



FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025

New England Solar Farm – Stage 1 2x200MW AC

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GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
AC	Alternating Current
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability - a flood which has a 1% chance of occurring in any year.
ALARP	As Low as Reasonably Practicable
APZ	Asset Protection Zone
BAL	Bushfire Attack Level. AS 3959 (2009) describes six levels of risk of bushfire attack including BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ and are based upon the potential exposure to heat flux thresholds, expressed as kW/m ² .
BESS	Battery Energy Storage System
BFMC	Bushfire Management Committee (New England)
BLEVE	Boiling Liquid Expanding Vapour Explosion
Bushfire	A general term used to describe fire in vegetation, including grass fire and forest fire.
Bushfire Hazard	The potential severity of a bushfire, which is evaluated by fuel load, fuel arrangement and topography under a given climatic condition.
Bushfire Management	A systematic process that identifies and assesses assets and provides a range of treatments that contributes to the wellbeing of communities and the environment, which suffer the adverse effects of wildfire/bushfire.
BOM	Bureau of Meteorology
BPA	Bushfire Prone Area
Bushfire Risk	The chance of a bushfire igniting, spreading and causing damage to the environment, community or the assets.
BRA	Bushfire Risk Assessment – the process of evaluating bushfire risk.
Bushfire Threat	Potential bushfire exposure of an asset due to the proximity and type of a hazard, and the slope on which the asset is situated.
CAV	Construction Accommodation Village

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Abbreviation	Definition
CBs	Circuit Breakers
CCTV	Closed Circuit Television
CFR	Community First Responder (SES member trained in advanced first aid)
Clearance	The physical removal of vegetation. This may involve the removal of all vegetation from an area, for example on a fire track, through to trimming branches or the selective removal of species or a stratum of vegetation. With the exception of a fire track, generally clearance does not mean the removal of all vegetation.
CTs	Current Transformers
CVT	Current Voltage Transformer
DC	Direct Current
DEOCON	District Emergency Operations Controller (Police Officer)
DG	Dangerous Goods
DISPLAN	New South Wales State Disaster Plan
EIS	Environment Impact Statement
Emergency	Emergency is defined as an occurrence at or near the NESF facility requiring activation of the FERP.
EMS	Environment Management Strategy
EPA	Environment Protection Authority
EMPC	Emergency Planning Committee
EPC	Green Light Contractors Pty Ltd (Green Light) is the Engineering Procurement and Construction (EPC) contractor
ERC	Emergency Response Coordinator
ERP	Emergency Response Procedures
ERT	Emergency Response Team
ESIP	Emergency Services Information Package
FDI	Fire Danger Index

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Abbreviation	Definition	
FERP	Fire and Emergency Response Plan	
FRNSW	Fire and Rescue New South Wales	
GFE	Grant Fleming Environmental	
Green Light	Green Light Contractors Pty Ltd is the Engineering Procurement and Construction contractor	
ha	Hectare, 1 hectare = 10,000 metres ² .	
Hazard(s)	A situation or an intrinsic property with the potential to cause harm to people, property or the built or natural environment.	
Hazard Zone	An area surrounding the facility where the consequences of a particular incident may impact on people, property and the environment.	
Heat Flux	Is the heat per unit area, usually expressed in kilowatts per square metres (kW/m²).	
HV	High Voltage	
ΙΑΡΖ	Inner asset protection zone - land adjacent to assets with a low fuel hazard, reducing the level of ember attack, direct flame contact and radiant heat impact and providing a defensible space with increased safety under some conditions (ESA 2014 ¹).	
km	Kilometres	
kV	Kilo Volt	
LEMC	Local Emergency Management Committee	
LEOCON	Local Emergency Operations Controller (Police Officer)	
LPG	Liquefied Petroleum Gas	
LV	Low Voltage	
MSDS	Material safety data sheet (also referred to as a safety data sheet)	
MV	Medium Voltage	
MW	Megawatt	
NCC	National Construction Code	
NESF	New England Solar Farm	
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Abbreviation	Definition	
NSW RFS	New South Wales Rural Fire Service	
O&M	Operations and Maintenance	
OAPZ	Outer asset protection zone - land adjacent to an inner asset protection zones, where fuel hazard is reduced to a lesser extent than within the IAPZ.	
OH&S	Occupational Health and Safety	
PBP	NSW RFS 2006. Planning for Bushfire Protection: A guide for Councils, planners, fire authorities and developers.	
PCU	Power Control Unit	
PPE	Personal Protective Equipment	
PV	Photovoltaic	
RAFT	Remote Area Fire-fighting Team	
RCR	Road Crash Rescue	
SCADA	Supervisory Control and Data Acquisition	
SEARs	Secretary's Environmental Assessment Requirements	
SFAZ	Strategic Firefighting Advantage Zone - corridors established to break up major fire runs in instances where initial attack fails and conditions permit, although they may assist in initial attack in some circumstances. These zones are strategically located to slow the spread of unplanned fires and reduce fire intensity and spotting (ESA 2009 ²).	
SMT	Senior Management Team	
SOPs	Standard Operating Procedures	
UPC Renewables	UPC\AC Renewables Australia Pty Ltd	
USR	Urban Search and Rescue	
VR	Vertical Rescue	
VTs	Voltage Transformers	

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1 INTRODUCTION

1.1 Definition of Emergency

This Fire and Emergency Response Plan (FERP) is restricted in application to the footprint of the New England Solar Farm (NESF) Stage 1 development and the hazard zone that surrounds the NESF Stage 1.

Emergency is defined as an occurrence at or near the NESF facility requiring activation of the FERP.

The FERP will be activated when an actual, or imminent occurrence triggers one or more of the following:

- Poses a danger to staff and/or the public on site or in the hazard zone
- Threatens or causes serious environmental harm
- Threatens or causes serious damage to the facility
- The occurrence requires a significant and coordinated immediate response involving a combat agency (external assistance) to manage the situation.

As examples, a spill of hazardous material on site that that is resolved through the application of standard operating procedures (SOPs) would not be regarded as an emergency. A bushfire burning 5 km to the northwest of the NESF Stage 1 would trigger the FERP and be deemed to be an emergency.

The FERP is de-activated once the emergency situation ceases to exist. It must be noted that actions are likely to be required to be taken after the de-activation of the FERP, however these actions will be conducted under other mechanisms, such as, but not limited to the NESF Environmental Management Strategy (EMS) or SOPs.

1.2 Aims

The aim of the FERP is to provide a system and resources to enable UPC\AC Renewables Australia Pty Ltd (UPC/AC Renewables) staff to respond to emergencies in order to protect:

- People
- The NESF Stage 1
- The environment.

The FERP is designed to minimise the adverse impacts on people, the NESF Stage 1 and the environment.

1.3 Objectives

The objectives of this FERP are:

- Facilitate a coordinated emergency response
- Develop emergency response procedures (ERP)
- Maintain a high level of preparedness
- Respond quickly and efficiently to minimise the effects of an emergency
- Protect people both on site (NESF Stage 1), including combat agency staff; and within the surrounding community, from harm
- Protect the NESF Stage 1 and the environment from harm

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- Manage the emergency until the appropriate external agency arrives (combat agency)
- Support the combat agency/agencies with information, knowledge skills and equipment until the emergency is resolved.

1.4 Emergency Roles and Responsibilities

This FERP has been developed on behalf of Green Light Contractors (GLC) and UPC\AC Renewables, with the implementation and maintenance of the FERP the sole responsibility of GLC.

GLC is the Engineering Procurement and Construction (EPC) contractor engaged by UPC\AC Renewables to construct the NESF. GLC is required to comply with this FERP and fully understand and perform the roles and responsibilities as defined in the NESF FERP.

This section identifies the key personnel that have responsibilities under the FERP. The duties, accountability and authority of key personnel are specified.

GLC and their sub-contractors are required to be informed of these key personnel and their associated responsibilities and the hazards and associated emergency responses that relate to the NESF and the hazard zone through the process of induction prior to commencing work at the NESF.

It is acknowledged that GLC may combine the functions listed in this FERP or temporarily assign duties to another officer. These changes must be documented within the FERP and communicated to all staff and contractors.

1.4.1 GLC Senior Management

GLC Senior Management is responsible for ensuring that:

- An Emergency Planning Committee (EMPC) is formed and performing their duties as specified within this FERP, in accordance with Australian Standard AS 3745:2010 and as required by NSW legislation
- The EMPC include representation from NSW Police as the Local Emergency Operations Controller (LEOCON), Fire and Rescue NSW (FRNSW) and any other agency or service deemed necessary to provide specialist advice (external agencies are advisors to the EMPC rather than members)
- Membership of the EMPC is registered, kept up to date (including contact details) and is available
- Management systems are implemented to ensure that GLC receives the necessary training and updates to ensure that they are familiar with the requirements of this FERP and related processes
- The EMPC and system requirements outlined within the FERP are sufficiently supported and adequately resourced
- Audits are conducted to evaluate the effectiveness of the FERP and compliance with the FERP management procedures and requirements
- The staff with overall responsibility for the NESF Stage 1 facility must ensure that all hazards are identified and reported. This is of particular importance where new projects (e.g., subsequent stage development) are proposed for the NESF
- Ensure members of the EMPC are adequately indemnified.

1.4.2 Emergency Planning Committee (EMPC)

GLC shall form an Emergency Planning Committee including as a minimum:

- A member of the Senior Management Team (SMT)
- Occupational Health and Safety (OH&S)Manager/Officer

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- Environment Manager
- GLC OH&S Manager/Officer (during construction phase)
- GLC Environment Manager {if a separate role to the OH&S Manager} (during the construction phase)
- Emergency Response Coordinator (ERC NESF based staff member) and members of the Emergency Response Team (ERT NESF based staff) as considered necessary
- With consideration to inviting input/review from the LEOCON (NSW Police), member of FRNSW, technical specialists.

It is permissible for an individual to perform more than one of these positions/responsibilities.

The EMPC is responsible for the following:

- Identifying events and hazards that could reasonably give rise to an emergency
- Develop, maintain and update this FEMP and the associated documentation controls
- Ensure the FEMP is appropriately resourced for its development and implementation
- Ensuring the FERP is monitored and reviewed in accordance with the following triggers incorporated within the FERP:
 - An emergency
 - Outcomes of an emergency response exercise
 - Five year life of the FERP (review triggered at commencement of year four to enable the revised FERP to be implemented within year five)
 - Transition of the NESF from construction into operation
 - Significant development at the NESF (e.g., Stage 2 development to enable the new Stage or development to be incorporated into the existing FERP)
 - Significant change to legislation or Australian Standards
 - A development within the Hazard Zone that presents a hazard to the NESF
- Ensuring the FERP is identifiable and available to the appropriate staff within GLC and external agencies (stakeholders)
- Establish the Emergency Response Team (ERT) as appropriate
- Planning the emergency testing program for the NESF:
 - Two practice drills per year
- EMPC will meet quarterly:
 - One ERPs will be reviewed at each meeting.

1.4.3 GLC OH&S Manager/Officer

The EMPC is responsible for planning for emergencies and the OH&S Manager/Officer is responsible for implementing actions arising from the EMPC including the following:

- Ensuring that visitors to the NESF are aware of emergency response procedures via the NESF Induction Procedure
- Ensuring NESF staff have completed FERP emergency preparedness and response competency training

- Conducting site audits across NESF Stage 1 (hazardous chemicals, emergency equipment, workplace) to ensure emergency preparedness
- Ensuring that records are maintained of each emergency situation
- Enacting the recommendations of the EMPC including implementing the annual emergency testing program including reviewing the outcome and incorporating recommended actions into the revised FERP as required
- Ensuring that the equipment (fire, medical and rescue) utilised in an emergency is maintained in an operational standard and that the necessary documentation is maintained. For example, fire extinguisher testing and tagging
- Communication of emergency management information to NESF staff e.g., commencement of bushfire season, construction activity
- Conduct or coordinate the review of the FERP
- Ensure that GLC and UPC\AC Renewables comply with the requirements of the NSW *Work Health and Safety Act 2011* and associated NSW *Work Health and Safety Regulation 2017.*

1.4.4 GLC Environment Manager/Coordinator

The Environmental Manager may contribute to all aspects of emergency management at the NESF however they have specific duties that relate to environmental emergencies. The Environmental Manager is responsible for:

- Ensuring that resourcing for environmental emergency management is adequate
- Ensuring that emergency equipment required to combat environmental emergencies is provided, adequate and maintained fit for purpose e.g., spill containment, bunding, extraction and storage equipment
- Providing input into and reviewing the FERP including following emergency testing drills
- Ensuring that the NESF is compliant with environmental legislative requirements
- Ensuring that the induction program includes environmental emergency management and that NESF staff are informed of their environmental responsibilities and are competent in the performance and understanding of environmental emergency management under the FERP.

1.4.5 GLC Project Based Manager/s

The NESF Stage 1 Site Manager, Site Superintendent, Construction Manager, Operations Manager, Departmental Manager or other staff with a comparative managerial role have the following duties and responsibilities:

- Comply with FERP procedures and requirements
- Ensure that all staff receive FERP emergency preparedness and response competency training
- Resource and coordinate emergency preparedness drills
- Identify and report hazards to the OH&S Officer/coordinator and/or the Environment Manager. This is of particular importance where new works are proposed
- Ensure standard operating procedures are being followed for activities conducted within the NESF
- Assist and liaise with the OH&S Officer/coordinator and/or the Environment Manager in auditing the emergency preparedness of the NESF.

1.4.6 GLC Project Foreman and Supervisor/s

Project Foreman, Supervisors and team Leaders shall undertake or ensure the following:

• Comply with FERP procedures and requirements

- Coordinate emergency preparedness drills
- Ensure that staff under their supervision have received FERP emergency preparedness and response competency training
- Ensure standard operating procedures are being followed for activities conducted within the NESF
- All staff have been inducted to the NESF
- Provide formal input into all emergency related documentation, systems and processes from an operational perspective.

1.4.7 GLC Employees and sub-contractors

Employees and workers at the NESF Stage 1 facility are responsible for the following:

- Complying with their requirements under relevant legislation
- Ensuring they have undertaken facility induction
- Complying with all safety requirements
- Identifying, reporting and eliminating hazards
- Complying with SOPs
- Reporting immediately any emergency, dangerous occurrence, injury, hazard or defective equipment
- Actively participating in site safety meetings (Toolbox meetings), safety programs (including induction) and emergency training
- Ensuring they are trained/accredited in the use of emergency equipment as appropriate
- Proficient in the application of the hazard risk assessment, including the hierarchy of controls.

1.4.8 GLC Emergency Response Coordinator(s) (ERC)

GLC will have a designated Emergency Response Coordinator (and deputy) for the NESF Stage 1. Either the ERC and/or the deputy (alternate) ERC should be present on site at all times. Where this role is shared amongst several staff it must be established who is acting in this capacity on a daily basis prior to the commencement of works at the site. The ERC is responsible for the following:

- Responding to incidents/emergencies in accordance with the FERP
- When evacuation is required, ensuring that personnel that are affected are evacuated in accordance with the FERP
- Ensuring that head counts are conducted by supervisors responsible for particular workgroups and that any missing persons are identified and subsequently accounted for
- Liaise and coordinate with Emergency Services, providing up to date information
- Direct Emergency Services to the incident scene from the designated site access location
- Report the emergency in accordance with the FERP
- Recording the incident/emergency and relevant details as outlined in the FERP.

1.4.9 GLC Emergency Response Team (ERT) and ERT Leader

The ERC may appoint an Emergency Response Team (ERT) in order to respond or assist in the response to an emergency. The ERT will follow the directions of the ERC. The ERC may appoint an ERT Leader who has the overall responsibility of the ERT. The ERT Leader has the responsibility of:

- Coordinate any rescue and respond to all emergency situations
- Control the incident scene
- Coordinate the emergency response from the scene of the incident.

1.4.10 First Aid Personnel/Officer

Key GLC staff and contractor representatives All GLC based at NESF are to have completed a basic first aid training course and have a current first aid accreditation. There should be a number of first aid trained staff on-site at all times during construction, and these staff are to be identifiable. First Aid staff are responsible for:

- Ensuring first aid supplies are kept up to date (re-stocked following an incident/use)
- Ensuring their qualifications are maintained
- Providing first aid in the event of injury providing that it is safe to do so
- Contacting Emergency Services when required
- Providing first aid and assistance as instructed by the ERC
- Directing emergency services to the casualty
- Directing staff to the aid station or access point with emergency services as appropriate
- Informing the OH&S Officer/Co-ordinator of any incident at the NESF.

1.5 Combat Agency Roles, Responsibilities and Contact Details

The location of emergency services within 30 km of the NESF is presented in Figure 1.

1.5.1 Fire and Rescue New South Wales (FRNSW)

FRNSW is the combat agency that will respond to fires and rescue emergencies on or adjacent to the NESF including vehicle crashes. It is likely that units of FRNSW would be dispatched to NESF to respond to structural emergencies due to the specialist equipment that they are equipped with, while either FRNSW and/or NSWRFS units would respond to grassfires subject to location and availability.

The fire service units would liaise with the ERC and/or ERT Leader when on site at the NESF although once present the fire service will take command of the fire ground.

FIRE AND RESCUE STATION 205 ARMIDALE

Location: 66 Barney Street, ARMIDALE, NSW 2350

Approximate distance from NESF (by road): 30 km

Phone: (02) 6771 5076

Emergency Phone: 000

FIRE AND RESCUE STATION 475 URALLA

Location: 28 Salisbury St, URALLA NSW 2358

Approximate distance from NESF (by road): 15 km

Phone: (02) 6778 4010

Emergency Phone: 000

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FIRE AND RESCUE STATION DUMARESQ

Location: 10 Mann Street, ARMIDALE, NSW 2350 Approximate distance from NESF (by road): 30 km Phone: (02) 6771 5076 **Emergency Phone: 000**

FIRE AND RESCUE STATION GUYRA

Location: 73 Ollera Street, GUYRA, NSW 2365

Approximate distance from NESF (by road): 66 km

Phone: (02) 6779 1448

Emergency Phone: 000

Standard inter-agency operating procedures are to be followed when multiple combat agencies are present at the NESF.

1.5.2 New South Wales Rural Fire Service (NSWRFS)

There are four NSW RFS brigades within close proximity to the NESF in addition to the New England Logistics/Remote Area Fire-fighting Team (RAFT) that are located at Armidale Airport, New England Highway, Armidale.

NSW RFS DUMARESQ BRIGADE

Location: 10 Mann Street, ARMIDALE, NSW 2350

Approximate distance from NESF (by road): 30 km

Phone: (02) 6771 2400

Emergency Phone: 000

NSW RFS DIGGINGS (BILGA ROAD) BRIGADE

Location: Bilga Road, IVERGOWRIE, NSW 2350

Approximate distance from NESF (by road): 25 km

Emergency Phone: 000

NSW RFS DIGGINGS (ROCKY RIVER) BRIGADE

Location: Duzus, 301 Thunderbolts Way, ROCKY RIVER, NSW 2358

Approximate distance from NESF (by road): 15 km

Emergency Phone: 000

NSW RFS KENTUCKY BRIGADE

Location: Kingstown Road, URALLA, NSW 2358

Approximate distance from NESF (by road): 15 km

Emergency Phone: 000

These NSWRFS brigades may respond to grass or bushfires within the NESF or surrounds. The fire service units would liaise with the ERC and/or ERT Leader when on site at the NESF although once present the fire service will take command of the fire ground.

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Standard inter-agency operating procedures are to be followed when multiple combat agencies are present at the NESF.

1.5.3 NSW Ambulance

NSW Ambulance provides a paramedic and emergency response from the NSW Ambulance Station located in Armidale.

ARMIDALE AMBULANCE STATION

Location: 197 Barney Street, (cnr of Butler Street) ARMIDALE, NSW 2350.

Approximate distance from NESF (by road): 28 km

Phone: (02) 6771 1710

Emergency Phone: 000 (Emergency)

The ERC and/or ERT Leader will liaise with NSW Ambulance Officers/Paramedic when on site at the NESF. GLC first aid staff will take direction from NSW Ambulance Officers in order to provide support in the event of a medical emergency.

Standard inter-agency operating procedures are to be followed when multiple combat agencies are present at the NESF.

1.5.4 NSW State Emergency Services (SES)

The closest SES unit is located at Uralla and includes Community First Responders (CFR) trained by NSW Ambulance in extended first aid skills such as defibrillation and oxygen therapy. The CFR would provide advanced first aid to casualties until NSW Ambulance Officers or Paramedics arrived at the location. The ERC and/or ERT Leader will liaise with the SES CFR when on site at the NESF until NSW Ambulance Officers/Paramedic arrives.

The SES unit is the local combat agency for floods and storm damage and provides support to general rescue efforts in the local community. The unit may also provide Road Crash Rescue (RCR), Vertical Rescue (VR), Urban Search and Rescue (USR) and other forms of specialist rescue.

The Armidale SES unit may also respond to emergencies at or within the vicinity of the NESF, including road crashes. SES units can provide support to both fire services and the police in responding to emergencies.

The SES Unit Commander is responsible for directing the SES Unit personnel at the site and will liaise with the ERC and/or ERT Leader when on site at the NESF. In a situation where more than one SES Unit has responded to the emergency situation the SES Local Commander will undertake the role of liaising with the ERC and/or ERT Leader when on site at the NESF.

URALLA SES UNIT

Location: 1 Depot Road, URALLA, NSW, 2358.

Approximate distance from NESF (by road): 12 km

Phone: 13 25 00

ARMIDALE SES UNIT

Location: 203 Mann Street, ARMIDALE, NSW, 2350.

Approximate distance from NESF (by road): 27 km

Phone: 13 25 00

Standard inter-agency operating procedures are to be followed when multiple combat agencies are present at the NESF.

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1.5.5 NSW Police

Where a combat agency is designated in the NSW State Disaster Plan (DISPLAN) the head of the combat agency controls the combat area and NSW Police have overall control of the site. For example, if a fire occurs on the NESF the fire service will have control of the fire zone and NSW Police would be responsible for the overall control of the site (NESF) with both agencies liaising with the ERC and/or ERT Leader when on site at the NESF.

An NSW Police Officer performs the role of the Local Emergency Operations Controller (LEOCON).

An NSW Police Officer performs the role of the District Emergency Operations Controller (DEOCON).

URALLA POLICE STATION (not open 24 hours)

Location: Hill Street, URALLA, NSW 2358

Approximate distance from NESF (by road): 10 km

Phone: (02) 6778 4400

Phone: 000 (Emergency)

ARMIDALE POLICE STATION (open 24 hours)

Location: 96-98 Faulkner Street, ARMIDALE 2350

Approximate distance from NESF (by road): 29 km

Phone: (02) 6771 0699

Phone: 000 (Emergency)

Standard inter-agency operating procedures are to be followed when multiple combat agencies are present at the NESF.



FIRE AND EMERGENCY RESPONSE PLAN(FERP) -NEW ENGLAND SOLAR FARM, URALLA, NSW

SMEC

EMERGENCY SERVICES WITHIN 30km FROM SITE

Legend

- Fire Station
- Firestation Rural Fire Service
- Hospital
- Police Station
- SES Facility
- O Township
- ----- Major Road
- Minor Road
- HH Railway
 - NPWS Reserve / State Forest
 - Site Boundary

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 Base data sourced from NSW Spatial Portal Services Ship and Clip website, https://maps.six.nsw.gov.au /clipnship.html, sourced

25.09.2020.3. Site layout data sourced from the client, August 2020.



2 PROJECT DESCRIPTION

2.1 General Project Description

The New England Solar Farm is a 720 MW_{AC} development with storage, located approximately 6 kilometres (km) east of the township of Uralla, and approximately 19 km south of Armidale, in the Uralla Shire local government area (LGA) (the project). Construction of the Project is anticipated to take approximately 36-40 months, from the commencement of site establishment works to commissioning of both arrays. The Project will be constructed in two stages, with Stage 2 estimated to commence approximately 12-14 months after the commencement of the site establishment works planned as part of Stage 1. The two stages include:

- Stage 1 (approximately 24 months) construction of the northern array area including the solar array substation and the grid substation
- Stage 2 (approximately 24 months) construction of the central array area including the solar array substation, and the construction of the battery energy storage system (BESS).

The general site location is provided in Figure 2 while the layout of the NESF is provided in Figure 3.

The Project will convert energy from solar radiation into electrical energy to be fed into the electricity grid. A series of PV Modules mounted on a horizontal single-axis tracking (Tracker) structure will convert solar radiation into DC electrical energy which will be fed into power conversion units (PCUs). Using inverters and step-up transformers, the PCUs will convert the DC electrical energy into AC electrical energy and inject it into an internal 33 kV reticulation.

The internal 33 kV reticulation will interconnect all PCUs composing the Solar Farm with a Solar Farm substation, which will step up the voltage to 330 kV and connect to the existing 330 kV Transmission line via a 330 kV Switchyard that TransGrid will build adjacent to the Solar Farm Substation. Both the Switchyard and the Solar Farm substation will be common to all stages.

Key components of the NESF development are summarised in Table 1.

Table 1: Key components of the NESF

Aspect	Description	
Aspect NESF project summary	 Description The NESF project includes: A generating capacity of approximately 720 (MW), including about 400 MW generated by the northern arrays and 320 MW from the central arrays Approximately 1.4 million single-axis tracking solar panels (up to 4.3 metres (m) high) and 150 power conversion units (PCU) (up to 2.7 m high) A grid substation in the northern array area and connection to TransGrid's 330 kilovolt (kV) transmission line An internal substation in the central array area at one of two locations A lithium-ion battery storage facility (200 MW/400 MWb) located adjacent to 	
	 A infinitivity battery storage racinty (200 kWV 400 kWV) located adjacent to one or both of the substations and within a number of small enclosures (up to 2.9 m high) or larger battery buildings (up to 5.5 m high) Internal access tracks, staff amenities, maintenance buildings (up to 8 m high), offices, laydown areas, car parking and security fencing; and Subdivision of land within the site for the grid substation. 	
Fire and emergency response pl New England Solar Farm –	AN 2020 - 2025 Stage 1 2x200MW AC SMEC Internal Ref. 30018016 15	

Aspect	Description
Project area	 Site: 3,362 hectares (ha) Total NESF footprint: 2,061 ha Northern array footprint: 1,394 ha Central array footprint: 624 ha Electrical cabling and site access corridors: 43 ha.
Access route	• All vehicles will access the site via the New England Highway, Barleyfields Road (north of Big Ridge Road).
Site entry and road upgrades	 Two new site entry points will be constructed on Big Ridge Road with a rural property access type. Upgrades to the intersection of: The New England Highway and Barleyfields Road, including Channelised Right Turn (CHR) treatments (pending relevant authority approvals). Barleyfields Road and Big Ridge Road, including a Basic Left Turn (BAL) treatment. Upgrades to: Barleyfields Road between the New England Highway and Big Ridge Road, including sealing to a width of 7.2 m and 1 m gravel shoulders Big Ridge Road including sealing sections to a width of 7.2 m and 1 m gravel shoulders, and upgrading a section with a gravel surface to a width of 8.7 m.
Rail transport	 Construction materials may be transported to the site via a combination of road and rail (average of 2 trains per week) A train unloading area and materials storage area may be constructed adjacent to the Main Northern Railway. Materials will be stored in shipping containers (up to 2.9 m high) until required on-site.
Construction	 Construction materials may be transported to the site via a combination of road and rail (average of 2 trains per week) Construction hours limited to Monday to Friday 7 am to 6 pm, and Saturday 8 am to 1 pm.
Operation	• The expected operational life of the NESF is approximately 30 years. However, the NESF may involve infrastructure upgrades that could extend the operational life.
Decommissioning and rehabilitation	• The NESF also includes decommissioning at the end of the NESF project life, which will involve removing all infrastructure.

Aspect	Description	
Hours of operation	• Daily operations and maintenance will be undertaken Monday to Friday 7 am to 6 pm, and Saturday 8 am to 1 pm.	
Subdivision	• Subdivision of the lots on which the approved grid substation will be located.	
Employment	• Approximately 700 construction jobs and up to 15 full-time operational jobs.	
Capital investment value	• \$768 million.	

2.2 Operating Hours

2.2.1 Construction

Unless approval has been obtained from the Secretary, construction, upgrading and decommissioning activities on site can only be undertaken between the following hours:

- 7 am to 6 pm Monday to Friday
- 8 am to 1 pm Saturdays
- at no time on Sundays and NSW public holidays.

2.2.2 Operation

Once commissioned, the NESF will operate 24 hours a day. The facility will be staffed from:

• 6 am to 6 pm Monday to Friday (staff on-call during weekends and public holidays).

2.2.3 After Hours Contacts

Emergency Services 000				
<u>GLC</u> :				
Position:	Name and Position TBA	Contact Number: TBA		
Alternate:	Name and Position TBA	Contact Number: TBA		
UPC/AC Renewables:				
Position:	Name and Position TBA	Contact Number: TBA		
Alternate:	Name and Position TBA	Contact Number: TBA		
GLC (Alternative contact):				
Position:	Name and Position TBA	Contact Number: TBA		
Alternate:	Name and Position TBA	Contact Number: TBA		

2.3 Operational and Construction Staffing

A workforce of up to 15 full time employees will be located at the NESF. This workforce will be responsible for the ongoing operation and maintenance of the facility in addition to security monitoring of the arrays and infrastructure.

FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025 New England Solar Farm – Stage 1 2x200MW AC Specialist contractors and /or equipment manufacturers will be engaged to perform operational and maintenance activities as required. The number of staff present at the site can therefore be expected to vary in accordance with site activities and requirements.

2.3.1 Construction Workforce

GLC is the EPC engaged by UPC/AC Renewables to construct the NESF. It is anticipated that during construction, up to 700 construction personnel will be required.

2.4 Application of FERP

This FERP is restricted in application to the footprint of the NESF Stage 1 footprint, including the construction office and temporary compound and laydown areas and the associated surrounding Hazard Zone.

The Hazard Zone associated with the NESF Stage 1 development extends for a distance of 30 km from the site perimeter and is primarily determined by the potential for a bushfire to occur and impact upon the facility, rather than for any activity (other than a fire) originating within the NESF to impact upon the hazard zone.

The FERP will require review to accommodate the Stage 2 and Stage 3 developments. Some elements of the NESF Stage 2 and Stage 3 development have been incorporated where it has been considered appropriate.

2.5 NESF Access

All vehicles will access Stage 1 of the NESF via the New England Highway, Barleyfields Road (north of Big Ridge Road) travelling into the site via Big Ridge Road, Figure 3.







3 HAZARDS AND RISK ASSESSMENT

3.1 Hazard identification

Hazards and their associated risks were assessed at a preliminary level as part of the preparation of the NESF Environmental Impact Statement (EIS) and to address the NSW Department of Planning and Environment Secretary's Environmental Assessment Requirements (SEARs).

A separate bushfire hazard assessment was conducted as part of the preparation of the NESF EIS.

Hazards that are likely to give rise to an emergency situation include the storage, transport and use of hazardous chemicals, principally fuels, stored on site, activities that occur on site, especially during construction and natural hazards including bushfires and severe storms.

3.2 Hazardous Materials

The *Hazards and Risk Assessment* (Sherpa Consulting, 2018) completed to inform the NESF EIS identified a number of hazardous chemicals and materials. Several additional chemicals and materials that present a hazard at the NESF that have the potential to give rise to an emergency situation for the NESF have been included in this FERP. The combined list of hazardous materials used during construction of the Stage 1 NESF includes the following:

- Gasoline 2.1 tonnes (approximately 2,800 L) Dangerous Good (DG) Class 3 PG II
- Oil-filled Equipment
- Refrigerant 10 tonnes (a mixture of ethylene glycol and water) DG Class 2.2
- BESS Fire Suppression System Inert Gas Carbon Dioxide
- BESS battery 4,800 tonnes DG Class 9 (Miscellaneous dangerous goods).

3.2.1 Unleaded Petrol

Approximately 2,800 L of unleaded petrol may be stored at the facility at any point in time, with a vehicle re-fuelling facility present. Gasoline may be released when re-fuelling the bulk storage tank or during vehicle re-fuelling either due to a mechanical fault or human error. There exists the risk that spilt fuel could ignite causing a fire or explosion.

3.2.2 Liquefied Petroleum Gas (LPG)

LPG may be used by vehicles in construction. LPG will be stored in a tank with a filling point also established. LPG may be released through mechanical failure, human error or damage to the storage tank and presents a risk of fire and/or explosion. LPG also may cause a Boiling Liquid Expanding Vapour Explosion (BLEVE) that may be triggered when the storage tank is ruptured releasing the LPG that had been held under pressure or when the storage tank is heated. The sudden change in pressure and lowering of the boiling point causes the pressurised liquid to expand extremely rapidly converting into a gas that may be sufficient to rupture the vessel and explode.

3.2.3 Diesel

Approximately, 6,000 L of diesel will be stored at the NESF for use in approximately one generator set to power to refuel vehicles. A filling point will be available for vehicles. The generators will be removed upon completion of construction. Diesel may be released when re-fuelling the bulk storage tank or during vehicle re-fuelling either due to a mechanical fault or human error. There exists the risk that spilt fuel could ignite causing a fire or explosion.

3.2.4 Transformer oil and oil filled equipment

The following equipment that may contain oil potentially occurs on the NESF or substation:

- Power transformers (from pole tops to generator transformers)
- Current transformers (CTs)

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- Voltage transformers (VTs)
- Capacitor voltage transformers (CVTs)
- Circuit breakers (CBs)
- Switchgear
- Capacitors
- High voltage bushings

The NESF and associated substation utilises a range of electrical equipment that is insulated by fluids (oils/mixtures). There is the potential for this equipment to fail causing an oil leak, explosion and/or fire.

3.2.5 Refrigerant (Tesla Power-Pack – 50/50 mix of ethylene glycol and water)

Coolant may leak from batteries (Tesla Power Pack) and it is the ethylene glycol component that can cause irritation or injury to personnel exposed via inhalation. Ethylene glycol can be fatal if swallowed however this would only occur as a result of a deliberate act by an individual and is very unlikely to occur by any other mechanism during normal operation. Batteries may leak due to an inherent fault or due to mechanical damage or as a result of incorrect maintenance.

3.2.6 Gas based fire protection systems.

The use of an inert gas (carbon dioxide) fire suppression system within the switch room structures and large building BESS presents a suffocation hazard. Any individual within the gas filled space following discharge of the inert gas (carbon dioxide) may be at risk of barotrauma due to the difference in pressure.

3.2.7 Batteries

Batteries may release electrolyte as either a liquid or a gas as a result of mechanical failure or direct damage to the cell. Abnormal heating or exposure to elevated temperatures may cause the release of flammable liquid electrolyte or its release as a flammable vapour that could cause a fire or explosion. The potential exists for a thermal runaway reaction to occur in batteries.

3.3 Hazardous Activities/Equipment

3.3.1 Vehicle Movements

Numerous vehicle hazards exist that could give rise to emergency situations including but not limited to the following:

- Vehicle collision
- Animal strike
- Vehicle Fire
- Grass Fire
- Transportation of over-sized loads

Vehicle collisions between vehicles or with NESF infrastructure, (arrays, fencing, buildings, fuel storage facilities) or with site personnel is an ongoing hazard.

Eastern Grey Kangaroos (*Macropus giganteus*) and livestock may be present on the NESF or along access roads creating the potential for animal strikes to occur.

Vehicle mechanical faults may give rise to a car fire. Service vehicles travelling through or parking in long dry grass can ignite grass fires.

Transportation of large equipment (e.g., transformers) will involve road transport by heavy and over-sized vehicles to the NESF via the existing road network. This presents hazardous situations such as loss of load, striking roadside infrastructure and vehicle collisions.

The level of risk associated with vehicle movements at the site is increased during the construction phase of the project.

3.3.2 Construction (O&M buildings, spare parts building, internal road construction, hot works)

3.3.2.1 Earthworks

Earthworks including drilling, the operation of excavators, graders, trucks and other heavy equipment present a range of hazards with the potential to give rise to emergency situations. Some of the hazards include being struck by vehicles or equipment, entrapped by moving parts, trench collapse, exposure to dust, falls and trips, stockpile collapse or being struck by material.

3.3.2.2 Hot works

Hot works includes activities such as grinding, welding, thermal or oxygen cutting or heating, and other related heat or spark producing operations. Undertaking hot work in an area where flammable liquids, vapours or gases, combustible liquids, materials including dry grass, dust or fibres, or other flammable or explosive substances are present creates a significant risk of fire or explosion. Hazards associated with hot works include but is not limited to the following:

- Fire caused by heat, sparks, molten metal or direct contact with the flame
- Explosion when cutting up, repairing or working in the vicinity of drums, tanks, pipes, vessels, which contain or may have contained flammable materials
- Fire/explosion caused by a gas leak, backfire or flashback
- Fire/burns from the misuse of oxygen/acetylene
- Burns from contact with the flame, explosions or hot material (includes bitumen)
- Crush or impact injuries resulting from explosion or when handling cylinders.

3.3.2.3 Plant, Equipment and Materials

Plant such as generators, scissor lifts, fork lifts, cranes and trucks present hazards with the potential to give rise to emergency situations. Power tools such as nail guns, drills, circular saws, shears and other tools also present hazards that should be controlled through developing and applying standard operating procedures (SOPs). Emergency situations may arise due to mechanical failure or operator error.

Hazardous materials are used in the construction industry including fuels, solvents, corrosive substances and glues and materials that generate fine (PM10) particulate matter such as concrete or when cut such as engineered stone. Appropriate personal protective equipment (PPE) must be utilised during all construction work on the site and SOPs must be adhered to. Emergency situations may arise due to spills, inadequate ventilation of the workspace, spontaneous combustion or explosions.

Hazards also exist due to the potential for materials or structures to fail.

3.3.2.4 Manual Handling

The use of appropriate PPE and working in accordance with established SOPs is necessary to avoid workplace injuries and/or emergencies.

3.3.3 Electrical Equipment

Electrical hazards exist across the NESF due to the potential for staff to be exposed to voltage arising from a short circuit or electrical connection failure associated with the following electrical equipment present at the NESF:

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- PV modules
- PCUs
- Medium voltage (MV) cable reticulation network
- Batteries
- Substation
- Transformers
- Overhead transmission lines
- O&M and site buildings.

The consequences of these hazards can produce emergency situations such as electrocution, injury and/or fatality and fire.

3.3.3.1 Arc Flash

An arc flash is a phenomenon where a flashover of electric current leaves its intended path and travels through the air from one conductor to another, or to ground. The results are often violent and when a human is in close proximity to the arc flash, serious injury and even death can occur.

An arc flash may result in a rapid rise in the air temperature and air pressure in the space between electrical conductors, with this increase occurring so fast that it can produce an explosion referred to as an arc blast.

An arc flash can be associated with any electrical equipment and may be caused due to human error including incorrect installation or maintenance, faulty design such as when equipment is located too close or due to an equipment fault. Lightning strike may also cause an arc flash. Arc blasts may result in fires and staff exposure to pressure waves, intense heat, light and noise. Staff exposed to an arc flash can be burnt, injured or killed.

3.3.4 Overhead Transmission Lines & Power lines.

Overhead transmission lines are a physical hazard, in particular during construction work that involves cranes or elevated working platforms or ladders that have the potential to contact the overhead transmission lines.

Overhead transmission lines pose a hazard as lines, cross arms, insulators and auxiliary equipment mounted on poles (e.g., transformer and surge diverter) can break. Powerlines can ignite fires through the following mechanisms:

- An electric arc igniting surrounding vegetation or combustible material.
- Hot molten metal particles can be released when two live parts of power lines make physical contact, for example in wire clashing incidents, igniting dry material on the ground.
- Electric current flows through vegetation, an animal (e.g., bird) or other material causing ignition.

Power lines and associated equipment are a recognised cause of bushfire ignition. Energy Safe Victoria (2009) report that while power lines are considered to start only between one and four percent of bushfires, a disproportionately high number of the catastrophic bushfires are known to have been caused by power lines. In Victoria alone, power lines are thought to have started:

- Nine of the 16 major fires on 12 February 1977
- Four of the eight major fires on Ash Wednesday (16 February 1983)
- Five of the 15 major fires on Black Saturday (7 February 2009) that were considered by the Royal Commission (Energy Safe Victoria 2009).

3.3.5 Vandalism/Un-authorised Access

Arson is a leading cause of fire ignition within the New England region (New England BFMC 2017). In GFE's experience setting alight stolen cars can be a common cause of bushfire ignition. Unauthorised access to the site presents a serious hazard to the perpetrator and poses a risk of equipment damage and/or the ignition of structural and grassfires.

3.4 Natural Hazards

3.4.1 Bushfire/Grassfire

For the purposes of this FERP no distinction is made between bushfire and grassfire, with respect to the emergency response and both terms can be used interchangeably. Approximately 12% of the land within the footprint of the development is mapped by Uralla Shire Council as bushfire prone land (EMM 2018). Outside of the footprint of the NESF bushfire prone land is present largely as isolated patches, Figure 4. It must be noted that there is a requirement to map grasslands as Category 3 Vegetation in accordance with NSWRFS (2015) *Guide for Bush Fire Prone Land Mapping*. Application of this requirement would result in the vast majority of land within and surrounding the NESF as being considered bushfire prone due to the presence of modified pastures and cropping that has the potential to carry a fire. The land use within 30 km of the NESF has been mapped (refer to Figure 5) with the land use within 5 km of the NESF clearly demonstrating the extent of cropping and pasture across the NESF and the buffer area (refer to Figure 6).

Many of the hazards presented have the potential to start a fire that if unchecked could progress to a bushfire. While there is a risk of bushfires travelling onto the NESF principally from the northwest and west of the site as the prevailing wind directions associated with days of greatest fire danger. There also remains the risk that fire originating within the NESF could travel beyond the boundaries of the NESF to impact upon the hazard zone surrounding the facility.

The main northern railway that is adjacent to the NESF also presents a bushfire hazard as train brakes can produce sparks, igniting dry grass along the side of the tracks, while burning carbon embers from the train engine exhaust can also start bushfires.







FIRE AND EMERGENCY **RESPONSE PLAN(FERP) -NEW ENGLAND SOLAR FARM**, **URALLA, NSW SMEC** LAND USE WITHIN 5km FROM SITE Legend ------ Road HH Railway Site Boundary Land Use Category 1.1.0 / 1.2.0 / 1.3.0 2.1.0 2.2.0 / 3.1.0 3.2.0 3.3.0 3.4.0 3.6.0 4.3.0 / 4.4.0 5.4.0 5.5.0 / 5.6.0 5.7.0 / 5.8.0 / 5.9.0 6.1.0 / 6.2.0 / 6.3.0 / 6.5.0 COPYRIGHT 1. Aerial image sourced from Spatial Services, Department of Finance, Services & Innovation 2018, NSW Government, sourced 25.09.2020. 2. Base data sourced from NSW Spatial Portal Services Ship and Clip website, https://maps.six.nsw.gov.au /clipnship.html, sourced 25 09 2020 3. Site layout data sourced from the client, August 2020. 0 20040060080**0**,000 m SCALE (at A3): 1:50,000 **PROJECTION:** GDA94 / MGA zone 56 DRAWING NO: GFE-009-F0003B-Rev0.qgs DATE: 04/10/2020 DRAWN: KB CHECKED: GF **FIGURE 6**


Sherpa Consulting (2018) assessed the risk of bushfire occurring as 'Medium' considering this risk as 'tolerable' if it is managed as low as reasonably practicable (ALARP). GFE considers that the likelihood of a bushfire/grassfire occurring within or impacting upon the NESF is more likely than that suggested by Sherpa (2018) that considered the likelihood to be 'very unlikely' (less than 1 in 10 years). The amount of grassland in addition to scattered patches of categorised fire prone land indicates that much of the NESF is susceptible to grassfire. The increase in fire frequency and intensity that can be expected due to climate change suggests that the likelihood of bushfire impacting the NESF is between 'Unlikely' and 'Likely' indicating the appropriate risk category is 'High Risk'. It must be noted that grassfires may occur in periods of cold weather as frost acts to dry grass. The potential for fires to occur associated with hot works being conducted during construction of solar farm infrastructure, and other hazards indicates a more precautionary approach is warranted.

The NESF is located within the New England Bushfire Management Committee (BFMC) area that cites the main sources of unplanned fires as:

- Escaped private burn-offs
- Lightning strikes
- Arson/fire setting (New England BFMC 2017).

Bushfires have the potential to cut NESF road access and egress, including the New England Highway, Barleyfield road and Big Ridge Road and the railway crossing.

3.4.2 Severe Storm

3.4.2.1 Wind damage

Strong winds may cause overhead transmission lines to clash or come into close contact triggering an electric arc igniting surrounding vegetation. Strong winds may also cause wires to break or even transmission towers to fail.

To highlight the potential extent of transmission line structure failure, the South Australian Black System event of 28 September 2016 involved the following damage to transmission towers (AEMO 2016):

- Davenport to Mt Lock and Davenport to Belalie 275 kilovolt line five double circuit towers damaged
- Brinkworth to Templers West 275 kilovolt line (East circuit) two towers damaged
- Davenport to Brinkworth 275 kilovolt line (East circuit) 14 towers damaged
- Port Lincoln to Yadnarie 132 kilovolt line one tower damaged.

Dust associated with strong winds, grass mowing or earthmoving activities within or close to the powerline easement may produce ionised particles around the transmission lines to the extent that it may become conductive leading to a flashover or arc, either between the powerlines or from the transmission line to the ground that may ignite a fire or strike personnel in the vicinity (Frost, Vosloo and Meeuwis 2011).

3.4.2.2 Lightning strike

The average annual lightning ground flash density (Ng) map shows that NESF area experiences between three to four lightning strikes per square kilometre per year (Dowdy and Kuleshov 2014). This indicates that the NESF that occupies approximately 2000 ha is likely to receive 60 to 80 lightning strikes each year.

Lightning strikes have the potential to start grass fires within or near the NESF.

Lightning strikes also pose a direct risk to NESF infrastructure, including the PV panels, transmission lines and proposed substation. Facilities are earthed to protect them from lightning strikes. However, an electrically grounded object that comes near to an energised component has the potential to cause a flashover. Molten metal in the form of sparks may be created by the flashover process triggered by the lightning strike, with the potential to start a bushfire.

Sherpa Consulting (2018) classified the likelihood of lightning strikes as 'Very Unlikely' however lightning flash density mapping indicates that the NESF can expect the lightning strikes described above. The associated risk attributed to lightning strikes should be raised from 'Medium' designated by Sherpa Consulting (2018) to 'High Risk.' New England BFMC (2017) cite lightning strikes as a leading cause of bushfire ignition within the New England region providing further justification for raising the risk associated with lightning strikes.

3.4.3 Flood

The project boundary is located in the upper reaches of the Macleay River catchment. First and second Strahler stream order drainage lines occur within the northern array and along with Lambing Gully Creek, a third order stream, they flow into Saumarez Creek to the west of the site.

Flood conditions were modelled for a 1% Annual Exceedance Probability (AEP), that is, a flood which has a 1% chance of occurring in any year. In such an eventuality several proposed primary access points to the NESF would be impacted by flood waters, potentially preventing site access and egress. Surface water modeling did not extend to the main site access roads, namely Big Ridge Road, Munsies Road and Barleyfields Road and it is likely that flood waters would cut these roads at several points. Vehicular movement across the NESF would be impacted as the internal roads are gravel construction.

Localised flooding poses a hazard during construction. The potential exists for the inundation of site works, compounds, storage areas and plant/equipment where these are located within flood prone areas. This presents an environmental hazard with the potential for plant, equipment and materials to be washed into a watercourse. Localised flooding, in particular rapid onset flooding presents a hazard to site workers.

3.4.4 Earthquake

Uralla is mapped by the National Seismic Hazard Assessment for Australia - 2018 of having between 0.08 and 0.1 probability of a 2 percent chance of exceedance of mean Peak Ground Acceleration (PGA) in a 50 year period. (Geoscience Australia 2019). This places the NESF in the mid-range level of risk as assessed by the NSHA18 with respect to a strong earthquake occurring within a 50 year period.

The NESF may also experience ground movement as a result of an earthquake a considerable distance away, with the likelihood of damage occurring at the site related to the distance from the earthquake epicentre.

An earthquake of sufficient strength to impact the NESF may affect site infrastructure, including building and/or structural collapse, foundation cracking, underground service breakage including fuel lines and transport route disruption, in particular the railway line due to rail displacement.



Source: EMM (2018); DFSI (2017); UPC (2018)

KEY





Proposed primary site access point Combined TUFLOW model extents 1% AEP - indicative flood depth 10 m 0 m



New England Solar Farm Surface water assessment Figure 7

N





Detential creek crossing

4 TYPES AND LEVELS OF EMERGENCY

4.1 Types of Emergencies

The following types of emergency situations have been identified via the hazard assessment and associated risk analysis, Table 2.

Table 2: Types of emergencies at the NESF.

Emergency	Potential or Likely Cause
Bushfire/Grassfire	Lightning strike, hot works (e.g., grinder, welding), equipment failure, vehicle driving in long grass, brake/engine spark from train, arson, discarded cigarette, escaped control burn, fuel spill, gas leak.
Fire - Industrial	Lightning strike, arc flash, equipment failure, vandalism, oil, fuel or gas leak, battery thermal runaway, powerline clash, electrical failure.
Fire - Building	Kitchen fire, paper fire, discarded cigarette, equipment failure, electrical failure, arson.
Fire - Smoke	Bushfire/s in the vicinity and unfavourable weather conditions preventing smoke dispersal, industrial fire on site in particular burning oil or diesel. Exposure to fine particulate matter and/or hazardous chemicals. Reduced visibility. Asthma attack in susceptible individuals.
Extreme temperature/Heatwave	Extreme heat events are occurring in Australia more often and for longer periods, which is expected to continue with greater intensity in the future (Safe Work NSW 2020).
Hazardous substance spill	Release of fuel while re-filling or refuelling. Equipment failure. Damage to equipment.
LPG BLEVE event	LPG tank exposed to extreme heat due to a fire. LPG cylinder ruptured.
Explosion	Mechanical failure, human error, storage tanks ruptured due to damage (e.g. vehicle collision). Bushfire. LPG tank – BLEVE event.
Discharge to the environment	Ruptured or leaking fuel storage tank. Release of fuel while re-filling or refuelling. Equipment failure. Equipment failure. Bund failure. Vandalism. Isolation equipment failure.
Emission to the atmosphere	Release of fuel while re-filling or refuelling, in particular LPG. Equipment failure. Discharge of gas fire suppression system.
Flood/Flash Flood	Natural disaster. Poor on site drainage or siting of buildings, equipment.
Earthquake	Natural disaster. Failure to comply with National Construction Code (NCC) requirements.
Severe storm damage	Natural disaster. Failure to comply with NCC and/or Australian Standards. Mechanical or structural failure.

Emergency	Potential or Likely Cause
Trench/excavation collapse	Installation of underground services.
Personal injury	 The following activities may lead to personal injury: Potential for confined space work Hot work Manual handling Removing equipment from transport Working with hazardous materials Lightning strike Working with powered equipment (e.g. nail guns, saws) Fatigue.
Snake bite	 Extremely or highly venomous snakes of the northern Tablelands include the following snakes: Common Death Adder Acanthophis antarcticus Highlands Copperhead Austrelaps ramsayi Eastern Small-Eyed Snake Cryptophis nigriscens Stephen's Banded Snake Hoplocephalus stephensii Tiger Snake Notechis scutatus Mulga Snake Pseudechis australis Spotted Black Snake Pseudechis guttatus Red Belly Black Snake Pseudechis porphyriacus Eastern Brown Snake Pseudonaja textilis Curl Snake Suta suta Rough Scaled Snake Tropidechis caranatus. Source: Anon (2017). Other mildly venomous snakes also occur within the region and may occur within the RSF.
Vehicle incident	 Traffic accident (onsite/off site) Vehicle/pedestrian interface (e.g. forklift) Vehicle/animal interface (e.g. kangaroo, sheep) Vehicle/equipment or structure.

SMEC Internal Ref. 30018016

Emergency	Potential or Likely Cause
Building/structure collapse	O&M building, transmission tower.
Powerline failure	Strong winds, lightning strike, mechanical failure, human error.
Electrocution	Exposure to electric current, human error – installation, maintenance, contact with energised system or structure. Lightning strike.
Environmental harm/Illegal clearance	Unapproved removal of vegetation. Damage to protected vegetation by equipment or placement of materials. Discharge of chemical or construction waste onto protected vegetation or into waterways.
Suffocation	Fire suppression system within BESS will utilise carbon dioxide that presents a suffocation hazard to staff remaining in the facility. Any individual within the gas filled space following discharge of the inert gas (carbon dioxide) may be at risk of barotrauma due to the difference in pressure. Carbon dioxide is also a greenhouse gas.

4.2 Levels of Emergency

4.2.1 Localised Emergency

Emergency situations where the impacts on people, property and the environment are expected to be confined to specific locations within the NESF, and no escalations are expected.

Emergency Services may be required, for example in the following scenarios:

- Vehicle collision with structure (e.g., post)
- Personal injury due to a fall from height
- Diesel spill while refuelling the generator

4.2.2 Site Emergency

Emergency situations where the impacts on people, property and the environment are expected to spread to, or involve a large area of the NESF. Impacts are expected to be contained to within the perimeter of the NESF and not extend into the hazard zone.

Emergency services are likely to be required in the following examples:

- Grassfire amongst PV array
- Diesel leak from storage tank
- Multiple High Voltage (HV) transmission tower collapse

4.2.3 External Emergency

Emergency situations where the impacts on people, property and the environment are expected to occur within large areas of the NESF and extend beyond the boundary into the hazard zone.

Emergency situations that originate outside of the NESF within the hazard zone and are expected to spread into the NESF.

Emergency situations that involve NESF staff and/or infrastructure, that occurs outside of the NESF.

Emergency services will be required, for example in the following scenarios:

- Bushfire approaching the NESF
- LPG storage BLEVE event
- Transport incident involving site equipment

4.3 Critical Incidents

Critical incidents are those emergency situations that give rise to:

- Notifiable Incident
- Material Harm

4.3.1 Notifiable Incidents

A 'notifiable incident' under the NSW work health and safety legislation relates to:

- The death of a person
- A serious injury or illness of a person
- A potentially dangerous incident.

Examples:

- Amputated limb, fractured skull, spinal injuries.
- Electric shock minor shock resulting from direct contact with exposed live electrical parts (other than 'extra low voltage') including shock from capacitive discharge
- Exposure of any person to a serious risk resulting from an immediate or imminent exposure to an uncontrolled escape, spillage or leakage of a substance.

If there is a serious injury or illness, a death or a dangerous incident, it must be reported to Worksafe NSW immediately on 13 10 50 as an urgent investigation might be needed. Incidents can be notified 24 hours a day, 7 days a week by calling 13 10 50.

The GLC OH&S Manager/Officer will make the report.

4.3.2 Material Harm

Environmental Emergencies that cause or threaten 'material harm' require additional actions. Material harm is defined as:

- An incident that involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- Results in actual or potential loss of property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).

The Environmental Management Strategy (EMS) states that the above qualification of material harm is "consistent with the definition in Section 147 of the *Protection of the Environment Operations Act 1997* and the associated legal obligations to notify the EPA where a 'pollution' incident occurs such that material harm to the environment is caused or threatened."

There is a duty to report incidents that cause material harm under Section 148 of the *Protection of the Environment Operations Act 1997.*

The EPA may direct Green Light Contractors/UPC Renewables to notify such other persons of the incident as the EPA requires.

Following EPA notification Green Light Contractors/UPC Renewables will then immediately notify DPIE and Uralla Shire Council.

5 NESF EMERGENCY RESPONSE PROCEDURES (ERP)

The following emergency response procedures have been developed to address hazards associated with the NESF. A suffocation hazard exists with the use of the BESS gas fire suppression system that will utilise carbon dioxide installed as part of the Stage 2 development. As the BESS is not part of the Stage 1 development it falls outside of the remit for this FERP and an emergency response procedure will need to be developed as part of the Stage 2 update of the FERP.

The ERP developed for the NESF are listed in Table 3. Relevant ERPs will be reviewed following the associated training exercise, following the review of an emergency and prior to the development of Stage 2 of the NESF.

ERP	SECTION	ERP NUMBER
BUILDING/STRUCTURE COLLAPSE	SECTION 5.1	ERP 1
BUSHFIRE/GRASSFIRE	SECTION 5.2	ERP 2
EARTHQUAKE	SECTION 5.3	ERP 3
ELECTROCUTION	SECTION 5.4	ERP 4
EXPLOSION	SECTION 5.5	ERP 5
EXTREME TEMPERATURE/HEATWAVE	SECTION 5.6	ERP 6
FIRE - INDUSTRIAL	SECTION 5.7	ERP 7
FIRE - BUILDING	SECTION 5.8	ERP 8
FIRE - SMOKE	SECTION 5.9	ERP 9
FLOOD	SECTION 5.10	ERP 10
HAZARDOUS SUBSTANCE SPILL	SECTION 5.11	ERP 11
LPG LEAK/BLEVE EVENT	SECTION 5.12	ERP 12
PERSONAL INJURY/MEDICAL EMERGENCY	SECTION 5.13	ERP 13
POWERLINE DOWN OR VEHICLE CONTACT	SECTION 5.14	ERP 14
SEVERE STORM EVENT/LIGHTNING	SECTION 5.15	ERP 15
SITE EVACUATION	SECTION 5.16	ERP 16
SNAKE BITE	SECTION 5.17	ERP 17
TRENCH/EXCAVATION COLLAPSE	SECTION 5.18	ERP 18
VEHICLE INCIDENT	SECTION 5.19	ERP 19

Table 3: List of emergency response procedures developed for the NESF.

FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025 New England Solar Farm – Stage 1 2x200MW AC

5.1 BUILDING/STRUCTURE COLLAPSE – EMERGENCY RESPONSE PROCEDURE 1

This emergency response procedure has been developed to address the collapse or partial collapse of buildings or temporary structures including scaffolding.

Once an incident has occurred, the first responder needs to respond effectively and assist victim/s as quickly as possible. Responders must not place themselves or victims at further risk.

AT SITE OF INCIDENT

- Stop work
- Assess the danger. Ensure you and others are not in immediate danger (further collapse, equipment or structures failing/falling.)
 - Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance
- Locate and assess Locate the section/area of collapsed structure. (Look for evidence of trapped personnel e.g., tools, helmet), ask any other staff present need to establish the number of individuals involved. Are all workers in the area accounted for? Look for potential hazards, powerlines, broken pipes, gas leaks, smoke or flame:
 - REFER TO POWERLINE DOWN OR VEHICLE CONTACT EMERGENCY RESPONSE PROCEDURE
 - REFER TO FIRE INDUSTRIAL EMERGENCY RESPONSE PROCEDURE
 - REFER TO FIRE BUILDING EMERGENCY RESPONSE PROCEDURE
 - REFER VEHICLE INCIDENT EMERGENCY RESPONSE PROCEDURE
 - Injured workers/trapped workers/workers unaccounted for
 - REFER TO TRENCH EVACUATION/COLLAPSE EMERGENCY RESPONSE PROCEDURE
 - Alarm CALL TRIPLE ZERO (000) for emergency services (e.g. ambulance, FRNSW, SES) and provide details
 patient/s, location, nature of incident
- Raise the alarm two way radio or mobile phone (Emergency Communication Protocol) advise of emergency notification
- Prevent Do not allow anyone to enter the area/structure until it has been made safe
- Apply RACE Rescue, Alarm, Contain, Extinguish
- IF SAFE Rescue Remove the injured person from the situation, if it is safe to do so
- Administer First Aid Personal first aid kit or Vehicle first aid kit
 - REFER TO PERSONAL INJURY EMERGENCY RESPONSE
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Non-essential staff to clear the area
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers/spill
 containment equipment to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT)
 - Escalate/De-escalate emergency situation as required
 - Directs services to make the incident site safe upon termination of emergency
 - Declares emergency over
 - Authorises communication of 'all clear signal.'
- ERT Leader
 - Prevent access to area by others (establish cordon)
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations UNTIL EMERGENCY SERVICES ARRIVES
 - Where damaged plant or a vehicle is involved and where it is considered stable and poses no danger to
 personnel, any injured individuals are to be removed if this has not already occurred (provided this is safe
 to do so and does not pose a risk of further injury to the occupant
 - REFER VEHICLE INCIDENT EMERGENCY RESPONSE PROCEDURE
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.2 BUSHFIRE/GRASSFIRE – EMERGENCY RESPONSE PROCEDURE 2

The following procedure is developed to address a fire approaching the NESF and a fire originating within the NESF that has the potential to spread beyond the boundary. The bushfire season can extend from August to March (NSW RFS 2017), although fires can occur at any time of the year.

5.2.1 SMOKE PLUME SIGHTING

SITE WIDE

- Smoke If a worker sights smoke in the area they are to inform their supervisor
- Report the sighting as soon as practicable use the two way radio or mobile phone (Emergency Communication Protocol)
 - Provide approximate location (e.g. direction and distance, prevailing wind direction)
- ERC Issues BUSHFIRE ADVICE OR WATCH AND ACT subject to location of the fire
- BUSHFIRE ADVICE
 - Work continues
 - Foreman, Team Supervisor, Responsible Person ensure they have a direct means of contact with ERC/ERT Leader
 - Check bushfire preparations fire extinguishers in vehicles, fire hose reels, vehicles prepared in case of evacuation
 - Work schedule reviewed
- WATCH AND ACT
 - Await instruction from Foreman, Team Supervisor, Responsible Person or direct from ERC/ERT Leader
 - Stop work, turn off equipment
 - Make the area safe as quickly as possible
 - Stay together, prepare to move
- EVACUATE Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE.

5.2.2 BUSHFIRE WITHIN 30 KM OF NESF

A bushfire within a 30 km radius 'Hazard Zone' of the NESF triggers this Bushfire/Grassfire Emergency Response Procedure.

OPERATION AND MAINTENANCE

- OH&S Manager/Coordinator and/or ERC check daily Bureau of Meteorology (BOM) fire danger and weather report
 - The following sources trigger this Bushfire/Grassfire Emergency Response Procedure:
 - Catastrophic Fire Danger FDI forecast triggers this Bushfire/Grassfire Emergency Response
 Procedure
 - NSWRFS 'Fire Near You' website is monitored, a fire notification within 30 km of the NESF triggers this Bushfire/Grassfire Emergency Response Procedure
 - Local ABC radio station (ABC New England North West Armidale 101.9 FM) is monitored continuously for a Bushfire Advice broadcast

- Phone or radio call received from NSW RFS or FR NSW or Police or SES
- Site worker observes and reports smoke plume
- ERC activates ERT/ERT Leader
- ERC issues BUSHFIRE ADVICE warning via Two way radio communication to all staff, mobile phone or word of mouth
 - This informs staff that a fire is present in the Hazard Zone (within 30 km of the NESF).
 - There is no immediate danger.
- Ensure sufficient transport is available on site to transport workers if required to evacuate.
- ERC issues update BUSHFIRE WATCH AND ACT as bushfire approaches and threat escalates.
 - Bushfire burning towards NESF (typically from Northwest of the NESF)
 - Watch and Act alert broadcast
 - Advice received from emergency services
 - Evacuation route/s- predetermine the evacuation route based on advice re fire movement and projected path
 - Uralla or Armidale or both
- NESF Strike vehicle prepared and crewed (to attack spot fires)
- Fire management procedures activated for possible imminent fire
 - Sprinkler systems activated
- ERC continues to monitor the situation, IF situation deteriorates
- EVACUATION ERC Activates SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
 - Evacuation Trigger direction from Emergency Services to evacuate
 - Evacuation Trigger when fire is 20 km away, but projected path is in line with NESF
 - At 20 km site may start to experience some ember attack.

5.2.3 BUSHFIRE ON NESF - IGNITION

Any fire that occurs on the NESF triggers this Bushfire/Grassfire Emergency Response Procedure.

ALL SITE VEHICLES HAVE A FIRE EXTINGUISHER ON-BOARD

ALL STAFF ARE TRAINED IN FIRE FIGHTING

AT SITE OF / NEAR THE FIRE

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
 - Provide location (e.g. size, burning direction, prevailing wind direction)
- Rescue- assist anyone injured at the incident site if it is safe to do so

FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025 New England Solar Farm – Stage 1 2x200MW AC

Prepared for Green Light Contractors

SMEC Internal Ref. 30018016 1 April 2021

- Administer First Aid
- Extinguish the fire if the fire is small (rubbish bin size)
 - Retrieve the fire extinguisher/s from the vehicle/s
 - Place extinguishers stranding together lay down when empty
 - Test the fire extinguisher before attacking the fire
 - P Pull the pin
 - A Aim the extinguisher at the base of the flame
 - S Squeeze the trigger while holding the extinguisher upright
 - S Sweep the extinguisher or nozzle from side to side covering the base of the fire
 - Do not use (or continue to use) an extinguisher if:
 - you are putting your life at risk
 - the fire is spreading quickly beyond the point of origin
 - the extinguisher is not having any effect or is having an adverse reaction on the fire
 - you cannot extinguish the fire quickly
- Ensure the fire does not get between you and your escape route
- Communicate- maintain communication with ERC
- Evacuate move to a safe place if the fire cannot be extinguished or the situation becomes dangerous to you or others
- FIRE alert issued by ERC
 - Await instruction from Foreman, Team Supervisor, Responsible Person or direct from ERC/ERT Leader
 - Stop work, turn off equipment
 - Make the area safe as quickly as possible
 - Stay together, prepare to move
- Strike vehicle the strike vehicle will fight the fire until fire services arrive
- Emergency services assume command of the fire ground.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT) if required
 - Escalate/De-escalate emergency situation as required
 - DECLARE EVACUATION Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE

FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025 New England Solar Farm – Stage 1 2x200MW AC

Prepared for Green Light Contractors

SMEC Internal Ref. 30018016

- Evacuation Trigger direction from Emergency Services to evacuate
- ERC advices emergency services that the site is being evacuated
- Informs Emergency services of evacuation route and destination
- Declares emergency over
- Authorises communication of 'all clear signal'
- Directs services to make the incident site safe upon termination of emergency
- ERC issues FIRE warning via Two way radio communication to all staff, mobile phone or word of mouth
 - This informs staff that a fire is present within the NESF
- NESF Strike vehicle ACTIVATED
 - Strike vehicle attends fire ground to actively attack the fire
 - Strike team must assess the hazard posed by electrical equipment as necessary
- Fire management procedures activated for possible imminent fire (subject to location of the fire)
 - Sprinkler systems activated
- ERT Leader
 - At the fire ground prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations/evacuation
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe

5.2.4 BUSHFIRE ON NESF – FIRE FRONT

SITE WIDE

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
 - Provide location (e.g. size, burning direction, prevailing wind direction)
- Rescue- assist anyone injured at the incident site if it is safe to do so
 - Administer First Aid
- Evacuate move to a safe place, out of the path of the fire e.g. muster point, O&M building, construction depot
- WATCH AND ACT alert issued by ERC
 - Await instruction from Foreman, Team Supervisor, Responsible Person or direct from ERC/ERT Leader
 - Stop work, turn off equipment

- Make the area safe as quickly as possible
- Stay together, prepare to move
- REFER TO: SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
- Strike vehicle the strike vehicle will fight the fire until fire services arrive
- Emergency services assume command of the fire ground.

OPERATION AND MAINTENANCE

AS FOR 5.2.3

ALL FIRES ARE REPORTED TO EMERGENCY SERVICES

5.3 EARTHQUAKE – EMERGENCY RESPONSE PROCEDURE 3

The following earthquake emergency response procedure has been developed to guide the on-site response to an earthquake that has caused injury, structural collapse or instability, powerline failure, fire or an environmental discharge to occur.

Given the broad range of possible impacts associated with a large earthquake the following procedure is deliberately generic and refers to relevant Emergency Response Procedures.

5.3.1 DURING THE EARTHQUAKE

5.3.1.1 INDOORS

- Drop, Cover, Hold
 - Take cover, move under a sturdy table, desk, load bearing or sturdy doorway close to you
 - Hold on until shaking stops
 - If there is no table, crouch in an inside corner of the building and cover your face with your arms
- Stay away from:
 - glass, windows, exterior walls and doors, furniture or overhead fixtures that could fall e.g., lights
 - interior doorways (many are lightly constructed)
- Stay inside until the shaking stops and it is safe to exit. Do not exit a building while shaking
- When shaking stops exit the building and move a safe distance away
- Move away from all structures, overhead powerlines
- Report damage or injuries - two way radio or mobile phone (Emergency Communication Protocol)
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident. INJURED OR TRAPPED STAFF OR FIRE
 - Do not call emergency services to report the earthquake, only call for emergency assistance
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Administer First Aid Personal first aid kit or Vehicle first aid kit
 - Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader.

5.3.1.2 OUTDOORS

- Stop work, move away from any structures and overhead powerlines due to the risk of collapse
- Once in the open stay there until the shaking stops
- Proceed cautiously once earthquake has stopped as infrastructure may have been damaged:
 - Roads
 - Culverts

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- Overhead and underground services
- Buildings
- Report damage - two way radio or mobile phone (Emergency Communication Protocol).

5.3.1.3 IN A VEHICLE

- Stop as soon as safely possible, away from trees, structures, overhead powerlines
- Proceed cautiously once earthquake has stopped as infrastructure may have been damaged:
 - Roads
 - Culverts
 - Overhead and underground services
 - Buildings
- Report damage – two way radio or mobile phone (Emergency Communication Protocol).

OPERATION AND MAINTENANCE

While there is generally no warning for an earthquake, once the initial earthquake has occurred there are likely to be aftershocks occurring over the following hours and/or days.

- OH&S Manager/Coordinator and/or ERC to monitor the emergency broadcaster:
 - Local ABC radio station (ABC New England North West Armidale 101.9 FM) is monitored continuously for an Earthquake Advice broadcast
 - Phone or radio call received from NSW RFS or FR NSW or Police or SES
- ERC activates ERT/ERT Leader
- Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
- Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required
- ERT collate reports of damage to the facility that require an emergency response
- Activation of Emergency Response Procedures as required
- ERC continues to monitor the situation, IF situation deteriorates
- EVACUATION ERC Activates SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
 - Evacuation Trigger direction from Emergency Services to evacuate.

5.4 ELECTROCUTION – EMERGENCY RESPONSE PROCEDURE 4

5.4.1 LOW VOLTAGE (LV)

In the event of a low voltage electric shock the rescuer/s shall:

AT SITE OF INCIDENT - If Rescuer/s are not trained in Low Voltage Rescue

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Prevent access to the area by others until the ERT members or Emergency Services arrive.

If Rescuers are trained in Low Voltage Rescue and not in danger themselves, they should:

- Isolate the source of electricity. (See below in red if source cannot be isolated)
- IF SAFE Rescue Remove any injured staff member from the situation, if it is safe to do so. Use insulated crook
- Administer First Aid Personal first aid kit or Vehicle first aid kit
 - Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Report Following the incident make a report.

If source of Electricity cannot be isolated

• Separate the victim from the source of electricity by using an insulated crook

If a crook is not available use a dry length of wood or plastic object, strong and long enough to prevent danger to the rescuer (IF IN DOUBT DO NOT USE – WAIT FOR HELP)

- Administer First Aid Personal first aid kit or Vehicle first aid kit/Burns kit
 - Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- If you cannot separate the victim from the power source WAIT for assistance.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency

- Directs ERT member/s to take portable first aid kit/s (Burns Kit) and portable defibrillator/fire
 extinguishers to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required
- Escalate/De-escalate emergency situation as required
- Declares emergency over
- Authorises communication of 'all clear signal'
- Directs services to make the incident site safe upon termination of emergency.
- ERT Leader
 - Prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations
 - Isolate electrical supply in accordance with operating procedures
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

5.4.2 HIGH VOLTAGE

AT SITE OF INCIDENT

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Isolate Isolate the electrical supply in accordance with operating procedures
- Prevent access to the area by others until the ERT members or Emergency Services arrive.

OPERATION AND MAINTENANCE

• Staff trained in HV rescue deployed.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.5 EXPLOSION – EMERGENCY RESPONSE PROCEDURE 5

CALL TRIPLE ZERO (000) IMMEDIATELY IF:

- YOU CAN SMELL GAS OR FUEL
- YOU CAN HEAR GAS OR FUEL ESCAPING
- THERE HAS BEEN AN EXPLOSION
- THERE IS OR SUSPECT DAMAGE TO AN LPG CYLINDER, PIPLELINE, FUEL STORAGE TANK

Once an incident has occurred, the first responder needs to respond effectively and assist victim/s as quickly as possible. Responders must not place themselves or victims at further risk.

The following steps form the general procedures and precautions to be taken.

IMPORTANT

- Do not use a naked flame or other ignition source to look for gas or fuel leak
- Do not create sparks by using a vehicle, electronic devices (mobile phones, tablets, cameras etc) in the vicinity of the incident.

AT SITE OF INCIDENT

- Assess the danger. Ensure you and others are not in immediate danger
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Apply RACE Rescue, Alarm, Contain, Extinguish
- IF SAFE Rescue Remove any injured staff member from the situation, if it is safe to do so
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Administer First Aid Personal first aid kit or Vehicle first aid kit
 - Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Evacuate to Muster Point and await instruction
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency

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- Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required
- Escalate/De-escalate emergency situation as required
 - DECLARE EVACUATION Refer to EVACUATION PROCEDURE
- Declares emergency over
- Authorises communication of 'all clear signal'
- Directs services to make the incident site safe upon termination of emergency
- ERT Leader
 - Prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations/evacuation
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.6 EXTREME TEMPERATURE/HEATWAVE – EMERGENCY RESPONSE PROCEDURE 6

This EXTREME TEMPERATURE/HEATWAVE EMERGENCY RESPONSE PROCEDURE is triggered by a BOM Extreme Intensity Heatwave forecast.

Heatwave - a three day period of unusually high maximum and minimum temperatures at a location.

SITE WIDE

- Water Drinking water available to all workers
 - Drink 2-3 litres of water a day even if not feeling thirsty
- Hot surfaces wear appropriate PPE
- Re-schedule outdoor work to another time if possible
 - Avoid physically demanding tasks
 - Increase frequency of breaks
 - Provide shade were possible
- Monitor health Be aware of symptoms of heat related illness including:
 - dizziness, tiredness, irritability, thirst, fainting, muscle pains or cramps, rapid pulse, shallow breathing, vomiting and confusion
 - Administer First Aid
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Evacuate. If the situation is assessed to pose a danger, then you must evacuate to a safe place in the first instance
 - Air conditioned vehicle, lunch room, office building
- If advised to cease work and seek shelter:
 - Stop work
 - Make work area safe (switch off equipment)
 - Evacuate to a sheltered location or temperature controlled location.

OPERATION AND MAINTENANCE

- OH&S Manager/Coordinator and/or ERC check daily Bureau of Meteorology (BOM) heat wave report http://www.bom.gov.au/australia/heatwave/ and weather report
 - The following sources trigger this EXTREME TEMPERATURE EMERGENCY RESPONSE PROCEDURE:
 - BOM forecast of Extreme Intensity Heatwave
 - Extreme or Catastrophic Fire Danger FDI forecast (associated with high temperatures)
 - NSW Health ALERT issued for extreme heat
 - Site worker/s report dehydration, heat stress or heat stroke and other related health problems

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- ERC activates ERT/ERT Leader
- Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
- Directs ERT member/s to take portable first aid kit/s and portable defibrillator to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required
- ERC issues HEAT ADVICE warning via Two way radio communication to all staff, mobile phone or word of mouth
 - ADVICE incorporated into toolbox briefings/site meetings
 - OH&S noticeboard
 - Included as a component of the induction program
- ERC continues to monitor the situation
- ERC may issue cease work order.

5.7 FIRE - INDUSTRIAL – EMERGENCY RESPONSE PROCEDURE 7

This emergency response procedure has been developed to address a fire that is associated with electrical equipment present at NESF, e.g. PV modules, PCUs, Transformers.

As a fire on NESF may spread to become a grassfire the BUSHFIRE/GRASSFIRE EMERGENCY RESPONSE PROCEDURE is triggered.

CALL TRIPLE ZERO (000) IMMEDIATELY

DO NOT USE WATER ON AN ELECTRICAL FIRE

AT SITE OF / NEAR THE FIRE

- ASSESS THE DANGER. Assess the hazards ensure you and others are not in immediate danger
 - LOOK be aware of the potential for electrical hazards to exist or be created
 - DO NOT stand or park vehicles under powerlines
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
 - Provide location (e.g. indicate the location, equipment involved, size of fire)
- Isolate isolate the power to the equipment involved if applicable, possible and safe to do so
- Rescue- assist anyone injured at the incident site if it is safe to do so
 - Administer First Aid
- Extinguish the fire if the fire is small (rubbish bin size), accessible and it is safe to do so
 - Retrieve the fire extinguisher/s from the vehicle/s
 - Place extinguishers stranding together lay down when empty
 - Test the fire extinguisher before attacking the fire
 - P Pull the pin
 - A Aim the extinguisher at the base of the flame
 - S Squeeze the trigger while holding the extinguisher upright
 - S Sweep the extinguisher or nozzle from side to side covering the base of the fire
 - Do not use (or continue to use) an extinguisher if:
 - you are putting your life at risk
 - the fire is spreading quickly beyond the point of origin
 - the extinguisher is not having any effect or is having an adverse reaction on the fire
 - you cannot extinguish the fire quickly
 - there is a risk of explosion
 - the fire is inaccessible
- Ensure the fire does not get between you and your escape route

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- Communicate- maintain communication with ERC
- Evacuate move to a safe place if the fire cannot be extinguished or the situation becomes dangerous to you or others
- FIRE alert issued by ERC
 - Await instruction from Foreman, Team Supervisor, Responsible Person or direct from ERC/ERT Leader
 - Stop work, turn off equipment
 - Make the area safe as quickly as possible
 - Stay together, prepare to move
- Strike vehicle the strike vehicle will attend to:
 - Attack the fire where possible and safe to do so
 - Ensure the fire does not spread to ignite a grass fire
 - Fight/contain the fire until fire services arrive
- Emergency services assume command of the fire ground.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary.
 - Directs site First Aid Officer to the incident (member of ERT) if required
 - Escalate/De-escalate emergency situation as required:
 - DECLARE EVACUATION Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
 - Evacuation Trigger direction from Emergency Services to evacuate
 - ERC advices emergency services that the site is being evacuated
 - Informs Emergency services of evacuation route and destination
 - Declares emergency over
 - Authorises communication of 'all clear signal'
 - Directs services to make the incident site safe upon termination of emergency
- ERC issues FIRE warning via Two way radio communication to all staff, mobile phone or word of mouth:
 - This informs staff that a fire is present within the NESF
- NESF Strike vehicle ACTIVATED:
 - Strike vehicle attends fire ground to actively attack the fire
 - Strike team must assess the hazard posed by electrical equipment as necessary
- Fire management procedures activated for possible imminent fire (subject to location of the fire):

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- Sprinkler systems activated
- ERT Leader:
 - At the fire ground prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations/evacuation
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

5.8 FIRE - BUILDING – EMERGENCY RESPONSE PROCEDURE 8

This emergency response procedure has been developed to address a fire that is associated the O&M building or other site buildings including temporary site compound.

As a fire on NESF may spread to become a grassfire the BUSHFIRE/GRASSFIRE EMERGENCY RESPONSE PROCEDURE is triggered.

CALL TRIPLE ZERO (000)

DO NOT USE WATER ON A FLAMMABLE LIQUID FIRE E.G. OIL

DO NOT CARRY A CONTAINER OF BURNING LIQUID

5.8.1 COOKING FIRE

- ASSESS THE DANGER. Assess the hazards ensure you and others are not in immediate danger
 - LOOK be aware of the potential for electrical hazards to exist or be created
- Isolate any equipment involved if applicable, possible and safe to do so
 - Turn off the gas
 - Turn off the power (e.g., toaster)
- Extinguish the fire if the fire is small (rubbish bin size), accessible and it is safe to do so
- Stove top fire consider use of the fire blanket
 - Retrieve the Fire blanket from near the doorway
 - Remove blanket from bag pull tabs down
 - Grab a tab in each hand and rotate your hands inward so they are protected by the blanket
 - Hold arms out towards the fire
 - Move slowly and carefully towards the fire. The blanket will protect you from the heat and flame
 - DO NOT LOOK OVER THE TOP OF THE BLANKET AT THE FIRE
 - Let the bottom of the blanket touch the side of the bench top or the container. Still moving your arms forward slowly and carefully lower the blanket over the top of the container
 - DO NOT THROW THE BLANKET OVER THE CONTAINER
 - Place a saucepan lid, a metal tray or flat solid object on top of the fire blanket over the mouth of the container and leave it on the stove
 - Turn off the heat source (if not already)
 - CALL TRIPLE ZERO (000) They will attend to check for any fire spread e.g. into exhaust system and will assist in removing smoke
 - Leave the container in place to cool for at least an hour before you attempt to move it. (SAMFS 2020)
- Raise the alarm –two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
 - Provide location (e.g. indicate the location, equipment involved, size of fire)

5.8.2 OVEN FIRE

- Turn off the heat source (oven)
- LEAVE OVEN DOOR CLOSED
- CALL TRIPLE ZERO (000)
- Raise the alarm –two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
 - Provide location (e.g., indicate the location, equipment involved, size of fire)
- EVACUATE leave the building and wait for emergency services to attend
- Follow instructions of ERC, ERT Leader or Emergency Services.

5.8.3 OFFICE / HOUSEHOLD FIRE

- ASSESS THE DANGER. Assess the hazards ensure you and others are not in immediate danger:
 - LOOK be aware of the potential for electrical hazards to exist or be created
 - SMOKE KILLS evacuate if the room is filling with smoke
- Extinguish the fire if the fire is small (rubbish bin size), accessible and it is safe to do so:
 - Retrieve the fire extinguisher/s from near the doorway (all site vehicles have fire extinguishers)
 - Test the fire extinguisher before attacking the fire:
 - P Pull the pin
 - A Aim the extinguisher at the base of the flame
 - S Squeeze the trigger while holding the extinguisher upright
 - S Sweep the extinguisher or nozzle from side to side covering the base of the fire
 - Do not use (or continue to use) an extinguisher if:
 - you are putting your life at risk
 - the fire is spreading quickly beyond the point of origin
 - the extinguisher is not having any effect or is having an adverse reaction on the fire
 - you cannot extinguish the fire quickly
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification:
 - Provide location (e.g. indicate the location, equipment involved, size of fire)
- Rescue- assist anyone injured at the incident site if it is safe to do so:
 - Do not re-enter a burning building
- Ensure the fire does not get between you and your escape route
- Evacuate move to a safe place if the fire cannot be extinguished or the situation becomes dangerous to you or others

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- Administer First Aid when a safe distance away
- Communicate- maintain communication with ERC
- FIRE HOSE REELS all hour access
 - Access the closest fire hose reel/s if trained and confident to use the equipment
 - Use hose reel in accordance with training to fight and/or suppress the fire
- DAYTIME Strike vehicle the strike vehicle will attend to:
 - Attack the fire where possible and safe to do so
 - Ensure the fire does not spread to ignite a grass fire
 - Fight/contain the fire until fire services arrive
- Emergency services assume command of the fire ground.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader:
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT) if required
 - Escalate/De-escalate emergency situation as required:
 - DECLARE EVACUATION Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
 - Evacuation Trigger direction from Emergency Services to evacuate
 - ERC advices emergency services that the site is being evacuated
 - Informs Emergency services of evacuation route and destination
 - Declares emergency over
 - Authorises communication of 'all clear signal'
 - Directs services to make the incident site safe upon termination of emergency
- ERC issues FIRE warning via Two way radio communication to all staff, mobile phone or word of mouth:
 - This informs staff that a fire is present within the NESF
- NESF Strike vehicle ACTIVATED:
 - Strike vehicle attends fire ground to actively attack the fire/suppress the fire
 - Strike team to coordinate fire-fighting effort (use of hose reels) until emergency services arrives
- ERT Leader:
 - At the fire ground prevent access to area by others
 - Assess the situation and communicate any requirements to ERC

- Direct rescue operations/evacuation
- Conducts handover and continues to liaise with emergency services upon their arrival
- Maintains communication/updates with ERC
- Ensure the area is made safe.

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5.9 FIRE - SMOKE – EMERGENCY RESPONSE PROCEDURE 9

This emergency response procedure has been developed to respond to a scenario where major bushfires or industrial fire (e.g., diesel storage tank fire) has resulted in the facility being or likely to be blanketed in smoke for an extended period of time.

This situation has the potential to reduce on site visibility creating a hazard to on-going site works and also creating a short and long term health impact through the inhalation of fine particulate matter.

OPERATION AND MAINTENANCE

- OH&S Manager/Coordinator and/or ERC check daily Bureau of Meteorology (BOM) fire danger and weather report and/or Public Health Warning:
 - The following sources trigger this FIRE SMOKE EMERGENCY RESPONSE PROCEDURE:
 - Site observation of widespread smoke
 - Public health warning
- ERC & OH&S Manager/Coordinator issue health directive:
 - Air-conditioning set to re-circulate
 - Non-essential outdoor work to be re-scheduled (visibility 1.5 km Air Quality Very Poor) (EPA 2020)
 - Outdoor work cancelled (visibility less than 1.5 km Air Quality Hazardous) (EPA 2020)
 - P2 masks to be utilised where outdoor workers are exposed:
 - Ensure masks are fitted properly forming a seal
 - Site vehicles must have lights switched on when travelling on site
 - Non-essential visits to site re-scheduled
 - AT RISK STAFF evacuated or placed on restricted duties to minimise smoke exposure, provided with P2 masks where remaining on site:
 - Pregnant
 - Asthmatic
 - COPD Emphysema
 - Bronchitis
 - High blood pressure
 - Heart conditions
- ERC activates ERT/ERT Leader:
 - ERT Leader to coordinate actions across the site
 - Directs site First Aid Officer to ensure appropriate first aid stocks are available (member of ERT) as required:
 - Eye wash
 - P2 masks
 - oxygen
 - Escalate/De-escalate emergency situation as required:

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- DECLARE EVACUATION Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
- Evacuation Trigger direction from Emergency Services to evacuate
- ERC advices emergency services that the site is being evacuated
- Informs Emergency services of evacuation route and destination
- Declares emergency over
- Authorises communication of 'all clear signal.'

5.10 FLOOD – EMERGENCY RESPONSE PROCEDURE 10

The following flood emergency response procedure has been developed to guide the on-site response to a flood that has caused injury, structural collapse or instability, powerline failure, fire or an environmental discharge to occur. Flooding of the NESF and the access roads in particular may be the result of sever storm activity resulting in a flash flood event.

While there is generally a warning for severe weather and heavy rainfall there can be instances of localised flash flooding that occur with little warning.

SITE WIDE

- DO NOT ENTER FLOODWATERS:
- Vehicles MUST stay out of flood water more than 10 cm deep
 - A 2.5-tonne 4WD can float once water reaches 95 cm in depth
 - Small car can be moved by 15 cm of water
 - The site has gravel roads that can be severely eroded by flood water
- If a person has been swept away by flood water or a vehicle is stranded or swept from the road by flood water CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident:
 - Do not call emergency services to report the flood, only call for emergency assistance.
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Foreman, Team Supervisor, Responsible Person ensure that all team members/crew are accounted for
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from ERC or ERT Leader and then Emergency services upon their arrival:
 - Move to higher ground
 - Move to a safer place

OPERATION AND MAINTENANCE

- OH&S Manager/Coordinator and/or ERC check daily Bureau of Meteorology (BOM) severe weather report:
 - Local ABC radio station (ABC New England North West Armidale 101.9 FM) is monitored continuously for a Flood Warning Advice broadcast
 - Phone or radio call received from NSW RFS or FR NSW or Police or SES
 - Monitor SES Flood Watch via https://www.ses.nsw.gov.au/
- ERC activates ERT/ERT Leader
- Flood Warning ERC issues flood warning
- Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency as required
- Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required

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- ERT collate reports of damage to the facility that require an emergency response
- Erect barriers to prevent workers driving through flooded areas
- Coordinate any site works to shore up areas:
 - Sand bagging
 - Placement of fill or rock to stabilise areas
- Activation of Emergency Response Procedures as required
- ERC continues to monitor the situation, IF situation deteriorates
- EVACUATION ERC Activates SITE EVACUATION EMERGENCY RESPONSE PROCEDURE:
 - Evacuation Trigger direction from Emergency Services to evacuate
 - Must determine if evacuation routes are open
- Post Flood Event coordinate check for infrastructure damage:
 - Inspect waterways for erosion damage
 - Inspect for presence of dead animals
 - Arrange burial of dead stock
 - Check fence lines
 - Check culverts and roads are trafficable/damage report.

5.11 HAZARDOUS SUBSTANCE SPILL – EMERGENCY RESPONSE PROCEDURE 11

The HAZARDOUS SUBSTANCE SPILL EMERGENCY RESPONSE PROCEDURE is activated when the hazardous substance spill cannot be managed by following the associated SOP or the incident threatens to cause material harm.

5.11.1 SMALL SPILL

- Assess the danger. Ensure you and others are not in immediate danger
- Report spill to Foreman, Team Supervisor, Responsible Person
- Eliminate all ignition sources:
 - Switch off engines, turn off plant
 - No hot works are in in the vicinity of the spill
 - Extinguish any naked flames
- PPE wear approved PPE for the chemical involved
- Stop leak/spill if it is safe to do so
- If the chemical is stored in separate containers move other sealed (non-leaking) containers form the area:
 - Isolate the leaking container/drum
 - Place leaking drum on a bunded pallet
- Absorb spilt chemical with inert material (apply from spill kit)
- Use spark proof tools and explosion proof equipment
- Notify– FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol)
- Place absorbed material into an appropriate waste disposal container for the chemical involved
- Consult the Material Safety Data Sheet (MSDS) for the chemical involved as to the correct spill clean-up procedures
- Disposal dispose of absorbed material via an appropriately licenced waste operator to a licenced facility
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from the ERC or ERT Leader otherwise from Emergency services staff upon their arrival
- Report Following the incident make a report.

5.11.2 LARGE SPILL

- Assess the danger. Ensure you and others are not in immediate danger. Avoid breathing vapour move upwind
- Report spill to Foreman, Team Supervisor, Responsible Person
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Eliminate all ignition sources:
- Switch off engines, turn off plant FIRE AND EMERGENCY RESPONSE PLAN 2020 - 2025

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- No hot works are in in the vicinity of the spill:
 - Extinguish any naked flames
- PPE wear approved PPE for the chemical involved:
 - Breathing protection required
- Stop leak/spill if it is safe to do so
- Contain the spill Take action/s to prevent the material from entering the stormwater system, waterway or septic/sewer system:
 - Construct a dike around the spill area to contain the chemical
 - Deploy bund or other containment equipment
- Absorb spilt chemical with inert material:
 - vermiculite
 - sand or earth
 - diatomaceous earth
- Place absorbed material into an appropriate waste disposal container/s for the chemical involved
- CAUTION ABSORBED MATERIAL MAY RETAIN HAZARDOUS PROPERTIES
- Consult the Material Safety Data Sheet (MSDS) for the chemical involved as to the correct spill clean-up procedures
- Disposal dispose of absorbed material via an appropriately licenced waste operator to a licenced facility.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader:
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT) if required
 - Coordinates hazardous waste collection
 - Coordinates with OH&S manager/Coordinator and Environment Manager
 - Coordinates with Emergency Services/EPA
 - Escalate/De-escalate emergency situation as required:
 - DECLARE EVACUATION Refer to SITE EVACUATION EMERGENCY RESPONSE PROCEDURE
 - Declares emergency over
 - Authorises communication of 'all clear signal'
 - Directs services to make the incident site safe upon termination of emergency
- ERT Leader:

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- Prevent access to area by others
- Assess the situation and communicate any requirements to ERC
- Direct rescue operations/evacuation
- Conducts handover and continues to liaise with emergency services upon their arrival
- Maintains communication/updates with ERC
- Ensure the area is made safe.

5.12 LPG LEAK/BLEVE EVENT – EMERGENCY RESPONSE PROCEDURE 12

CALL TRIPLE ZERO (000) IMMEDIATELY IF:

- YOU CAN SMELL GAS
- YOU CAN HEAR GAS ESCAPING
- THERE HAS BEEN A GAS EXPLOSION OR FIRE
- THERE IS OR SUSPECT DAMAGE TO THE LPG CYLINDER OR PIPLELINE.

Once an incident has occurred, the first responder needs to respond effectively and assist victim/s as quickly as possible. Responders must not place themselves or victims at further risk.

The following steps form the general procedures and precautions to be taken.

IMPORTANT

- Do not use a naked flame or other ignition source to look for gas leak
- Do not create sparks by using a vehicle, electronic devices (mobile phones, tablets, cameras etc) in the vicinity of the incident.

AT SITE OF INCIDENT

- Assess the danger. Ensure you and others are not in immediate danger
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation patient/s, location, nature of incident
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol) advise of emergency notification
- Apply RACE Rescue, Alarm, Contain, Extinguish
- IF SAFE Rescue Remove any injured staff member from the situation, if it is safe to do so
- Activate Press the manual activation button for the Deluge Spray System
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Administer First Aid Personal first aid kit or Vehicle first aid kit:
 - Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Evacuate to Muster Point and await instruction
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader:
 - ERT Leader to coordinate actions at the incident site

- Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
- Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT) if required
- Escalate/De-escalate emergency situation as required:
 - DECLARE EVACUATION Refer to EVACUATION PROCEDURE
- Declares emergency over
- Authorises communication of 'all clear signal'
- Directs services to make the incident site safe upon termination of emergency
- ERT Leader:
 - Prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations/evacuation
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.13 PERSONAL INJURY/MEDICAL EMERGENCY – EMERGENCY RESPONSE PROCEDURE 13

ASSESS THE SITUATION FOR DANGER TO YOURSELF AND THE PATIENT

ASSESS PATIENT - CONSCIOUS OR UNCONSCIOUS

5.13.1.1 IF PATIENT IS UNCONSCIOUS OR NON-RESPONSIVE

Where the patient is unconscious or non-responsive the following steps are to be taken.

AT SITE OF INCIDENT

- CALL TRIPLE ZERO (000) for an ambulance and provide details patient, location, description of injury
- Raise the alarm two way radio or mobile phone or word of mouth (Emergency Communication Protocol)
- Administer First Aid Personal first aid kit or Vehicle first aid kit. DRSABCD Card in First Aid Kit
 - Danger
 - Response
 - Send
 - Airway establish airway
 - Breathing check and monitor breathing
 - Circulation (CPR) check for pulse, commence CPR if no pulse, treat severe bleeding
 - Defibrillation utilise the defibrillator once the First Aid Officer ERT arrives on the scene
- Stay with patient and monitor, keep patient calm if they regain consciousness until help arrives
- Advise Let staff arriving know of any hazard to avoid
- Non-essential staff to clear the area
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator to the incident site as necessary. Other equipment as required
 - Directs site First Aid Officer to the incident (member of ERT)
 - Escalate/De-escalate emergency situation as required
 - Directs services to make the incident site safe upon termination of emergency
 - Declares emergency over
 - Authorises communication of 'all clear signal'
- ERT Leader:

- Establish control of the area
- Assess the situation and communicate any requirements to ERC
- Liaise with First Aid Officer and coordinate assistance required
- Liaise with emergency services at incident location upon their arrival
- Neutralise any hazards present if it is safe to do so (e.g. cut power to equipment)
- Maintains communication/updates with ERC.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.13.1.2 IF PATIENT IS CONSCIOUS AND RESPONSIVE

Where the patient is conscious and responsive the following steps are to be taken.

AT SITE OF INCIDENT

- Assess the nature and extent of the injury/medical emergency
- Raise the alarm two way radio or mobile phone or word of mouth (Emergency Communication Protocol)
- If required CALL TRIPLE ZERO (000) for an ambulance and provide details patient, location, description of injury
- Administer First Aid Personal first aid kit or Vehicle first aid kit. DRSABCD Card in First Aid Kit
 - Danger
 - Response
 - Send
 - Airway establish airway
 - Breathing check and monitor breathing
 - Circulation (CPR) treat severe bleeding, monitor pulse, (commence CPR if no pulse)
 - Defibrillation the defibrillator will be available if required once the First Aid Officer ERT arrives on the scene
- Stay with patient and monitor, keep patient calm and reassure them until help arrives
- Re-assess if the patient's health status changes CALL TRIPLE ZERO (000) for an ambulance and provide details patient, location, description of injury
- Advise Let staff arriving know of any hazard to avoid
- Non-essential staff to clear the area
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency

- Directs ERT member/s to take portable first aid kit/s and portable defibrillator to the incident site as necessary. Other equipment as required
- Directs site First Aid Officer to the incident (member of ERT)
- Escalate/De-escalate emergency situation as required
- Directs services to make the incident site safe upon termination of emergency
- Declares emergency over
- Authorises communication of 'all clear signal'
- ERT Leader
 - Establish control of the area
 - Assess the situation and communicate any requirements to ERC
 - Liaise with First Aid Officer and coordinate assistance required
 - Liaise with emergency services at incident location upon their arrival
 - Neutralise any hazards present if it is safe to do so (e.g. cut power to equipment)
 - Maintains communication/updates with ERC.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

POWERLINE DOWN OR VEHICLE CONTACT – EMERGENCY RESPONSE 5.14 **PROCEDURE 14**

The emergency response procedure differs subject to whether a powerline has fallen/broken or if a vehicle e.g., crane has struck a powerline and remains in contact with the line.

LOW VOLTAGE (LV) OR HIGH VOLTAGE (HV) LINE/S

ASSUME LINE AND BOTH ENDS ARE ENERGISED

REFER TO: ELECTROCUTION EMERGENCY PROCEDURE IF VICTIM IS PRESENT

FIRE EMERGENCY PROCEDURE

LOW VOLTAGE (LV) POWERLINE OR HIGH VOLTAGE (HV) POWERLINE DOWN 5.14.1

AT SITE OF INCIDENT

- Stop work
- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
 - Stay 8-10 m away from all points of the powerline
 - If the powerline is broken both ends remain energised
 - Unbroken lines in contact with the ground or an object in contact with the ground may burn through creating a fall hazard. Do not stand under powerlines
 - Powerlines may cause a fire
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency **Communication Protocol**)
- Prevent access to the area by others until the ERT members or Emergency Services arrive .
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the FRC or FRT Leader
- Report Following the incident make a report

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation location, nature of incident as required
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services/ Electricity Supply Company Response Team to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s (Burns Kit) and portable defibrillator/fire extinguishers to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT) if required

- Escalate/De-escalate emergency situation as required
- Declares emergency over
- Authorises communication of 'all clear signal'
- Directs services to make the incident site safe upon termination of emergency
- ERT Leader
 - Prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct ERT to isolate electrical supply in accordance with operating procedures
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

5.14.2 VEHICLE CONTACT WITH LOW VOLTAGE (LV) POWERLINE OR HIGH VOLTAGE (HV) POWERLINE

WHERE A VEHICLE CONTAINING PEOPLE HAS PARKED OVER A POWERLINE ON THE GROUND OR A VEHICLE HAS UNKNOWINGLY PARKED OVER OR UNDER A FALLEN POWERLINE.

STEP AND TOUCH HAZARDS EXIST - STAY 8 TO 10 METRES FROM THE VEHICLE AND POWERLINE

AT SITE OF INCIDENT

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger
 - Stay 8-10 m away from all points of the powerline and vehicle
 - If the powerline is broken both ends remain energised
 - Assume the vehicle is energised
 - All occupants are to remain in the vehicle
 - Unbroken lines in contact with the ground or an object in contact with the ground may burn through creating a fall hazard. Do not stand under powerlines
 - Powerlines may cause a fire
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol)
- Drive away If the driver is uninjured and the vehicle can be driven, instruct the driver to carefully move the vehicle away
 - If the driver is injured or the vehicle cannot be driven direct occupants to remain in vehicle until electricity supply company response team arrives
- Prevent access to the area by others as there is the risk of powerline recoil
- Advise Let staff arriving know the locality of any hazards and stay 8-10 metres away
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader

• Report – Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC contacts Electricity Supply Company requests response team attend.
- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation location, nature of incident as required
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services/ Electricity Supply Company Response Team to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s (Burns Kit) and portable defibrillator/fire extinguishers to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT)
 - Escalate/De-escalate emergency situation as required
 - Declares emergency over
 - Authorises communication of 'all clear signal'
 - Directs services to make the incident site safe upon termination of emergency
- ERT Leader
 - Prevent access to area by others
 - Assess the situation and communicate any requirements to ERC
 - Direct ERT to isolate electrical supply in accordance with operating procedures
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe
 - A vehicle that has been in contact with a powerline may be subject to the tyres exploding due to pyrolysis that may not be evident. Vehicles must be parked in isolation (300 m radius from any structure) and monitored for 24 hours
 - Remove everyone from isolation zone for 24 hours
 - Advise the fire service.

5.14.3 DISABLED VEHICLE ON FIRE IN CONTACT WITH LOW VOLTAGE (LV) POWERLINE OR HIGH VOLTAGE (HV) POWERLINE

A situation where a vehicle has otherwise, come into contact with an overhead powerline, cannot be driven and is on fire.

STEP AND TOUCH HAZARDS EXIST - STAY 8 TO 10 METRES FROM THE VEHICLE AND POWERLINE

AT SITE OF INCIDENT

- Assess the danger. Assess the hazards ensure you and others are not in immediate danger.
 - Stay 8-10 m away from all points of the powerline and vehicle

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- If the powerline is broken both ends remain energised
- Assume the vehicle is energised
- All occupants are to remain in the vehicle as long as possible
- Unbroken lines in contact with the ground or an object in contact with the ground may burn through creating a fall hazard. Do not stand under powerlines
- Powerlines may cause a fire (all site vehicles have an on-board fire extinguisher)
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance in the first instance
- Raise the alarm FROM A SAFE DISTANCE two way radio or mobile phone or verbal/runner (Emergency Communication Protocol)
- Alarm CALL TRIPLE ZERO (000) for emergency services and provide details of the situation location, patient/s, nature of incident as required
- Advise Let staff arriving know the locality of any hazards and stay 8-10 metres away
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Report Following the incident make a report.

VEHICLE OCCUPANTS

- Remain in the vehicle as long as possible
 - EXITING VEHICLE IS A LAST RESORT
- Exit vehicle if in Immediate Danger
- Jump Clear Occupants must stand on the sill of the vehicle and jump clear
 - Step and touch potential exist occupants must not step out
 - Avoid simultaneous contact with ground and vehicle
 - When out of vehicle occupants must shuffle, jump or hop away from the vehicle
 - DO NOT WALK OR RUN
 - If occupants fall on the ground, they are to roll away DO NOT STAND UP
- An injured occupant that cannot exit the vehicle must remain until the system can be de-energised.

OPERATION AND MAINTENANCE

• ERC and ERT & ERT Leader roles and responsibilities remain unchanged from previously outlined.

5.15 SEVERE STORM EVENT/LIGHTNING – EMERGENCY RESPONSE PROCEDURE 15

Severe storms may activate an emergency response due to the potential or actual infrastructure damage associated with lightning strike, heavy rainfall, hail and very strong winds and risk they may present to on site staff.

IF STAFF NOTICE A LIGHTNING FLASH

IF THE TIME BETWEEN THE FLASH AND HEARING THUNDER IS LESS THAN 30 SECONDS, THEY SHOULD IMMEDIATELY SEEK SHELTER.

SITE WIDE

- Lightning Flash If lightning is observed and thunder is heard less than 30 seconds (less than 10 km away) after the flash staff must immediately seek shelter
- Shelter includes lunch rooms, administration buildings
- Turn off equipment or otherwise 'make safe' equipment if it is quick and easy to do so
- Foreman, Team Supervisor, Responsible Person ensure that all team members/crew have left the work area
- Raise the alarm as soon as practicable use the two way radio or mobile phone (Emergency Communication Protocol)
- Shelter Remain at the shelter until instructed by ERC or ERT member or ERT Leader (typically until no lightning/thunder for 30 mins).

OPERATION AND MAINTENANCE

- OH&S Manager/Coordinator or via daily BOM monitoring activates ERC
- ERC activates ERT/ERT Leader
- ERC issues lightning/storm warning via Two way radio communication to all staff, mobile phone or word of mouth
- ERC issues update as storm approaches and threat escalates
- Lightning detected at 15 km will trigger the EPC to issue a cease work, secure materials, plant and equipment and take shelter directive via radio
- A change in weather conditions heavy rainfall, hail or strong and gusty winds will also trigger the EPC to issue a cease work, secure materials, plant and equipment and take shelter directive via radio
- EPC will trigger alternate Emergency response procedures as necessary. e.g.
 - Personnel injury
 - Fire
 - Flood
 - Power line failure
- ERC will escalate or de-escalate the situation as necessary
- ERC will issue and communicate the ALL CLEAR.

Note that SOPS regulate working conditions, work schedules when adverse weather is expected.

5.16 SITE EVACUATION – EMERGENCY RESPONSE PROCEDURE 16

CALL TRIPLE ZERO (000) IMMEDIATELY IF SITUATION NECESSITATES EVACUATION

SITUATIONS THAT REQUIRE EVACUATION WILL REQUIRE EMERGENCY SERVICES TO BE NOTIFIED AND/OR ATTENDANCE.

In the event of an emergency requiring the NESF to be evacuated, the following emergency evacuation protocols must be followed.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
- Evacuation Declared ERC declares the emergency evacuation
- ERC issues Evacuation Order
 - Evacuation siren sounded three (3) blasts of 3 second duration
 - Two way radio communication to all staff, evacuation order given, uses the words EVACUATE EVACUATE EVACUATE
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency (AS REQUIRED)
 - ERT Leader directed to MUSTER point
 - First Aid Officer to attend Muster Point with Portable First Aid Kit/ Defibrillator
 - Directs ERT as required
 - Escalate/De-escalate emergency situation as required
 - Directs services to make the incident site safe upon termination of emergency
 - Declares emergency over
 - Authorises communication of 'all clear signal'
- ERT Leader
 - ERT Leader to coordinate Evacuation
 - Communicate any alternate routes if hazards exist that block the planned route
 - Establish control of the muster area
 - Instruct roll call
 - Coordinate ERT to direct evacuation
 - Assess the situation and communicate any requirements to ERC
 - ERC will advise evacuation route/s from NESF
 - Communicate evacuation routes to be utilised to personnel prior to allowing staff to leave the muster point
 - Liaise with First Aid Officer and coordinate assistance required
 - Liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC.

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SITE WIDE

- Evacuation Alarm Sounds 3 BLASTS
- Receive Evacuation radio call EVACUATE, EVACUATE, EVACUATE
- Stop Work all work shall cease immediately, and personnel shall make sure all team members are aware that an emergency evacuation has been declared
- Turn off plant and equipment if safe to do so
- MUSTER all personnel make their way to the designated MUSTER POINT. (Refer Induction)
 - Leave in an orderly manner
 - Obey road and site traffic rules
 - Foreman, Team Supervisor, Responsible Person ensure that all team members/crew have left the work area
 - Communicate with ERC if assistance is required
- Roll Call at Muster Point
 - Each Foreman, Team Supervisor, Responsible Person will conduct a roll call to ensure all their staff are present
 - Advise ERT of anyone remaining on site/absent
- Transport Once instructed to leave site by the ERT/ERT Leader
 - Foreman, Team Supervisor, Responsible Person is to ensure that all staff have a 'ride' before allowing staff to leave the muster point
- Evacuate Site for a total site evacuation (e.g. bushfire) personnel once allocated to a vehicle will make their way to their vehicle and exit making their way to the designated exit route and Safe Place (Uralla/Armidale)
- Safe Place Follow instructions from Emergency Services personnel.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.17 SNAKE BITE – EMERGENCY RESPONSE PROCEDURE 17

ALL SNAKE BITES ARE TO BE TREATED AS POTENTIALLY LIFE THREATENING.

IF YOU ARE BITTEN BY A SNAKE CALL TRIPLE ZERO (000) FOR AN AMBULANCE.

AT SITE OF INCIDENT

- Assess the danger, ask where the snake went if it is close by remove the patient a short distance by dragging them if it safe to do so. Snakes will generally naturally move away when disturbed
- Leave the snake undisturbed
- Keep the victim calm and still. Reassure the patient. This can slow down the spread of the venom if the snake is poisonous
- Identify What did the snake look like colour, patterns. (Refer to snake ID chart in Site Induction)
- CALL TRIPLE ZERO (000) for an ambulance and provide details patient, snake, location
- Raise the alarm two way radio or mobile phone (Emergency Communication Protocol)
- Administer First Aid Personal first aid kit or Vehicle first aid kit (Snake Bite Kit)
 - (ongoing monitor condition/reassure patient) Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Bandage 1. If bitten on a limb apply a broad pressure bandage over the bite site (leave clothes on). This should be firm and tight. You shouldn't easily be able to slide a finger between the bandage and the skin
- Bandage 2. With a second broad roller bandage, start at the extremities of the limb (fingers or toes) and bandage up the limb. This must be firm and tight as before. Cover as much of the limb as possible. IF YOU ONLY HAVE ONE BANDAGE DO THIS STEP it is the most important bandage
- Immobilise limb. The limb should be immobilised with a splint or sling. Draw a mark over the bite site so hospital staff know where to look
- Reassure patient and make comfortable e.g. shade
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of the snake to avoid the hazard
- Non-essential staff to clear the area
- Report Following the incident make a report.

DO NOT

- Do not try to pick up or kill the snake
- Do not allow the patient to move around.
- Do not apply a tourniquet
- Do not wash the puncture site medical personnel can use any venom present to identify the snake.
- Do not allow the patient to drink alcohol or caffeinated drinks.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site

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- Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
- Directs ERT member/s to take portable first aid kit/s and portable defibrillator to the incident site as necessary
- Directs site First Aid Officer to the incident (member of ERT)
- Escalate/De-escalate emergency situation as required
- Directs services to make the incident site safe upon termination of emergency
- Declares emergency over
- Authorises communication of 'all clear signal'
- ERT Leader
 - Prevent access to area by others (establish cordon)
 - Assess the situation and communicate any requirements to ERC
 - Liaise with emergency services at incident location upon their arrival
 - Maintains communication/updates with ERC.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.18 TRENCH/EXCAVATION COLLAPSE – EMERGENCY RESPONSE PROCEDURE 18

Once an incident has occurred, the first responder needs to respond effectively and assist victim/s as quickly as possible. Responders must not place themselves or victims at further risk.

AT SITE OF INCIDENT

- Locate Locate the section of collapsed trench or excavation. (Look for evidence e.g. tools, helmet), ask any other staff present need to establish the number of individuals involved
- Alarm CALL TRIPLE ZERO (000) for emergency services (e.g. ambulance, FRNSW, SES) and provide details patient/s, location, nature of incident
- Raise the alarm two way radio or mobile phone (Emergency Communication Protocol) advise of emergency notification
- Assess the danger. Ensure you and others are not in immediate danger (further collapse, equipment or structures falling into excavation. Look for cracks in the ground, sides of the excavation, observe the site conditions)
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance
- Prevent Do not allow anyone to enter the trench/excavation until it has been made safe
- Apply RACE Rescue, Alarm, Contain, Extinguish
- IF SAFE Rescue Remove the injured staff member from the situation, if it is safe to do so
- IF UNSAFE Shore Up If possible, carefully batter the sides of the trench/excavation in the collapsed and adjacent area to prevent further collapse
- Shield if possible, install shield/shoring to protect the trapped person and rescuers
- SAFE When the trench/excavation has been made safe to enter the Rescue can proceed
- Excavate Carefully remove collapsed soil by shovel. Avoid standing on top of the collapsed soil (the person may be trapped beneath)
 - When close to the trapped person continue digging by hand
 - If shovels are still required, then extreme care must be exercised so as not to cause further injury
 - When the trapped person is located clear soil from around the head and chest area
- Administer First Aid Personal first aid kit or Vehicle first aid kit
 - (ongoing monitor condition/reassure patient) Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
 - Check for response
 - Check breathing and a pulse
 - Person may need to be removed in order to allow CPR to commence
 - If not breathing and no pulse commence CPR and continue until emergency services arrive to take over
 - Utilise portable defibrillator if required once it has arrived at the incident site
- Stay with patient and monitor, if conscious keep patient calm and quiet until help arrives

- Advise Let staff arriving know the locality of any hazards
- Direction take direction from First Aid Officer and then Emergency services staff upon their arrival otherwise take direction from the ERC or ERT Leader
- Non-essential staff to clear the area
- Report Following the incident make a report.

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers/spill
 containment equipment to the incident site as necessary
 - Directs site First Aid Officer to the incident (member of ERT)
 - Escalate/De-escalate emergency situation as required
 - Directs services to make the incident site safe upon termination of emergency
 - Declares emergency over
 - Authorises communication of 'all clear signal'
- ERT Leader
 - Prevent access to area by others (establish cordon)
 - Assess the situation and communicate any requirements to ERC
 - Direct rescue operations
 - If damaged plant or vehicle is considered stable and poses no danger to personnel, any injured individuals are to be removed if this has not already occurred (provided this is safe to do so and does not pose a risk of further injury to the occupant
 - Isolate ignition/power/hydraulic systems and secure plant/vehicle if involved in the collapse
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC
 - Ensure the area is made safe.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

5.19 VEHICLE INCIDENT – EMERGENCY RESPONSE PROCEDURE 19

A vehicle includes motor vehicles, delivery trucks, vans, semi-trailers, other heavy vehicles and mobile plant. The emergency response is triggered due to vehicle roll-over, collision or collapse resulting in fluid leaking from the vehicle, serious injury or vehicle fire. Minor collisions (e.g. reversing into a post) are dealt with under SOPs. If in doubt, then the emergency procedure is to be followed.

AT SITE OF INCIDENT

- Assess the danger. Ensure you and others are not in immediate danger (fire, leaking fuel, smoke)
- If safe turn off the engine
- Evacuate. If the situation is assessed to pose an immediate danger, then you must evacuate to a safe distance
- Apply RACE Rescue, Alarm, Contain, Extinguish
- Rescue Remove the injured staff member from the situation/vehicle, if it is safe to do so and only if they are in imminent danger
- Alarm CALL TRIPLE ZERO (000) for an ambulance and/or fire brigade and provide details patient/s, location, nature of incident
- Raise the alarm two way radio or mobile phone or runner (Emergency Communication Protocol) advise of emergency notification
- Administer ongoing First Aid Personal first aid kit or Vehicle first aid kit
 - (ongoing monitor condition/reassure patient) Danger/Response/Send/Airway/Breathing/Circulation (CPR)/Defibrillation
- Contain use spill kit from vehicle if accessible/available
- Disconnect the battery of the vehicle is stable and it is safe to access the battery
- Extinguish access the vehicle fire extinguisher and deploy if fire is present and you are confident to do so. Otherwise have fire extinguisher stationed ready for use if required
- Reassure patient and make comfortable e.g. shade
- Stay with patient and monitor, keep patient calm and quiet until help arrives
- Advise Let staff arriving know the locality of any hazards
- Direction take direction from Emergency services staff upon their arrival, otherwise take direction from the ERC or ERT Leader
- Non-essential staff to clear the area
- Report Following the incident make a report

OPERATION AND MAINTENANCE

- ERC activates ERT/ERT Leader
 - ERT Leader to coordinate actions at the incident site
 - Directs ERT member/other to meet emergency services at access gate to assist directing emergency services to the location of the emergency
 - Directs ERT member/s to take portable first aid kit/s and portable defibrillator/fire extinguishers/spill containment equipment to the incident site as necessary

- Directs site First Aid Officer to the incident (member of ERT)
- Escalate/De-escalate emergency situation as required
- Directs services to make the incident site safe upon termination of emergency
- Declares emergency over
- Authorises communication of 'all clear signal'
- ERT Leader
 - Prevent access to area by others (establish cordon)
 - Assess the situation and communicate any requirements to ERC
 - If damaged plant or vehicle is considered stable and poses no danger to personnel, any injured individuals are to be removed if this has not already occurred (provided this is safe to do so and does not pose a risk of further injury to the occupant
 - Isolate ignition/power/hydraulic systems and secure plant/vehicle
 - Conducts handover and continues to liaise with emergency services upon their arrival
 - Maintains communication/updates with ERC.

NOTE THAT IF AN URGENT MEDICAL TRANSFER VIA AIR EVACUATION IS REQUIRED, EMERGENCY SERVICES WILL COORDINATE THIS.

6 EMERGENCY FUNCTIONS AND ORGANISATIONAL STRUCTURE

6.1 Facility Emergency Control

Control and coordination (emergency control point) of any emergency will be conducted from the O&M building (or temporary site office during construction until the O&M Building is ready). The roles and responsibilities of emergency control officers are outlined in Section 1 of the FERP.

The NESF UHF radio base station with battery backup will be located within the O&M building (or temporary site office during construction until the O&M Building is ready).

The first aid response will also be coordinated from the O&M building (or temporary site office during construction until the O&M Building is ready), while each building (permanent or temporary) and vehicle at the NESF will have a first aid kit and adequate numbers of staff trained in basic first aid.

In the event that the O&M building is involved in the emergency the ERC shall establish an alternate emergency control point and communicate this to the ERT via the UHF radio or via runners. If necessary, the emergency response can be coordinated from a site vehicle.

6.2 Identification of Emergency Personnel

Emergency personnel will be identifiable by the colour of their hard hats and will also wear a high visibility vest or jacket with their position/role written on the back during an emergency.

- ERC (Performs duties of Chief Fire Warden) RED
- ERT Leader (Performs duties of Deputy Chief Fire Warden) RED
- ERT Member ORANGE
- First Aid Officer GREEN
- OH&S Manager/Coordinator BLUE
- Environment Manager YELLOW
- Site workers WHITE.

6.3 Emergency Communication

A UHF two way radio system (or equivalent) will be utilised across the site. The base station with battery backup will be located within the O&M building with all site vehicles to be fitted with UHF two-way radios as a requirement of site entry.

Two way radio and to a lesser extent personal mobile telephone communication are the main means of communication in the event of an emergency.

In the event of an emergency, persons that are not involved in the emergency shall maintain radio silence so as to allow radio communications between the ERC and/or ERT Leader, combat agency services and site personnel involved in the emergency, to flow uninterrupted.

The ERC and/or ERT Leader shall be in control of radio communications during an emergency.

An air horn is also to be used to notify site staff that an emergency has occurred.

6.3.1 Emergency Response Channel

A dedicated Emergency Response Channel will be utilised across the site in the event of an emergency. Site personnel are not to use the emergency channel with radio silence maintained so that the channel remains free for use by the ERC, ERT and ERT Leader, First Aid Officer.

In declaring an Emergency at NESF the ERC or designated ERT member will make a radio call across all the standard UHF channels in operation at the site and say:

- EMERGENCY, EMERGENCY, EMERGENCY
- Staff will be advised to stop work immediately and maintain radio silence
- The caller (ERT member or ERC) will proceed to announce the appropriate steps required to be taken by site staff

The UHF radio call will be followed by three (3) blasts, each 3 seconds long on the air horn to indicate an emergency.

In the event that a site evacuation is required the ERC or designated ERT member will make a radio call across all the standard UHF channels in operation at the site and say:

• EVACUATE, EVACUATE, EVACUATE

Staff will then follow the SITE EVACUATION EMERGENCY RESPONSE PROCEDURE (ERP 16).

6.4 Emergency Response Diagrams

An Emergency Response Diagram will be prepared for the NESF detailing the following:

- Emergency Muster Point
- Fire Extinguishers
- First Aid Kit
- Spill Kits
- Offices
- Storage Facilities
- Sanitary Facilities
- Stockpile areas (if applicable)
- Traffic Flow /road network
- Hose Reels
- Fire blankets
- Site access gates and alternative emergency exits Chemical storage areas (Gasoline, Diesel, LPG).

The Diagram will form part of this FERP and the Site Induction and will be displayed on the Safety Notice Board and provided within the emergency services information package (ESIP).

Emergency Response Diagrams will be included within Appendix A of the FERP.

6.5 Emergency Evacuation Diagrams

Emergency evacuation diagrams, minimum A4 size are to be prepared for each building within the NESF. Emergency evacuation diagrams will follow AS 3745 – 2010.

Diagrams will be prepared for the following buildings within the NESF once the design has been completed and will be installed in each building in accordance with AS 3745 – 2010 prior to the site being commissioned:

- O&M Building
- Warehouse (opposite O&M Building)
- Site Compound Main Warehouse

A copy of each Emergency Evacuation Diagram will be included within Appendix B of the FERP.

7 EMERGENCY RESOURCES

7.1 Emergency Response Equipment

7.1.1 Personnel

7.1.1.1 Site Personnel.

All shall have access to the following emergency equipment:

- Appropriate PPE for the task/s being conducted
- Personnel working alone shall have/access to a two-way radio. (carried on the person if working away from the vehicle)
- When working in a team, the team leader shall have a two-way radio
- First aid kit including snake bite kit
- Access to safety equipment identified in SOP for the task being conducted (e.g. insulated hook).

7.1.1.2 Strike Vehicle Personnel (Fire-fighting)

Each member of the fire-fighting crew will be provided with:

- Bushfire Boots Steel or composite toe lace-up boots that are heat & chemical resistant
- Bushfire Gloves leather Class 1 cuffed glove used for hand protection against radiant heat and sharp objects
- Bushfire Helmet lightweight head protection for radiant heat and falling objects. Fitted with ProBan fire resistant neck flap and chin strap. Approved versions include drop down visor and provisions for ear protection
- Bushfire Two Piece Uniform ProBan treated. Consists of gold/yellow jacket and pants with 3M triple reflective striping
- Flash Hoods Nomex. For face and head protection in case of fire over-run or for use with CABA Compressed Air Breathing Apparatus where appropriate
- Bushfire Goggles protect eyes from contaminants such as smoke, dust, embers etc.
- P2 disposable face masks (e.g. 3M) with half face P2 replaceable cartridge respirators made available to all crew as an option.

7.1.2 Vehicles

All site vehicles shall be fitted with the following equipment:

- Two-way radios (and aerial)
- Dry chemical powder (ABE) fire extinguishers in compliance with AS 2444 2001
- First aid kit including snake bite kit
- Amber flashing light to be activated when travelling across the site.

Site vehicles are to have high visibility markings and are to have unique vehicle numbers for identification (call number e.g., 012) and tracking.

7.1.3 Fire Strike vehicle

A single or dual cab four-wheel drive, Category 9 dedicated full-time fire-fighting appliance will be located at the NESF. This strike vehicle will be used as a rapid intervention vehicle (thus the name 'Striker') to attack small and spot

fires quickly before they are able to spread. The larger NSW RFS heavy, medium and light tankers would arrive at the NESF to aid in the event of a fire and to provide the main fire-fighting effort where a larger fire is involved.

Strikers are much faster and while they carry a limited water supply (approximately 800 litres) they can attack a spot fire and extinguish it or contain it, while waiting for fire service support to arrive. Category 9 appliances are also used to patrol an almost extinguished fire for flare-ups and can 'mop-up' small hot spots.

The location of a fire-fighting water storage tank at the NESF will allow the Strike vehicle to refill and continue to attack are fire, potentially before assistance arrives. Water will be available as soon as the construction starts.

The crew of the Strike vehicle would receive training from the NSW fire services, appropriate for the equipment they carry and the types of fire they may encounter at NESF.

7.1.3.1 Strike Vehicle Equipment

- 800 L tank with Storz fittings and fire-fighting hose
- Diesel pump
- Hand tools spades, fire rakes
- Knapsacks (16 L)
- Dry chemical powder (ABE) fire extinguishers in compliance with AS 2444 2001
- High voltage rescue grab tool (hook).

7.1.4 O & M Building

The O&M building (before the O&M Building is ready, temporary site compound during construction) fills the function of a first aid room and acts as the emergency control centre. Emergency equipment located within the O&M building includes:

- Portable defibrillator
- Portable First Aid kit/s Electrical Trades (+ burns kit + snake bite kit/bites and stings kit)
- Fire blanket located near the exit door in compliance with AS 2444 2001
- Dry chemical powder (ABE) fire extinguishers in compliance with AS 2444 2001.

A battery operated megaphone will be available to facilitate the direction of staff.

As the Emergency Control Centre, the O&M building will contain:

- a copy of the FERP
 - a laminated set of Emergency Response Procedures
- MSDS for all hazardous chemicals located on the NESF
 - MSDS folders are to be located at each facility
- Emergency Response Diagrams for the NESF
- Emergency Evacuation Plans for all buildings

7.1.5 Fire – fighting Water Tank

One static water supplies, with a 275,000 litre capacity and 50,000 litre of fire-fighting water reserve will be located at next to O&M Building and the Warehouse building.

The water supply tank will be fitted with 2 65 mm outlets, 65 mm ball valve and Storz Coupling and Banking Cap to facilitate re-filling by fire-fighting appliances.

8 ACTIVATION OF THE FERP

8.1 Initial Advice to Emergency Services

The emergency services are contacted via triple zero (000). The information to be provided should include the following where it is available:

- Name of the facility NESF and the location of the emergency/incident
- Number of individuals injured, nature of injuries, casualties
- Nature of the emergency
 - Туре
 - Scale
 - Brief description of events
- Hazards involved
 - Types of substances, quantities, UN numbers
- Contact phone number for return messages
- Name and position of person making the call
- Any other useful information
 - Access gate to use and directions
 - ERT member or security will meet emergency service at the gate to guide/direct them to the site.

8.2 Environmental Emergencies

The additional reporting requirements in the event of an environmental emergency, such as a discharge to a water body are provided within the NESF Environmental Management Strategy as provided.

8.2.1 Immediate Response

Any incident that occurs that causes or threatens to cause material harm will be reported immediately to GLC Construction Manager (during construction) or UPC/AC Renewables' Operation's Manager (during operations).

Upon receiving notification of an incident, the GLC Construction Manager (during construction) or UPC/AC Renewables' Operation's Manager (during operations) (or their delegate if off-site at the time of the incident) will immediately attend the incident and:

- Isolate the area affected by the incident
- Stop works around the area
- Implement containment measures to prevent the impact of the incident spreading
- Decide as to whether the incident has caused or threatens to cause material harm.

8.2.2 External Notifications

8.2.2.1 Duty to Report

If the GLC Construction Manager (during construction) or UPC/AC Renewables' Operation's Manager (during operations) (or their delegate if off-site at the time of the incident) has determined the incident has caused or threatens to cause material harm, he/she will, pursuant to requirements under Section 148 of the *Protection of the Environment Operations Act 1997* immediately notify the EPA.

- The EPA will be notified (verbally by phone via the Environment Line (131 555)) and provided the following relevant information:
 - The time, date, nature, duration and location of the incident

- The location of the place where pollution is occurring or is likely to occur
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- The circumstances in which the incident occurred (including the cause of the incident, if known)
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

The EPA may direct GLC or UPC/AC Renewables to notify such other persons of the incident as the EPA requires.

8.2.2.2 9.3.2 Notifications

Following EPA notification GLC or UPC/AC Renewables will then immediately notify DPIE and Uralla Shire Council. Consistent with Condition 4.3 of the Development Consent, DPIE will also be notified in writing by email to <u>compliance@planning.nsw.gov.au</u> including the following information:

- Identify the development (i.e. the NESF) and the application number (SSD 9255)
- Set out the location and nature of the incident.

8.2.3 Incident Management

Specific to the DPIE notification the following is noted:

DPIE notification will be undertaken immediately after the EPA has been notified, not immediately after GLC or UPC/AC Renewables becomes aware of the incident

• Uralla Shire Council will be notified verbally.

This initial notification to DPIE and Uralla Shire Council will be for information purposes alone and GLC or UPC/AC Renewables will continue to concentrate on responding to any instruction or request from the EPA.

8.2.4 Incident Reporting

8.2.4.1 Documentation

Any environmental incident will be recorded on an Environmental Incident Report and an updated Environmental Incidents Register will be maintained.

Each Environmental Incident Report will include details on:

- The date, time and duration of the incident
- Clarify whether there was material harm to the environment
- Detail the nature of the incident
- Climatic conditions
- The location of the incident
- Pollutants involved
- Circumstances in which the incident occurred
- Corrective action taken
- External notification, where applicable.

8.2.4.2 Dissemination

For an incident in which material harm has or could have resulted and the EPA has been notified, GLC or UPC/AC Renewables will provide reporting to the EPA as may be instructed, in accordance with the timeframes that may be so specified by the EPA.

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The GLC Environment Officer is to provide this information to the EMPC. This requirement includes the reporting of all environmental incidents that have the potential to give rise to an emergency response. This information is then reviewed by the EMPC to ensure that all ERP are adequate, and any omissions or improvements can then be actioned for incorporation into the upgrade of the FERP.

The EMPC are scheduled to meet quarterly and in response to an emergency incident with the FERP reviewed as required in accordance with the actions arising out of these meetings.

8.3 Special Cases – Bomb Threat

The NESF will utilise the following bomb threat checklist, Table 4 in accordance with AS 3745 – 2010. The NESF staff member taking the call will complete the Bomb threat checklist and immediately following the call advise their supervisor who will report the threat to the ERC. ERC will contact Emergency Services by dialling triple zero (000).

Table 4: Bomb Threat Checklist

PHONE THREAT CHECKLIST		
RECIPIENT:	KEEP CALM	
NAME (PRINT): TELEPHONE NO. SIGNATURE:		
GENERAL QUESTIONS TO ASK	RESPONSE	
1. What is it?		
2. When is the bomb going to explode? OR When will the substance be released?		
3. Where did you put it?		
4. What does it look like?		
5. When did you put it there?		
6. How will the bomb explode? OR How will the substance be released?		
7. Did you put it there?		
8. Why did you put it there?		
CHEMICAL/BIOLOGICAL THREAT QUESTIONS	RESPONSE	
1. What kind of substance is it?		
2. How much of the substance is there?		
3. How will the substance be released?		
4. Is the substance a liquid, powder or gas?		
BOMB THREAT QUESTIONS	RESPONSE	
1. What type of bomb is it?		
2. What is in the bomb?		
3. What will make the bomb explode?		
EXACT WORDING OF THREAT		

PLEASE TURN OVER FORM TO RECORD FURTHER CALLER INFORMATION

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PHONE THREAT CHECKLIST - KEEP CALM		
CALLERS VOICE	RESPONSE	
Accent (specify)		
Any speech impediment (specify)		
Voice (loud, soft etc.)		
Type of speech (fast slow etc.)		
Diction (clear, muffled, slurred etc.)		
Manner (calm, emotional rage etc.)		
Did you recognise the caller? If so – who?		
Was the caller familiar with the area?		
THREAT LANGUAGE	RESPONSE	
Well spoken:		
Incoherent:		
Irrational:		
Taped:		
Message read by caller:		
Abusive:		
Other:		
BACKGROUND NOISES	RESPONSE	
Street or house noise:		
Aircraft/Railway:		
Voices:		
Music:		
Machinery:		
NOTES		
Sex of caller: Male Female Estimate Age:		
CALL DETAILS		
Date & Time:		
Duration & Number called:		

ACTION - REPORT CALL TO SUPERVISOR/ADVISE ERC/DIAL 000

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9 SUPPORTING INFORMATION

9.1 Emergency Services Information Package (ESIP)

The ESIP will be developed and reviewed by the EMPC and distributed to the emergency service members of the EMPC.

ESIP information will be located at each of the site access points within the emergency services box.

The ESIP will include:

- Facility operating hours
- Emergency contact details office hours and after hours + alternates
- Location of hazardous/dangerous materials and MSDS Folders:
 - Gasoline
 - Diesel
 - LPG
- NESF Emergency Control Centre
- Emergency Response Diagrams for the NESF
- Emergency Evacuation Plans for all buildings
- Two (2) copies of laminated scaled site plans
- Location of fire-fighting water tanks

The ESIP will be updated as required so that all information is correct.

9.2 Safety, Health and Environmental Information

As the Emergency Control Centre for the NESF the O&M building will contain:

- A copy of the FERP:
 - A laminated set of Emergency Response Procedures
- MSDS for all hazardous chemicals located on the NESF:
 - MSDS folders are to be located at each facility
- Emergency Response Diagrams for the NESF
- Emergency Evacuation Plans for all buildings

Staff training records will be retained within the O& M building under the direct management of the OH&S Manager.

The O&M building site noticeboard will post:

- Relevant Safety and Emergency Information
- Daily site activities information:
 - Restricted areas
 - Areas of increased activity
 - Site hazards

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- Daily weather forecast:
 - Weather warnings
- Identify the ERC officer for the day.

9.3 Medical Facilities

The closest medical facilities to the NESF are located as follows:

Table 5: Medical Facilities

Medical Facility	Address	Phone Number
Uralla Medical Centre	22 Hill Street, Uralla NSW 2358	6778 4500
Armidale Rural Referral Hospital	226 Rusden Street, Armidale NSW 2350	6771 4000
Armidale Medical Centre	78 Barney Street, Armidale NSW 2350	6772 2233
West Armidale Medical Centre	277 Rusden Street, Armidale NSW 2350	6772 2933
Faulkner Street Medical Practice	145 Faulkner Street, Armidale NSW 2350	6772 2355
UNE Medical Centre	110 Butler Street, Armidale NSW 2350	6773 2916

10 MANAGEMENT OF THE FERP

10.1 Induction

The Emergency information to be included within the NESF induction pack will include:

- Reference to all identified hazards and corresponding Emergency Response Procedures
- Name and contact phone number of the ERC
- Instructions on how to respond in an emergency
- Daily updates of potential emergency situations (e.g., fire danger ratings, storm warnings etc)
- Identification of site access and egress routes, muster points and site maps showing the location of emergency equipment (e.g., hose reels, first aid)
- Snake identification and information reference sheet
- Communication procedure.

The site induction pack is to be retained by the worker for reference on site in the event of an emergency.

10.2 Training

The EMPC, that includes the GLC OH&S Manager/Officer, GLC Environment Manager and ERC in consultation with the UPC/AC Renewables Senior Management has the role of establishing the emergency training requirements of staff at the NESF. Training is required to meet Australian Standards, legislated requirements and National competency standards where they exist and otherwise to meet industry best practice.

Training will be delivered to meet the specific task/duty requirements of staff with respect to the management and response to emergency situation to ensure the workforce if capable and prepared to respond to emergency situation at the NESF.

Training will include but is not limited to the following:

- Basic First Aid as part of the Induction (all workers on site)
- First Aid Low Voltage (LV) rescue by accredited organisation
- Advanced (Level 2) First Aid and advanced first aid First Aid Officers by accredited organisation
- Basic Fire training (all workers on site) e.g., use of fire extinguishers, fire blankets, fire hose reels
- Fire response (Staff filling the role of fire wardens)
- Advanced fire-fighting Strike crew in coordination by NSW RFS/FR NSW
- LV/High Voltage Rescue
- Hazardous substance/spill response
- Emergency response.

A training register will be maintained on site and by Senior Management.

10.3 Emergency Response Scenarios

The emergency response scenarios are to comprise both practice drills and ERP reviews.

10.3.1 Practice Drills

The EMPC are responsible for coordinating these practice drills in consultation with site management.

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These emergency practice drills are to each be conducted twice a year and to be selected from the list of hazards identified as occurring at the site, Table 2. Emergency Services representatives are invited to attend these practice drills to participate and to provide input into the emergency response and mechanisms by which the ERP may be improved upon.

A review of the outcomes of the practice drill will be reported following a debriefing session provided by GLC to UPC/AC Renewables Management and emergency service agencies.

10.3.2 ERP Reviews

The EMPC will review 1 or 2 emergency response procedures (ERP) at each of the quarterly meetings resulting in 4 to 8 of the 19 identified ERPs being reviewed annually.

These ERP reviews involve the EMPC conducting a review of the procedure rather than staging an enactment of the scenario. The review may consider the following:

- Is the emergency response procedure readily available?
- Are site emergency contact numbers current and readily available?
- Is emergency equipment testing up to date e.g., fire extinguishers
- Do emergency response personnel understand their roles in the event of an emergency?

10.4 Emergency Incident Reporting

The NESF incident reporting form (GLC Incident Reporting Form) is to be utilised for incidents that escalate or involve an emergency response.

The GLC OH&S Manager/Officer is to provide this information to the EMPC. This requirement includes the reporting of all incidents that have the potential to give rise to an emergency response. This information is then reviewed by the EMPC to ensure that all ERP are adequate, and any omissions or improvements can then be actioned for incorporation into the upgrade of the FERP.

The EMPC are scheduled to meet quarterly and in response to an emergency incident with the FERP reviewed as required in accordance with the actions arising out of these meetings.

10.5 FERP Review

The FERP is subject to regular review and an over-arching review schedule. Review of the FERP is also triggered by an incident requiring an emergency response and by a major change to planned works at the NESF.

10.5.1 Scheduled Review

- Five-year FERP complete review
- Transition from construction to operations
- Annual Review
- Quarterly EMPC meetings:
 - ERP Reviews
 - Incident reports
- Practice Drill outcomes
- A review of the FMP is to be conducted following the end of the bushfire season that typically is at the end of March. The FMP annual review is required to be presented to the EMPC.

1 April 2021

10.5.2 Unscheduled FERP review triggers

- Emergency response incident/near miss:
 - Critical incident
 - Material Harm
- Proposed Change to NESF planned works/infrastructure
- Legislative or standards change:
 - National Construction Code
 - Australian Standards.
11 FIRE MANAGEMENT PLAN (FMP)

11.1 Introduction

The Hazard and Risk Assessment (Sherpa Consulting, 2018) undertaken to inform the EIS covered fire and bushfire. A stand-alone Bushfire Hazard Assessment (EMM Consulting, 2018) was also prepared to inform the EIS.

The following fire management plan (FMP) has been developed to address:

- The bushfire risk associated with a bushfire approaching the NESF from within the hazard zone
- The potential for a fire to spread from an ignition point within the NESF into the hazard zone impacting upon neighbouring properties
- The third aspect of this FMP is to address the risk associated with an infrastructure fire within the NESF.

Bushfire and grassfire are terms used interchangeably within this report.

This FMP builds upon the assessments conducted, namely Sherpa Consulting (2018) and EMM Consulting (2018) with GLC having provided additional clarification and comment on these assessments as considered necessary. Management actions, including recommendations contained within these assessments are consolidated within this FMP.

11.2 The Site

The general location of the site within the broader landscape is considered. While the vegetation and landscape immediately or within proximity to the NESF is an important aspect when developing an FMP, it is important to consider the potential for larger fires to develop in the broader region that may threaten the site. It is also important to consider the broader landscape so that evacuation of the NESF does not place personnel at greater risk.

The general site location is provided in Figure 2, while the site layout is provided in Figure 3.

11.3 Land Use

The land use within 30 km of the NESF has been mapped (Figure 5) and shows that there are large tracts of grazed native vegetation to the northwest and the south east of the NESF that pose a potential bushfire hazard. The land use between these regions is dominated by modified pasture with smaller areas of cropping (Figure 5). The land use within the NESF is predominantly modified pasture for grazing with small areas of cropping and grazing of native vegetation (Figure 6).

The standing fuel load of vegetation within the NESF has yet to be determined but will require monitoring across each bushfire season.

11.4 Fire Prone Land

REFER TO SECTION 3.4.1 and Figure 4.

The bushfire assessment undertaken to inform the EIS stated that approximately 12% of the core development area is mapped as bushfire prone land under the Uralla LEP 2012. Figure 4 shows mapped bushfire prone land outside of the core development area. Of this, the large area of Category 1 vegetation to the west-southwest of the Project, located between Big Ridge Road and Munsies Road presents a significant risk as it crosses the Project site access/egress roads. This vegetation is comprised of the Yellow Box (*Eucalyptus melliodora*) / Broad Leaved Stringybark (*Eucalyptus caliginosa*) (Figure 8), which can give rise to embers and firebrands during a bushfire and burn intensely. This vegetation is aligned such that a fire approaching the site from the west or southwest has the potential to run into this vegetation, intensify and continue towards the site.

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FIRE AND EMERGENCY RESPONSE PLAN(FERP) -NEW ENGLAND SOLAR FARM, URALLA, NSW

SMEC

NORTHERN RIVERS CATCHMENT MANAGEMENT AUTHORITY VEGETATION

Legend

	Road
++++	Railway
	Cadastral Boundary
	Site Boundary
Vegetat	tion Category
	Broad-leaved Stringybark
	Montane Stringybark-Gum
	New England Stringybark - Peppermint
	Yellow Box-Blakely's Red Gum
	Yellow Box-Broad-leaved Stringybark

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3. Site layout data sourced from the client, August 2020.



11.5 Bushfire Risk

11.5.1 Ignition Sources

REFER TO SECTION 3.4.1.

The potential for lightning to ignite a bushfire is discussed. REFER TO SECTION 3.4.2.2.

11.5.2 Fire History

The mapped fire history for the NESF and for an area within a radius of approximately 30 km from the site is shown in Figure 9. No fires have been recorded within 10 km of the site since 1960; however, it is important to note that small fires, typically less than 1 ha, may not have been recorded.

The distribution of bushfire within the broader landscape highlights two potential issues. The first issue is that bushfires can be expected to occur within the region that lies between Yarrowyck and Invergowrie to the north-west of the site. The threat posed by fires in this region is considered in section 11.5.3. The second potential issue highlighted by the fire history is the large number of fires within the ranges to the southeast of the NESF. This is to be noted with respect to the choice of evacuation routes, indicating that directing staff to evacuate towards this area is unlikely to be a preferred option.

11.5.3 Fire Runs

11.5.3.1 Yarrowyck/Invergowrie/NESF

This area includes the Mount Yarrowyck Nature Reserve and a broad ridge covered by native vegetation that is grazed that extends south-easterly to Invergowrie. The alignment is significant as it creates a potential fire run along the ridge line extending to approximately within 10 km of the NESF. The wind direction on days of extreme or catastrophic fire danger can be expected to be from the north-west which has the potential to spread a fire towards the NESF from this region. The land use between Invergowrie and the NESF is largely comprised of modified pasture and cropping. A bushfire originating in the region described has the potential to spot ahead into the agricultural land potentially giving rise to a grassfire that has the potential to continue to run with prevailing winds across the New England Highway into the NESF.





11.5.3.2 Balala/Rocky River or Uralla/NESF

Under westerly winds a potential fire path exists from the native vegetation that occurs west of Balala, potentially as far west as Warrabah National Park to the townships of either Rocky River or Uralla and subsequently through modified pasture and cropping land with patches of Broad Leaved Stringybark, or Broad Leaved Stringybark in association with Yellow Box towards the NESF. As discussed, the presence of Stringybark has the potential to intensify a bushfire and to generate embers and firebrands that can spot ahead of the fire front.

A shorter potential fire run exists for a fire originating near the townships of Rocky River or Uralla to the west of the NESF amongst native vegetation, along gullies associated with Rocky River. Patches of Broad Leaved Stringybark in association with Yellow Box that occur in the area have the potential to trigger spot fires and spreading the fire in the direction of Big Ridge Road and Munsies Road.

11.5.3.3 NESF/Dangarsleigh/Oxley Wild Rivers

A grassfire originating within Stage 1 of the NESF has the potential to burn into stands of Yellow Box – Blakely's Red Gum adjacent the northern and central arrays outside of the NESF perimeter. This fire may continue to burn as a grassfire with potential occasional flare ups as the fire runs into stands of Eucalypts before reaching Saumarez Creek. If the fire jumped the creek-line it may continue to burn towards Dangarsleigh and potentially running into the Oxley Wild Rivers National Park. Any bush fire originating from the NESF that reached the Oxley Wild Rivers National Park would have the potential to be a significant fire.

11.6 Access

11.6.1 External Access

REFER TO SECTION 2.5.

11.6.2 Internal Access Roads

The vehicle carrying capacity of internal roads within the NESF is required to meet Category 1 (or CAT 1) large 4WD fire.

Internal access roads as shown in Figure 3 must be constructed so as to avoid a dead end in accordance with NSW RFS Fire Trail Standards (2017). Under no circumstances are dead-end internal roads permitted within the NESF. All internal access tracks must meet the Category 1 NSW RFS Fire Trail Standards (2017). Internal access roads must be constructed with either or a mix of the following:

- A turning bay
- A terminal T shaped turning point
- Connect to the internal perimeter fence asset protection zone to allow CAT 1 fire fighting vehicles to turn or continue.

11.7 Water Supply

REFER TO SECTION: 7.1.5.

An additional water supply tank is located opposite the O&M building and is to be fitted with storz adapters to allow firefighting vehicles to refill.





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WATER SOURCES WITHIN 5km FROM SITE

Legend



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Base data sourced from NSW Spatial Portal Services Ship and Clip website, https://maps.six.nsw.gov.au /clipnship.html, sourced

25.09.2020.3. Site layout data sourced from the client, August 2020.



11.8 Asset Protection Zones (APZ)

An APZ provides:

- A buffer zone between a bush fire hazard and an asset
- An area of reduced bush fire fuel that allows suppression of fire
- An area from which back-burning may be conducted
- An area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property. (NSW RFS 2005).

All site buildings are to include an Inner Asset Protection Zone (IAPZ) of 10 m surrounded by an Outer Asset Protection Zone (OAPZ) of another 10 m. The combined 20 m APZ around site buildings acts to reduce the risk of flame contact, reduces the heat flux that the building is exposed to and provides fire-fighters with a safer space within which to operate.

Any landscaping within these zones must be compliant with NSW RFS (2005).

A 10 m APZ is to be created on the inside of the NESF perimeter fence as per Rural Fire Service NSW minimum requirements. The perimeter access track is to be located within this 10 m APZ.

APZs of a minimum 20 m are to be created around fuel storage facilities so as to eliminate fuel combustion risk.

11.9 Strategic Firefighting Advantage Zone (SFAZ)

The remainder of the site is to maintain a reduced fuel load through sheep grazing across the site, mowing or slashing.

11.10 NESF Construction Bushfire Risk Management

Fire management actions that relate to construction of the NESF are presented in Section 3.4.1.

11.10.1 Emergency Response Procedures (ERPs)

Four ERPs have been developed to respond to fire and smoke. They include:

ERP 2 Bushfire/Grassfire	REFER TO SECTION 5.2
ERP 7 Fire – Industrial	REFER TO SECTION 5.7
ERP 8 Fire – Building	REFER TO SECTION 5.8
ERP 9 Fire – Smoke	REFER TO SECTION 5.9.

These ERPs remain relevant following completion of construction of the NESF remaining in place and being refined by the review process for the operational phase.

11.10.2 Fire Fighting

11.10.2.1 Strike Vehicle

The Strike Vehicle located at the NESF is to provide a means of first response attacking small spot fires and other fires until assistance can arrive from the fire services.

REFER TO SECTION: 7.1.1.2.

11.10.2.2 Strike Vehicle Crew Training

REFER TO SECTION: 7.1.1.2.

The EMPC will consult the NSW RFS and FR NSW to ascertain the training program required for volunteer crew of the Strike Vehicle retained at NESF. It is proposed that the crew members conduct joint training exercise with local

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firefighting crews to become familiar with operational methods and local crews. As FR NSW is the primary rescue combat agency, they will be consulted to provide the crew with rescue specific training.

Strike Vehicle Crew PPE

REFER TO SECTION: 7.1.1.2.

11.11 NESF Operation Bushfire Risk Management

Fire management actions that relate to construction of the NESF are presented in Section 3.4.1.

11.11.1 Transmission Line Easement

Bushfire risk management measures exist for transmission line easements. TransGrid includes these bushfire mitigation measures within Easement Acquisition Deeds (i.e. easement terms) and the TransGrid Transmission Line and Easement Maintenance Plans. The existing TransGrid management measures are based upon the Electrical Industry Safety Steering Committee Guidelines (ISSC) relating to management of vegetation (ISSC 2016) and activities ISSC (2012) within easements.

Grass within the HV Transmission Line easement is to be maintained to achieve a Grassland fire hazard score of less than 35 when grassland curing is greater than 70 per cent in accordance with ESA (2014) that is equivalent to the fuel management standards for an OAPZ, for the entire bushfire season, Table 6.

Height	Cover (%)									
(metres)	10	20	30	40	50	60	70	80	90	100
0.1	1	2	3	4	5	6	7	8	9	10
0.2	2	4	6	8	10	12	14	16	18	20
0.3	3	6	9	12	15	18	21	24	27	30
0.4	4	8	12	16	20	24	28	32	36	40
0.5	5	10	15	20	25	30	35	40	45	50
0.6	6	12	18	24	30	36	42	48	54	60
0.7	7	14	21	24	35	42	49	56	63	70
0.8	8	16	24	32	40	48	56	64	72	80
0.9	9	18	27	36	45	54	63	72	81	90
1.0	10	20	30	40	50	60	70	80	90	100

Table 6: Grassland Fuel Hazard Score at 70% cured [Source Table4, ESA 2009].

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Table 7: NESF Fire Risk Management Actions.

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
ACCESS			
Access and egress must be kept clear and safe at all times.	yes	yes	
All access roads and tracks must be inspected annually, and management actions undertaken if roads and tracks are considered unsuitable for emergency vehicle passage (inspect for erosion, fallen timber, locked gates, and dead end tracks). Where locked gates are required, keys will be provided to RFS and FRNSW (if required).	yes	yes	EMM (2018)
Ensure gates are in good condition for entry and exit of fire fighting vehicles (in advance of bushfire season).	yes	yes	EMM (2018)
Ensure that there are no overhanging branches or objects that would prevent access within the development footprint, i.e. minimum 4 m vertical clearance (in advance of and throughout bushfire season).	yes	yes	EMM (2018)
Ensure perimeter roads and defendable space is free of obstacles to provide access for RFS and FRNSW fire-fighting appliances and personnel (in advance of and throughout bushfire season).	yes	yes	EMM (2018)
BUILDINGS			
Project buildings are to be constructed in accordance with AS 3959-2018 requirements – BAL 12.5 as a minimum.	yes	yes	
Ensure removal of material such as litter from roofs and gutters (in advance of and throughout bushfire season).	yes	yes	EMM (2018)
Ensure doors are fitted with draught seals and well maintained.	yes	yes	EMM (2018)

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NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Ensure screens on windows and doors are in good condition without breaks, tears or holes that allow penetration of airborne embers (<2 mm).	yes	yes	EMM (2018)
Ensure rooflines have no broken or dislodged roofing material and there are no gaps in the roof or eaves (in advance of and throughout the bushfire season).	yes	yes	EMM (2018)
Where practicable, a 20 m Building Protection Zone should be identified and maintained clear around all new building footprints during construction. Roads can be included within the building protection zone as part of the separation distance.	yes	yes	
A fire break 5 m wide is to be maintained around temporary site buildings	n/a	n/a	
DESIGN			
Ensure all water tank fittings are compatible with RFS and FRNSW fire trucks.	yes	n/a	EMM (2018)
Design and construction of assets is undertaken to meet legal requirements including NCC, industry standards or higher and is conducted to consider incorporation of relevant AS 3959 BAL (BAL 12.5 as a minimum), PBP (NSW RFS 2006) and recommendations of 2009 Victorian Bushfires Royal Commission (Parliament of Victoria 2010).	yes	no	This includes consideration of the use of aerial bundled cable (insulated) or underground cables.
Commercial buildings must have fully compliant fire safety systems in accordance with AS and BCA requirements and as appropriate to each building (in advance of and throughout the bushfire season).	yes	yes	EMM (2018)
All creek crossings are to be constructed to meet the requirements of a CAT1 tanker.	yes	n/a	Refer to NSW RFS (2016)

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
The LPG storage tank is to be fitted with a directed water deluge system. The technical specifications will be subject to the size of the LPG utilised at the site. Is to include a manual start.	yes	n/a	The deluge system will be tested in accordance with manufacturer's recommendations and the test and maintenance logged.
Installation of bollards to protect the LPG, Diesel and Gasoline storage vessels from collision.	yes	n/a	Need to consider whether some bollards are required to be removable in order to allow access for the service of the vessels.
EMERGENCY			
An Emergency management plan is to be developed and maintained that incorporates a response to bushfire incidence including evacuation.	yes	yes	ERP 2 Bushfire/Grassfire REFER TO SECTION 5.2 ERP 7 Fire – Industrial REFER TO SECTION 5.7 ERP 8 Fire – Building REFER TO SECTION 5.8 ERP 9 Fire – Smoke REFER TO SECTION 5.9 ERP 16 Site Evacuation REFER TO SECTION 5.16
Transport capable of evacuating all staff at NESF must be present and available on a daily basis in the event of fire or bushfire (or other emergency).	yes	yes	This capacity can be achieved via a mix of private vehicles and/or buses.
Emergency Practice Drill – for a bushfire at the site will be conducted prior to bushfire season at least once every 2 years. Fire services will participate in the debriefing following the practice drill.	yes	yes	Refer to Section 10.3.1
ERP reviews will be conducted by the EMPC	yes	yes	Refer to Section 10.3.2 ERP 2 Bushfire/Grassfire REFER TO SECTION 5.2 ERP 7 Fire – Industrial REFER TO SECTION 5.7 ERP 8 Fire – Building REFER TO SECTION 5.8 ERP 9 Fire – Smoke REFER TO SECTION 5.9 ERP 16 Site Evacuation REFER TO SECTION 5.16

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Emergency Services will be invited to participate in a site familiarisation visit during construction of the NESF and again following completion of Stage 1	yes	yes	Coordinated via EMPC
ENVIRONMENTAL MANAGEMENT			
Landscaping should utilise plants with low flammability. Short green grass (regularly watered and mowed), non-flammable mulch such as pebbles or gravel or paths, should be positioned against buildings. Shrubs or other plants should not abut buildings, with flammable plants no closer than 10 m from an exposed window or door.	yes	yes	Refer to NSW RFS PBP
Inspect and take the necessary action to maintain the defendable space as per IPA and Standards for Asset Protection Zones.	yes	yes	(NSW RFS 2005)
The ETL corridors are managed as per the specifications in ISSC3 Guide for the management of vegetation in the vicinity of electricity assets (ISSC 2016).	yes	yes	
Ensure combustible materials are well away from the buildings.	yes	yes	EMM (2018)
Inorganic materials are to be utilised for paths, switching yards and mulch.	yes	yes	
Vegetation on the construction site is to be managed so as not to present a fire hazard e.g. weed management, grass height ≤ 10 cm, cut vegetation to be managed so as not to present a fire hazard.	yes	no	
Gutters and the roof of any site buildings present during construction (e.g. site office) must be checked monthly and cleared of flammable material.	yes	yes	The inspection schedule may be altered if trees are absent – inspect prior to bushfire season and quarterly.
Easement managed to reduce the risk of bushfire.	yes	yes	Waste timber must not be stored within the NESF area.

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Implementation and maintenance of APZs identified within this report. Proposed APZs should be endorsed by the NSW RFS and incorporated into the New England Regional Fire Management Plan	yes	yes	
Weeds are to be managed across the site by a control program to ensure that they do not constitute a fire hazard.	yes	yes	Creek and drainage lines are to be a focus of the program. A weed management plan is to be developed.
Neighbouring landowners encouraged to install and maintain a 5 metre wide fire break against the external boundary of the NESF	Yes	yes	Coordinated by EMPC – this increases the APZ to 25 m
Sheep be utilised to reduce the vegetation within the NESF. Consideration can be given to crash grazing the site in the lead up to the August commencement of the bushfire season.	yes	yes	Sheep to be agisted either permanently on site or used to crash graze the site prior to or during the bushfire season to reduce the fuel load.
In the absence of sheep grazing mowing and slashing is to be conducted to reduce the standing fuel load to create a SFAZ.	yes	yes	
FIRE SAFETY SYSTEM			
Fire systems must be regularly serviced and audited in accordance with AS 1851 – 2012 Routine Service of Fire Protection Systems and Equipment, and AS/NZS 2293.1:2018 Emergency Lighting and Exit Signs for Buildings (Part 1: System Design, Installation and Operation).	yes	yes	EMM (2018)
Ensure all pumps and water sources are working, clearly marked and easy to find.	yes	yes	EMM (2018)
Routine maintenance of active fire safety systems such as hose reels or fire extinguishers (supplier recommended schedule of maintenance).	yes	yes	EMM (2018)

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Ensure that the drenching or spray system over the LPG cylinder is tested according to the suppliers recommended schedule.	yes	yes	
HAZARDOUS SUBSTANCES			
Store flammable liquids away from buildings or in approved storage compounds.	yes	yes	
Hazardous substances (Petrol, Diesel, LPG) is to be stored on an inorganic hard stand area that extends 20 m from the storage tank.	yes	yes	The intent is to establish and maintain a 20 m separation zone from flammable material.
INDUCTION			
Site Induction – staff are trained, have appropriate accreditations, qualifications, permits, licences, OHS&W training, familiar with bushfire/smoke/fire emergency response procedures and site controls.	yes	yes	Applies to staff and contractors and refers to associated management plans e.g. Safe work method statements. Copies of ERPs.
Hot works permitting system is defined – staff sign off.	yes	yes	
PPE			
All NESF staff are to have access to P2 disposable filters to provide protection from bushfire smoke.	yes	yes	ERP 9 Fire – Smoke REFER TO SECTION 5.9
Fire-fighting Strike vehicle crew are to have standards NSW RFS PPE supplied.	yes	yes	REFER TO SECTION: 7.1.1.2
PROCEDURES			
Temporary site buildings whether utilised for construction or ongoing operations are to be protected from bushfire and maintained so as not to present a fire risk (e.g. perimeter fire break, cleaning gutters, constructed of non-flammable materials).	yes	no	Temporary site buildings will be removed following construction. Any temporary building brought onto site during the operational phase will need to comply with these actions.

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NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Equipment is to be maintained and inspected to minimize risk of failure giving rise to a fire. Appropriate equipment is to be utilised for the task being conducted.	yes	yes	
Electrical equipment should be inspected, tested and tagged prior to use on the site.	yes	yes	
Standard operating procedures are developed for all tasks conducted incorporating consideration of bushfire risk.	yes	yes	
Monitor, rapidly diagnose and respond rapidly to system faults.	yes	yes	
Safety procedures must be developed for all power infrastructure within a substation or associated with transmission lines.	yes	yes	
Ensure all security clearances, communication and access arrangements have been updated and confirmed with RFS and FRNSW in readiness for upcoming season (in advance of bushfire season).	yes	yes	
Smoking in designated areas	yes	yes	
Hot works are to be restricted (critical works only – exemption required) on days of declared catastrophic fire danger. Restrictions on use must be incorporated into the safe operating procedure (SOP) for all equipment deemed to involve Hot Work.	yes	yes	
Hot works require a permit	yes	yes	
Areas where hot works are to be conducted must be cleared of flammable vegetation and materials in all directions to a distance of 5 metres.	yes	yes	

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
A fire extinguisher must be present when conducting hot works during the bushfire season.	yes	yes	
A spotter should be used when hot works are conducted in areas where flammable materials cannot be removed.	yes	yes	
A post work check of any hot works should be conducted after completion.	yes	yes	
Site vehicles are prohibited from driving through or parking in long grass during the bushfire season August to March inclusive.	yes	yes	
SECURITY			
Site security – security fencing, lighting, monitoring (active patrol and/or remote sensing CCTV). A security presence should be maintained at the site and the site should be actively patrolled after hours during the bushfire season.	yes	yes	
NESF management to liaise with Uralla Police via EMPC to identify potential arson 'hot spots', in particular any areas that are favoured for vehicle fires – burning stolen vehicles.	yes	yes	
TRAINING			
Training – all staff are to receive basic fire training in the use of fire extinguishers, fire blankets, fire hose reels.	yes	yes	GLC can provide this requirement in advance to contractors as a requirement for working on the site. Staff training register is maintained.
Fire-fighting Strike vehicle crew are to be trained in fire attack by NSW RFS and FR NSW.	yes	yes	Liaison via NESF EMPC to identify appropriate training for volunteer strike vehicle crew.
VEHICLES			
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NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Site vehicle specifications include bushfire risk reduction considerations including carrying one or more fire extinguishers be of a suitable height clearance for off road use and use diesel fuel.	yes	yes	
Vehicle access controls are established to define vehicle movement areas, control paddock access, restricting vehicle use on days of equal to or greater than high declared Fire Danger, vehicles fitted with a tracking device and UHF radio.	yes	yes	
The strike vehicle located at the NESF is to provide a means of first response attacking small spot fires and other fires until assistance can arrive from the fire services.	yes	yes	REFER TO SECTION: 7.1.1.2
WASTE MANAGEMENT			
Waste management plan – waste removed from site to avoid accumulation of flammable materials, locked non-flammable receptacles, secured.	yes	yes	
Flammable construction waste to be placed into metal skips or equivalent and removed from site when full. Wooden pallets and flammable waste materials are not to be stored on site.	yes	n/a	
WATER SUPPLY			
One static water supplie with minimum 45,000 litre capacity (2 x 22,500) will be located next to the O&M Building. Tanks will be of concrete or metal construction.	yes	yes	
The water supply tanks will be fitted with a 65 mm outlet, 65 mm ball valve and Storz Coupling and Banking Cap to facilitate re-filling by fire-fighting appliances.	yes	yes	

NESF Fire Risk Management Actions	Applies to Construction Phase	Applies to Operation Phase	Comments
Inspect static water supply levels and top up if required prior to commencement of the bushfire season and following their use.	yes	yes	
Monitor the site waterbodies to have a working knowledge of potential alternate water sources for fire-fighting purposes.	yes	yes	

11.12 FMP Monitoring and Review

11.12.1 FMP Monitoring

GLC Management is to confirm that FMP actions have been effectively implemented via a register and are to regularly monitor the performance of fire management actions.

It is recommended that GLC Management accurately map the footprint of all fires within the NESF so as to build an accurate fire history for the site.

GLC is to monitor the standing fuel load across the site on a monthly basis to determine.

11.12.2 FMP Review

Review of the FMP within the FERP is triggered by the same mechanisms as the FERP.

REFER TO SECTION 10.5.

A review of the FMP is to be conducted if significant changes in legislation occur that manifestly affect the management actions of the FMP component of the FERP.

This FMP is to be presented to the NSW RFS and FR NSW for comment and endorsement. Feedback from these agencies is to be incorporated into the FERP.

An unplanned fire within the NESF or within the immediate vicinity (within 1 km) of the NESF will trigger a review of the FERP ERPs and the FMP.

A significant change in the bushfire risk will trigger a review of the FMP, for example:

- An extended period of extreme weather
- Arson activity within 5 km of the NESF
- Housing development or subdivision of land for housing (within 5 km)
- Proposed significant change in site infrastructure.

A complete review of the FERP including the FMP is to be conducted prior to the 2025-2026 bushfire season.

12 SIGNATURE PAGE

GRANT FLEMING ENVIRONMENTAL

GFE

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Appendix A Emergency Response Diagrams NESF

Operation and Maintenance Building (O & M)

TO BE ADDED FOLLOWING COMPLETION OF DESIGN

Site Compound and Warehouse

TO BE ADDED FOLLOWING COMPLETION OF DESIGN

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Appendix B Evacuation Response Diagrams NESF

Operation and Maintenance Building (O & M)

TO BE ADDED FOLLOWING COMPLETION OF DESIGN & INSTALLED FOLLOWING CONSTRUCTION

Warehouse (opposite O&M Building)

TO BE ADDED FOLLOWING COMPLETION OF DESIGN & INSTALLED FOLLOWING CONSTRUCTION

Site Compound Main Warehouse

TO BE ADDED FOLLOWING COMPLETION OF DESIGN & INSTALLED FOLLOWING CONSTRUCTION

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