improvements are made to better meet the objectives of the plan. The review includes;

- The Post Fire Season Review, which is held at the end of the fire danger period and before the next declared fire season, to review VPPS Asset performance & risk under the BMMP
- The Summer Pre-Season Agenda Item which is held before the start of the fire declaration period. It provides an opportunity to report on the progress of BMMP activities and to approve review change updates, if the need arises, to meet the requirements of the plan
- Asset Inspection and fault performance findings
- During the declared fire season report to the monthly management meeting compliance level to the BMMP report requirements
- ESV Directions, applicable codes/Acts updates.

14 SUBMISSION OF PLAN

The Bushfire Mitigation Management Plan is required to be submitted to ESV annually by 1 July.

The VMP is reviewed annually by 31 March. The VMP is made available to ESV upon request but is not required to be submitted.

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15 Appendix A

Part 1 – Switchyards & Line Route: Aerial Photograph Overlay

The Valley Power power station site and transmission assets shown below are located in a Hazardous Bushfire Risk Area (HBRA).



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Part 3 - Valley Power Gas Generation Site



Aerial Photograph of site taken April 2019.

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