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# Wellington North Solar Farm – Emergency Plan

FINAL

June 2022

Prepared by Umwelt (Australia) Pty Limited on behalf of Lightsource bp Renewable Energy Investments Limited



## EMERGENCY PLAN

Wellington North Solar Farm

## FINAL

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

Lightsource bp Renewable Energy Investments  
Limited (LSbp)

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QMS Certification Services

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### **Acknowledgement of Country**

*Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.*

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### **Document Status**

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
01	Chris Bonomini	16 December 2021	Malinda Facey/Nathan Baker	16 December 2021
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# Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	Purpose of this Emergency Plan	1
1.2	Definition of an Emergency	3
1.3	Plan Authority	3
<b>2.0</b>	<b>Overview of Development</b>	<b>4</b>
2.1	Development Area	6
2.2	Components and Features (and Layout)	8
2.3	Development Phases Activities (and Manning)	9
2.3.1	Early Works – Construction Activities	9
2.3.2	Main Works – Construction Activities	9
2.3.3	Operation	10
2.3.4	Decommissioning	11
2.4	Hazards and Emergency Scenarios	11
2.4.1	Hazards	11
2.4.2	Emergency Scenarios	14
2.4.3	Levels of Emergencies	15
<b>3.0</b>	<b>Roles of External Agencies and the Community</b>	<b>16</b>
3.1	Emergency Services	16
3.1.1	Fire and Rescue NSW	16
3.1.2	NSW Rural Fire Services	16
3.1.3	NSW Police Force	16
3.1.4	NSW Ambulance	16
3.1.5	State Emergency Services	16
3.2	Local Emergency Management Committee	16
3.3	SafeWork NSW	17
3.4	NSW Environment Protection Authority	17
3.5	Community	17
<b>4.0</b>	<b>Emergency Functions and Organisational Structure</b>	<b>18</b>
<b>5.0</b>	<b>Facility Emergency Resources</b>	<b>21</b>
5.1	Construction	21
5.2	Operation	22
<b>6.0</b>	<b>Emergency Response</b>	<b>25</b>
6.1	Activation of the Emergency Plan	25



6.1.1	Communication	26
6.1.2	Control and Coordination	27
6.1.3	Evacuation Plan	28
6.1.4	Post Emergency	28
6.2	Training	29
6.2.1	Chief Warden, Deputy Chief Warden, and Warden	29
6.2.2	Personnel, Contractors, and Visitors	29
6.2.3	First-attack Firefighting	29
6.2.4	First Aid	30
6.2.5	Skills Retention	30
6.2.6	Emergency Services Site Familiarisation	30
6.3	Emergency Response Exercises	30
6.4	Initial Testing and Implementation	30
6.5	Ongoing Program	30
6.5.1	An Emergency During and Emergency Response Drill	31
<b>7.0</b>	<b>Plan Implementation, Distribution and Communication</b>	<b>32</b>
<b>8.0</b>	<b>Review and Update of Plan</b>	<b>33</b>
<b>9.0</b>	<b>Hazard Mitigation and Management Measures</b>	<b>34</b>
<b>10.0</b>	<b>References</b>	<b>41</b>

## Figures

Figure 2.1	Wellington North Solar Farm Regional Context	5
Figure 2.2	Wellington North Solar Farm Development Area	7
Figure 5.1	Construction Phase Evacuation Plan	23
Figure 5.2	Operation Phase Evacuation Plan	24

## Tables

Table 1.1	Relevant EP Development Consent Conditions (SSD 8895)	2
Table 2.1	Hazardous Materials Inventory	12
Table 4.1	Construction Phase - Emergency Contacts	18
Table 4.2	Operation Phase – Emergency Contacts	18
Table 4.3	Decommissioning Phase - Emergency Contacts	18
Table 4.4	Emergency Roles - Responsibilities	19
Table 6.1	Emergency and Agency Contacts	26
Table 6.2	Neighbouring Facilities, Residences and Landowners	26
Table 9.1	Hazard Mitigation and Management Measures	35

## Appendices

Appendix A	Hazard Identification Workshop Minutes
Appendix B	Emergency Management and Response Procedures
Appendix C	Emergency Services Information Package
Appendix D	Agency Consultation

# 1.0 Introduction

Lightsource Development Services Australia Pty Ltd, a wholly owned subsidiary of Lightsource bp Renewable Energy Investments Limited (LSbp) received development consent for the Wellington North Solar Farm (SSD 8895) in April 2021.

LSbp is a global leader in the development and management of solar energy projects, and a 50:50 joint venture with bp. Its purpose is to deliver affordable and sustainable solar power for businesses and communities around the world. LSbp is active in 14 countries, across six continents, however, are continuing to rapidly expand globally. LSbp provides a full service to its customers, from initial site selection, financing and permitting through to construction, long-term operation, and decommissioning. Of the 14 countries LSbp is active in, it currently has seven in-country Environmental Planning and Sustainability teams (Australia, Brazil, Netherlands, Republic of Ireland, Spain, United Kingdom, and USA).

The development is located approximately seven kilometres (km) northeast of Wellington in New South Wales (NSW). It is wholly within the Dubbo Regional Local Government Area (LGA). The development involves the construction, operation and decommissioning of a 330-megawatt (MW) ac/415 MW peak solar farm and associated infrastructure.

The development consent was granted by a delegate of the Minister for Planning and Public Spaces under section 4.38 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

## 1.1 Purpose of this Emergency Plan

This Emergency Plan (EP) has been prepared to satisfy the development consent conditions relating to the preparation of an EP and minimise the adverse impacts to people, property and the environment from an incident occurring or impacting on site during the construction, operational and decommissioning phases of the Development.

As required by Condition 29 of Schedule 3 of the Development Consent, the EP has been prepared to be consistent with *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'* (NSW Department of Planning (DoP), 2011) and *Planning for Bushfire Protection 2019* (NSW Rural Fire Service (RFS), 2019). Reference has also been made to *AS 3745-2010 Planning for emergencies in facilities* (AS 3745) during the preparation of this plan.

A compliance matrix for this EP and Schedule 3 (Condition 29) requirements is presented in **Table 1.1** below

**Table 1.1 Relevant EP Development Consent Conditions (SSD 8895)**

Schedule	Condition	Where Addressed in this EP
3	<p><b>Condition 29</b></p> <p>Prior to commencing construction, the Applicant must develop and implement a comprehensive Emergency Plan and detailed emergency procedures for the development, in consultation with FRNSW and the RFS. The Applicant must keep two copies of the plan on-site in a prominent position adjacent to the site entry points at all times. The plan must:</p>	This plan
	(a) be consistent with the Department’s <i>Hazardous Industry Planning Advisory Paper No. 1</i> , ‘Emergency Planning’ and RFS’s <i>Planning for Bushfire Protection 2019</i> (or equivalent);	This plan
	(b) identify the fire risks and hazards and detailed measures for the development to prevent or mitigate fires igniting;	<p><b>Section 2.4.1</b></p> <p><b>Appendix A</b></p> <p><b>Appendix B</b></p>
	(c) list works that should not be carried out during a total fire ban;	<b>Appendix B – B.11</b> Hot Work Procedure
	(d) include availability of fire suppression equipment, access, and water;	<b>Section 5.0</b>
	(e) include procedures for the storage and maintenance of any flammable materials;	<b>Appendix B – B.10</b> Flammable and Combustible Materials Storage Procedure
	(f) detail access provisions for emergency vehicles and contact details for both a primary and alternative site contact who may be reached 24/7 in the event of an emergency;	<p><b>Sections 1.3, 4.0 and 5.0</b></p> <p><b>Appendix C</b></p>
	(g) include a figure showing site infrastructure, Asset Protection Zones, and the firefighting water supply tank;	<p><b>Section 5.0</b></p> <p><b>Appendix C</b></p>
	(h) include location of hazards (physical, chemical, and electrical) that may impact on firefighting operations and procedures to manage identified hazards during firefighting operations;	<b>Section 5.0</b>
	(i) include details of the location, management, and maintenance of the Asset Protection Zone and who is responsible for the maintenance and management of the Asset Protection Zone;	<b>Appendix B – B.3</b> Bushfire Mitigation and Response Plan
	(j) include bushfire emergency management planning;	<b>Appendix B – B.3</b> Bushfire Mitigation and Response Plan

Schedule	Condition	Where Addressed in this EP
	(k) include details of how RFS would be notified, and procedures that would be implemented in the event that: <ul style="list-style-type: none"> <li>there is a fire on-site or in the vicinity of the site;</li> <li>there are any activities on site that would have the potential to ignite surrounding vegetation;</li> <li>there are any proposed activities to be carried out during a bushfire danger period; and</li> <li>offer representatives of the local RFS brigade an opportunity to undertake a site familiarisation following construction of the development, and prior to commencing operations.</li> </ul>	<b>Appendix B – B.3</b> Bushfire Mitigation and Response Plan, <b>Appendix B – B.11</b> Hot Work Procedure <b>Section 6.2.6</b>
	Following approval, the Applicant must implement the Emergency Plan	<b>Section 7.0</b>

## 1.2 Definition of an Emergency

Throughout this document, the term “emergency” refers to a situation which harms (or threatens to harm) people, property, or the environment. The term applies to an event that causes this EP to be activated.

Events such as a minor spill of hazardous material on site, which are managed without the need to activate this EP are not regarded as an emergency by this EP.

## 1.3 Plan Authority

This EP is issued on the authority of Adam Pegg, Lightsource bp, Level 10 420 George Street, Sydney, NSW 2000. And is valid for four years from the date of issue.

Wellington North Solar Farm - Facility Details	
Facility Operator	Lightsource bp
Name of Site	Wellington North Solar Farm
Development Consent	SSD 8895
Postal Address	6444 Goolma Rd, Bodangora NSW 2820
Site Coordinates	-32.494° latitude/148.964° longitude
Site Telephone Number	Sajid Mahmud (Asset Manager, LSbp), M: 0426 155 457
LSbp 24/7 Telephone Number	1300 166 716



## 2.0 Overview of Development

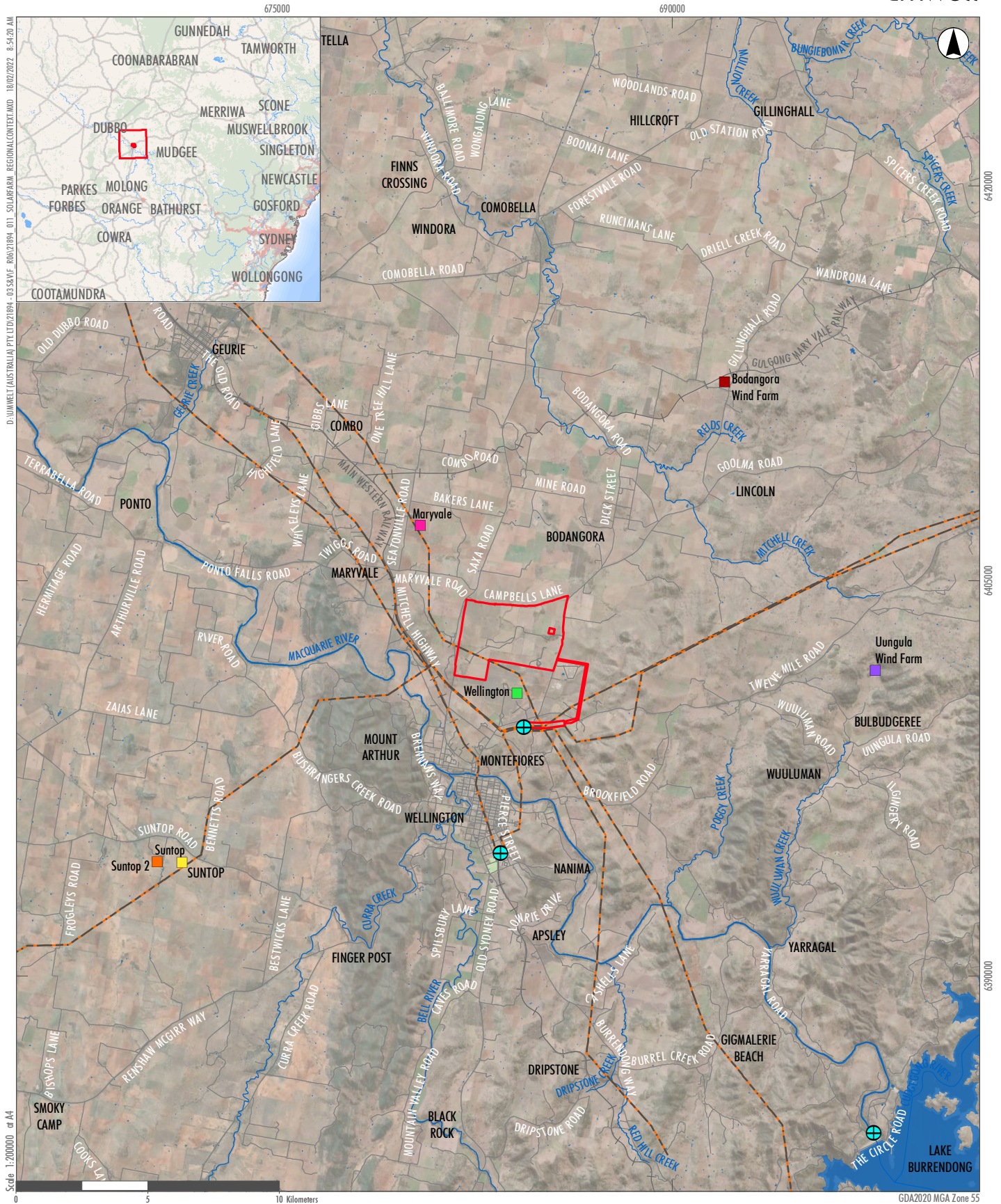
The development area is in a predominantly agricultural setting, approximately 3.4 km southeast of the village of Bodangora (refer to **Figure 2.1**). The nearest regional centre, Dubbo, is located approximately 40 km northwest of the development area.

The development area is located immediately adjacent to the Wellington Correctional Centre and approximately 300 m northwest of the Macquarie Correctional Centre.

The development area is adjacent to the Wellington Solar Farm, which will be operational in late December 2021 and is also owned by LSbp. The surrounding area is emerging as a key centre of renewable energy production in NSW, and forms part of the NSW Government's Central-West Orana Renewable Energy Zone (REZ).

Three other solar farm projects have been approved within a 50 km radius of the development, including the Maryvale Solar Farm which is located approximately 2.5 km northwest of the development area. There are several wind farms in the vicinity of the development and/or within the Central-West Orana REZ. Closest to the development are the Bodangora Wind Farm to the north-east (operational), and the Uungula Wind Farm to the east (in planning). Uungula Wind Farm is of particular relevance to the development with respect to potential cumulative impacts, if constructed concurrently.

The development area is zoned RU1 Primary Production and SP2 Electricity Supply and is comprised of gently undulating land which has been heavily disturbed by historical agricultural activity.



**Legend**

- |                             |                           |
|-----------------------------|---------------------------|
| Development Site            | Maryvale Solar Farm       |
| Existing Substation         | Suntop Solar Farm         |
| Existing Transmission Lines | Suntop Stage 2 Solar Farm |
| Road                        | Ungula Wind Farm          |
| Railway Line                | Wellington Solar Farm     |
| Drainage Line               | Bodangora Wind Farm       |
| Water Body                  |                           |

**FIGURE 2.1**

**Wellington North Solar Farm  
Regional Context**

## 2.1 Development Area

The development area is considered as the total area of the development, including the development boundary. It comprises approximately 978 hectares (ha) of freehold land, Crown land and road reserves contained within the development boundary.

The development area is comprised of three key components, including:

- Solar farm site.
- Transmission line route.
- Transgrid's Wellington substation connection, however the Transgrid infrastructure and assets, and most of the connection works would be approved and undertaken under Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

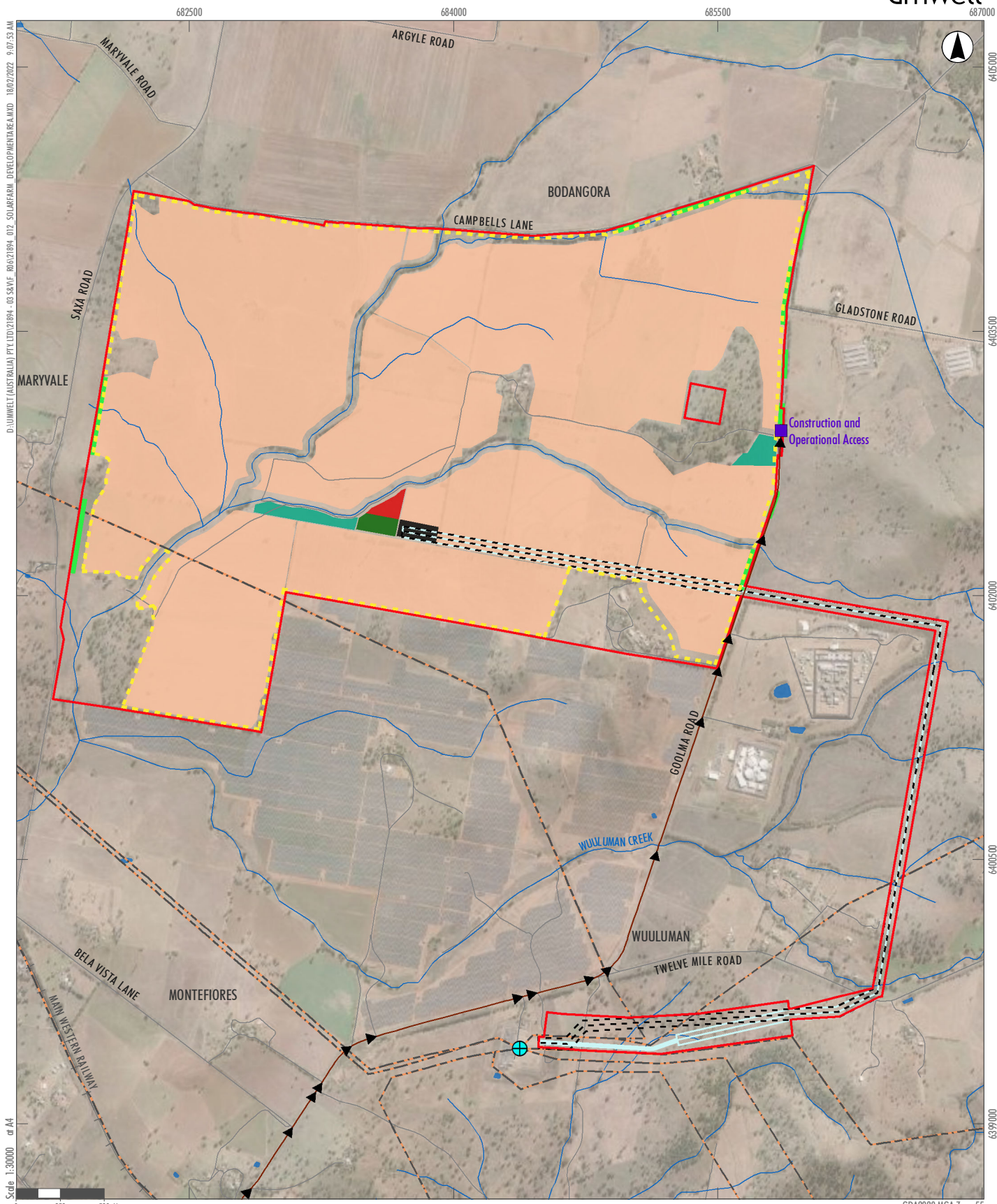
The solar farm site contains all solar infrastructure and is made up of Lots 75-84 and 119-121 DP 2987, Lots 1 and 2 DP 1104720, Lot 3 DP 976701, Lot 1 DP 808748, Lot 100 DP 750760, Lot 1 DP 664645 and Lot 1 DP 1206579.

The transmission line route contains the transmission lines and associated transmission line infrastructure and is made up of Lot 106 DP 2987, Lot 73 DP 750760, Lot 2 DP 1053234, Lot 32 DP 622471, Lot 1 DP 1226751, Lot 1 DP 1249719 and Lot 7 DP 810725.

The new transmission lines will connect to Transgrid's Wellington substation, located approximately 2 km south of the development (Lot 1 DP 1226751).

The development area is shown below in **Figure 2.2**.





- Legend**
- Development Site
  - Existing Substation
  - Existing Transmission Lines
  - Road
  - Railway Line
  - Drainage Line
  - Water Body
  - Construction Compound
  - Future Battery Storage
  - Intersection Upgrade
  - Operations and Maintenance Facility
  - Solar Arrays
  - Substation
  - Transmission Line Option A
  - Transmission Line Option B
  - Transport Route
  - Landscaping
  - Fence
  - Construction and Operational Access

FIGURE 2.2

Wellington North Solar Farm Development Area

## 2.2 Components and Features (and Layout)

The key components and features of the development include:

- approximately 1.2 million photovoltaic (PV) modules
- approximately 155 inverter stations
- underground electrical conduits and cabling to connect the solar panels, combiner boxes and inverters
- an onsite substation containing up to two transformers and associated switchgear, occupying an area of approximately 2 ha
- a 330 kilovolt (kV) transmission line connecting to Transgrid's Wellington substation
- construction and operational access via a single access point off Goolma Road (also known as the primary site access)
- transmission line access points off Goolma Road and Twelve Mile Road
- road upgrades, including upgrades to facilitate construction and operational access
- internal access tracks and upgrades to existing access roads (including watercourse crossings), where required
- an office and amenities building, operations and maintenance building and car park
- perimeter security fencing and CCTV
- a landscaped vegetation buffer.

The PV modules will be mounted on either east-west horizontal tracking systems or north-orientated fixed-tilt structures and will have a maximum height of approximately 4 m. The current solar farm design has also identified the potential for bi-facial single-axis tracking modules; however, this is subject to change following detailed design.

The inverter stations will allow conversion of direct current (DC) module output to AC electricity and transformation to medium voltage for site reticulation (typically 22 kV or 33 kV). The inverter stations will be approximately 3 m high.

The approved transmission line route is shown in **Figure 2.1** and **Figure 2.2**. The transmission line will have an associated easement up to 60 m wide. The approved development includes two overhead and/or underground options for the transmission line for the construction of the final 1.2 km of the transmission line (nearest to the Wellington substation). The two alternative transmission line routes (Option 1 and Option 2) are shown in **Figure 2.2**.

The primary site access is off Goolma Road, approximately 3.2 km north of the Twelve Mile Road intersection and the secondary site access is off Campbells Lane approximately 1.5 km east of the Saxa Road intersection (refer to **Figure 2.2**).

The approved development layout includes an area for a potential future battery energy storage system (BESS); however, the construction or installation of a BESS will require a modification to SSD 8895 or separate development consent.



## 2.3 Development Phases Activities (and Manning)

### 2.3.1 Early Works – Construction Activities

The early works phase of the development includes preparatory works which must occur prior to the commencement of main construction activities.

To comply with the conditions of the development consent, these early works are limited to:

- road upgrades required under Condition 6 of Schedule 3 of the development consent
- building/road dilapidation surveys
- vegetation buffer planting
- installation of fencing
- artefact survey and/or salvage
- overhead line safety marking
- geotechnical drilling
- surveying.

Early works are currently scheduled to start at the end of Q1/beginning of Q2 in 2022, and the construction period for these early works will be approximately three months. As per Condition 16 within Schedule 3 of the development consent, construction hours will generally be limited to Monday to Friday 7:00 am to 6:00 pm and Saturday 8:00 am to 1:00 pm, with no works on Sundays or Public Holidays. Some works outside these hours may occur as permitted by Condition 16 of Schedule 3. Early works will have a construction workforce of approximately 30 workers.

A key activity within the early works will be the road upgrades required at the intersection of Goolma Road and the construction and operational access. These works will consist of a new Basic Right Turn (BRT) Auxiliary Left Turn (AUL) treatment, designed, and constructed in accordance with the *Austroroads Guide to Road Design* (as amended by Transport for NSW (TfNSW) supplements). The existing entry point on Goolma Road (immediately south of the new construction and operational access) will be closed and the road reserve will be re-instated to match the surrounding roadside landform.

With early works focusing on the road upgrades required under Condition 6 of Schedule 3 of the development consent; some residual approved early work construction activities may occur during the main works period described below.

### 2.3.2 Main Works – Construction Activities

Main works are currently scheduled to start at the end of Q2/beginning of Q3 in 2022, and the main works construction period will last for 18 to 24 months, including a peak period of approximately nine months. Consistent with early works, the main works construction hours will generally be limited to Monday to Friday 7:00 am to 6:00 pm and Saturday 8:00 am to 1:00 pm, with no works on Sundays or Public Holidays. Some works outside these hours may, consistent with early works, occur as permitted by Condition 16 of Schedule 3. The development will generate around 400 direct full-time equivalent (FTE) jobs during construction, with a maximum of 250 at any one time.

Construction activities will include:

- site establishment and enabling works including fencing, ground preparation, construction of the internal access tracks, preliminary civil works and drainage works
- installation of steel post and framing system for the solar panels
- installation of underground cabling and installation of power conversion (inverter) stations and footings
- installation of solar panels
- construction of the operations and maintenance facility
- construction of the on-site substation, transmission line and connection to Transgrid's Wellington substation.

During the peak period, the development is expected to generate up to 267 two-way construction traffic movements, including 55 heavy vehicle movements, 80 shuttle bus movements (associated with worker transport) and 132 light vehicles movements.

### **2.3.3 Operation**

The expected operational life of the development is approximately 30 years, however infrastructure upgrades throughout the development lifecycle may extend its operational life. The key activities that would be undertaken during operation include:

- visual inspections, maintenance and cleaning of solar panels and the substation
- vegetation management:
  - grazing of sheep
  - mechanical vegetation maintenance
  - maintaining groundcover vegetation
  - maintenance of landscaping, including the vegetation buffer
- site security and operational response
- replacement of equipment and infrastructure
- pest plant and animal control.

The development will have around 2-4 full time staff during the operation and maintenance phase. For the purpose of this EP, response procedures / management measures were developed based on the assumption that during operation, the site will be staffed by six operations team members with at least four people on site at any one-time during day work hours.

Contractors will also attend site as required to undertake general maintenance activities. One contractor is estimated occupying the site on an average day and up to 10 contractors on a peak day.

### 2.3.4 Decommissioning

At the end of the development's operational life, unless the Planning Secretary agrees otherwise, the solar farm infrastructure will be decommissioned and removed. This will include removal of solar panels and foundation posts, the substation and associated connections and underground cabling, the operations and maintenance facility, carpark, and fencing.

Disturbed areas will be rehabilitated to ensure the development area is safe, stable, and non-polluting. The development area will be restored to its pre-development agricultural land capability (at least Class 3).

## 2.4 Hazards and Emergency Scenarios

### 2.4.1 Hazards

The following hazards have been identified as being present at the Development during construction, operation, and decommissioning:

- hazardous materials (refer to **Table 2.1**)
- electricity including high voltage equipment and overhead power lines
- mobile plant and vehicles
- tools and equipment
- fires involving on-site plant and equipment
- bush or grass fires
- localised flooding
- severe thunderstorms
- bomb or substance threat
- cyberattack.

**Table 2.1 Hazardous Materials Inventory**

Development Phase	Material	Dangerous Goods Class/ Division and Packing Group	UN No.	Storage Type	Storage Location	Maximum Quantity
Construction	Diesel	C1	1202	Above ground tank	Central Construction Compound	5,000L
Operation	Unleaded Petrol	3 (II)	1203	Above ground tank	Operations and Maintenance Facility	1,000 L
Operation	Aerosols (e.g., spray paints WD-40)	2.1	1950	Packages/Flammable Gas Cabinet	Operations and Maintenance Facility	100 L
Operation	Flammable Liquids (e.g., methylated spirits,	3(II)	Various	Packages/Flammable Liquids Cabinet	Operations and Maintenance Facility	100 L
Operation	Engine and Hydraulic Oils (various)	-	-	Packages	Operations and Maintenance Facility	2,000 L
Operation	Metsulfuron (herbicide)	-	-	Packages	Operations and Maintenance Facility	1,000 L
Operation	Flagship 400 EC (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L
Operation	Ken Zon (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L
Operation	Uptake Spraying Oil	-	-	Packages	Operations and Maintenance Facility	2,000 L
Operation	Glyphosate (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L

Development Phase	Material	Dangerous Goods Class/ Division and Packing Group	UN No.	Storage Type	Storage Location	Maximum Quantity
Decommissioning	Diesel	C1	1202	Above ground tank	Operations and Maintenance Facility	5,000 L



## 2.4.2 Emergency Scenarios

This section lists the credible emergency scenarios that were identified during a hazard identification workshop undertaken (with Umwelt and LSbp personnel) on 15 November 2021 (refer to **Appendix A** for workshop minutes). The mitigation measures for the identified emergency scenarios are provided in the workshop minutes as well as **Section 9.0**. The hazards/hazard scenarios identified in the hazard identification workshop (refer to **Appendix A**) were:

- substation fire or explosion (e.g., insulation breakdown, loss of containment and arcing causing ignition of oil)
- an on-site fire, with the potential to propagate off-site, initiated by:
  - electrical equipment faults
  - construction and maintenance activities (e.g., hot work such as welding, or grinding)
  - vehicle or mobile plant fault or accident
  - flammable or combustible liquid spill and ignition
  - ignition source introduced to flammable liquids storage
  - arson
- an on-site fire that impacts herbicides which under some conditions can release toxic gases
- electrification of the site fence due to:
  - fallen overhead power lines (e.g., during storm event)
  - induced voltages
- electrocution hazard during fire response due to live electrical equipment
- significant personal injury due to:
  - vehicle/mobile plant collisions
  - faulty tools and equipment or misuse of tools and equipment
- bushfire
- major storm event causing:
  - flooding of some areas of the site near streams and restricted access/egress
  - lightning
- significant chemical spills leading to soil and water contamination
- cyberattack and loss of solar plant generation controls leading to grid instability and potential off-site fire (i.e., at off-site substation)
- bomb or substance threat.

Based on development consent and outcomes of the hazard identification workshop, it was agreed that the emergency management and response procedures listed below would be developed and included in the EP. The emergency management and response procedures are contained in **Appendix B** of this EP.

- Evacuation Procedure
- On-site Fire Response Procedure
- Bushfire Response Procedure
- Hot Work Procedure
- Chemical Spill Response Procedure
- Flammable and Combustible Liquids Storage Procedure
- Severe Storm Procedure
- Significant Personal Injury or Medical Emergency Procedure
- Bomb or Substance Threat Response Procedure
- Cyberattack Response Procedure.

### **2.4.3 Levels of Emergencies**

#### **2.4.3.1 Local Emergency**

A local emergency is defined as an emergency where the impacts on people, property and/or the environment are expected to be isolated to a specific location within the Development area and no escalation is expected. In some cases, emergency services may be required, e.g., a major personal medical emergency.

#### **2.4.3.2 Site Emergency**

A site emergency is defined an emergency where the impacts on people, property and/or the environment are likely to propagate to a broader area of the Development area, but not offsite. Emergency services should be required, e.g., a significant chemical spill that requires FRNSW to assist in containment and clean up.

#### **2.4.3.3 External Emergency**

An external emergency is an emergency where the impacts on people, property and/or the environment are expected to impact both the Development area and beyond the Development area boundary. Emergency services will be required, e.g., a grass fire that is likely to propagate off-site.

## **3.0 Roles of External Agencies and the Community**

The involvement of state and local government agencies as well as the community in emergency planning is of significant importance to ensure the EP facilitates an adequate response in the event of an emergency.

### **3.1 Emergency Services**

#### **3.1.1 Fire and Rescue NSW**

FRNSW is the designated combat agency for land based hazardous materials incidents and rescue.

FRNSW would lead the emergency services response to a hazardous materials incident, including fires involving hazardous materials, at the Development.

#### **3.1.2 NSW Rural Fire Services**

RFS is the designated agency for response to fire response located within the facility (with the exception of fires involving hazardous materials) as well as bush and grass fires outside of the Development area. RFS would lead the emergency services response to fires within the facility (with the exception of fires involving hazardous materials) and a bush or grass fire threatening the Development area.

#### **3.1.3 NSW Police Force**

The NSW Police Force (NSWPF) is the designated agency for law enforcement and evacuation of persons in the surrounding community. NSWPF would lead the response to Development security threats and assist with evacuation of persons under threat as a consequence of a hazardous event at the Development.

#### **3.1.4 NSW Ambulance**

NSW Ambulance is the designated agency for pre-hospital care and transport of sick and injured persons as well as coordination of all health systems involved in emergency response. NSW Ambulance would attend to sick and injured persons during a Development emergency event.

#### **3.1.5 State Emergency Services**

The State Emergency Services (SES) is the designated combat authority dealing with natural disasters (e.g., floods) and provide assistance as required to FRNSW, RFS, NSWPF and NSW Ambulance.

### **3.2 Local Emergency Management Committee**

The Local Emergency Management Committee (LEMC) is responsible for planning for emergencies that might occur within their local area and is chaired by a representative from the local government organisation.

With respect to the Development, the relevant local government organisation is Dubbo Regional Council and the chair of the LEMC will facilitate communication between LSbp and emergency services for Development area familiarisation/inductions and emergency drills.

Following are the contact details for the current chair of the LEMC:

Bryson Rees

M: 0417 293 251

E: [bryson.rees@dubbo.nsw.gov.au](mailto:bryson.rees@dubbo.nsw.gov.au)

### **3.3 SafeWork NSW**

SafeWork NSW will become involved should a workplace injury or illness occur (a WorkSafe notifiable incident) or in the event of a significant dangerous occurrence at the Development.

### **3.4 NSW Environment Protection Authority**

The NSW Environment Protection Authority (EPA) is the designated agency for environmental protection during emergency response and recovery.

### **3.5 Community**

A fire event at the Development that has the potential to propagate off-site as a bush or grass fire is considered to be the most likely hazardous event that could have a significant impact on neighbouring properties. The following neighbouring properties will be notified in the event of a fire event that has the potential to propagate off-site:

- Wellington Correctional Facility
- Macquarie Correctional Facility
- Wellington Solar Farm (also owned and operated by LSbp)
- Rural/Residential properties.

## 4.0 Emergency Functions and Organisational Structure

The personnel with key emergency management responsibilities for the construction, operational and decommissioning phases of the Development are presented in **Table 4.1**, **Table 4.2** and **Table 4.3** respectively with their roles and contact details **Table 4.4** lists the functions/responsibilities for the emergency contact roles.

**Table 4.1 Construction Phase - Emergency Contacts**

Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457
-	LSbp 24/7 Telephone Number	-	1300 166 716

**Table 4.2 Operation Phase – Emergency Contacts**

Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457

**Table 4.3 Decommissioning Phase - Emergency Contacts**

Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457
-	LSbp 24/7 Telephone Number	-	1300 166 716

The Chief Warden will be identifiable in an emergency by a Red Vest with Chief Warden written on it.

The Deputy Chief Warden will be identifiable in an emergency by a Red Vest with Deputy Chief Warden written on it.

The Warden will be identifiable by a Red Vest with Warden written on it.



**Table 4.4 Emergency Roles - Responsibilities**

Role	Responsibilities
Chief Warden	<p><b>Pre-emergency</b></p> <ul style="list-style-type: none"> <li>• Ensure that this EP is updated as required (periodic and if site conditions change).</li> <li>• Ensure emergency response procedures are up to date.</li> <li>• Organise training and emergency exercises as required by this EP.</li> <li>• Ensure LSbp and contractors are proficient in the use of emergency communication equipment.</li> <li>• Ensure emergency communication contact list is up to date.</li> <li>• Ensure emergency response training exercises are routinely conducted.</li> </ul> <p><b>During and emergency</b></p> <ul style="list-style-type: none"> <li>• Assume overall coordination of any emergency response within the site and monitor the progress of the response.</li> <li>• Ensure that the appropriate emergency service(s) has been notified if required and be the primary liaison with emergency services.</li> </ul> <p><b>Post-emergency</b></p> <ul style="list-style-type: none"> <li>• When an emergency event is rendered safe, or emergency services relinquish control of the site notify the Deputy Warden to have personnel, contractors and visitors return to the site.</li> <li>• Organise a debrief with the Deputy Warden and, where appropriate, contractors and emergency services personnel.</li> <li>• Compile a report of the emergency event for the EPC.</li> </ul>
Deputy Chief Warden	<p><b>Pre-emergency</b></p> <ul style="list-style-type: none"> <li>• Assume responsibilities of the Chief Warden in their absence.</li> <li>• Ensure all site occupants are aware of the emergency response procedures.</li> <li>• Ensure clear access via the emergency evacuation route and to emergency response equipment (e.g., fire extinguishers).</li> <li>• Ensure clear access via the emergency evacuation routes and to emergency response equipment (e.g., fire extinguishers, spill kits).</li> <li>• Ensure emergency response equipment within is maintained in proper working order.</li> <li>• Participate in emergency response training exercises.</li> </ul> <p><b>During and emergency</b></p> <ul style="list-style-type: none"> <li>• Assume responsibilities of the Chief Warden in their absence.</li> <li>• Implement emergency response procedures as required.</li> <li>• Commence evacuation if required and direct/assist personnel, contractors, and visitors as required.</li> <li>• Report status of emergency response to the Chief Warden.</li> </ul> <p><b>Post-emergency</b></p> <ul style="list-style-type: none"> <li>• Assume responsibilities of the Chief Warden in their absence.</li> <li>• Direct personnel, contractors, and visitors back to site as instructed by the Chief Warden or Deputy Chief Warden.</li> <li>• Participate in post emergency debrief.</li> </ul>

Role	Responsibilities
Warden	<p><b>Pre-emergency</b></p> <ul style="list-style-type: none"> <li>• Assume responsibilities of the Deputy Chief Warden in their absence.</li> <li>• Participate in training and emergency exercises as required by the EPC.</li> </ul> <p><b>During and emergency</b></p> <ul style="list-style-type: none"> <li>• Assume responsibilities of the Deputy Chief Warden in their absence.</li> <li>• Assist with site evacuation if required and direct/assist personnel, contractors, and visitors as required.</li> <li>• Implement emergency response procedures for the Administration area.</li> <li>• Confirm O&amp;M facility and broader site (if safe to do so) has been evacuated.</li> <li>• Complete a roll call to account for all site occupants.</li> <li>• Report status of emergency response to the Chief Warden and/or Deputy Chief Warden.</li> </ul> <p><b>Post-emergency</b></p> <ul style="list-style-type: none"> <li>• Direct personnel, contractors, and visitors back to site as instructed by the Chief Warden or Deputy Chief Warden.</li> <li>• Participate in post emergency debrief.</li> </ul>

## 5.0 Facility Emergency Resources

### 5.1 Construction

During construction the emergency features and equipment will include:

- A primary emergency control centre located at the construction compound site office adjacent to the primary site access point. If the main construction compound site office is inaccessible due to the emergency the central construction compound site office will be used if safe assessed as being safe to access and evacuate from. If the central construction compound is inaccessible due to the emergency, the emergency response will be coordinated from the main emergency assembly point if assessed as being safe to access and evacuate from or alternate as directed by the Chief Warden.
- An induction program to ensure all LSbp, contractors and visitors attending the construction site understand the construction site hazards, are aware of their responsibilities in an emergency and are aware of the emergency evacuation routes and muster points relative to their work location.
- An emergency alarm system that will consist of:
  - Air horns located at each construction compound to indicate the need to evacuate.
  - UHF radios to communicate ALERT, EVACUATE and ALL CLEAR messages to personnel, contractors and visitors located remotely from the construction compounds.
- A sign in register requiring all personnel, contractors and visitors who attend site to provide contact details.
- All groups of personnel, contractors and visitors will be required to have a UHF radio switched to channel 25 when working remotely from the construction compound to ensure they are contactable in the event of an emergency.
- Provision of fire extinguishers (dry chemical powder and carbon dioxide) and fire blankets at the construction compounds.
- A 1,000 L water cart (with petrol powered water pump and fire hose) will be maintained on-site to provide a mobile fire water source to be on standby at locations where hot work is being undertaken.
- Provision of first aid kits at the construction compounds.
- Provision of spill kits at the construction compounds.
- All vehicles and mobile plant must be equipped with a dry chemical powder fire extinguisher and first aid kits.
- For works where chemical spills have been identified as a risk, an appropriate spill kit will be maintained at the works location for the duration of the works.
- All hazardous materials will be stored in accordance with relevant standards and guidelines (e.g., *AS 1940 – 2017 The storage and handling of flammable and combustible liquids*).

**Figure 5.1** presents the emergency evacuation diagram for the construction phase of the Development and shows the locations of Development area hazards and emergency features including the emergency evacuation paths, emergency assembly areas, firefighting equipment and first aid kits.

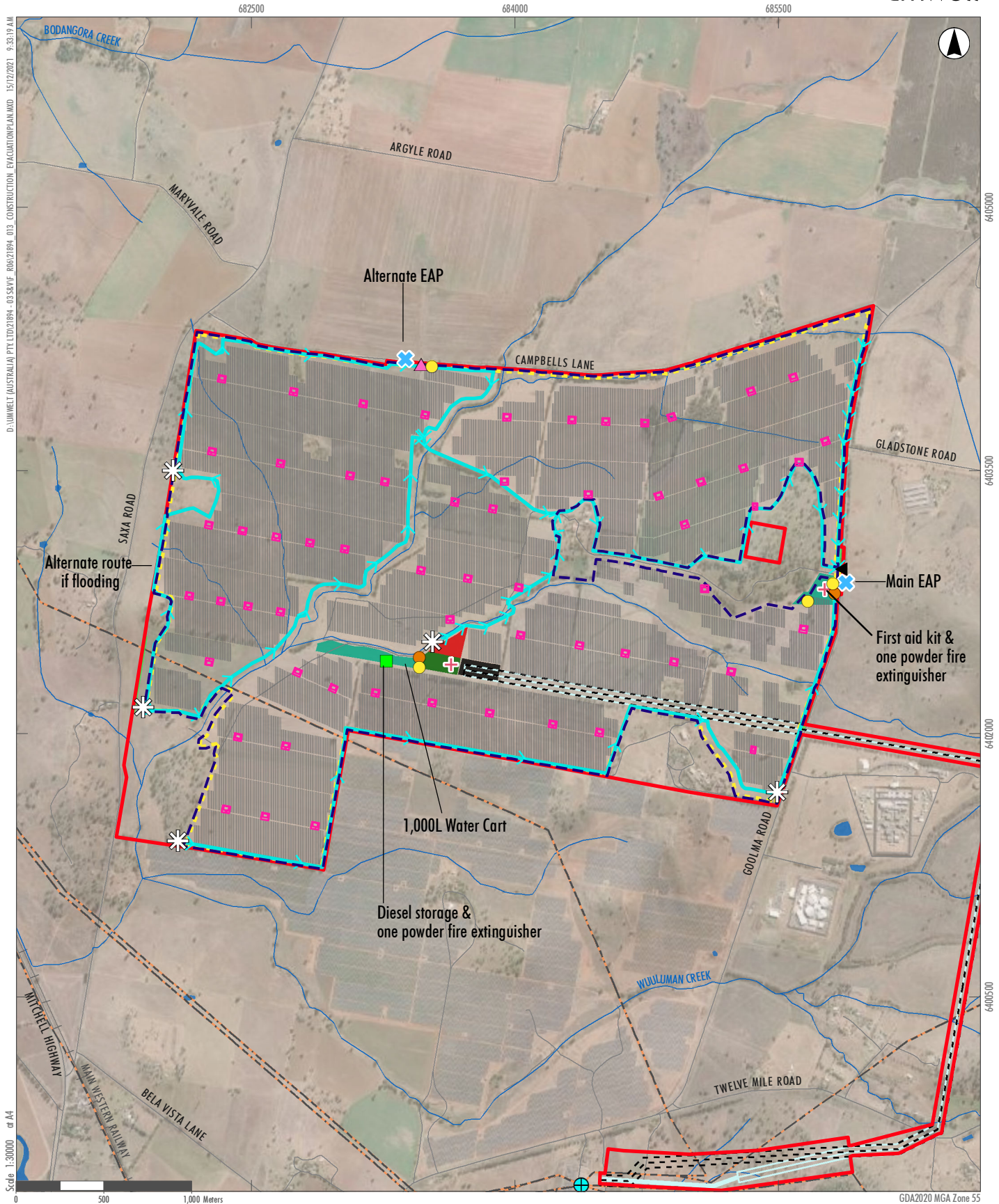
## 5.2 Operation

During operations, the emergency features and equipment will include:

- A primary emergency control centre located at the O&M Facility site office. If O&M Facility site office is inaccessible due to the emergency, the emergency response will be coordinated from the main emergency assembly point if assessed as being safe to access and evacuate from or alternate as directed by the Chief Warden.
- An induction program to ensure all LSbp, contractors and visitors attending the construction site understand the construction site hazards, are aware of their responsibilities in an emergency and are aware of the emergency evacuation routes and emergency assembly areas relative to their work location.
- An emergency alarm system that will consist of:
  - Air horns located at the O&M Facility to indicate the need to evacuate.
  - UHF radios to communicate ALERT, EVACUATE and ALL CLEAR messages to personnel, contractors and visitors located remotely from the O&M Facility.
- A sign in register requiring all personnel, contractors and visitors who attend site to provide contact details.
- All groups of personnel, contractors and visitors will be required to have a UHF radio switched to channel 25 when working remotely from the construction compound to ensure they are contactable in the event of an emergency.
- The site will be equipped with a 20,000 L fire water tank with a 65 mm Storz fitting and FRNSW compatible suction connection located adjacent to the main emergency assembly point (site access off Goolma Road).
- The site will be monitored by CCTV and have security fencing around its perimeter, as shown in **Figure 2.2** of this EP.
- Provision of fire safety equipment in accordance with relevant codes and standards (e.g., fire extinguishers and fire blankets) at the Operations and Maintenance Facility (O&M Facility), substation, inverter stations, intermediate kiosks/feeders if applicable.
- Provision of first aid kits at the O&M Facility.
- Provision of spill kits at the O&M Facility.
- All vehicles and mobile plant must be equipped with a dry chemical powder fire extinguisher and first aid kits.
- For maintenance works where chemical spills have been identified as a risk, an appropriate spill kit will be maintained at the works location for the duration of the works.
- All hazardous materials will be stored in accordance with relevant standards and guidelines (e.g., AS 1940 – 2017 The storage and handling of flammable and combustible liquids).

**Figure 5.2** presents the emergency evacuation diagram for the operation phase of the Development and shows the location of Development area hazards and emergency features including the emergency evacuation paths, emergency assembly areas, firefighting equipment and first aid kits.





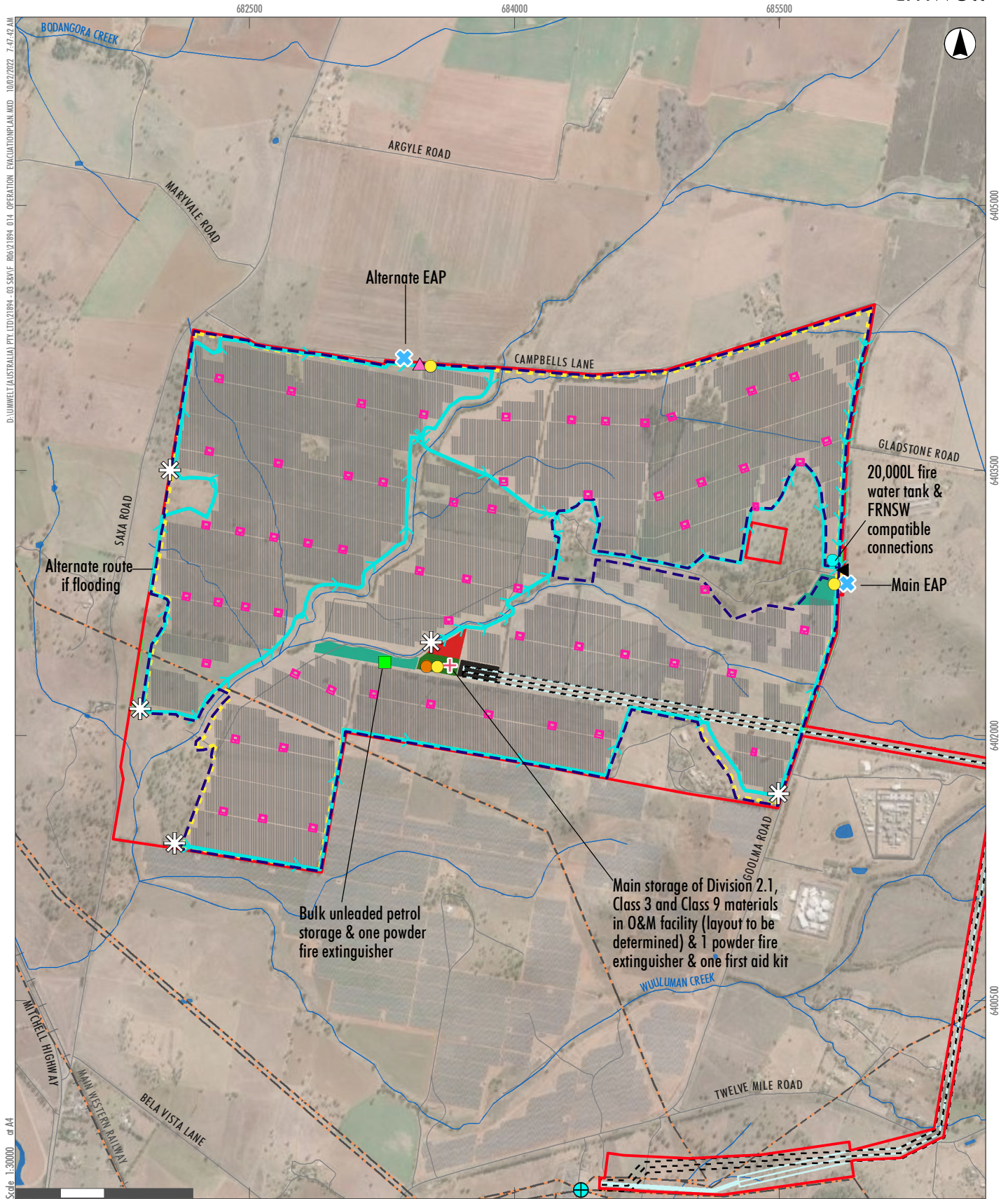
- Legend**
- Development Site
  - Solar Panels
  - Existing Substation
  - Existing Transmission Lines
  - Road
  - Railway Line
  - Drainage Line
  - Water Body
  - You Are Here
  - Exit Path
  - ▲ Alternate Site Access
  - X Emergency Assembly Point
  - + First Aid Kit
  - ▲ Main Site Access
  - Petrol Storage
  - Emergency Plan Location
  - Safety Data Sheet Register Location

- Proposed Infrastructure**
- Construction Compound
  - Future Battery Storage
  - Intersection Upgrade
  - Substation
  - Operations and Maintenance Facility
  - Transmission Line Option A
  - Transmission Line Option B
  - Landscaping
  - Power Conversion Unit
  - Fence
  - Asset Protection Zone

FIGURE 5.1

Construction Phase Evacuation Plan





- |                             |                                     |                                     |                            |
|-----------------------------|-------------------------------------|-------------------------------------|----------------------------|
| Development Site            | Exit Path                           | Construction Compound               | Transmission Line Option A |
| Solar Panels                | Alternate Site Access               | Future Battery Storage              | Transmission Line Option B |
| Existing Substation         | Emergency Assembly Point            | Intersection Upgrade                | Landscaping                |
| Existing Transmission Lines | Fire Water Tank                     | Substation                          | Power Conversion Unit      |
| Road                        | First Aid Kit                       | Operations and Maintenance Facility | Fence                      |
| Railway Line                | Main Site Access                    |                                     | Asset Protection Zone      |
| Drainage Line               | Petrol Storage                      |                                     |                            |
| Water Body                  | Emergency Plan Location             |                                     |                            |
| You Are Here                | Safety Data Sheet Register Location |                                     |                            |

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021)

FIGURE 5.2

Operation Phase Evacuation Plan

## 6.0 Emergency Response

### 6.1 Activation of the Emergency Plan

The following sections describe the general procedures for response to emergency situations. Emergency response procedures for the identified emergencies listed in **Section 2.4.2** are attached in **Appendix B**.

If an emergency situation arises:

- Personnel, contractors, and visitors who have witnessed the event should immediately move to a safe location, directing others as required, and notify the Chief Warden and/or Deputy Chief Warden by UHF radio on channel 25.
- The Chief Warden (or Deputy Chief Warden/nominated delegate in Chief Warden's absence) will determine an appropriate action in line with nature of emergency and implement emergency event specific procedures as required (refer to **Appendix B**), including contacting required emergency services.
- In an emergency event that does not require immediate evacuation, the Deputy Chief Warden will contact personnel, contractors, and visitors via UHF radio on channel 25 and say ALERT, ALERT, ALERT to indicate that an emergency situation has arisen, and the personnel, contractors and visitors are to prepare for evacuation (shutdown plant and equipment if safe to do so) and await further instruction.
- In an emergency event that requires evacuation, the Deputy Chief Warden will commence immediate evacuation (refer to **Section 6.1.3**) and direct personnel and visitors to the Emergency Assembly Point. Given the broad area covered by the Development area, an evacuation may only be required for a localised works area and can be initiated by the relevant works area supervisor if they are in the best position to make that determination.
- For site wide and localised evacuations, the Warden (or nominated delegate(s)) will, if safe to do so, check that the areas requiring evacuation have been evacuated and report the results of the check to the Chief Warden and/or Deputy Chief Warden.
- The Warden will complete a role call at the Emergency Assembly Point to check whether all personnel, contractors and visitors are accounted for and report the results of the check to the Chief Warden and/or Deputy Chief Warden.

All attempts to respond to an emergency situation should at all times ensure personal safety and only be attempted if within the capabilities of the individual (e.g., using a fire-extinguisher for first-attack firefighting only if appropriately trained).

For emergencies requiring the assistance of emergency service agencies, the initial advice to be provided is detailed within the emergency response procedures contained in **Appendix B**.

## 6.1.1 Communication

### 6.1.1.1 On-site

Communication with on-site personnel, contractors, and visitors in the event of an emergency will be via UHF radio on channel 25 and mobile phones. In the event of an emergency requiring evacuation, the air horns located in the construction compound site offices (for the construction phase of the Development), or the O&M Facility office (for the operations phase of the Development) will be sounded.

### 6.1.1.2 Emergency and Agency Contacts

**Table 6.1 Emergency and Agency Contacts**

Organisation	Telephone Number
Emergency Services	000
SES	132 500
Wellington District Hospital	02 6845 5500
SafeWork NSW	131 050
NSW Environment Protection Authority	131 555
Dubbo Regional Council	02 4921 0333
Philippa Laskowski (LEMC Chair)	0417 293 251

### 6.1.1.3 Neighbouring Properties/Facilities

The properties/facilities neighbouring the Development and the landowners for properties within the Development area who are to be notified in an emergency event that could propagate to their property/facility are listed in **Table 6.2**.

**Table 6.2 Neighbouring Facilities, Residences and Landowners**

Facility (direction relative to Wellington North Solar Farm)	Contact Details
Wellington Correctional Facility (SE of main site)	02 6840 2800
Macquarie Correctional Facility (SE of main site)	02 6845 5600
Wellington Solar Farm (S of main site)	02 6845 1810
David & Joan Bower, 20 Cadonia Drive, Wuuluman (Landowner/Neighbour, SE of main site, near transmission line)	02 6845 1810
Twelve Mile Pastoral Company Pty Ltd, 133 Gladstone Road, Bodangora (Landowner, E of main site)	0488 445 495 (Hugh Taylor)
Tony & Penelope Inder, 6444 Goolma Road, Bodangora (Landowner, within site)	0427 745 110
Tim Ferraro, Soil Conservation Commission of NSW, 6582 Goolma Road, Bodangora (Landowner, within site)	02 5852 1209



Facility (direction relative to Wellington North Solar Farm)	Contact Details
Graham & Susan Coddington, 6945 Goolma Road, Wuuluman (Landowner, S of main site, south of transmission line)	0428 638 129 0457 340 041
Howard & Catherine Courts, 243 Twelve Mile Road, Wuuluman (Landowner, SE of main site, near transmission line)	0427 747 517
Gloria Wilson, 152 Bela Vista Lane, Montefiores (Neighbour, SW of main site, south of Wellington Solar Farm)	02 6845 1760
Jason Cummings, 26 Cadonia Drive, Wuuluman (Neighbour, SE of main site, near transmission line)	02 6845 2558
Nathan & Penny Cox, 32 Cadonia Drive, Wuuluman (Neighbour, SE of main site, near transmission line)	0427 485 388
Sue & Nick Knowles, 66 Campbells Lane, Bodangora (Neighbour, N of main site)	0428 451 203 0428 446 218
Dubbo Regional Council Quarry, 6915 Goolma Road, Wuuluman (Neighbour, S of main site, south of Wellington Solar Farm)	02 6840 1700
Ross & Kate Plasto, 6938 Goolma Road, Montefiores (Neighbour, S of main site, south of Wellington Solar Farm)	02 6845 3584 0428 636 289
Carl & Jenny Palmer, 7009 Goolma Road, Montefiores (Neighbour, S of main site, south of Wellington Solar Farm)	02 6845 3029
Victoria Burke, 7024 Goolma Road, Montefiores (Neighbour, S of main site, south of Wellington Solar Farm)	02 6845 2088
Janet & Greg Henman, 104 Saxa Road, Maryvale (Neighbour, W of main site)	02 6845 3320
Frances O'Brien, 215 Saxa Road, Maryvale (Neighbour, W of main site)	0416 161 536
Graeme & Rosalie Whiteley, 301 Saxa Road , Maryvale (Neighbour, W of main site)	0400 451 035
Jason, Peter & Christine Conn, 576 Saxa Road, Bodangara (Neighbour, N of main site)	0428 638 843 0407 239 808

## 6.1.2 Control and Coordination

The Chief Warden (or Deputy Chief Warden/nominated delegate in Chief Warden's absence) is responsible for the control and coordination of an emergency event. The Emergency Control Centres are nominally:

- the construction compound site office adjacent to the primary site access on Goolma Road provided it is safe to access however, should this location not be safe to occupy the site office at the central construction compound is the on-site alternative during the construction phase
- the O&M site office provided it is safe to access however, should this location not be safe to occupy the site office at the central construction compound is the on-site alternative during the operation phase

- at the off-site Emergency Assembly Point (refer to **Figure 5.1** and **Figure 5.2**) in an emergency event requiring a full site evacuation

Works area supervisors (during construction phase) will be responsible for directing personnel, contractors, and visitors as appropriate for the given emergency and as directed by the Chief Warden (or nominated delegate). This may involve directing personnel, contractors, and visitors to:

- remain in the current area
- evacuate to a safe location on-site
- evacuate to the Emergency Assembly Point or an alternate safe assembly point off-site if it is not safe to access the Emergency Assembly Point.

Access to the site may need to be restricted in some emergency situations. In such circumstances the Chief Warden (or Deputy Chief Warden/nominated delegate in Chief Warden's absence) will nominate a LSbp representative to control access to/from the site at the site access points.

### **6.1.3 Evacuation Plan**

For the operational phase, emergency evacuation plan drawings will be located throughout the site where occupants and visitors are able to view them, include a "YOU ARE HERE" location and be positioned and oriented in accordance with Clause 3.5.3 and Clause 3.5.4 of AS 3745-2010. During construction, the location of works and certain construction activities are likely to result in the need to alter evacuation routes at times. If/when this occurs, location specific evacuation plans will be provided to contractors (e.g., with manual mark ups to indicate alternate exit paths and the location of any egress obstructions).

During the construction phase the Deputy Chief Warden will contact personnel, contractors and visitors working remotely from their location via UHF radio on channel 25 to evacuate should the Chief Warden initiate an evacuation. The Deputy Chief Warden will sound the air horn at the construction compound they are located and contact the other construction compound via UHF radio and request that the air horn be sounded.

### **6.1.4 Post Emergency**

When an emergency event is rendered safe or emergency services relinquish control of the site, the Chief Warden will notify the Deputy Chief Warden and Warden to have personnel, contractors and visitors return to the site. The Chief Warden will also:

- Organise a debrief with Deputy Chief Warden and, where appropriate, works area supervisors and emergency services personnel.
- Compile a report of the emergency event for the LSbp Health, Safety, Security and Environment (HSSE) team.

The HSSE team will review the emergency event report and initiate the implementation of any changes to the emergency preparedness and response measures (in conjunction with the Chief Warden) required based on the findings of the emergency event report.

## 6.2 Training

### 6.2.1 Chief Warden, Deputy Chief Warden, and Warden

The Chief Warden and Deputy Chief Warden will be provided with appropriate training to develop the skills and knowledge necessary to undertake the duties outlined in **Table 4.4**. The training shall include:

- their duties responsibilities (pre-emergency, during emergency and post-emergency) as described in this EP
- procedures for identified potential emergency events
- responding to alerts and reports of emergency events
- reporting emergencies and initiating emergency warning equipment
- communication during emergencies
- human behaviour during emergencies
- the use of emergency response and communication equipment
- decision making, command and control
- liaison with emergency services
- emergency response coordination including coordination of evacuation activities
- implementation of post-emergency activities
- record keeping.

### 6.2.2 Personnel, Contractors, and Visitors

The site induction (personnel/contractor induction and visitor induction) will include training in relevant aspects of the EP including identified potential emergency events, personnel, contractor and visitor responsibilities in an emergency event, emergency communication procedures and evacuation procedures.

### 6.2.3 First-attack Firefighting

All full time LSbp employees are to be trained in first-attack firefighting. The training will include:

- preparing for site-specific fires (i.e., bush or grass fire, electrical, combustible, or flammable liquid)
- reporting fires
- evacuating from endangered areas
- identifying, correcting, and reporting unsafe conditions (e.g., combustible materials located too close to flammable liquid storage)
- identifying the classes of fire (i.e., solid, liquid, gas, involving live electrical equipment) and selecting the correct first-attack firefighting equipment for each class of fire
- safe operating procedures for first-attack firefighting equipment
- procedures to be followed after the first-attack firefighting equipment.

#### **6.2.4 First Aid**

All full time LSbp employees are to be trained in occupational first aid by a nationally accredited registered training organisation.

#### **6.2.5 Skills Retention**

The Chief Warden, Deputy Chief Warden and Warden shall attend a skills retention activity every 6 months. The skills retention activities will:

- address the specific requirements of the Wellington North Solar Farm and this EP
- include a review of roles and responsibilities
- include instruction in emergency communication equipment.

All employees shall attend a first-attack firefighting skills retention activity every two years.

#### **6.2.6 Emergency Services Site Familiarisation**

Prior to commissioning and annually thereafter, local emergency services personnel will be provided with the opportunity to attend a Development area familiarisation inspection.

### **6.3 Emergency Response Exercises**

#### **6.4 Initial Testing and Implementation**

All emergency response procedures are to be tested within the first 12 months of approval of this EP by DPIE. The first emergency response exercise shall be a full Development area evacuation. Local emergency services personnel will be invited to participate in the emergency response exercise.

#### **6.5 Ongoing Program**

Emergency response exercises will be undertaken on a minimum 12 monthly basis with at least one exercise involving an evacuation exercise in each year. The emergency response exercises will involve the simulation of one of the identified potential emergency events listed in **Section 2.4.2**. Local emergency services personnel will be invited to participate in emergency response exercises.

The Chief Warden, Deputy Chief Warden or nominated delegate shall act as an observer during the emergency response exercise and be prepared with a checklist specific to the planned emergency event to be simulated. The checklist will provide the basis for discussion of emergency response performance at a post-exercise debriefing.

The Deputy Chief Warden, observer and other key participants shall attend a debriefing session conducted by the Chief Warden immediately after an emergency response exercise. Any deficiencies identified during the debriefing session will be reported to the LSbp WHSE team who will coordinate (in conjunction with the Chief Warden) the implementation of any required procedural changes and/or emergency response equipment and facility upgrades.

### **6.5.1 An Emergency During and Emergency Response Drill**

The phrase 'EMERGENCY, EMERGENCY, EMERGENCY' shall be used over UHF radio on channel 25 when an actual emergency occurs during an emergency response exercise. The 'EMERGENCY, EMERGENCY, EMERGENCY' signifies that the emergency response exercise has been terminated and the personnel, contractors and visitors are to stand by for further instruction from the Deputy Chief Warden. This phrase will be defined in all personnel/contractor and visitor inductions.

## 7.0 Plan Implementation, Distribution and Communication

In accordance with Condition 29, of Schedule 3 of the Development Consent, following the Planning Secretary's approval, LSbp will implement this EP for the development.

Hard copies of the most recent version of the EP will be:

- In weatherproof cases just inside the main site entry and alternate site entry.
- Available in the construction compound site offices and lunchrooms.
- Available in the O&M Facility site office.
- Available in the O&M facility lunchroom.

The site inductions (personnel/contractor induction and visitor induction) include training in relevant aspects of the EP including identified potential emergency events, emergency communication procedures and evacuation procedures. Updates to the EP will be communicated to personnel, contractors and visitors at toolbox meetings and on-site safety notice boards as required.

The hard copy EPs will include a laminated copy of the emergency services information package (refer to **Appendix C**) that will include A3 size site plans.

## 8.0 Review and Update of Plan

Condition 2 of Schedule 4 of the development consent states the following:

*“The Applicant must:*

*(a) update the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary prior to carrying out any upgrading or decommissioning activities on site; and*

*(b) review and, if necessary, revise the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary within 1 month of:*

- the submission of an incident notification under condition 7 of Schedule 4;*
- the submission of an audit report under condition 11 or 13 of Schedule 4; or*
- any modification to the conditions of this consent.”*

Review of this EP will be undertaken in accordance with Condition 2 of Schedule 4 of the development consent.

This EP will be reviewed and updated as required, and:

- No later than the end of the four (4) year validity period from the date of issue.
- Prior to commissioning of the Development to specify final locations of hazardous materials storages and emergency response equipment, remove reference to the construction phase and make any updates associated with “as constructed” Development differences to the “design” such as:
  - hazards (including hazardous materials) that have not been identified in this EP are introduced
  - credible emergency events that are not identified in this EP are introduced
  - evacuation routes are altered.
- Within two months following an emergency event to implement any changes to the emergency preparedness and response measures identified in the emergency event report.
- Within two months following an emergency training event to implement any changes to the emergency preparedness and response measures identified in the emergency training event debrief.

## 9.0 Hazard Mitigation and Management Measures

**Table 9.1** describes the fire and other hazard mitigation and management measures for the development to reduce the likelihood of an emergency developing at the Development and ensure emergency situations are appropriately managed. From left to right, the columns of **Table 9.1** describe:

- The 'Source(s)': describes where the hazard mitigation and/or management measure has been recommended for the development.
- The 'ID': a unique identifier for each mitigation strategy identified in this EP.
- The 'Aspect': a high-level summary of what EP matter is being mitigated.
- The 'Hazard Mitigation and or Management Measure': describes the actions that will be undertaken to limit the hazard impacts of the development and any the proposed techniques that will be used to implement the hazard mitigation and or management measures.
- The 'Development Phase': identifies what part of the development phase the hazard mitigation and/or management measure will apply. A hazard mitigation and or management measure can apply to multiple development phases.
- The 'Responsible Party': These columns identify which group is responsible for implementing the applicable hazard mitigation and/or management measure. The 'Personnel Responsible' column identifies the individual from the 'Responsible Party' who is to implement the hazard mitigation and/or management measure (numbers 1-4 have been used to represent which individual is responsible, as follows:
  - 1 LSbp Development Principal
  - 2 Engineer, Procurement & Construction (EPC) Site Manager
  - 3 EPC Health, Safety and Environment (EHSE) Coordinator
  - 4 All Employees and Contractors
  - Note: for some mitigation measures, there is more than one 'Responsible Party' and 'Personnel Responsible'.
- The 'Timing/Frequency': describes when a hazard mitigation and or management measure is to be implemented.
- The 'Implementation Action': describes the procedures that show how the proposed techniques for the biodiversity mitigation and or management measures are practically being done within the development area. These procedures are described in **Appendix B**.
- The 'Compliance Record': identifies the record that will be used to maintain compliance with the applicable hazard mitigation and or management measure.



**Table 9.1 Hazard Mitigation and Management Measures**

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible <sup>1,2,3,4</sup>			
SSD8895 Development Consent	EP-01a	Emergency Planning (general)	Prepare an EP in accordance with Schedule 3, Condition 29	✓	✓	✓	✓	✓	-	-	1	Prior to construction	This EP	This EP
SSD8895 Development Consent	EP-01b	Emergency Planning (general)	Implement this EP in accordance with Schedule 3, Condition 29	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction	This EP	This EP
<b>Mitigation of Fire Hazards (on and off site)</b>														
SSD8895 Development Consent	EP-02	Hazard (Fire)	Implement and maintain APZs	✓	✓	✓	✓	✓	✓	✓	1,2,3	Prior to construction and ongoing as required	Bushfire mitigation measures ( <b>Appendix B.3</b> )	Weekly site environmental inspection checklists
SSD8895 Development Consent  Environmental Impact Statement, Wellington North Solar Plant (NGH environmental, 2018)  Wellington North Solar Farm Hazard Identification ( <b>Appendix A</b> )	EP-03	Hazard (Fire)	Installation of 20,000 L fire water tank with FRNSW compatible fittings  Maintain a 1,000 L mobile water cart on site during construction  Install and maintain other fire safety equipment (e.g., fire extinguishers) in accordance with relevant codes and standards including <i>AS1940-2017 The storage and handling of flammable and combustible liquids</i>	-	✓	✓	✓	✓	✓	✓	All	During construction and ongoing	Development design process	Development design drawings and records  Fire services maintenance records
	EP-04	Hazard (Fire)	Prepare hot work procedure and permit system which includes notifications to RFS for works that have the potential to ignite surrounding vegetation  Prepare a flammable and combustible materials storage procedure  Store flammable and combustible liquids in accordance with <i>AS1940-2017 The storage and handling of flammable and combustible liquids</i>	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction	Flammable and Combustible Materials Storage Procedure ( <b>Appendix B.10</b> )  Hot Work Procedure ( <b>Appendix B.11</b> )	Monthly flammable and combustible materials storage inspection checklists  Completed Hot Work Permits

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible <sup>1,2,3,4</sup>			
Wellington North Solar Farm Hazard Identification (Appendix A)	EP-05	Hazard (Fire)	All electrical equipment used will be designed, installed, and maintained in accordance with relevant standards, guidelines, and manufacturer's instructions  All electrical equipment will be subject to pre-commissioning checks and testing	-	✓	✓	-	✓	-	✓	1,2,4	Prior to and during construction and ongoing	Development design process  Commissioning plans  Maintenance plans	Development design drawings and records  Commission checklists and measurements  Maintenance system database
Wellington North Solar Farm Hazard Identification (Appendix A)	EP-06	Hazard (Fire)	Flammable liquids storages will be subject to a hazardous area classification in accordance with <i>AS/NZS 600790.1:2009 Explosive atmospheres – Explosive gas atmospheres</i>  All electrical equipment installed in the defined hazardous zone will be appropriately rated and installed for the zone rating.	✓	✓	✓	✓	✓	✓	✓	All	Prior to storage of flammable liquids on-site	Complete hazardous area classification and install electrical equipment in accordance with relevant Australian Standards	Maintain a hazardous area dossier of classification and installed electrical equipment
<b>Mitigation of Other Hazards</b>														
Wellington North Solar Farm Hazard Identification (Appendix A)	EP-07	Hazard (Vehicles/ Mobile Plant)	Prepare a Traffic Management Plan  Site speed limits  Mobile plant operators required to provide evidence of qualifications/tickets	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	Traffic Management Plan	Traffic Management Plan

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible 1,2,3,4			
Wellington North Solar Farm Hazard Identification (Appendix A)	EP-08	Hazard (Electricity)	<p>All electrical equipment used will be designed, installed, and maintained in accordance with relevant standards, guidelines, and manufacturer's instructions</p> <p>All electrical equipment will be subject to pre-commissioning checks and testing</p> <p>Electrodes and earth stakes attached to site fence and isolation panels (e.g., fibre glass) built into fence to provide discontinuity to prevent electrification of fence (i.e., by induced voltages from overhead power lines or fallen power lines)</p> <p>Inductions to include instructions not to respond to an electrical fire unless appropriately trained</p> <p>All portable electrical equipment must be tested and tagged</p>	✓	✓	✓	✓	✓	✓	✓	All	During construction and ongoing	<p>Development design process</p> <p>Commissioning plans</p> <p>Maintenance plans</p>	<p>Development design drawings and records</p> <p>Commission checklists and measurements</p> <p>Maintenance system database</p>
Wellington North Solar Farm Hazard Identification (Appendix A)	EP-09	Hazard (Chemicals)	All hazardous materials and chemicals to be stored in accordance with relevant standards, guidelines, and manufacturer's instructions	✓	✓	✓	✓	✓	✓	✓	All	During construction and ongoing	Development design process to define hazardous materials storage locations in accordance with relevant standards, guidelines, and manufacturer's instructions	Weekly site environmental inspection checklists

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible <sup>1,2,3,4</sup>			
Emergency Preparedness														
SSD8895 Development Consent  Wellington North Solar Farm Hazard Identification (Appendix A)	EP-10	Hazard (On-site Fire)	Prepare On-site Fire Response procedure  Facilitate emergency services site familiarisation  Undertake regular emergency response drills  LSbp personnel to be trained in first attack fire fighting	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	On-site Fire Response Procedure  (Appendix B.2)  Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system  Incorporate training requirements into LSbp position descriptions  Schedule training  Schedule emergency drills as a “planned maintenance” item in the Development maintenance system	On-site Fire Response Procedure  (Appendix B.2)  Training database  Maintenance system database
SSD8895 Development Consent  Environmental Impact Statement, Wellington North Solar Plant (NGH environmental, 2018)  Wellington North Solar Farm Hazard Identification (Appendix A)	EP-11	Hazard (Bushfire)	Prepare Bushfire Response Procedure  Facilitate emergency services site familiarisation  Undertake regular emergency response drills  LSbp personnel to be trained in first attack fire fighting	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	Bushfire Response Procedure  (Appendix B.3)  Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system  Incorporate training requirements into LSbp position descriptions  Schedule training  Schedule emergency drills as a “planned maintenance” item in the Development maintenance system	Bushfire Response Procedure  (Appendix B.3)  Training database  Maintenance system database

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible <sup>1,2,3,4</sup>			
SSD8895 Development Consent  Environmental Impact Statement, Wellington North Solar Plant (NGH environmental, 2018)  Wellington North Solar Farm Hazard Identification ( <b>Appendix A</b> )	EP-12	Hazard (Flood, Severe Storm)	Prepare Flood Response Procedure  Prepare Severe Storm Response Procedure  Alternate site access/egress points and evacuation paths  Facilitate emergency services site familiarisation  Undertake regular emergency response drills	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	Flood Response Procedure <b>(Appendix B.5)</b>  Severe Storm Response Procedure <b>(Appendix B.6)</b>  Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system  Schedule emergency drills as a “planned maintenance” item in the Development maintenance system	Flood Response Procedure <b>(Appendix B.5)</b>  Severe Storm Response Procedure <b>(Appendix B.6)</b>  Maintenance system database
SSD8895 Development Consent  Wellington North Solar Farm Hazard Identification ( <b>Appendix A</b> )	EP-13	Hazard (Chemicals)	Prepare Major Chemical Spill Response Procedure  Facilitate emergency services site familiarisation  Undertake regular emergency response drills	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	Major Chemical Spill Response Procedure <b>(Appendix B.4)</b>  Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system  Schedule emergency drills as a “planned maintenance” item in the Development maintenance system	Major Chemical Spill Response Procedure <b>(Appendix B.4)</b>  Maintenance system database

Source(s)	ID	Aspect	Mitigation/Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible <sup>1,2,3,4</sup>			
	EP-14	Hazard (Malicious Attack/Terrorism)	<p>Prepare Bomb or Substance Threat Response Procedure</p> <p>Prepare Cyberattack Response Procedure</p> <p>Facilitate emergency services site familiarisation</p> <p>Undertake regular emergency response drills</p>	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	<p>Bomb or Substance Threat Response Procedure (Appendix B.6)</p> <p>Cyberattack Response Procedure (Appendix B.9)</p> <p>Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system</p> <p>Schedule emergency drills as a “planned maintenance” item in the Development maintenance system</p>	<p>Bomb or Substance Threat Response Procedure (Appendix B.6)</p> <p>Cyberattack Response Procedure (Appendix B.9)</p> <p>Maintenance system database</p>
<p>SSD8895 Development Consent</p> <p>Wellington North Solar Farm Hazard Identification (Appendix A)</p>	EP-15	Hazard (Emergency - general)	<p>Prepare Emergency Evacuation Procedure</p> <p>Prepare Significant Personal Injury or Medical Emergency Response Procedure</p> <p>Facilitate emergency services site familiarisation</p> <p>Undertake regular emergency response drills</p>	✓	✓	✓	✓	✓	✓	✓	All	Prior to construction and ongoing	<p>Emergency Evacuation Procedure (Appendix B.1)</p> <p>Significant Personal Injury or Medical Emergency Response Procedure (Appendix B.7)</p> <p>Schedule annual emergency services site familiarisation as “planned maintenance” item in the Development maintenance system</p> <p>Schedule emergency drills as a “planned maintenance” item in the Development maintenance system</p>	<p>Emergency Evacuation Procedure (Appendix B.1)</p> <p>Significant Personal Injury or Medical Emergency Response Procedure (Appendix B.7)</p> <p>Maintenance system database</p>

<sup>1</sup> LSbp Development Principal

<sup>2</sup> Engineer, Procurement & Construction (EPC) Site Manager

<sup>3</sup> EPC Health, Safety and Environment (EHSE) Coordinator

<sup>4</sup> All Employees and Contractors



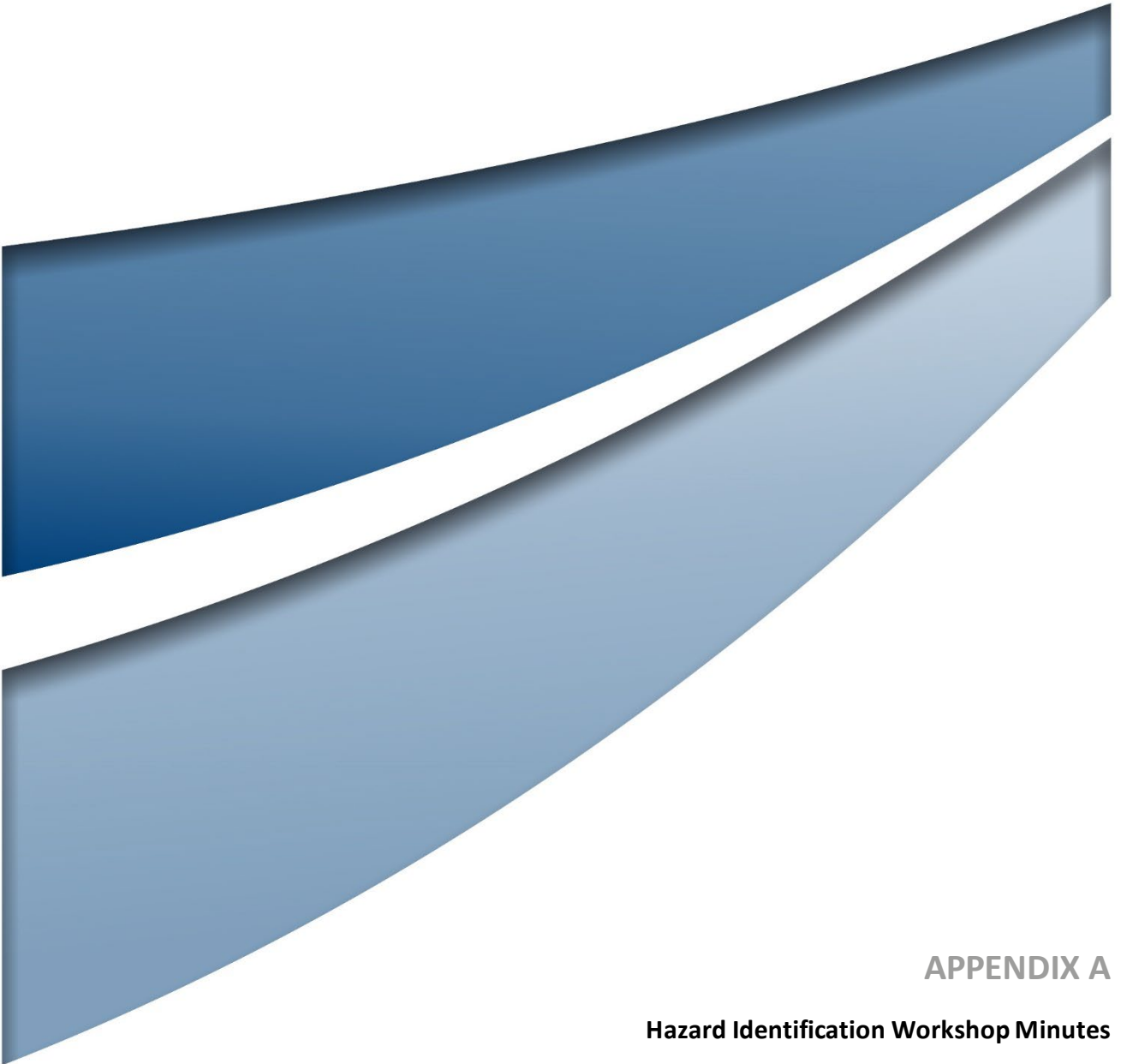
## 10.0 References

Environmental Impact Statement, Wellington North Solar Plant, NGH Environmental, 2018

Hazardous Industry Planning Advisory Paper No. 1, Emergency Planning, NSW Department of Planning, 2011

Planning for Bushfire Protection, NSW Rural Fire Service, 2019

AS 3745-2010, Planning for emergencies in facilities, Standards Australia, 2010



**APPENDIX A**

**Hazard Identification Workshop Minutes**



# AS 4360 Risk Scoring System

## Scoring Matrix

Likelihood		1	2	3	4	5
Level		Insignificant	Minor	Moderate	Major	Catastrophic
A	Almost Certain	11	16	20	23	25
B	Likely	7	12	17	21	24
C	Possible	4	8	13	18	22
D	Unlikely	2	5	9	14	19
E	Rare	1	3	6	10	15

## Legend

18 to 25:	EXTREME RISK; immediate action required;
10 to 17:	HIGH RISK; senior management attention needed;
6 to 9:	MODERATE RISK; management responsibility must be specified; and
1 to 5:	LOW RISK; managed by routine procedures.

## Qualitative Measures of Likelihood

	Level	Description
A	Almost Certain	The event is expected to occur in most circumstances
B	Likely	The event will probably occur in most circumstances
C	Possible	The event might occur at some time
D	Unlikely	The event could occur at some time
E	Rare	The event may occur only in exceptional circumstances

## Qualitative Measures of Consequence or Impact or Severity

	Level	People Losses	Environmental Harm	Equipment Damage	Production Loss
1	Insignificant	No injuries	No-off site effects	Low financial loss	No production loss
2	Minor	First aid treatment	On-site release immediately contained	Medium financial loss	Up to 1 day production loss
3	Moderate	Medical treatment	On-site release contained with outside assistance	High financial loss	Between 1 to 5 days production loss
4	Major	Extensive injuries	Off-site release with no detrimental effects	Major financial loss	Between 5 to 20 days production loss
5	Catastrophic	Death	Toxic release off-site with detrimental effect	Huge financial loss	More than 20 days production loss

## Hazard Identification

Date: 15-Nov-21

Job: Wellington North Solar Farm Emergency Plan

Job #: 21894

Project Phase Construction

Ref	Asset	Hazard	Scenario	Cause	Consequence	Current Barriers	C	L	R	Action
1	Diesel Tank	Fire	Loss of containment and ignition	Physical damage Operator error during refuelling	Injury to personnel if responding to fire Equipment damage Propagation off-site	Tank and equipment used will be designed to relevant Australian Standards Storage will be in accordance with AS 1940 The storage and handling of flammable and combustible liquids training Tank will be self banded tank All personnel using the diesel storage tank for refuelling will be appropriately trained Procedures for hot work Maintain Asset Protection Zones during construction Evacuation procedures	3	E	6	
2	General Site	Fire	Construction activities initiate fire on-site	Maintenance activities (hot work such as welding or grinding) Vehicle exhaust ignites dry grass	Injury to personnel if responding to fire Equipment damage Propagation off-site	Fire fighting equipment on-site during construction Procedures for hot work Maintain Asset Protection Zones during construction Evacuation procedures	3	E	6	
3	General Site	Physical damage	Vehicle or mobile plant collisions with equipment and personnel	Speeding Vehicle or mobile equipment fault Inadequate skills to operate mobile plant	Injury or fatality Equipment damage	Speed limits on site Communications (UHF channel) Traffic Management Plan Mobile plant operators will be required to provide evidence of qualifications/tickets Construction Environment Management Plan Trained first aiders on site Personal injury response procedure	5	E	15	
4	General Site	Bushfire/Off-site fire	Bushfire or other off-site propagates to on-site land and assets	Lightning Arson Vehicle accident on adjacent road Backburning Hot work being undertaken on adjacent properties	Injury to personnel if responding to fire Equipment damage	Evacuation procedures Induction Maintain Asset Protection Zones during construction	4	D	14	
5	General Site	Flooding	On-site flooding of streams	Flood event	Restriction of access/egress for employees and contractors	More than one access point for each location on site Evacuation plan	2	D	5	

## Hazard Identification

6	General Site	Contamination	Silage area onsite may have produced acidic leachate and contaminated soils in storage area and handling of this soil may result in contamination of other soils and receiving waters when handled	Silage was stored by burying onsite	Soil and/or water contamination	Construction Environment Management Plan	2	D	5	Collect soil samples to determine if there is acid contamination in silage storage area
7	General site	Contamination	Chemical spill/leak released to soil and/or receiving waters	Physical damage to storage containers/vessels/tanks Vehicle/mobile plant collisions Vehicle or mobile plant leaks Unsecure loads on utilities/trucks Flooding	Soil and/or water contamination	All hazardous chemicals to be stored in appropriate containers All hazardous chemicals to be stored away from areas of potential flooding/inundation and concentrated flows Spill kits will be maintained at all work areas Spill response procedure Personnel trained in pollution response will be in attendance at construction site whenever construction activities are being undertaken Pre-start vehicle and mobile plant checks Speed limits on site Traffic Management Plan Mobile plant operators will be required to provide evidence of qualifications/tickets Construction Environment Management Plan	3	D	9	
8	General Site	Physical Damage	Accident while undertaking manual construction activities	Faulty tools and equipment Misuse of tools and equipment Construction personnel unfit for work Construction personnel not qualified for task	Injury or fatality	Inductions Test and tag of portable electrical equipment Construction personnel will be required to provide evidence of qualifications/tickets Trained first aiders on site Personal injury response procedure	5	E	15	

## Hazard Identification

Date: 15-Nov-21

Job: Wellington North Solar Farm Emergency Plan

Job #: 21894

Project Phase: Operation

Ref	Asset	Hazard	Scenario	Cause	Consequence	Current Barriers	C	L	R	Action
1	Solar Panels Combiner boxes PCUs Main control room	Fire	On-site fire initiated by site equipment or activities	Electrical equipment faults (e.g. crossed polarities, cable damage causing short circuit) Maintenance activities (hot work such as welding or grinding)	Injury to personnel if responding to fire Equipment damage	All electrical equipment used will be designed and installed in accordance with relevant Australian Standards Solar farm detailed design will be subject to a design risk assessment All electrical equipment will be subject to pre-commissioning checks and testing Fire water tanks (including 20,000 kL fire water tank and hydrant booster set with FRNSW approved fittings) and other fire fighting equipment (including equipment required by the Building Code of Australia and an on-site 1,000 L water cart with pump and hose) on-site Site personnel will be provided with first attack fire response training Local emergency services will be provided with the opportunity to participate in a site familiarisation induction Hot work procedures for maintenance activities that pose a fire risk Emergency fire response and evacuation procedures	2	D	5	Schedule emergency services site familiarisation induction prior to commissioning of solar farm
2	Solar Panels Combiner boxes PCUs Main control room	Fire	Off-site fire propagated from on-site fire initiated by on-site equipment or activities	Electrical equipment faults (e.g. crossed polarities, cable damage causing short circuit) Maintenance activities (hot work such as welding or grinding)	Damage to off-site property including adjacent solar farm, homestead building, SCS building, correctional facility Potential loss of life off-site	Maintain 10 m Asset Protection Zone around site All electrical equipment used will be designed and installed in accordance with relevant Australian Standards Solar farm detailed design will be subject to a design risk assessment All electrical equipment will be subject to pre-commissioning checks and testing Fire water tanks (including 20,000 kL fire water tank and hydrant booster set with FRNSW approved fittings) and other fire fighting equipment (including equipment required by the Building Code of Australia and an on-site 1,000 L water cart with pump and hose) on-site Site personnel will be provided with first attack fire response training Local emergency services will be provided with the opportunity to participate in a site familiarisation induction Hot work procedures for maintenance activities that pose a fire risk Emergency fire response and evacuation procedures	5	E	15	



## Hazard Identification

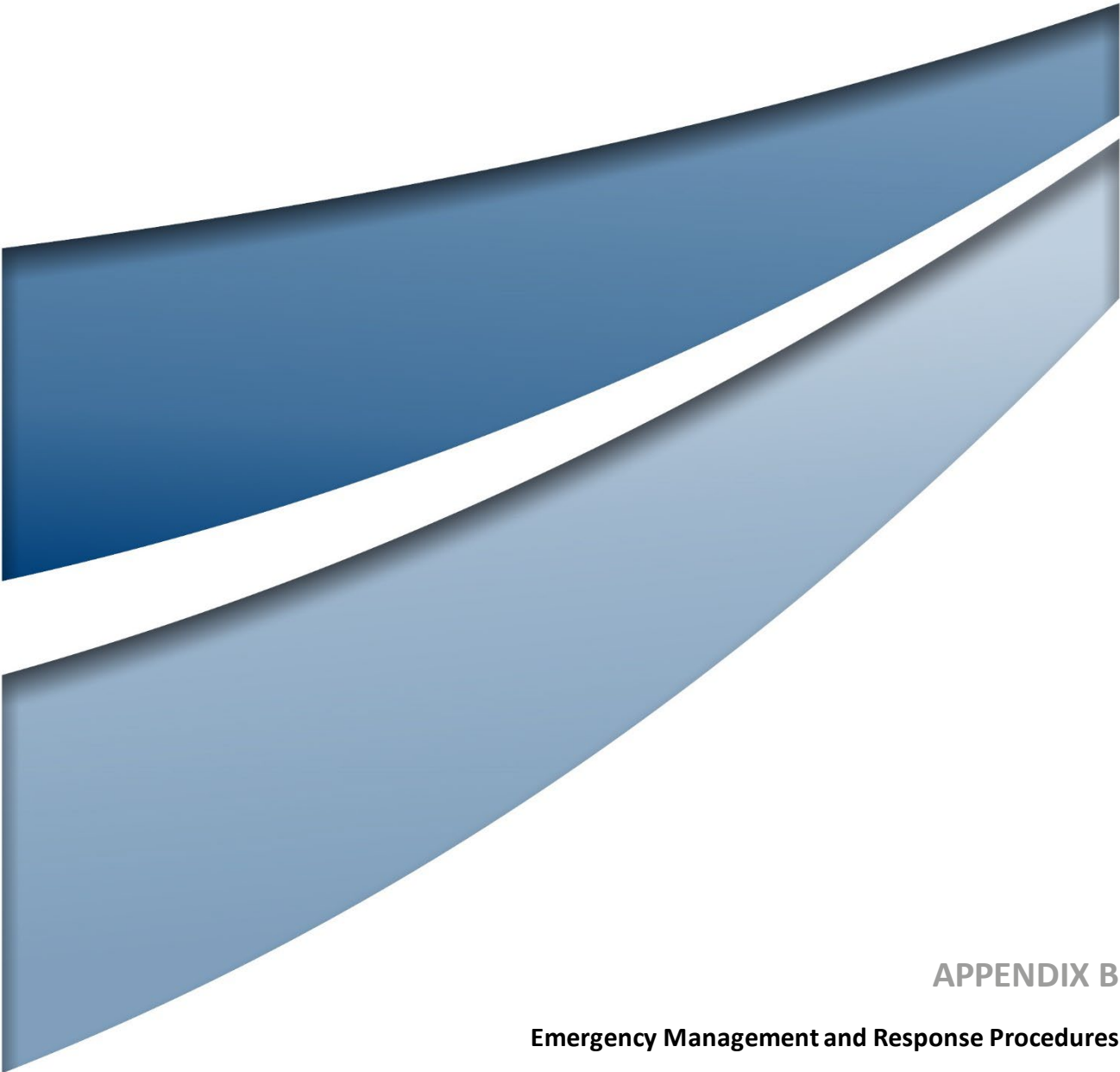
3	General site	Bushfire/off-site fire	Bushfire or other off-site propagates to on-site land and assets	Lightning Arson Vehicle accident on adjacent road Backburning Hot work being undertaken on adjacent properties	Injury to personnel if responding to fire Equipment damage	Maintain 10 m Asset Protection Zone around site All electrical equipment used will be designed and installed in accordance with relevant Australian Standards Solar farm detailed design will be subject to a design risk assessment All electrical equipment will be subject to pre-commissioning checks and testing Fire water tanks (including 20,000 kL fire water tank and hydrant booster set with FRNSW approved fittings) and other fire fighting equipment (including equipment required by the Building Code of Australia and an on-site 1,000 L water cart with pump and hose) on-site Site personnel will be provided with first attack fire response training Local emergency services will be provided with the opportunity to participate in a site familiarisation induction Hot work procedure for maintenance activities that pose a fire risk Emergency fire response and evacuation procedures	5	E	15	
4	General site	Arson	Deliberately lit fire	Arsonist	Grass fire, equipment damage	Site security including perimeter fencing and CCTV in critical areas Maintain 10 m Asset Protection Zone around site All electrical equipment used will be designed and installed in accordance with relevant Australian Standards Solar farm detailed design will be subject to a design risk assessment All electrical equipment will be subject to pre-commissioning checks and testing Fire water tanks (including 20,000 kL fire water tank and hydrant booster set with FRNSW approved fittings) and other fire fighting equipment (including equipment required by the Building Code of Australia and an on-site 1,000 L water cart with pump and hose) on-site Site personnel will be provided with first attack fire response training Local emergency services will be provided with the opportunity to participate in a site familiarisation induction Hot work procedures for maintenance activities that pose a fire risk Emergency fire response and evacuation procedures	2	E	3	

## Hazard Identification

5	High voltage overhead lines	Electrification of the fence	Induced voltage in the fence due to overhead lines or direct contact with overhead lines	High voltage power lines can induce voltage in metal fence and ground Fallen power lines contacting fence	Injury or Fatality	Electrodes and earth stakes attached to fence Isolation panels (e.g. fibre glass) built into fenceline to provide discontinuity	5	E	15
6	General site	Flooding	On-site flooding of streams	Flood event	Restriction of access/egress for employees and contractors	Site layout will ensure there is more than one access point for each location on site Site evacuation plan showing egress path for various site locations	2	D	5
7	Solar Panels Combiner boxes PCUs Main control room	Electrocution	On-site fire involving electrical equipment requiring fire response with water	Using water to extinguish fire on live equipment	Injury or fatality	Fire fighters (site personnel and FRNSW) will not respond with fire water until the equipment is de-energised Education of employees, contractors and emergency services	5	E	15
8	Flammable/combustible liquid storage	Fire	Loss of containment of flammable or combustible liquid and ignition	Ignition source introduced to flammable/combustible liquid storage initiates fire	Injury to personnel if responding to fire Equipment damage	Storage of flammable and combustible liquids in accordance with AS 1940 <i>The storage and handling of flammable and combustible liquids</i> Hazardous area classification for all flammable liquid stores in accordance with AS 60079, only appropriately rated electrical equipment to be used in hazardous areas and appropriate signage to exclude ignition sources Fire water tanks (including 20,000 kL fire water tank and hydrant booster set with FRNSW approved fittings) and other fire fighting equipment (including equipment required by the Building Code of Australia and an on-site 1,000 L water cart with pump and hose) on-site Site personnel will be provided with first attack fire response training Local emergency services will be provided with the opportunity to participate in a site familiarisation induction Hot work procedures for maintenance activities that pose a fire risk Emergency fire response and evacuation procedures Flammable and combustible liquids storage	3	D	9
9	Substation	Fire/explosion	Substation fire and/or explosion	Insulation breakdown, loss of oil containment and arcing	Injury to personnel if responding to fire Equipment damage	Design and maintenance to Australian Standards (AS/NZS 60076 series, and other relevant standards) Condition monitoring (oil and temperature) Transformers will be located in appropriately sized bunds	2	D	5
10	General site	Bomb or substance threat	Threat of bomb, substance or malicious damage	Terrorism Hoax	Equipment damage, loss of power supply to grid	Remote location Site security including perimeter fencing and CCTV in critical areas Bomb threat procedure	2	E	3

## Hazard Identification

11	Control system	Cyberattack	Hacking of control system to disrupt generation and supply	Terrorism	Equipment damage Loss of power supply to grid Grid instability and potential for fire at grid substation	IT security Some controls can only be adjusted locally Emergency shutdown procedures Cyberattack response procedure	3	E	6
12	General site	Contamination	Chemical spill/leak released to soil and/or receiving waters	Physical damage to storage containers/vessels/tanks Vehicle/mobile plant collisions Vehicle or mobile plant leaks Unsecure loads on utilities/trucks Flooding	Soil and/or water contamination	All hazardous chemicals to be stored in appropriate containers and bunds (as required) All hazardous chemicals to be stored away from areas of potential flooding/inundation and concentrated flows Spill kits will be maintained at all work areas Operational personnel trained in pollution response Spill response procedure Pre-start vehicle and mobile plant checks Speed limits on site Traffic Management Plan Mobile plant operators will be required to provide evidence of qualifications/tickets	3	D	9
13	General Site	Physical Damage	Accident while undertaking manual maintenance activities	Faulty tools and equipment Misuse of tools and equipment Construction personnel unfit for work Construction personnel not qualified for task	Injury or fatality	Inductions Test and tag of portable electrical equipment Maintenance personnel will be required to provide evidence of qualifications/tickets Trained first aiders on site Personal injury response procedure	5	E	15



**APPENDIX B**

**Emergency Management and Response Procedures**

## Emergency Evacuation Procedure

This procedure covers this site in case of an evacuation from an Emergency.

The types of emergencies that could lead to an evacuation are:

- On site fire.
- Fallen overhead power lines
- Natural disasters including bush fires and floods.
- If an emergency situation requiring site evacuation arises:
  1. Alarm is to be raised by either the first responder or appropriate ECO member:
    - a. sound air horn
    - b. broadcast on UHF radio channel 25 that a site emergency evacuation has been initiated.
  2. The first responder or Chief Warden/Deputy Chief Warden will call 000 as soon as it is safe to do so and request the appropriate emergency services.
  3. Commence Evacuation of site:
    - a. Shutdown equipment if safe to do so.
    - b. DO NOT go to lunchrooms/locker rooms to collect personal belongings.
    - c. Follow instructions given by Chief Warden/Deputy Chief Warden.
  4. Follow the designated route (or alternate route as directed by the Chief Warden/Deputy Chief Warden or works area supervisors should the designated route not be safe to access) from your work area to the emergency assembly point (or alternate location assembly point as indicated by Chief Warden/Deputy Chief Warden) and escort any visitors as required.
  5. If safe to do so, works area supervisors and/or the Deputy Chief Warden are to confirm that the area they are responsible for has been completely evacuated.
  6. Works area supervisors are to report to the Deputy Chief Warden regarding the status of the evacuation for their area of responsibility as follows:
    - a. Hazards and unsafe conditions in the evacuated area.
    - b. Whether the area was able to be checked for complete evacuation.
  7. A roll call will be undertaken at the Emergency Assembly Point by Deputy Chief Warden to account for all personnel and visitors. Notify the Deputy Chief Warden if you believe that an employee or visitor may be unaccounted for. The Deputy Chief Warden will notify the Chief Warden if there are any personnel, contractors, or visitors unaccounted for.
  8. The Chief Warden will liaise with emergency services personnel regarding the emergency situation and any unaccounted personnel, contractors and visitors and direct the Deputy Chief Warden and works area supervisors as required.
  9. The Chief Warden will liaise with emergency services to determine if and when it is safe to return to the site. In the event that emergency services are not present, the Chief Warden, in consultation with the Deputy Chief Warden and works area supervisors, will determine when it is safe to return to the site.
  10. All employees and visitors are to remain at the Emergency Assembly Point until instructed that is safe to re-enter the site or leave in the event that it is unsafe to re-enter the site.

## **B.1 On-site Fire Response Procedure**

### ***First Responder***

11. If you discover a fire immediately alert nearby personnel and instruct them, and assist them as required, to evacuate the area to an area not impacted by fire and smoke/fumes.
12. If safe to do so and you are appropriately trained, apply first-attack firefighting measures, otherwise evacuate the area. DO NOT attempt to extinguish the fire if it is greater than 1 m<sup>3</sup> in size. If you do extinguish the fire, remain at the scene to monitor and ensure there is no flare up until instructed to leave by either the Chief Warden or Deputy Chief Warden.
13. If the fire cannot be extinguished immediately, contact emergency services on 000 and provide the following information:
  - a. Your name
  - b. The type of incident – Fire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820
    - Mitchell Highway Road
    - Main site access 1.3 km north of the Wellington Correctional Facility
    - Alternate access via Campbells Lane 1.5 km east of Saxa Road intersection
  - d. The types of injuries, if any.
  - e. Any other information you believe is relevant to the fire situation (e.g., trapped occupants, fire is adjacent to substation or flammable liquids storage etc.)
14. Notify the Chief Warden and/or Deputy Chief Warden (via UHF radio on channel 25, mobile phone or in person) of the fire situation providing the following information:
  - a. The location of the fire
  - b. The nature of the fire (e.g., substation fire, grass fire, fire involving hazardous materials)
  - c. If there are any injured employees or visitors
  - d. If the area has been evacuated

### ***Chief Warden and Deputy Chief Warden Response***

15. Initiate the Emergency Evacuation Procedure if the scale of the fire requires.
16. If the fire cannot be immediately extinguished, ensure emergency services have been contacted and if not, call 000 and provide the following information:
  - a. Your name
  - b. The type of incident – Fire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820

- Mitchell Highway Road
  - Main site access 1.3 km north of the Wellington Correctional Facility
  - Alternate access via Campbells Lane 1.5 km east of Saxa Road intersection
- d. The types of injuries, if any.
- e. Any other information you believe is relevant to the fire situation (e.g., trapped occupants, fire is adjacent to flammable liquids storage etc.)
- f. Ensure relevant agencies are notified as required (e.g., WorkSafe NSW)



## B.2 Bushfire Mitigation and Bushfire Response Procedure

Table B.1 below presents the mitigation measures, the timing for implementation of the measures and the personnel responsible for implementing the measures.

**Table B.1 Bushfire Mitigation Instructions**

Timing/ Trigger	Aspect	Mitigation Measure	Responsibility
Construction Phase	Asset Protection Zone (APZ) Establishment	<ul style="list-style-type: none"> <li>Establishment of a 10 m APZ is required around the perimeter of the development area incorporating a 4m wide gravel access track (fire trail), (refer to <b>Figure 5.1</b>).</li> <li>Establishment of a 10 m APZ between solar plant infrastructure and the planted woody vegetation and the remnant vegetation within the development area that will be retained, (refer to <b>Figure 5.1</b>)</li> </ul> <p>Vegetation within the APZ will be maintained as an Inner Protection Area in accordance with the vegetation maintenance requirements outlined in <b>Appendix 5</b> of PBP 2019 including:</p> <p>Trees</p> <ul style="list-style-type: none"> <li>tree canopy cover should be less than 15% at maturity</li> <li>trees at maturity should not touch or overhang any buildings</li> <li>lower limbs should be removed up to a height of 2m above the ground</li> <li>tree canopies should be separated by 2 to 5m; and</li> <li>preference should be given to smooth barked and evergreen trees</li> </ul> <p>Shrubs</p> <ul style="list-style-type: none"> <li>create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided</li> <li>shrubs should not be located under trees</li> <li>shrubs should not form more than 10% ground cover</li> <li>clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation</li> </ul> <p>Grass</p> <ul style="list-style-type: none"> <li>grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and leaves and vegetation debris should be removed</li> </ul> <p>Vegetation across the development area will be managed to appropriately reduce fuel loads (grassed areas mowed (average height 15cm), ground debris removed, trees maintained as required).</p>	Chief Warden  Construction Contractor

Timing/ Trigger	Aspect	Mitigation Measure	Responsibility
	Overhead Power Lines	A Minimum Vegetation Clearance Zone of 5.5 m horizontally and 4.7 m vertically will be applied to the overhead powerlines (in accordance with Transgrid requirements) and maintained throughout the construction and operations phase of the development.	
	Access	Establishment of proposed access tracks as shown on <b>Figure 5.1</b> and <b>Figure 5.2</b> including: <ul style="list-style-type: none"> <li>• constructed with a minimum width of 4m</li> <li>• an unobstructed clearance height of 4m</li> <li>• designated parking areas will be constructed at the O&amp;M Building. Water storage areas and storage areas for fire safety equipment will be identified as ‘no parking’ areas to ensure access is available at all times</li> </ul>	
	Emergency Exits	Establishment of emergency exits as shown on <b>Figure 5.1</b> and <b>Figure 5.2</b>	
	Fire Suppression	<ul style="list-style-type: none"> <li>• Installation of 20,000 L dedicated fire water tank, as shown on <b>Figure 5.2</b>, with a 65 mm Storz fitting and FRNSW compatible suction connection</li> <li>• A 1,000 L water cart (with petrol powered water pump and fire hose) will be maintained on-site to provide a mobile fire water source</li> <li>• Provision of fire safety equipment (fire extinguishers and fire blankets) in accordance (and maintained) with relevant codes and standards (as applicable) at the O&amp;M Facility</li> <li>• All site vehicles and mobile plant equipped with a dry chemical powder fire extinguisher and first aid kit</li> </ul>	
Outside of Bushfire Season	Maintenance	As part of the regular site maintenance program all APZs should be maintained as outlined above to prevent any significant works being required at the commencement of the bushfire season.  Access tracks, water supply and firefighting equipment to be maintained at all times.	Chief Warden and all staff
	Training and Awareness	Bushfire Response Drill – a bushfire response drill is to be undertaken annually to ensure all staff understand roles and requirements during a bushfire response.  The drill and any issues arising from the drill should be actioned and recorded via the reporting procedure.	
		Induction of new staff will include an overview of the requirements of the Bushfire Response Procedure and Emergency Evacuation Plan.	

Timing/ Trigger	Aspect	Mitigation Measure	Responsibility
	Recording and Reporting	Review and maintenance of the bushfire management measures will be recorded (including date, name of recorder, confirmation bushfire management measures have been checked and are in place, any maintenance works undertaken, and any further action required and responsible personnel).	Chief Warden/ Deputy Chief Warden
Bush Fire Season	Preparation	At commencement of bushfire season undertake review of bushfire management measures and reporting procedure to address any outstanding requirements.  Continue regular maintenance of all bushfire management measures as outlined above.	Chief Warden/ Deputy Chief Warden
	Communication	As part of daily site operations, a review of the fire danger ratings should be undertaken including use of the 'Fires Near Me' information database and consultation with RFS and FRNSW as required.	

## Bushfire Response Procedure

### First Responder

1. If you discover a fire on-site follow the **On-site Fire Response Procedure**
2. If you become aware of a bushfire in the vicinity of the site, immediately notify the Chief Warden and or Deputy Chief Warden
3. If the bushfire is approaching, contact emergency services on 000 and provide the following information:
  - a. Your name
  - b. The type of incident – Bushfire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820
    - Mitchell Highway Road
    - Main site access 1.3 km north of the Wellington Correctional Facility
    - Alternate access via Campbells Lane 1.5 km east of Saxa Road intersection
  - d. Any other information you believe is relevant to the bushfire situation (e.g., directions of fire relative to the site, bushfire is restricting egress etc.)
4. Notify the Chief Warden and/or Deputy Chief Warden (via UHF radio on channel 25, mobile phone or in person) of the bushfire situation providing the following information:
  - a. If you have contacted emergency services
  - b. The location of the bushfire relative to site

- c. If there is an immediate risk to your safety
- d. If the area has been evacuated
- e. If egress from the area is restricted

### **Chief Warden, Deputy Chief Warden, and Warden Response**

1. If bushfire is in the vicinity of the site, assess the extent of the emergency and establish direct contact with RFS and FRNSW and coordinate/manage the site and actions in accordance with relevant advice from emergency personnel at the time.
2. If the bushfire is approaching the site, alert emergency services (call 000) and Initiate the **Emergency Evacuation Procedure**. Provide emergency services with the following information:
  - a. Your name
  - b. The type of incident – Bushfire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820
    - Mitchell Highway Road
    - Main site access 1.3 km north of the Wellington Correctional Facility
    - Alternate access via Campbells Lane 1.5 km east of Saxa Road intersection
  - d. Any other information you believe is relevant to the bushfire situation (e.g., directions of fire relative to the site, bushfire is restricting egress etc.)
3. If the bushfire front impacts the site, Initiate the **Emergency Evacuation Procedure**, and alert emergency services (call 000) providing the information listed in Step 2.
4. The Chief Warden will liaise with emergency services to determine when it is safe to return to site. All employees and visitors are to remain at the Emergency Assembly Point until instructed that is safe to re-enter the site or leave in the event that it is unsafe to re-enter the development area.
5. When an emergency event is rendered safe or emergency services relinquish control of the development area, the Chief Warden will notify the Deputy Chief Warden and Warden to have personnel return to the development area. The Chief Warden will also:
  - a. Organise a debrief with Deputy Chief Warden and, where appropriate, works area supervisors and emergency services personnel
  - b. Compile a report of the emergency event for the LSbp Workplace Health, Safety and Environment (WHSE) team
6. The WHSE team will review the emergency event report and initiate the implementation of any changes to the Bushfire Response Procedure and response measures (in conjunction with the Chief Warden and consultation with FRNSW and NSWRFs) required based on the findings of the emergency event report.

### **B.3 Major Chemical Spill Response Procedure**

#### ***First Responder***

1. Alert nearby personnel of spill has created a hazard (e.g., fumes, fire/explosion risk) instruct them, and assist them as required, to evacuate the area.
2. Remove ignition sources from the area where possible (e.g., vehicles, electrical equipment).
3. Consult the material safety data sheet for the product to determine material specific measure for managing spills.
4. If safe to do so, attempt to contain the spill, in particular, preventing the spilled liquid entering drainage lines, by:
  - a. Using equipment in spill kits available at the construction compounds, O&M Facility, or work site
  - b. Constructing temporary earth bunds
5. Notify your works area supervisor or the Chief Warden/Deputy Chief Warden (via UHF radio on channel 25, mobile phone or in person) of the spill providing the following information:
  - a. The location of the spill
  - b. If there are any injured employees or visitors
  - c. If the area has been evacuated
  - d. The chemical that has been spilled if known
  - e. If the spill has entered a drainage line

#### ***Chief Warden and Deputy Chief Warden Response***

1. Assess whether the spill can be locally contained and if not call emergency services on 000 and provide the following information:
  - a. Your name
  - b. The type of incident – Fire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820
    - Mitchell Highway Road
    - Main site access 1.3 km north of the Wellington Correctional Facility
    - Alternate access via Campbells Lane
  - d. The types of injuries, if any.
  - e. Any other information you believe is relevant to the spill situation. (E.g., flammable liquid ignition risk, spill has entered drainage line)
6. Initiate the Emergency Evacuation Procedure if the scale and nature of the spill requires.
7. Coordinate the containment of the spill, remediation of any contaminated areas and appropriate disposal of contaminated waste materials.
8. Ensure relevant agencies are notified as required (e.g., NSW EPA, WorkSafe NSW).

## B.4 Flood Response Procedure

1. If high and/or prolonged rainfall is expected, the Chief Warden or Deputy Chief Warden should monitor Bureau of Meteorology (BoM) and State Emergency Services (SES) warnings (online and on ABC local radio, Central West 549 AM). The Chief Warden or Deputy Chief Warden should also be registered to receive mobile alerts via the location based Early Warning Network (EWN) that tracks potentially dangerous weather systems.

**NOTE:** *The Development area is not located in a flood planning area and is not expected to become inundated during a regional flood event. However, some ephemeral drainage lines on the Development area may experience out of bank flows during high rainfall events and some areas of the site may be at risk of temporary minor flooding. Further, regional flood events may impact on the ability of personnel, contractors, and visitors to travel home (or elsewhere) from the Development.*

2. If the forecast and warnings indicate that localised flooding at the Development Site is likely, the Chief Warden or Deputy Chief Warden is to liaise with works area supervisors (during construction) and/or directly with personnel, contractors, and visitors to ensure:
  - a. All equipment and materials are moved to areas of the site that are not subject to concentrated flows and/or inundation
  - b. All personnel, contractors and visitors vacate works areas subject to localised flooding prior to the onset of the storm event
  - c. Remind all personnel, contractors, and visitors of the dangers of driving or walking through flood waters
3. If the forecast and warnings indicate that regional flooding at the Development Site is likely, the Chief Warden or Deputy Chief Warden is to liaise with works area supervisors (during construction) and/or directly with personnel, contractors, and visitors to:
  - a. Ensure all personnel, contractors and visitors have a safe route home (or elsewhere) from the Development area. The website <https://www.livetraffic.com/desktop.html> can be accessed to identify road closures along an employee's typical route from site
  - b. Should regional flooding prevent an individual from travelling home (or elsewhere), the Chief Warden or Deputy Chief Warden are to ensure that alternate accessible overnight accommodation is available/arranged for the individual
  - c. Remind all personnel, contractors, and visitors of the dangers of driving or walking through flood waters

## **B.5 Severe Storm Response Procedure**

In the event of a severe storm:

1. If you are inside:
  - a. stay there and keep clear of windows
  - b. stay inside until the storm has passed and when the Chief Warden/Deputy Chief Warden indicates that it is safe to move to a different location or return to work.
2. If you are outside:
  - a. move inside, stay there, and keep clear of windows
  - b. if remote from site buildings, move inside a vehicle if possible and only drive back to the construction compounds or O&M Facility if it is safe to do so
  - c. stay inside until the storm has passed and when the Chief Warden/Deputy Chief Warden indicates that it is safe to move to a different location or return to work.
3. The Deputy Chief Warden and/or nominated delegates will undertake a site inspection to ascertain whether any unsafe conditions have developed because of the storm and direct personnel, contractors, and visitors appropriate.



## **B.6 Significant Personal Injury or Medical Emergency**

1. Assess the situation and ensure employees and visitors not involved in the incident are safe, if able to do so.
2. Immediately call emergency services on 000 and send another person to request assistance from the nearest First Aid Officer and notify the ECO. Provide the following information to the emergency services:
  - a. Your name
  - b. The type of incident – Fire
  - c. The company name, address, and nearest cross street
    - Lightsource BP Wellington North Solar Farm
    - 6444 Goolma Road, Bodangora NSW 2820
    - Mitchell Highway Road
    - Main site access 1.3 km north of the Wellington Correctional Facility
    - Alternate access via Campbells Lane 1.5 km east of Saxa Road intersection
  - d. The types of injuries, and/or condition of the patient.
  - e. Any other information you believe is relevant to the situation (e.g., trapped occupants, fire onsite etc.)
3. Remain with the patient if possible.
4. Do not move the person unless they are in a life-threatening situation.
5. An employee or contractor will be designated to meet emergency services at the nominated site entrance and guide them to the patient.

## B.7 Bomb or Substance Threat Response Procedure

Any person who receives a bomb/substance threat should remain calm and take the following steps:

1. Ask the following questions

- Where did you put the bomb/substance?
- When is the bomb going to explode?
- When did you put it there?
- What does the bomb/substance look like?
- What kind of bomb/substance is it?
- What will make the bomb explode?
- Did you place the bomb/substance?
- Why did you place the bomb/substance?
- Is the substance a liquid, powder, or gas?
- What is your name?
- Where are you now?
- What is your address?

2. Try to record the exact wording of the threat.

3. Try to keep the caller talking and complete the following checklist (do not hang up because the call may be traced).

**Table B.2 Bomb/Substance Threat Checklist**

Voice	Speech		Background and Other	
Male	Accent	Calm	Music	Train
Female	Stutter	Angry	Voices	Machinery
Child	Fast	Slurred	Traffic	Other Notes
Unknown	Slow	Intoxicated	Aircraft	

4. Notify the ECO.

If a suspected bomb/substance is found, you must take the following actions:

1. Do not touch it.
2. Immediately evacuate the area and notify the Chief Warden/Deputy Chief Warden.
3. Prevent other personnel or visitors from entering the area near the suspected bomb/substance.

### **B.8 Cyberattack Response Procedure**

1. If plant operator believes generation controls or settings are being altered with input immediately consult with the Senior Plant Operator and/or Operations Manager
2. If cyberattack and loss of plant control confirmed as likely notify Chief Warden/Deputy Chief Warden and:
  - a. Contact the LSbp Asset Manager and inform that of the cyberattack and that the plant will be manually shutdown
  - b. Initiate emergency generation shutdown procedures.
3. If cyberattack may result in unsafe conditions on site, initiate localised or site wide evacuation as required
4. Chief Warden/Deputy Chief Warden to notify NSW Police and grid operator.

## **B.9 Flammable and Combustible Materials Storage Procedure**

1. All flammable and combustible liquids are to be stored in facilities compliant with the requirements of *AS 1940:2017 The storage and handling of flammable and combustible liquids* including the provision of necessary signage and firefighting equipment.
2. Division 2.1 (flammable gas) aerosols may be stored in flammable liquids stores provided protection is provided for the store (e.g., in a suitably designed Class 3 flammable liquids cabinet). Flammable gases in cylinders will be stored in accordance with *AS 4332-2004 The storage and handling of gases in cylinders*
3. Flammable liquid and gas storages shall be subject to a hazardous area classification in accordance with *AS/NZS 600790.1:2009 Explosive atmospheres – Explosive gas atmospheres* (i.e., definition of the envelope around the flammable liquids store where ignition sources, including electrical equipment that is not suitably rated for the hazardous area application, must be excluded)
4. A buffer of 10 m surrounding a flammable or combustible liquids store must be maintained free of combustible materials (e.g., vegetation, pallets, paper/cardboard packaging)
5. If any new flammable or combustible materials proposed to be stored on site, a risk assessment will be undertaken to
  - a. ensure the new material is compatible with the proposed storage location and existing materials contained within the store
  - b. determine whether the new material will impact on the hazardous area envelope of a flammable liquids store or require the upgrade of electrical equipment located within the hazardous envelope
6. The following routine inspections of flammable and combustible materials will be undertaken:
  - a. Monthly inspections to:
    - i. Check buffer zones around stores are free of combustible materials
    - ii. No ignition sources have been introduced to the defined hazardous envelope surrounding a flammable liquid and/or gas store
    - iii. Check the condition of storage vessels (actual leaks or deterioration of the vessel that could result in a leak)
    - iv. Check the condition of storage bunds (actual leaks or deterioration of the bund that could result in a leak)
    - v. Firefighting equipment is present and in satisfactory condition (note that a suitably qualified fire safety contractor will be engaged to undertake compliance inspections, in accordance with relevant Australian Standards and codes, of all fire safety equipment across the Development area)
  - b. Annual inspections of electrical installations located in hazardous areas by a suitably qualified electrical contractor to assess whether there is any deterioration (e.g., equipment seals, cable glands) that could render the installation non-compliant for hazardous area application

## B.10 Hot Work Procedure

A Hot Work Permit (attached) form must be completed when planning works that include:

- Welding, brazing, or soldering
- Abrasive grinding and cutting
- Use of oxygen/fuel flame cutting or heating equipment
- Drilling that is likely to generate a significant amount of heat or where a flammable atmosphere may be present
- Any other activities that have the potential to generate sparks or sufficient heat that could ignite flammable or combustible materials

### Procedure

1. When planning works that involve “hot work” check the bush fire danger ratings at <https://www.rfs.nsw.gov.au/fire-information/fdr-and-tobans>.
2. Assess whether the works can proceed as planned and whether notifications to NSW Rural Fire Service (RFS) are required based on the guidelines in presented below.

**Table B.3 NSW RFS Notification Guideline**

Fire Danger Rating	Hot Works Permitted	Notification to RFS Required? (Orana RFS, 02 6881 3900)
Catastrophic	None	NA
Extreme		
Severe	<ul style="list-style-type: none"> <li>• Abrasive grinding and cutting</li> <li>• Drilling, cutting metal with reciprocating saw</li> </ul>	Yes
Very High	<ul style="list-style-type: none"> <li>• Welding, brazing, or soldering</li> <li>• Use of oxygen/fuel flame cutting or heating equipment</li> <li>• Abrasive grinding and cutting</li> <li>• Drilling, cutting metal with reciprocating or powered saw (non-abrasive)</li> </ul>	Yes
High	<ul style="list-style-type: none"> <li>• Welding, brazing, or soldering</li> <li>• Use of oxygen/fuel flame cutting or heating equipment</li> <li>• Abrasive grinding and cutting</li> <li>• Drilling, cutting metal with reciprocating or powered saw (non-abrasive)</li> </ul>	No
Low-Moderate	All hot work	No
None	All hot work	No

3. Notify RFS of planned works (Orana RFS, 02 6881 3900) or reschedule works as required
4. Complete Hot Work Permit and submit for sign off

5. Undertake works in accordance with requirements of Hot Work Permit.

## **17. HOT WORK PERMIT**

# Hot Work Permit

Before issuing the permit: Can the work be done any other way or in the workshop?

## IMPORTANT: Precautions Checklist must be followed

### Person Doing Work:

Fill in start time and hang in a highly visible position near the Hot Work operation. When the operation is complete, fill in the completion time.

### Fire Watch:

When the operation is complete, stay at location for 1 hour. After 1 hour, notify site supervisor of satisfactory completion of the operation.

### Site Safety Supervisor:

Initially inspect the work area and complete the precaution checklist. Keep a copy and issue the original to person completing the Hot Work. Make final inspection after the Hot Work and fire watch have been completed.

Company

Date

Location of Hot Work:

Work to be done:

Is Fire Watch required (see below\*)

Yes  No

Work to be done by whom

The location where this work is to be done has been examined, necessary precautions taken and permission is granted for this work. Permit expires (No more than one shift):

Print Name (Individual responsible for authorising hot work)

Signed

Job Title

Time Started

Time Completed

## Final Check

The work area and adjacent areas to which sparks and heat may have spread (including floors above and below and on opposite sides of walls) have been continuously inspected for 1 hour after the work was completed and were found fire safe.

Print Name (Supervisor or Fire Watcher)

Signed

Job Title

\* Fire Watchers shall be required by the individual responsible for authorising Hot Work wherever cutting or welding is performed in locations where other than a minor fire might develop, or where:

- Flammable or combustible material (including dry vegetation) or closer than 15 m to hot work.
- Appreciable flammable or combustible materials are more than 15 m away but are easily ignited by sparks.
- Wall or floor openings within 15 m radius expose flammable or combustible materials in adjacent areas.
- Flammable or combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.



## Precautions checklist

### General

- Sprinkler protection in service
- Cutting and welding equipment in good repair
- If work conducted on enclosed equipment, confined space entry permit issued
- Area smoke detection isolated where appropriate
- Inspect contractors' equipment to certify it is in proper working order and in a fire safe condition prior to authorisation of permit

### Within 15 m of work area

- Floors swept clean of all combustibles
- Combustible floors wet down or covered with damp sand, metal, or other non-combustible shields
- All ordinary combustibles and flammable/combustible liquids removed
- Covers suspended beneath elevated work to collect sparks All hazardous operations discontinued

### Work on walls or ceilings

- Construction is non-combustible and without combustible covering Exposed combustible ceiling and wall insulation covered or removed
- Combustibles moved away from opposite side of wall

### Work on enclosed equipment (tanks, containers)

- Equipment cleaned of all combustibles
- Containers & workplace checked for presence of flammable vapours. (Explosive atmosphere testing to confirm <5% LEL as required).

### Fire Watch

- Is fire watch needed? (Including adjoining areas, above and below).
- Suitable fire extinguisher, hose, or hose reel available
- Trained in use of equipment and in raising/sounding the alarm Area smoke detection re-instated where appropriate after work completed

### Final Check – ensure Hot Work Permit completed

## Checklist Completed

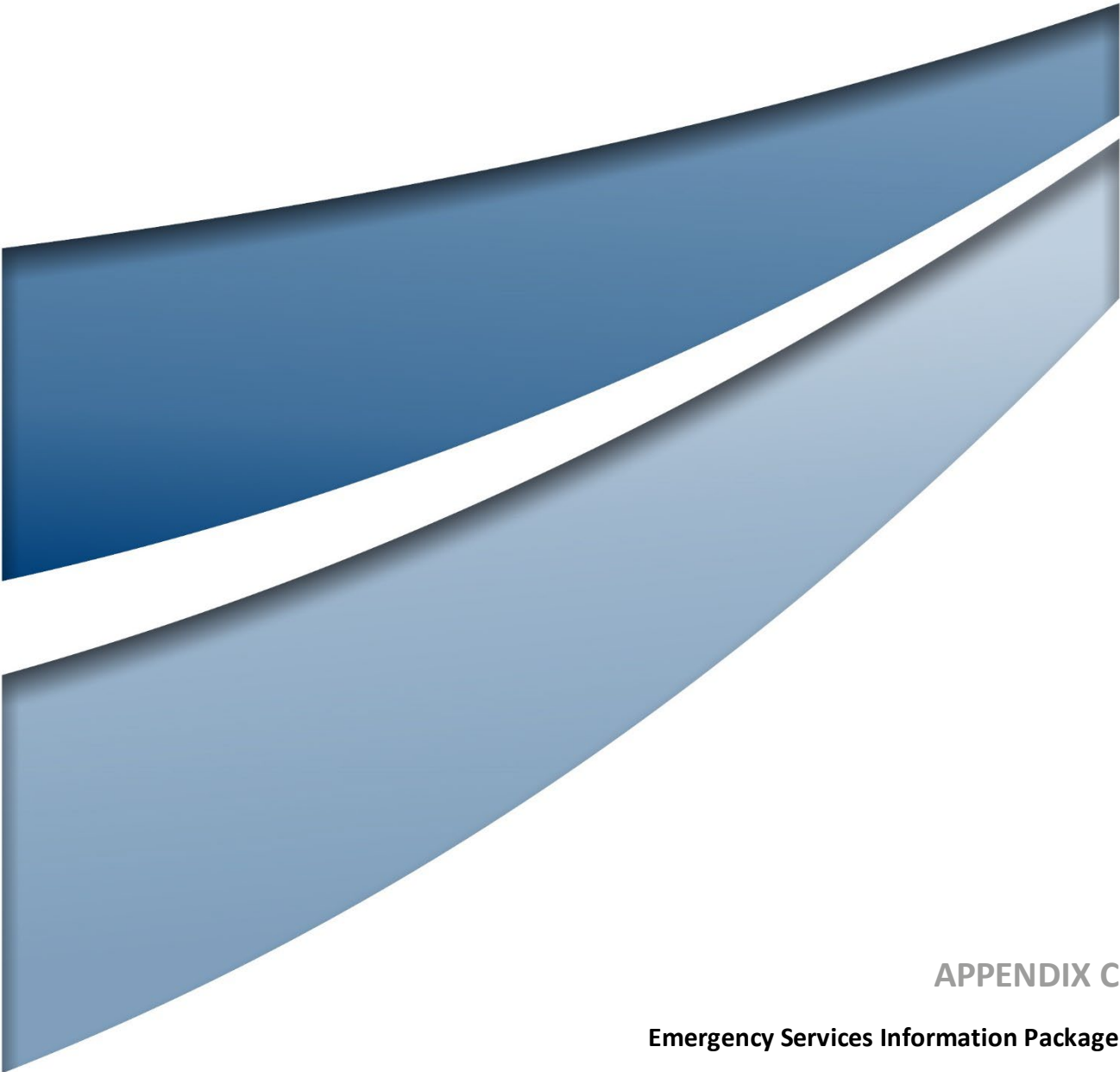
Signed

Date

Does not include gas testing – date and time result of test – name and signature required of tester.

**CAUTION**

**Hot work taking place**



## APPENDIX C

### Emergency Services Information Package

## Wellington North Solar Farm Emergency Services Information Package

**Table C.1 Wellington North Solar Farm - Facility Details**

Wellington North Solar Farm - Facility Details	
Facility Operator	Lightsource bp Australia
Name of Site	Wellington North Solar Farm
Nature of Facility	Photovoltaic solar electricity generation
Head Office Contact Details	Level 10, 420 George Street, Sydney, NSW 2000 T: 1300 873 575                      E: info@lightsourcebp.com
Site Address	6444 Goolma Road, Bodangora NSW 2820
Site Coordinates	-32.494° latitude   148.964° longitude
Site Telephone Number	Sajid Mahmud (Asset Manager, LSbp), M: 0426 155 457
Date of Issue	28 April 2022

### Emergency Contacts

The personnel with key emergency management responsibilities for the construction, operational and decommissioning phases of the Development are presented in **Table C.2**, **Table C.3** and **Table C.4**.

**Table C.2 Construction Phase - Emergency Contacts**

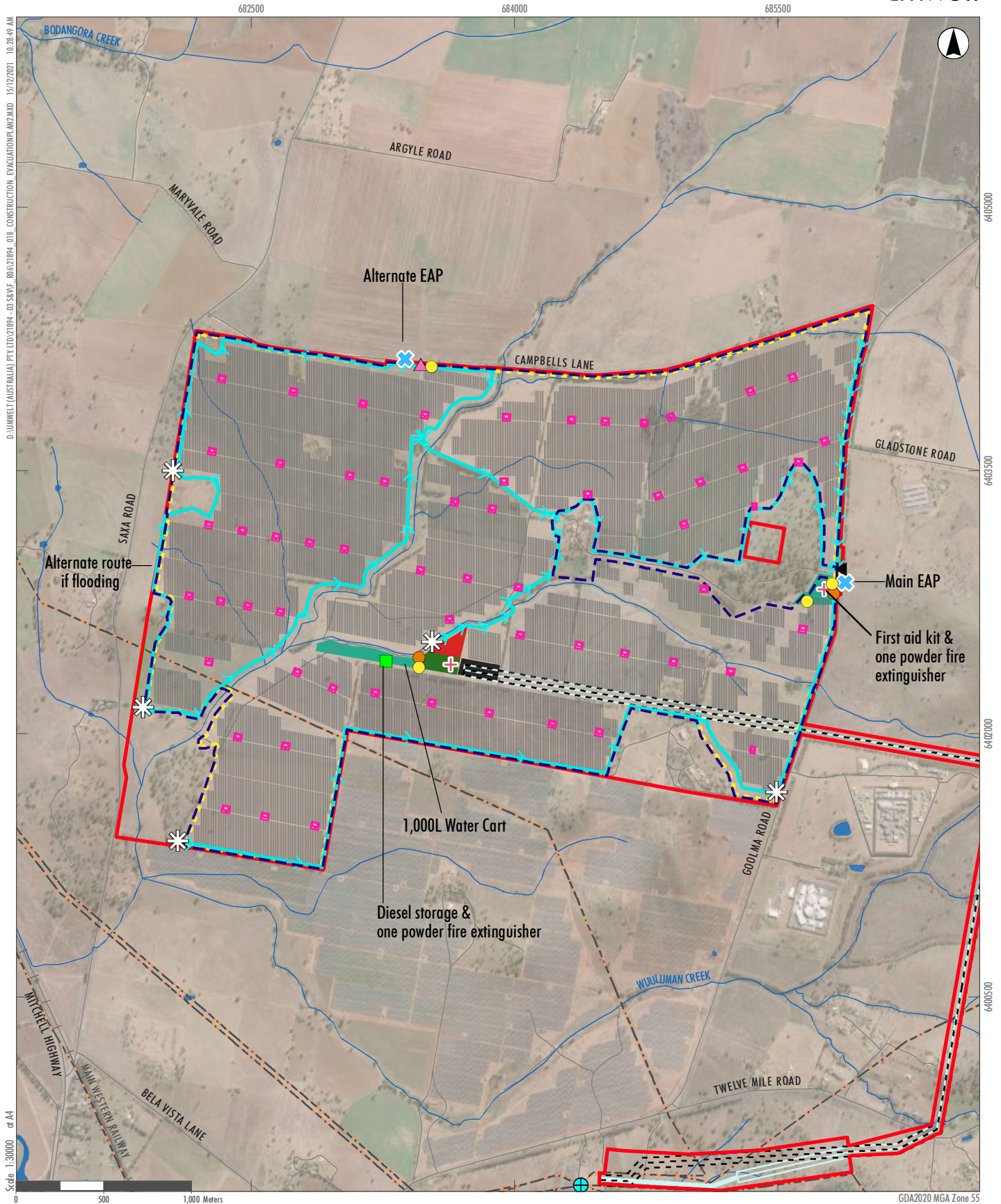
Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457
-	LSbp 24/7 Telephone Number	-	1300 166 716

**Table C.3 Operation Phase – Emergency Contacts**

Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457
-	LSbp 24/7 Telephone Number	-	1300 166 716

**Table C.4 Decommissioning Phase - Emergency Contacts**

Personnel	Position	Emergency Response Role	Contact Details
Jerrad Archer	Development Manager	Chief Warden	0466 119 349
Arun Vijayakumar	EPC Health, Safety and Environment Manager	Deputy Chief Warden	0426 763 590
Sajid Mahmud	Asset Manager	Warden	0426 155 457
-	LSbp 24/7 Telephone Number	-	1300 166 716



**Legend**

- Development Site
- Solar Panels
- Existing Substation
- Existing Transmission Lines
- Road
- Railway Line
- Drainage Line
- Water Body
- + You Are Here
- Exit Path
- ▲ Alternate Site Access
- X Emergency Assembly Point
- + First Aid Kit
- ▲ Main Site Access
- Petrol Storage
- Emergency Plan Location
- Safety Data Sheet Register Location

**Proposed Infrastructure**

- Construction Compound
- Future Battery Storage
- Intersection Upgrade
- Substation
- Operations and Maintenance Facility

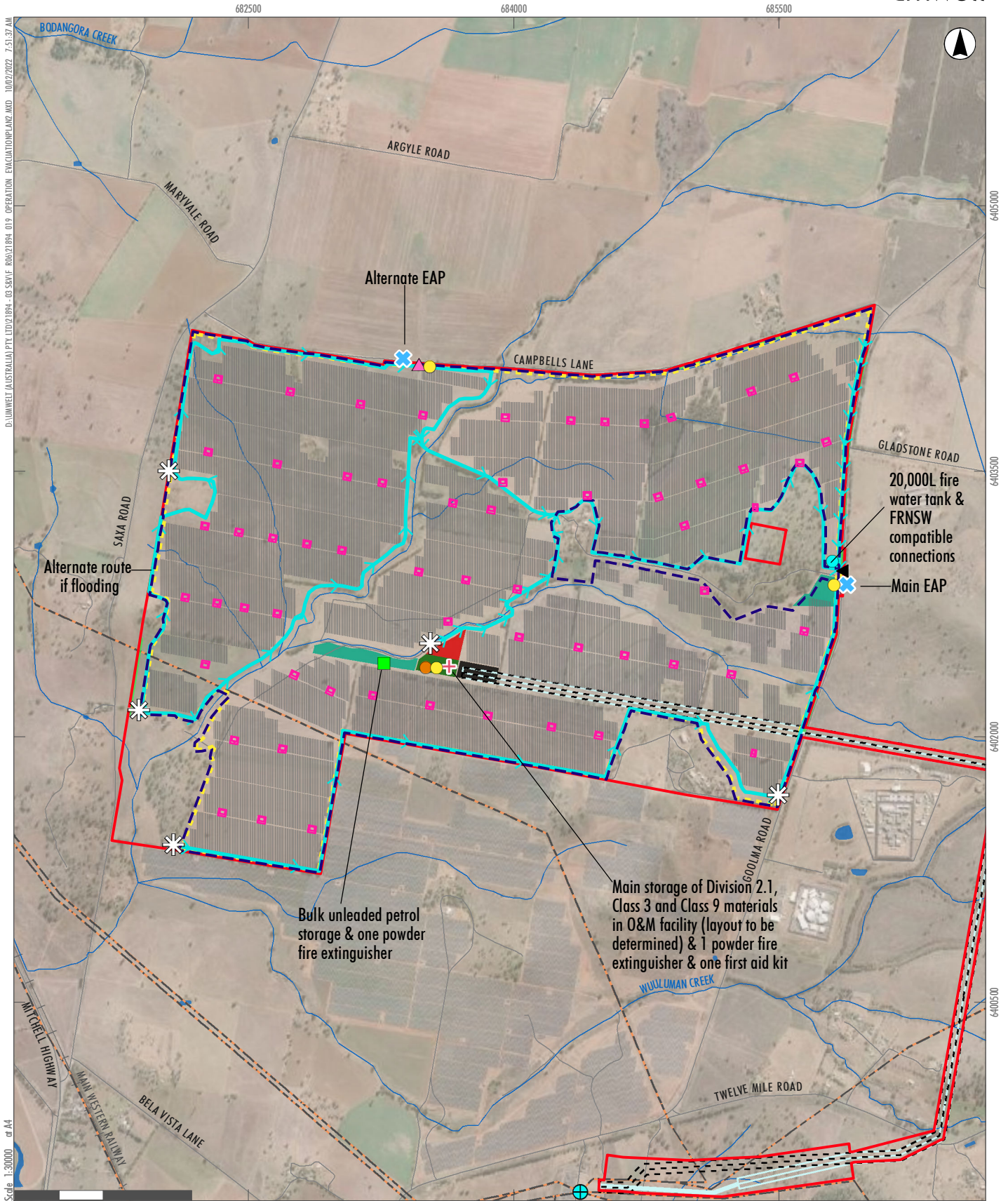
**Transmission Line Options**

- Transmission Line Option A
- Transmission Line Option B
- Landscaping
- Power Conversion Unit
- Fence
- Asset Protection Zone

**FIGURE C.1**

**Construction Phase Evacuation Plan**





- Legend**
- Development Site
  - Solar Panels
  - Existing Substation
  - Existing Transmission Lines
  - Road
  - Railway Line
  - Drainage Line
  - Water Body
  - ✎ You Are Here
  - Exit Path
  - ▲ Alternate Site Access
  - ✕ Emergency Assembly Point
  - + First Aid Kit
  - ▲ Main Site Access
  - Petrol Storage
  - Emergency Plan Location
  - Safety Data Sheet Register Location

- Proposed Infrastructure**
- Construction Compound
  - Future Battery Storage
  - Intersection Upgrade
  - Substation
  - Operations and Maintenance Facility
  - Transmission Line Option A
  - Transmission Line Option B
  - Landscaping
  - Power Conversion Unit
  - Fence
  - Asset Protection Zone

FIGURE C.2

Operation Phase Evacuation Plan

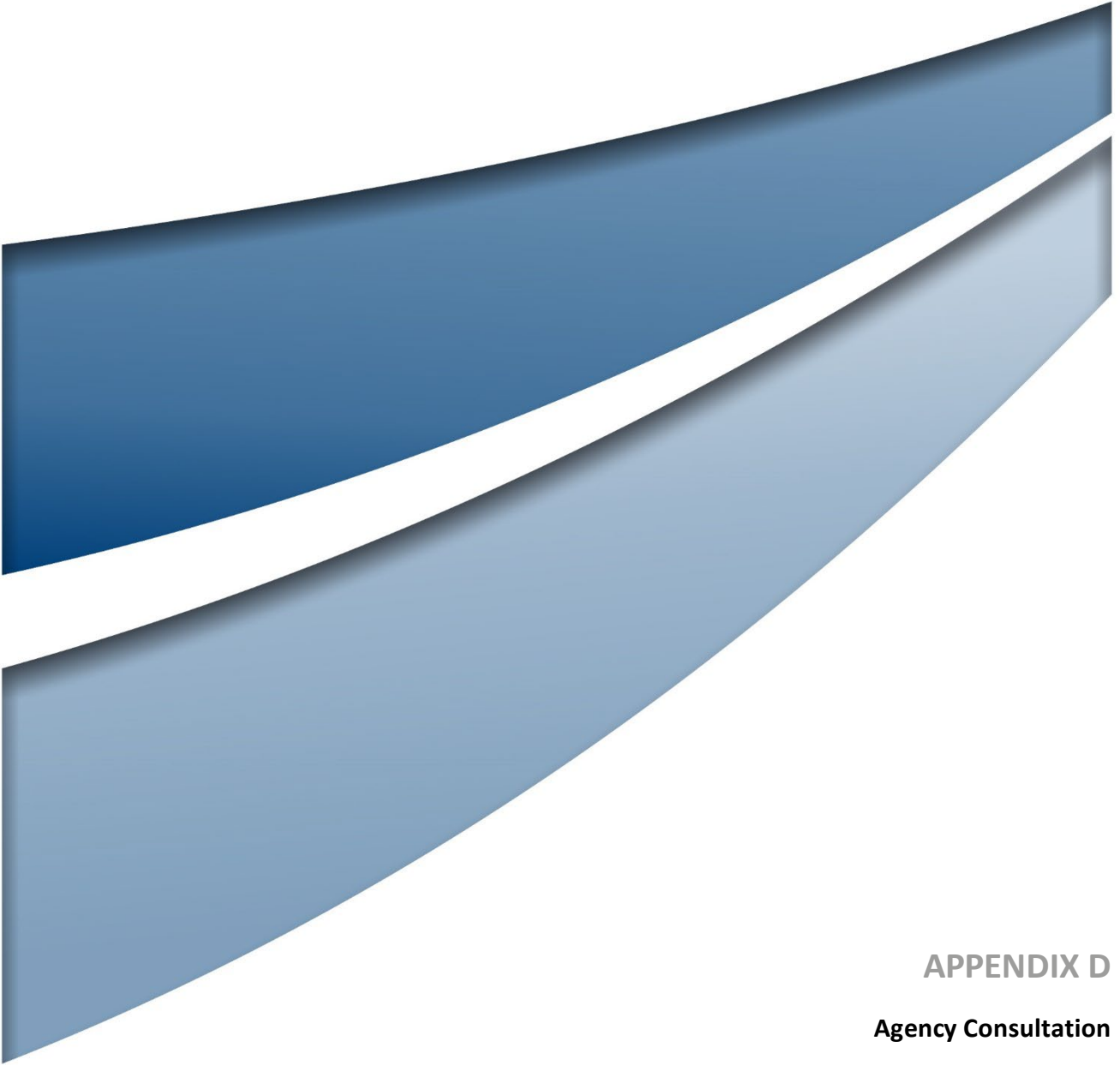


## Hazardous Materials Inventory

The Emergency Plan prepared for the Development identified hazards being present at the site during construction, operation, and decommissioning. Hazardous materials are defined in **Table C.5**.

**Table C.5 Hazardous Materials Inventory**

Development Phase	Material	Dangerous Goods Class/ Division and Packing Group	UN No.	Storage Type	Storage Location	Maximum Quantity
Construction	Diesel	C1	1202	Above ground tank	Central Construction Compound	5,000L
Operation	Unleaded Petrol	3 (II)	1203	Above ground tank	Operations and Maintenance Facility	1,000 L
Operation	Aerosols (e.g., spray paints WD-40)	2.1	1950	Packages/ Flammable Gas Cabinet	Operations and Maintenance Facility	100 L
Operation	Flammable Liquids (e.g., methylated spirits,	3(II)	Various	Packages/ Flammable Liquids Cabinet	Operations and Maintenance Facility	100 L
Operation	Engine and Hydraulic Oils (various)	-	-	Packages	Operations and Maintenance Facility	2,000 L
Operation	Metsulfuron (herbicide)	-	-	Packages	Operations and Maintenance Facility	1,000 L
Operation	Flagship 400 EC (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L
Operation	Ken Zon (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L
Operation	Uptake Spraying Oil	-	-	Packages	Operations and Maintenance Facility	2,000 L
Operation	Glyphosate (herbicide)	9 (III)	3082	Packages	Operations and Maintenance Facility	1,000 L
Decommissioning	Diesel	C1	1202	Above ground tank	Operations and Maintenance Facility	5,000 L



**APPENDIX D**  
**Agency Consultation**

## Consultation: Local Emergency Management Committee (LEMC), FRNSW and RFS

Agency and other stakeholder consultation has occurred as per the development consent for plans and strategy prepared under the LSbp Integrated Management System. Preparation of this EP occurred in consultation with the Local Emergency Management Committee (LEMC), FRNSW and the RFS.

At the early stages of the EP preparation, and to discuss general preferences regarding plan content and structure, verbal consultation occurred. The EP was provided to all both parties with an invitation to review and comment on all aspects of the document. Any comments received from these parties in response to the EP are documented in the tables below and the EP content updated where necessary.

The EP was submitted to LEMC, FRNSW and the RFS for review in early February 2022, and correspondence was received from FRNSW throughout March and April 2022. No feedback from LEMC or RFS was received despite multiple attempts to progress the consultation and review. All feedback is documented in the tables below.

### LEMC Consultation

ID	Comment	Response
1	The EP was submitted to LEMC in early February 2022; however no feedback or response was provided by 3 May 2022	n/a

### FRNSW Consultation

ID	Comment	Response
1	A preliminary version of the EP was submitted to FRNSW in early February 2022 and in this version contact details for all relevant personnel were not identified. FRNSW advised that these details needed to be provided for review of the EP to commence.	A revised version of the EP was submitted to FRNSW on 18 February 2022  In the revised version, Section 4.0 'Emergency Functions and Organisational Structure' (and all other related sections) were updated to include all relevant contact details
2	Based on the 18 February 2022 version of the EP, FRNSW provided verbal advice on minor amendments to their roles and responsibilities	Section 4.0 'Emergency Functions and Organisational Structure' of the EP (and all other related sections) was updated to better define FRNSW responsibilities
3	FRNSW advised that the FINAL plan should be submitted via the 'Planning Portal'	To occur once the EP is approved and finalised
4	The FINAL EP was submitted via the 'Planning Portal' for FRNSW review and comment	After a period of approximately six (6) weeks from 'Planning Portal' submission, no further feedback or response was provided by 27 June 2022.

### RFS Consultation

ID	Comment	Response
1	The EP was submitted to RFS in early February 2022; however no feedback or response was provided by 3 May 2022	n/a

