Emergency Response Plan
DRAFT

Dolcy Solar + Energy Storage Project

MD of Wainwright, Alberta

November 2023

WESTBRIDGE RENEWABLE ENERGY CORPORATION

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Plan Contents

List of Figures

List of Tables

1 General Information

1.1 Introduction

This Emergency Response Plan ("ERP") has been established to ensure the proper planning, practices and procedures are in place to effectively respond to emergency situations should they occur, per Alberta Safety Code – Part 7: Emergency Preparedness and Response. This ERP will provide direction to all workers on a worksite and emergency response units in the event of medical aid, serious injury, fire, explosion, or other situation that may require an evacuation and/or emergency response.

1.2 ERP Development

The ERP was developed based on four main criteria: communication, prevention, mitigation, and preparedness and response. These criteria will be foundational to the evolution of the ERP through all Project phases. Dolcy Solar Inc. ("Dolcy") considered the following resources during ERP development:

- Occupational Health and Safety Code, Part 7: Emergency Preparedness and Response; Regulation 87/2009
- CSA Standard CAN/CSA-Z731-03 (R2014), Emergency Preparedness and Response, 2014
- DNV-GL, Considerations for ESS Fire Safety, 2018
- DNV-GL, Quantitative Risk Analysis for Battery Energy Storage Sites, 2019
- NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2020
- TESLA Lithium-ion Battery Emergency Response Guide; For Tesla Energy Products including Powerwall, Powerpack, and Megapack – TS-00004027 – REV2.1, 2020.

1.3 Project Description

Dolcy is an Alberta-registered corporation owned by Westbridge Renewable Energy Corporation. Dolcy is proposing to construct and operate the Dolcy Solar + Energy Storage Project (the "Project" or "Dolcy Solar"), a 300 MW_{AC} solar energy generation and 100MW|200MWh battery energy storage project located in the Municipal District of Wainwright ("MD") on private lands in Township 41, Ranges 4 and 5 W4M, approximately 20km north of Metiskow and 20km southwest of Edgerton.

The Project area is sparsely populated with one residence within 400 meters. Existing infrastructure in the area includes oil and gas wells and buried pipelines, local gas co-op pipelines, underground telecommunication infrastructure, and overhead utility transmission and distribution power lines.

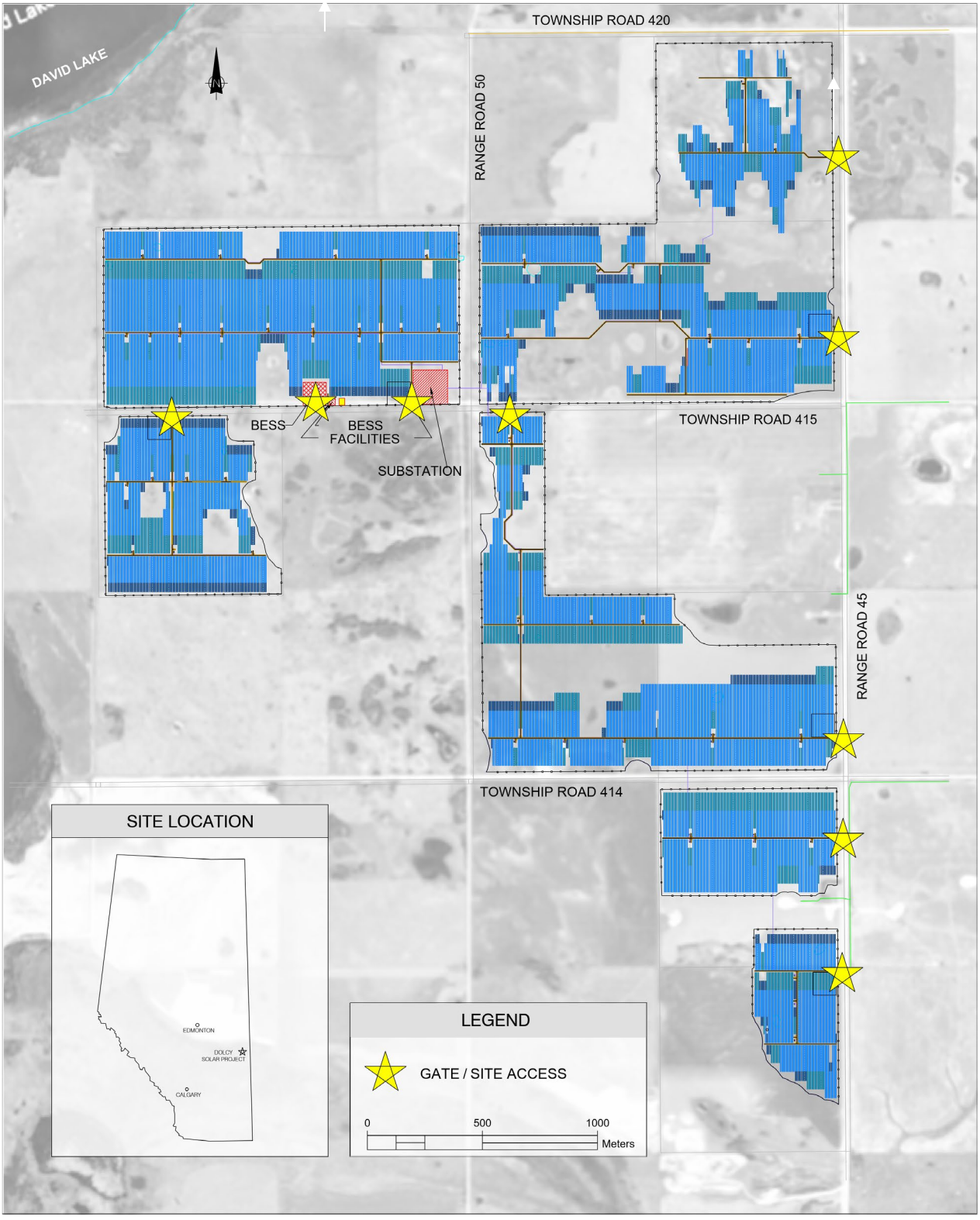

Figure 1 - Project Map

WESTBRIDGE RENEWABLE ENERGY CORPORATION

1.4 Site Access

The Project is located immediately adjacent to Range Roads 45 and 50. Routes for access to Dolcy can vary depending on the origination point of the emergency response agency. Access into the Project site is planned via four approaches from Township Road 415, and five approaches from Range Road 45 as shown in Figure 1.

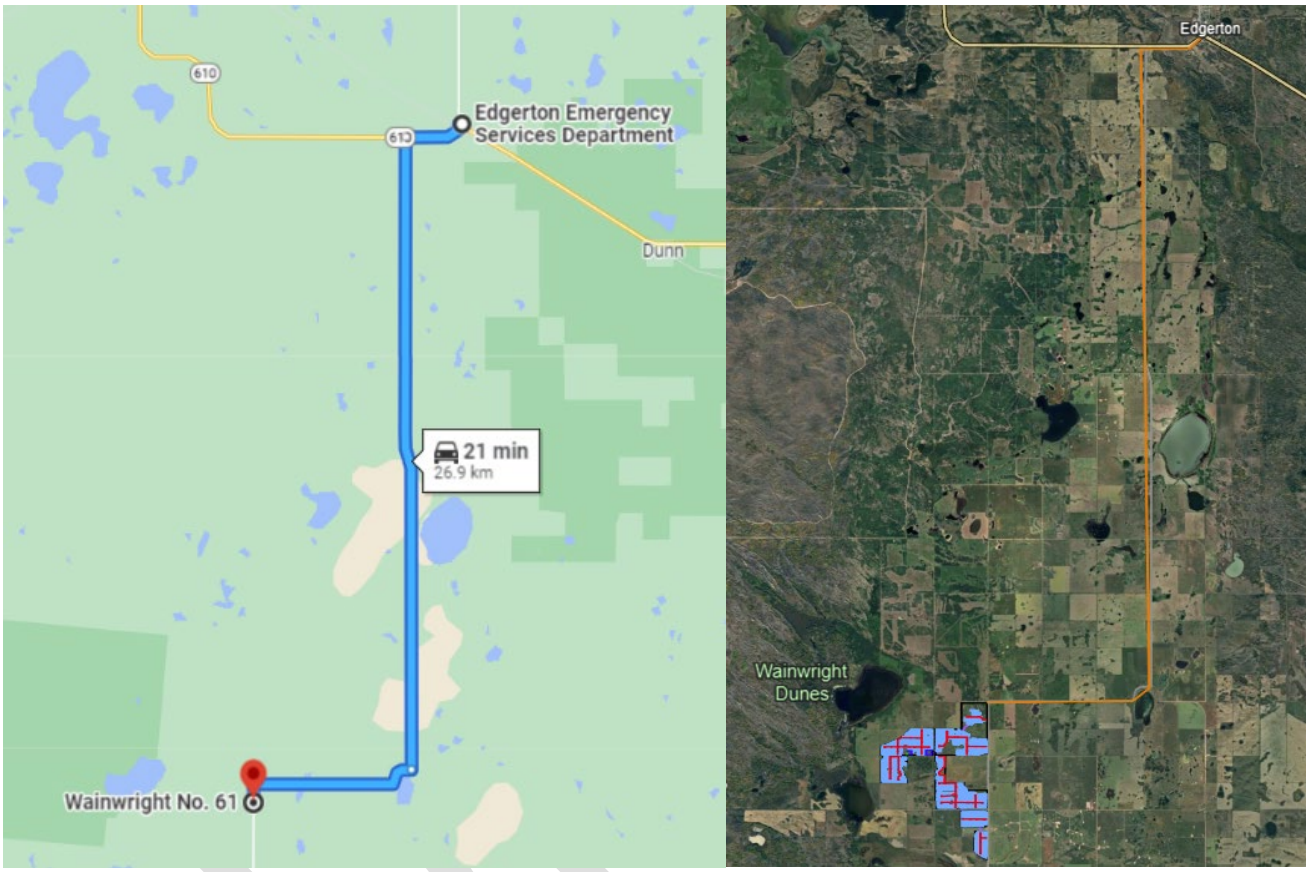

Figure 2 - Site Access from Edgerton

1.5 Emergency Response Jurisdictions

The Dolcy Project is within the jurisdictional boundary of the MD of Wainwright. Support from the Edgerton Emergency Services Department will be dispatched accordingly when contacting 9-1-1. Other fire and emergency response may be dispatched from Wainwright and Chauvin. Below is a detailed list of non-emergency services contacts. In a serious emergency always call 9-1-1 for immediate assistance.

1.6 Edgerton Emergency Services Department

The Edgerton Emergency Services Department is the primary response agency in the Project area for a major event. The Edgerton Emergency Services Department is a paid-part time organization which provides a professional level of emergency services to the citizens of Edgerton and surrounding area.

The Fire Stations located in the Town of Wainwright, Chauvin, and Provost are well equipped to respond to fire emergencies and has the following equipment available for fire response:

Edgerton Emergency Services Department

- (1) x Edge 1- Wildland/Urban interface pumper
- (1) x Edge 2- Rescue
- (1) x Edge 3- Pumper
- (1) x Edge 4- Wildland Rapid Response 1 ton pickup
- (1) x Edge 5- Side by Side with pump package
- (1) x Command Truck

1.7 Local Emergency Services

Table 1 - Emergency Response Agency Contacts

EMERGENCIES FIRST POINT OF CONTACT IS REACHED BY DIALING 9-1-1			
EMS / FIRE / POLICE / NON-EMERGENCY CONTACT INFORMATION			
Facility	Contact Name	Telephone	Address
Edgerton Emergency Services Department Fire Chief	Chris Krushel	780-993-6850	5037 50 Ave, Edgerton, AB
Wainwright Fire and Rescue Department	Aime Smyl	780-842-7278	806 3 Ave, Wainwright, AB
Chauvin Fire Station	Derek Adams	780-806-9514	4906 7th Ave, Chauvin, AB
Provost Fire Department Department Fire Chief	Barry Johnstone	780-753-1918	3911 53 Ave, Provost, AB
East Central 911		780-842-4215 Non-Emergency	
RCMP Provost Detachment		780-842-4463	826 3 Ave, Wainwright, AB
Provost Health Center		780-753-2291 Switchboard	5002 54 Ave, Provost, AB
Consort Hospital and Care Centre		403-577-3555 Switchboard	5402 52 Ave, Consort, AB
Wainwright Health Centre		780-842-3324 Switchboard	530 6 Avenue, Wainwright, AB

1.8 Site Contact Information

The Primary Contact during the construction phase of the Project will be designated as a representative of the Engineering, Procurement, Construction ("EPC") contractor. During the operations phase, a Site Operations Manager will assume responsibility for emergency services and be known as the Primary Contact. The Project team will be determined in detail, as the project further develops.

Table 2 – Construction Phase *Emergency Contacts*

Construction Phase Contacts for Dolcy Solar Inc.			
Position	Name	Cell Phone	Email
EPC Project Manager			
EPC Onsite Safety Lead			
Construction Manager			
Engineering Lead			
Environmental Coordinator			
Emergency POC			
Project Manager			

Table 3 - Operations and Maintenance Phase Emergency Contacts

Operations and Maintenance Phase Contacts for Dolcy Solar Inc.			
Site Operations Manager (Primary Contact)	TBD	Cell Phone:	Email:
BESS Subject Matter Expert	TBD	Cell Phone:	Email:
Safety Supervisor (Secondary Contact)	TBD	Cell Phone:	Email:

The Primary Contacts (PC) listed above will be responsible for ensuring that all personnel receive the required safety and site-specific training and orientations. In addition, the PC duties will include compliance with this ERP and that all agencies and appropriate stakeholders (including but not limited to local residents, emergency response units, transmission utility, and project owner) are properly notified in the event notification is required, and that all required plans and reports are prepared and submitted in a timely manner.

The information gathered will be recorded in the appropriate EPC / General Contractor - Emergency Response Plans. This information will be communicated to all workers, including sub-contractors and visitors in the site- specific orientation. The ERP is to be posted in clear view for all to access if an event that requires emergency response occurs. The ERP will be updated as required to reflect changes in circumstances on the work site.

1.9 ERP Training, Orientation & Distribution

The contents and requirements of the ERP shall be communicated to all employees working on site and that could be affected by an emergency through training, staff meetings, All Hands Safety Meetings, and/or tailgate meetings.

A copy of the plan shall be provided to emergency responders in the local community, the occupational health treatment facilities, and the local Fire Response Team.

The Project's Primary Contact (Superintendent) and Secondary Contact will be responsible for overseeing emergency services compliance. They're duties will include ensuring that the measures in this plan are complied with, all agencies and appropriate stakeholders (including but not limited to emergency response units, transmission utility, and project owner) are properly notified in the event notification is required, and that all required plans and reports are prepared and submitted in a timely manner.

This is a working document and revisions will be made in consultation with the MD of Wainwright and applicable fire and emergency response agencies for the Project area.

1.10 Emergency Response Drill

At least one emergency response drill shall be completed within ninety (90) days of mobilizing to site that engages the local emergency service providers in the community. Lessons learned shall be communicated Lessons learned shall be communicated across the project at Daily Hazard Assessment meetings, All Hands Safety Meetings, and Staff Meetings. Needed improvement areas shall be incorporated into the next revision of the plan.

1.11 Emergency Medical Care / First Aid / CPR

Before each shift a supervisor will identify each member of their respective crews who are First-Aid/CPR trained. In the event of a major-medical emergency, on-site personnel who are professionally trained should immediately assess the patient in conjunction with immediate notification to 9-1-1 and/or local or onsite Emergency Medical Services.

Each jobsite must have a sign in sheet listing the current workers and visitors on the worksite. During an event where the site is evacuated to the muster point, the designated emergency supervisors will perform a roll call to ensure that everyone is at the meeting place. A complete report will be written, and all parties involved will contribute a witness statement. The report will be submitted and reviewed at the next Daily Hazard Assessment meeting, as well as the next weekly safety meeting. There will be discussions on how or what went well and what went wrong in this situation. Procedures will be reviewed, and decisions made on if changes need to be addressed.

1.12 Safety Equipment Requirements

The following equipment will be kept on-site (at a minimum) to support on-site care:

- First Aid Kits: standard kits containing supplies for care of minor injuries or ailments. One (1) kit

per crew and one (1) kit in each jobsite office.

- Automated External Defibrillator (AED): portable device capable of restoring normal cardiac rhythm during cardiac arrest. One (1) in the jobsite office, One (1) in designed Site Safety Manager vehicle.
- Emergency use non-conductive rescue hook. One (1) in each jobsite office, One (1) in designed Site Safety Manager vehicle, One (1) at substation once energized.

All First Aid equipment should be stored in clean, dry area, accessible for regular inspection by crews and have documentation indicating equipment is in proper working order and supply is adequate. Replace any questionable, expired or exhausted supplies immediately.

2 Fire Prevention Plan (FPP) and Procedures

2.1 Purpose and Intent of the FPP

The intent of the FPP is to Identify hazards specific to site. With the goal of eliminating risks to prevent loss of life and property. Determining potential risks and/or causes of fires.

Educating employees to promote a safe environment. While bringing awareness and preparedness should a fire occur. Outlining a procedure to follow for the safety of the individuals on site at the time of a fire situation.

To establish proper procedures, training and rule out the responsible personnel for maintaining and servicing the equipment on site and systems in place to prevent and control a fire.

2.2 Responsibilities and Procedures

All employees are to be trained and should know how to prevent and respond to a fire emergency. All employees must:

- Complete an on-site training program identifying the fire risks for the project site.
- Know the protocol and follow emergency procedures should an event occur.
- Review and report potential fire hazards to the Onsite Primary Contact.

2.3 Site Specific Hazards Associated with Solar PV

Due to the unique nature of solar PV arrays standard fire suppression by means of water barrage are not always effective. Typical electrical or gas utility have a single point of disconnect. Photovoltaic (PV) solar arrays do not have a single point of disconnection, presenting a unique challenge for fire fighters. There are disconnects that will de-energize select parts of the system, if the PV panels are illuminated, the individual strings of PV panels are energized and capable of producing up to 1,500 volts. The following are possible hazards to consider when firefighting sites with photovoltaic solar arrays.

- No means of complete disconnection at one power source as there are multiple power sources.

- Outdoor rated electrical enclosures may not resist water intrusion from the high-pressure stream of a fire hose.
- Shock hazard due to the presence of water and PV power during suppression activities.
- PV panels and conductors damaged in the fire may not resist water intrusion.
- Shock hazard due to direct contact with energized components.

Other possible fire hazards and threats include grass fires due to lightning, failure of overhead lines, and construction-related accidents such as sparks from cutting operations and vehicular operations over dry vegetated areas, utility strikes, internal combustion engines, catalytic converters, and flammable/combustible liquids.

2.4 Large Fires

DO not attempt to extinguish a large fire or a soon to be large fire. Protect your safety.

- Persons discovering the fire should immediately contact the onsite supervisor and call 911 to report the fire.
- All personnel should be removed from the immediate danger area in anticipation of an evacuation.
- The Onsite Primary Contact will respond to the scene and ensure that the fire department has been dispatched. They will then determine evacuation needs, recruit/dispatch employees to assist with the evacuation and issue the following statement over the radio*: "Emergency Emergency Emergency, there is a fire emergency at (location name). Please evacuate (the affected area) and report to (designated meeting area)".*
- At this point, all employees in the affected area will stop work immediately, take steps to safely shut down equipment, exit the evacuation area, and report to the designated meeting area.
- In this scenario, fire extinguishers are to be used for escape purposes only.
- The Onsite Primary Contact will take the necessary steps to ensure that no employee re-enters the evacuated area until the Fire Department arrives and assumes command.
- No employee is required or permitted to place themselves in harm's way in order to facilitate extinguishment, evacuation, or rescue. All rescue operations will be performed by trained professionals upon their arrival.
- The Onsite Primary contact will provide notification to arriving MD of Wainwright Emergency Services that all employees are present and/or accounted for.
- The Onsite Primary Contact will issue an "All Clear" only when the Fire Department informs them that it is safe to do so.

2.5 Small Fires

Small fires that are in the early stage and can be controlled with a fire extinguisher. An example would be a small trash can fire. In the event of a small fire at the project:

Persons trained in the use of fire extinguishers are to attempt to put out fire.

- Call fire department if necessary.
- Fire extinguishers are located on all vehicles and motorized equipment.
- Do not allow the fire, heat, or smoke to come between you and your evacuation path.
- Select the appropriate type of fire extinguisher.
- Discharge the extinguisher within its effective range using the P.A.S.S. technique (pull, aim, squeeze, and sweep).
- Back away from an extinguished fire in case it flames up again.
- Exit the evacuation area, and report to the muster point or designated meeting area.
- No employees are permitted to re-enter the site until the incident commander deems it safe and will issue an "All Clear" when it is safe to do so.

2.6 Grass / Wildland Fire Procedures

The site should be free of combustible vegetation with only a ground cover of maintained vegetation adjacent and beneath the solar racking. Flying embers from off-site fire may inundate the area during fire events. The modified fuel areas and project features will resist ignition from ember showers. Ignition of the ground cover could result in a fast moving, but lower intensity fire that burn in a patchy manner on the site beneath the modules. This type of fire would be relatively short-duration as vegetative fuels are consumed rapidly. There would not be a sustained source of heat and or flame as there would be with surrounding wildfires. In the event of a vegetation fire under or near the modules or inverters:

- Call 9-1-1 immediately to activate emergency services as dry conditions and weather changes increase the risk of wildland fires.
- DO NOT attempt to extinguish the flames with water or other chemicals as an electric shock or arc could occur.
- If possible, safely attempt to shut down power at the inverter using the emergency shut off push button.
- Let the fire burn vegetation and self-extinguish.
- If flames continue away from modules or inverters, attempt to extinguish flames or contain the fire from spreading further.

3 Controlling Fire Hazards & Prevention Practices

Identification and elimination of conditions that may cause fires is the best method for eliminating injury, loss of life, or loss of property due to fires. Fire prevention at the Project will be promoted by:

- Educating employees about risks and how to maintain a safe environment.
- Identification of risk factors (ignitions sources, fuel sources).
- Proper storage procedures.
- Housekeeping and site maintenance to eliminate fuel sources and identify fire risks.

All employees, contractors and sub-contractors need to be educated on fire hazards and what procedures to follow to prevent and control fire hazards. Employees need to know how to respond to the fires those hazards might cause.

3.2 Assessing Fire Danger

Fire Danger is a relative index of how easy it is to ignite vegetation, how difficult a fire may be to control, and how much damage a fire may do. Site Supervisors and/or the Project Safety Supervisor will continually assess the fire danger using the following resources:

- Alberta Fire Bans Map - https://www.albertafirebans.ca
- Town of Edgerton Fire Risk Notices - https://www.edgerton.ca/emergency-services

The fire danger index will be used to guide onsite activities and during high or extreme fire danger, hot work may be suspended or mitigated with water trucks.

3.3 Welding and Open Flame / Hot

Work Cutting, welding, and open flame work are naturally hazardous. Welding processes may use oxyacetylene gas, electrical current, electron beams, and heat from fuel gas. It is critical that the highest level of attention be given to these activities to prevent fires at a PV power plant.

- Cutting and welding are to be done by authorized personnel.
- Welders are to wear eye protection and protective clothing as appropriate.
- Oxygen-fuel gas systems are to be equipped with listed and or approved backflow valves and pressure-relief devices.
- Establish a fire watch when required.
- Maintain an on-site water source, such as a water truck or tank.

3.4 Class "A" Combustibles

These combustibles consist of common materials (wood, paper, cloth, rubber, and plastic) that can act as fuel and are found on most work sites. To handle Class A combustibles safely to prevent fires:

- Dispose of waste daily (i.e. cardboard, wood pallets, packing materials etc.)
- Use trash receptacles with covers.
- Keep work areas clean and free of combustible materials.
- Store materials in the proper storage containers.
- Do a periodic check of the job site to make sure combustibles are being handled correctly Water and multi-purpose dry chemical (ABC) are approved fire extinguishing agents for Class A Combustibles.

3.5 Class "B" Combustibles

These combustibles include flammable and combustible liquids (oil, grease, tar, oil-based paints and lacquers) flammable gases, and flammable aerosols. To handle Class B combustibles safely to prevent fires:

- Use only approved pumps (with suction from the top) to dispense liquids from tanks, drums, barrels, or similar containers (or use approved self-closing valves or faucets).
- Do not dispense Class B flammable liquids into a container unless the nozzle and container are electrically interconnected by contact or bonding wire. Either the tank or container must be grounded.
- Store, handle, and use Class B combustibles only in approved locations where vapors are prevented from reaching ignition sources such as heating or electric equipment, open flames, or mechanical or electric sparks.
- Do not use a flammable liquid as a cleaning agent inside a building (the only exception is in a closed machine approved for cleaning with flammable liquids).
- Do not use, handle, or store Class B combustibles near exits, stairs, or any other areas normally used as exits.
- Do not weld, cut, grind, or use unsafe electrical appliances or equipment near Class B combustibles.
- Do not generate heat, allow an open flame, or smoke near Class B combustibles.
- Know the location of and how to use the nearest portable fire extinguisher rated for Class B fire.

3.6 Class "C" Combustibles

Class C fires are fires that involve energized electrical equipment. In the event of a Class C fire, ALWAYS de-energize the circuit(s) supplying the fire, and then use a non-conductive extinguishing agent such as carbon dioxide. A multi-purpose dry chemical (ABC) extinguisher can also be used on Class C fires. Do not use water, foam or other electrically conducive agents when fighting electrical fires. Once the electricity is shut down to the equipment involved, the fire generally becomes a standard combustible fire.

4 Hazards Associated with Battery Energy Storage Systems

In 2020, the American National Fire Protection Association published NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems,* which addresses the dangers of toxic and flammable gases, stranded energy, and increase fire intensity associated with stationary energy storage systems. In general, the hazards inherent in BESS include fire and explosion, chemical, electrical, stranded or stored energy, and physical hazards. These hazards vary based on the technology used and the operating conditions.

The Project currently contemplates the use of lithium-ion (Li-ion) batteries. Hazards specific to Li-ion batteries under **normal** conditions include:

- Fire due to latent defects in the cells themselves or design issues related to the system controls
- Electrical hazards due to the risk of direct contact with high voltage equipment or high battery energy levels
- Stranded or stored energy hazards can exist if the batteries cannot be discharged or isolated for routine maintenance or replacement

Hazard considerations for Li-ion batteries under **abnormal/emergency** conditions include:

- Fire due to short circuiting and thermal runaway conditions if batteries are not maintained at appropriate operating parameters due to abnormal conditions
- Chemical hazards may be present via off-gassing or hazardous vapours
- Electrical hazards may exist if the BESS is at hazardous voltage and energy levels
- Stranded or stored energy under normal and abnormal conditions are similar. Damaged batteries may contain stored energy, which may pose a hazard during disposal.
- Physical hazards may exist due to overheating parts, damaged moving parts (e.g. fans)

4.1 Considerations for Emergency Responder Pre-incident Planning

The deployment and long-term operation of utility-scale BESS poses an additional challenge for rural first responders and fire fighters. NFPA 855, Annex C contains valuable information for first responders to safely and effectively respond to incidents that involve battery energy storage systems. Fire departments are encouraged to develop pre-incident plans for responding to fires, explosions, and other incidents associated with BESS installations and include:

- Awareness and understanding of procedures involved with the BESS facility operations and ERP
- Knowledge of technology (battery type) and the related hazards and methods for responding to the particular type of BESS
- Identifying the locations of all electrical disconnects
- Understanding that there may be stored or stranded electrical energy in the BESS that cannot

be discharged or isolated

- Understanding procedures related to dealing with damaged BESS equipment
- Contacting the Dolcy Operations and Maintenance Manager or BESS subject matter expert to control or remove damaged equipment

4.2 Emergency Response Considerations

Immediate response would be from Edgerton Emergency Services with a 10-minute response time to the Dolcy Project site. The Edgerton Emergency Services includes members who are trained at various levels and do include Fire Fighter Levels I and II and those certified in medical first response.

First response would primarily be focused on containing fire to the property, ensuring a safe site, and accessing only if there is a medical emergency or injury. Fire fighter entrance into the site would only occur with permission of the Dolcy PC once equipment is de-energized, contained, and with direction from the BESS SME.

The 2023 update of NFPA 855 states that project sites where nonmechanical energy storage systems are installed shall be provided with a permanent source of water for fire protection. The Dolcy BESS has been sited adjacent to a dugout and water well. An underground water line is installed for the landowner to water livestock and both the dugout and water well are available for fire response.

4.3 Overheated Battery

If a fault occurs in the BESS and overheating of a battery cell(s) continues unchecked, damage may occur resulting in swelling, off-gassing, fire, or even explosion. Response to an overheated battery should include the following steps as outlined in NFPA 855, Annex C:

- Isolating area of all non-essential personnel
- Reviewing the status of the BESS buildings/containers, BESS alarm system, and facility with available system monitoring data
- Performing air monitoring of any connected spaces
- Identifying the location of overheated battery(s)
- Isolating the affected battery, string, or entire system based on the extent of damage by opening battery disconnect switched where possible
- Contacting the Dolcy Operations and Maintenance Manager or BESS subject matter expert
- Continue temperature monitoring to ensure mitigation or overheating condition

4.4 Understanding Thermal Runaway Conditions

Fires in electrochemical energy storage systems are often a result of thermal runaway, whereby the batteries create heat that cannot be dissipated, resulting in dynamic temperature increase. Fire responders should be prepared for toxic and potentially explosive gas release.

Toxic gases may be managed effectively through the appropriate personal protective equipment including a Self-Contained Breathing Apparatus (SCBA). The toxicity of gases released do not differ greatly from fires involving plastics; however, they should not be approached without SCBA, as concentrations of gases which cause Immediate Danger to Life and Health without PPE may be reached.

BESS thermal runaway prevention and response is outlined in the following sections.

4.5 BESS Design Considerations

The BESS will include a Battery Management System (BMS), an automated control and monitoring system, located on-site within a code compliant operating building or other suitable enclosure. The BMS will monitor sensors within and operating parameters of the BESS and, following programed logic and pre-determined ranges, thresholds, and triggers for monitored and operating parameters enact notifications, warnings, alarms, and protection modes without external intervention. Notifications, warnings, and alarms will be transmitted to remote operating and manual interventions of operation including protection modes may be made by operational personnel remotely or onsite.

- The BMS will identify an abnormal operation and takes necessary measures to prevent thermal runaway, such as isolating a cell, a module or even emergency shutdown of the entire container
- The BESS includes a thermal management system with liquid-cooling (e.g., often an ethylene glycol/water mixture) which dissipates the heat generated in battery cells and prevents overheating of the cells
- The BESS cabinet door includes deflagration venting to prevent explosion
- The BESS includes a fire detection system (including a smoke detector) and an automatic fire suppression system to detect and supress the fire as early as possible

4.6 Project Site Design Considerations

- Based on manufacturer's recommendation, a minimum clearance from back-to-back and side-to-side of the BESS containers has been considered to avoid fire propagation
- There will be sufficient clearance in the layout between BESS containers with other equipment (inverters, transformers, substation, etc.) to avoid fire propagation to the rest of the project site
- The BESS site will be cleared of any vegetation to avoid grassfires entering the BESS site
- A clear access route around the perimeter of the BESS site has been included to allow full access for first responders to all sides of the BESS.

4.7 Emergency Response

Response to electrochemical BESS related fires should include the following steps:

- Ensure that all non-essential personnel are cleared of the vicinity and ensure safe egress for all such personnel.

- Notify the Site Supervisor (and the Emergency POC, as applicable).
- If there is an ongoing or risk of fire, call 9-1-1 to alert emergency services.
- In the event that electrochemical BESS thermal runaway results in a fire, fire response should include system isolation and shutdown, hazard confinement and exposure protection, fire suppression, and ventilation.
- Shutdown, de-energize and isolate the affected and at-risk portions of the BESS (remotely as possible), and if necessary, on site, considering safe access requirements (fire, air quality etc.).
- Determine the air quality in all areas within the vicinity of the BESS, determine the wind speed and wind direction and notify all affected or potentially affected local stakeholders as required of potentially temporarily compromised air quality.
- Immediately engage 3rd party air quality monitoring if necessary (see air monitoring section below).
- As possible, evaluate the status of the BESS system via the system monitoring and control system (remotely) and monitor BESS stability and status via system monitoring data.
- Identify and isolate any overheating components via electrical disconnects.

4.8 Battery Energy Storage System Suppression Agents

For Li-ion battery fires, water is the preferred suppression agent due to its immediate cooling capacity, availability, and ease of onsite storage and transport. Fire fighting foams are not considered to be effective because they lack the ability to cool and can conduct electricity. Foams may also contribute to thermal runaway issues by insulating the burning materials and exacerbating heat rise. Dry chemical powders used in fire fighting may extinguish visible flame but, similar to foams, do not provide cooling to heated battery equipment. Thermal runaway inside the battery may continue potentially causing reignition.

4.9 Air Monitoring

Battery fires generally resemble plastic fires in terms of emission of toxic gases including CO, HCl, HF, HCN, Benzene, and Toluene. It should be noted that the specific gases are dependent on the battery type and chemistry. Li-ion battery fires will have short peaks of toxicity as individual cells randomly fail. However, battery fires, even once extinguished, continue to emit CO as long as the batteries remain hot.

Air monitoring during and after a BESS related emergency incident should be a priority for first responders. The BESS will contain a manufacturers air-monitoring system; however, it is recommended that fire responders use gas detection equipment to determine the presence and/or levels of toxic gases. Continued monitoring of CO from BESS fires, especially in enclosed spaces, and the continued use of personal protective equipment, including self-contained breathing apparatus, until CO levels are shown to be at normal levels. These practices may include monitoring for HCl, if applicable or possible.

4.10 Air Quality Dispersion Modelling Assessment

Should the AUC, municipality, or stakeholders require an Air Quality Dispersion Modelling Assessment, Dolcy Solar Inc. will complete the assessment upon final equipment selection and prior to providing the AUC a final project update to ensure that any risks associated with potential emissions emitted from the BESS in the unlikely event of a fire are considered appropriately and mitigated.

4.11 Hydrogen Buildup from Charging

Cycling Li-ion batteries can result in electrochemical reactions which release hydrogen gas. Without proper ventilation this hydrogen can build up in an enclosed space. The Lower Explosive Limit (LEL) for hydrogen is 4% concentration in air. Battery systems with this hazard are equipped with gas detection and alarm systems that would act to detect the generation of hydrogen and to shut down the system, as well, the enclosure venting would dissipate hydrogen generated into the atmosphere.

4.12 Vented Gas Combustion from Thermal Runaway

Lithium-ion batteries undergoing thermal runaway can vent their internal contents in the form of gas. Without proper ventilation, a combination of gasses can build up in an enclosed space. The LEL for this mixture can vary. Oxygen starvation fire suppression for lithium-ion battery systems is not recommended. Fire responders should be prepared for explosive gas release.

Safety measures include:

Fire Resistant Construction:

- Outdoor rated, non-walk-in battery enclosures made of high strength steel
- Fire resistant construction
- Ability to withstand potential mechanical forces during loading, transport, off-loading, installation and operation including seismic events

Fire Suppression System: smoke detector, temperature sensor, and a solid aerosol generator extinguisher are part of a standard fire suppression system.

Fire and Explosion Safety System: battery racks are typically monitored by a fire detection and suppression system. Very low gas concentration in case of thermal runaway.

4.13 Refrigerant and Coolant Leaks

HVAC systems designed to keep BESS within nominal operating temperature ranges have moving mechanical parts such as fan blades which, in the event of mechanical damage, may pose hazards to responders. Additionally, refrigerant or coolant lines or tanks may become mechanically damaged and leak refrigerant gas or coolant liquid. Each pose their own toxicological hazards. Responders should refer to equipment-specific safety data sheets (SDS) for further information.

5 Fire Reporting & Employee Training

5.1 Fire Incident Reporting

A fire report should be completed for all fires that occur on or in the vicinity of the site, including all small fires and ignitions, prescribed ecological burn fires and wildfires. If the incident is managed by Edgerton Emergency Services or other local agencies, the fire reports from that agency / fire station will be obtained, reviewed and kept on record for monitoring and reporting purposes for the Project. Fire reporting should include details of the following:

- Fire name, ID and location.
- The person / agency responsible for responding to the fire.
- The command and control arrangements / incident team.
- A fire map, including a hand sketch or GIS map of the fire perimeter. Fire mapping should include known or suspected ignition point/s, fire perimeter, fire paths, asset damage, islands of unburnt areas, fire control lines, and other information specific to the fire.
- Fire management/control measures and strategies. This may include a list of equipment, personnel, vehicles utilised and their role (including agencies/equipment/personnel).
- Any unintended fire impacts to ecological values or other assets.
- Follow up action and additional reporting requirements, such as near-miss or injury, effectiveness of the burn, post-fire assessment requirements.

The annual monitoring for the Project will include a summary of all ecological burns and fire incidents. The fire reports and outcome will also be used to inform an adaptive management approach (e.g. improvements in fire mitigation procedures and/or response procedures) and incorporated as part of the document amendment procedure.

5.2 Fire Safety Training

Employees will be trained in and review any special hazards that might occur at the site, such as flammable materials, fuel storage, toxic chemicals, and water reactive substances. Fire safety training should occur during the site safety training. Every employee must take this training before starting work. Training to include:

- Employee roles and responsibilities.
- Recognition of potential fire hazards.
- Alarm system and evacuation routes.
- Location and operation of manually operated equipment (fire extinguishers).
- Emergency response procedures.
- Emergency shutdown procedures.

- Good fire-prevention housekeeping practices and equipment maintenance.

5.3 Site Maintenance & Housekeeping

All installed fire prevention or fire response equipment shall receive monthly inspections (with records) and regular maintenance in accordance with OSHA requirements. All personnel and subcontractors carrying fire extinguishers in their vehicles are responsible for conducting a monthly inspection of the extinguishers to ensure the equipment is in good working order and ready for use in a fire emergency.

- Combustible material should not be stored in mechanical rooms or electrical equipment rooms.
- Storage is not allowed in electrical equipment rooms, or near electrical panels.
- Electrical panel openings must be covered.
- Power bars must be plugged directly into an outlet and should be for temporary use only.
- Extension cords and flexible cords should not be substituted for permanent wiring.

5.4 Safety Data Sheets

Location and Posting:

Each subcontractor shall maintain a listing of all materials that they are using which may be flammable or hazardous to health. Therefore, refer to each subcontractor for the most comprehensive and up-to-date listing together with the Safety Data Sheets (SDSs) for each chemical.

The location of the SDSs maintained on site shall be posted on the project information board and a copy will be added to the WHMIS project binder located on site.

5.5 Fire Fighting Equipment Requirements

As per the *Alberta Prairie and Forest Protection Act and Regulation*, any person carrying on or overseeing an industrial or commercial operation in or within 1 kilometer of any public land shall keep at the site available for immediate use an adequate water supply for firefighting purposes plus at least the equipment listed in Table “3” in good working condition, according to the number of workers employed at the site.

Table 4 - Fire Fighting Equipment Minimum

Minimum Requirements for 3 or More Personnel								
Equipment	**Number of Personnel at the Worksite**							
	3	**4**	**5**	**6-10**	**11-20**	**21-30**	**31-40**	**41+**
Shovels	2	2	3	5	10	15	20	Contact the Director of Forestry to determine requirements
Backpack with Pump	1	2	3	5	10	15	20	
Axe or Pulaski	1	1	2	5	10	15	20	
Fire Pump	0	0	0	0	0	1	1	
Fire Hose	0	0	0	0	0	450 m	450 m	
Chainsaw	0	0	0	0	0	1	1	

5.6 Fire Equipment Safety

The following are preventive measures to eliminate possible risks of fires.

- All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
- Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types shall maintain their factory-installed (type) mufflers and catalytic converter shields in good condition.
- Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
- The project proponent shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.
- Hot work permit. Activities using open flame heat sources shall be controlled and managed via an approved hot work permit process. A fire watch shall be maintained for one hour after activities that require a hot work permit cease.

6 Emergency Responses

6.1 Types of Emergencies and Responses

Some possible emergencies for the scopes of work undertaken by workers and subcontractors to consider include, but are not limited to, the following:

- Medical Emergency: worker injury or personal medical issue.

- Fire: wildland/grassfire or electrical fire.
- Severe Weather/Catastrophic Emergency: tornado, high wind event, blizzard, flood, lightning
- Fall from heights.
- Wildlife interactions.
- Hazardous Material Emergency: chemical spills, equipment failures, environmental conditions dangerous to personnel.
- Electrocution: contact with AC or DC conductors or step and touch hazards.
- Vehicle: vehicle incident.

7 Emergency Procedures

7.1 Fire Emergency Notification Procedures

- All fires shall be immediately reported to the local emergency services (9-1-1) and the Project Primary Point of Contact.
- The POC shall coordinate the emergency response for the fire and ensure site evacuation procedures are followed.

7.2 Personnel Emergency Notification Procedure

Assess the emergency and notify emergency services and site safety

If there is a potentially life-threatening injury or scenario, the first step is to call 911 directly.

Then contact the Project Supervisor and Subcontractor/Owner Safety Representative by radio or cell phone depending on available services at site.

If the injury or scenario is not life threatening, contact the nearest Supervisor, as well as the Project Safety Supervisor and Subcontractor/Owner Safety Representative by radio or cell phone depending on available services at site.

Describe the emergency scenario. Typically, the categories below can be used:

- Incident type (e.x fall, crush, vehicular accident, fire, electrical shock)
- Potential Fatality
- Major illness (ex. Not breathing, heart attack, unconsciousness)
- Major injury (ex. broken bone, loss of limb, severe cuts/bleeding)
- Minor injury (ex. twisted ankle, foreign body in eyes, minor cuts)
- Bite/ Sting (ex. Snake, wasp etc)

- Severe Weather (eg; Lighting strike, heat or cold stress, tornado)

Identify Location

Provide the location of the emergency, by referring to the nearest structure or road junction.

Determine Appropriate Response

Unless the injury is a life-threatening injury, the Supervisor (PC), Project Safety Supervisor, and Subcontractor/Owner Safety Representative will determine the appropriate response, which may be:

- Arrange for a site First Aid Trained Employee to respond to the location of the injured.
- Arrange for transport of the injured to the site safety trailer for first aid administration, and further evaluation.
- Arrange for site transport to take the injured to a hospital or local medical clinic.
- Arrange for 911 services to respond directly to the injured employee.

Coordinate

- Send an employee to the nearest site access point to meet the emergency responders and escort them to the location of the location of the emergency.
- If offsite 911 responders are notified, the Project Safety Supervisor and Subcontractor /Owner Safety Representative will coordinate in directing the emergency services to the scene of the incident.

Accompany

- The First Aid Trained Employee, Supervisor, Project Safety Supervisor, and Subcontractor/Owner Safety Representative will continue to assist with the emergency scenario.
- If the decision is made to transport the employee directly to an offsite hospital or medical clinic (either by site transport or by 911 emergency responders), the employees' Supervisor, the Project Safety Supervisor (or designee), and the Subcontractor/Owner Safety Representative shall:
    - Accompany the injured employee to the hospital.
    - Stay with the injured employee until examination (including a drug and alcohol test) is complete, and the diagnosis is completed (in order for a full report including the extent of the potential injuries can be made.)
    - Supervisors shall make known to the treating medical practitioners the employee's typical work duties, the availability of oversight for the employee's return to duty, and alternate duties available to the employee.

Notify Employer

- The employee's Supervisor shall notify the employee's employer and emergency contact.
- Project Safety shall notify Corporate HSE as applicable and the Project Project Manager within established time frames.

- Subcontractor/Owner Safety Representative shall notify the Owner within established time frames.

Media Response Plan

- If an emergency draws the attention of the media and the public, certain procedures need to be in place. Cordon the area off with tape and barricades.
- Secure the area for the investigation that will occur. Have a media representative from the owner meet with the media when a release of information is allowed after discussions with the owner/client and the authorities.

7.3 Spill Response Procedure

Immediately report any releases of hazardous materials to your Supervisor and the Environmental Supervisor (TBD)

The site Spill Prevention, Control and Countermeasure (SPCC) plan shall be followed when a spill occurs on site that involves any oil products. See SPCC plan for more details.

In case of Spill to Land:

- Stop all work in the vicinity of spill;
- Identify the product - check container design, warning labels, markings, etc;
- Prevent personnel from approaching the site and keep them at a distance sufficiently removed that they will not be injured by, or cause, a fire or explosion;
- Install measures to contain the spill if it is safe to do so utilizing a spill kit as appropriate;
- A spill kit shall include: Poly containment pail, oil absorbent pads, oil absorbent socks, heavy duty disposal bags, nitrile gloves, all-purpose absorbent (such as sawdust or kitty litter), shovels, plugs and clamps (zip ties) to control a line break; and,
- Wait for further instructions from responding personnel.

In case of spill to water:

- Stop all work in the vicinity of spill;
- Identify the product - check container design, warning labels, markings, etc;
- Prevent personnel from approaching the site and keep them at a distance;
- Install measures to contain the spill if it is safe to do so; and,
- Wait for further instructions from responding personnel.

7.4 Site Evacuation Procedure

Each jobsite must have a sign in sheet listing the current workers and visitors on the worksite. During an event where the site is evacuated to the muster point, the designated emergency supervisors will perform

a roll call to ensure that everyone is at the meeting place. A complete report will be written, and all parties involved will contribute a witness statement. The report will be submitted and reviewed at the next *Daily Hazard Assessment* meeting, as well as the next weekly safety meeting. There will be discussions on how or what went well and what went wrong in this situation. Procedures will be reviewed, and decisions made on if changes need to be addressed.

An evacuation practice drill will be a part of the initial safety meeting held on site. Subsequent drills will be conducted at varying frequencies no less than two per calendar year depending on the duration and scope of work being undertaken at the site. These drills aid workers in understanding how to deal with an emergency correctly and efficiently and must be documented and records kept on site for audit purposes.

7.5 Designated Medical Facility

Dolcy will designate a Medical Facility/Urgent Care Clinic for nonemergency, occupational health related injuries and illnesses.

Table 5 - Primary Non-Emergency

FACILITY NAME	ADDRESS	PHONE NUMBER

If the clinic is not available when needed during early, late, or weekend work hours, the hospital identified below will be utilized:

Table 6 - Hospital

FACILITY NAME	ADDRESS	PHONE NUMBER

7.6 Damage Incident (No Injury)

In the event of a property, vehicle, road, equipment, and other damage related incident the below course of action will be followed:

- Notify Supervisor - contact the nearest Supervisor or employee, preferably the Safety Supervisor, by radio or cell phone depending on the services available at the site;
- Describe - the nature of the damage and the location of the damage incident, by referring to the nearest structure or road junction; and,
- Stop Work - stop all work in an area of damage until the Safety Supervisor arrives to investigate the incident. Equipment and vehicle operators should stay near the vehicle.

7.7 Electrocution/contact with high voltage

All field personnel are first aid trained in how to deal with electrocution. The Primary Contact or Safety Supervisor will be informed and will call STARS Emergency Link Centre with the site ID #

- Protect your own personal safety;
- Control the scene; stop work, shut down equipment and notify all workers in the area;
- Immediately report the incident/injury to your foreman/supervisor who will notify the designated client representative for the site. The Safety Supervisor (or designate if applicable) will, if required as per Section 18 of the *Alberta OH&S Act*, notify Workplace Health and Safety of the incident;
- Initiate the rescue plan to safely remove the casualty from close proximity of the electrical source; and,
- Administer first aid as needed and keep the individual warm.

7.8 Fall From Heights

- Field personnel are first aid trained in how to deal with falls from height and the related injuries. Primary Contact will be informed and will call STARS Emergency Link Centre with the site ID #;
- Protect your own personal safety;
- Control the scene; stop work, shut down equipment and notify all workers in the area;
- Immediately report the incident/injury to your foreman/supervisor who will notify the designated client representative for the site. The Safety Supervisor (or designate if applicable) will, if required as per Section 18 of the *Alberta OH&S Act*, notify Workplace Health and Safety of the incident;
- Initiate the rescue plan to safely lower the individual who has fallen or is suspended to a safe location; and,
- Administer first aid as needed and keep the individual warm.

7.9 Act of God/Extreme weather

In cases of tornado, flood, hurricane, lightning strike, meteor strike, earthquake, or solar flare; an emergency evacuation will be executed, and project management/EH&S will be notified.

- Protect your own personal safety;
- Control the scene; stop work, shut down equipment and notify all workers in the area;
- Immediately report the incident/injury to your foreman/supervisor who will notify the designated client representative for the site. The Safety Supervisor (or designate if applicable) will, if required as per Section 18 of the Alberta OH&S Act, notify Workplace Health and Safety of the incident; and,

- Devise a plan to move the casualty to an area that is out of the elements. This should only be done if the moving of the casualty will not cause further injury.

7.10 Wildlife Contact

- Protect your own personal safety - do not approach casualty until wildlife has been cleared away;
- Control the scene; stop work, shut down equipment and notify all workers in the area;
- Immediately report the incident/injury to your foreman/supervisor who will notify the designated client representative for the site;
- The Safety Supervisor (or other designate) will, if required as per Section 18 of the *Alberta OH&S Act*, notify Workplace Health and Safety of the incident; and,
- Devise a plan to move the casualty to an area that is out of the elements and away from the wildlife. This should only be done if the moving of the casualty will not cause further injury.

7.11 Snakebite

Personnel should be taken to the nearest major hospital as soon as possible where doctors will determine whether it is necessary to administer anti-venom. In case of a severe reaction (eg; loss of consciousness, not breathing, seizure, cardiac arrest), **call 911 immediately**. A bite victim should always be transported to hospital for assessment despite the fact that they may experience no effects from the bite.

First Response:

- Allow the bite to bleed freely for 15–30 seconds;
- Cleanse and rapidly disinfect the area with an iodine solution (if not allergic to iodine, fish, or shellfish), and remove clothing and jewelry from the body extremity where the bite occurred (pant legs, shirt sleeves, rings, etc.);
- If bite is on the hand, finger, foot, or toe - wrap the leg/arm rapidly with 3" to 6" of ACE or crepe bandage past the knee or elbow joint immobilizing it. Over-wrap bite marks. If possible, apply hard and direct pressure over the bite using a 4” x 4” gauze pad folded in half twice to 1” x 1”. Tape in place with adhesive tape. Soak gauze pad in Betadine™ solution if available and victim is not allergic to iodine, fish or shellfish;
- Strap gauze pad tightly in place with adhesive tape;
- Over-wrap dressing above, over, and below bite area with ACE or crepe bandage, but not too tight. Wrap ACE bandage as tight as one would for a sprain. Not too tight. Check for pulse above and below elastic wrap; if absent, the wrap is too tight. Unpin and loosen. If pulses are strong (normal), it may be too loose;
- Immobilize bitten extremity use splinting if available;

- If possible, try and keep bitten extremity at heart level or in a gravity-neutral position. Raising it above heart level can cause venom to travel into the body; below heart level can increase swelling;
- Evacuate to nearest hospital or medical facility as soon as possible; and,
- Do not delay medical care.

What to Communicate at the Hospital:

- Ask the staff to immediately contact their designated Poison Control Center;
- If required, more information can be found at Poison Control Information Services line (1-800-332-1414); and,
- Ask the hospital staff to use physician consultants available through the nationwide Poison Control Network if necessary.

What NOT to do if bitten by a venomous snake.

- Contrary to advice given elsewhere, do not permit removal of pressure dressings or ACE bandages until you are at the treatment facility and the physician is ready and able to administer anti-venom. When the dressings are released, the venom will spread causing the usual expected problems associated with a venomous snakebite; and,
- Do **NOT**
    - eat or drink anything;
    - engage in strenuous physical activity;
    - apply oral/mouth suction to the bite;
    - cut into or incise bite marks with a blade;
    - drink any alcohol or use any medication;
    - apply hot or cold packs;
    - apply a narrow, constrictive tourniquet such as a belt, necktie, or cord;
    - use a stun gun or electric shock of any kind; and,
    - remove dressings/wraps until arrival at hospital and anti-venom is readily available.

8 STARS First Response

The Shock Trauma Air Rescue Service ("STARS") is a Canadian non-profit helicopter air ambulance organization. The STARS VIGILANT Emergency Communications Centre provides efficient activation of emergency response plans and monitors remote work sites, improving emergency preparedness for remote work sites. In the event of an emergency at a remote site, one call connects to a STARS VIGILANT emergency communications specialist who immediately begins to coordinate a medical response. Given the remote location of the Dolcy Solar Project, the site will be registered with STARS VIGILANT to assist with major incident and trauma response.

In the case of an emergency, a STARS VIGILANT emergency communication specialist trained by the International Academy of Emergency Medical Dispatch will activate advanced technology to facilitate emergency response protocols. Edgerton Emergency Services are trained to land STARS in remote locations.

The nearest health care facility, Wainwright Health Centre, includes a heliport facility (ICAO Code: CWH2) to accommodate STARS First Response.

The STARS Remote Site Landing Zone Card is included below for reference.

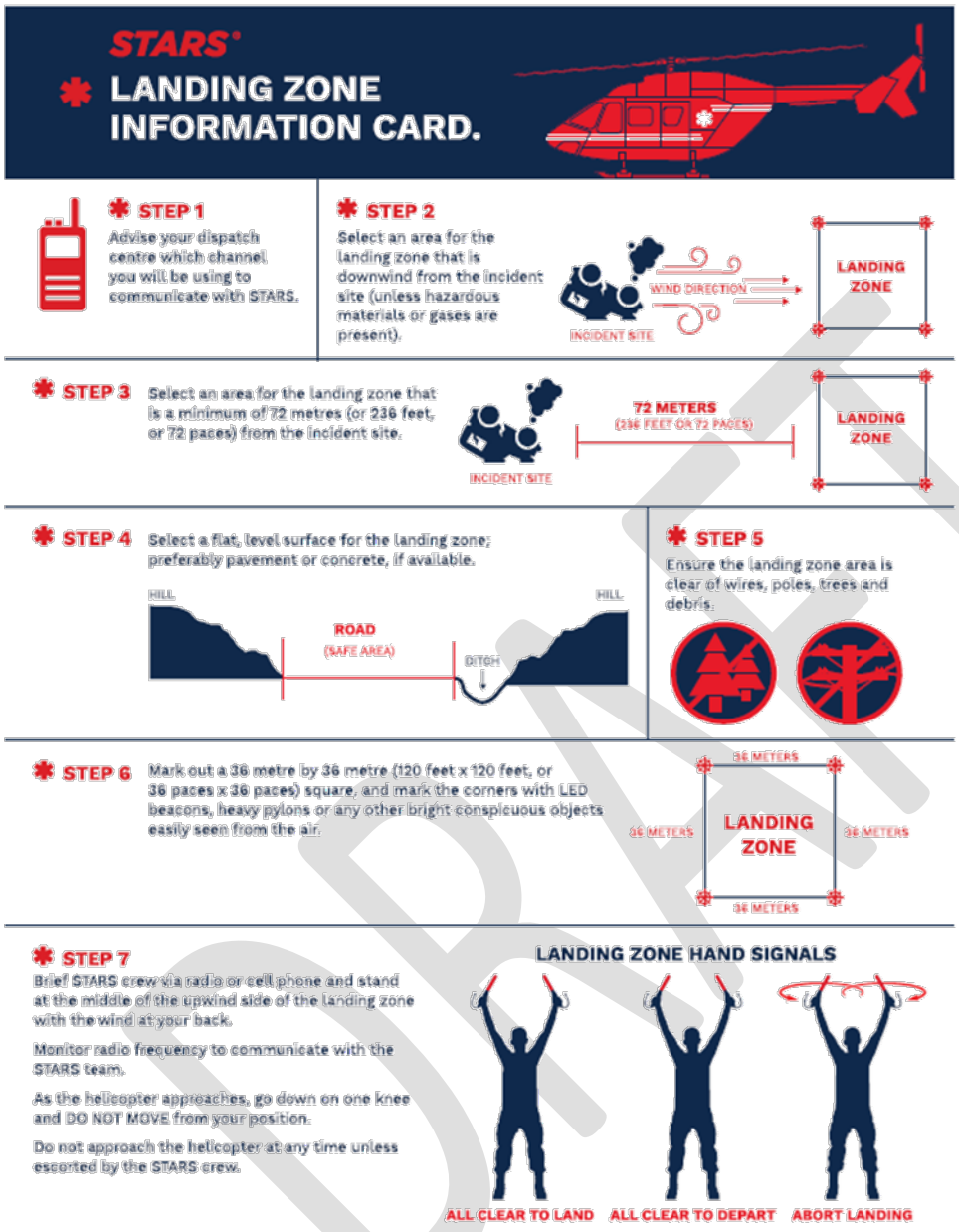

Figure 3 -STARS Landing Zone Information Card

WESTBRIDGE RENEWABLE ENERGY CORPORATION

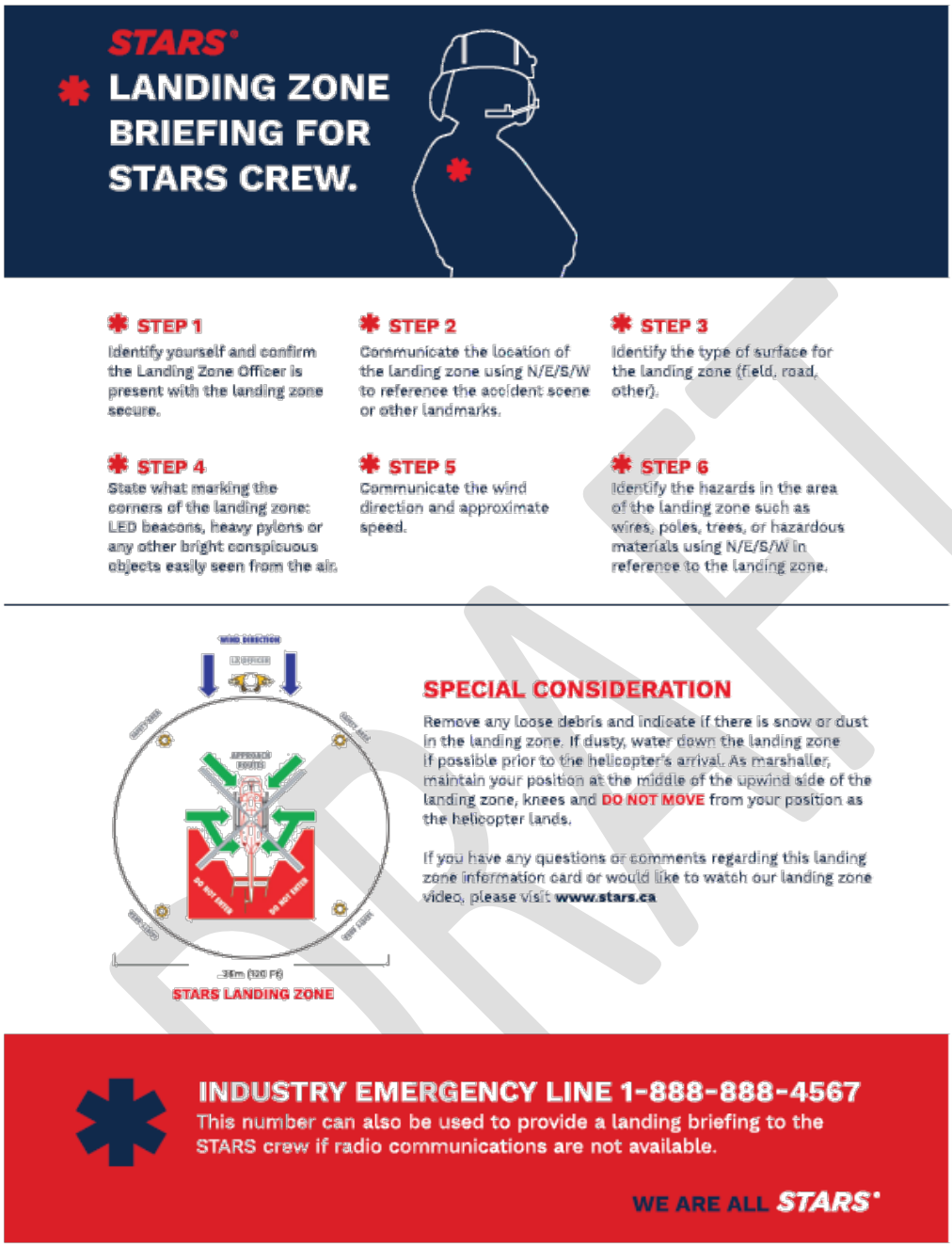

Figure 4 -STARS Landing Zone Briefing for Crew

WESTBRIDGE RENEWABLE ENERGY CORPORATION

9 Document Amendment and Distribution

This ERP will be reviewed:

- Annually.
- When there is a change of method and/or technology that may require this document to be reviewed and updated.
- Following an emergency drill, response, or significant event to which the ERP is relevant. All revision will be documented in Table 7. Revision Status.

Table 7 - ERP Revision Status

Revision	Revision Date	Issued Date	Reason for Modification
0 Internal	2023-06-28		Initial Draft
1 Draft	2023-11-02		Additional comments from Edgerton Emergency Services received
2 Draft	2023-11-04		Draft for permitting

The table below should be filled out following review by the MD of Wainwright and other municipal emergency service agencies.

Table 8 - Emergency Service Review

Reviewed by:	**Signature:**
Date:	**SCO Number or Other Accreditation:**