Exhibit V <u>Wildfire Risk Management</u>

West End Solar Project October 2022

Prepared for EE West End Solar LLC

Prepared by



Tetra Tech, Inc.

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Attachment V-1. Draft Emergency Management and Wildfire Mitigation Plan

Applicant FACP	EE West End Solar LLC fire alarm control panel
OAR	Oregon Administrative Rules
NWCC	Northwest Interagency Coordination Center
Project	West End Solar Project
PSA	predictive service area
SCADA	Supervisory Control and Data Acquisition

Acronyms and Abbreviations

1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit V was prepared to meet the submittal requirements of Oregon Administrative Rules (OAR) 345-021-0010(1)(v), including providing evidence that the Project complies with the approval standard in OAR 345-022-0115 which states:

OAR 345-022-0115 Wildfire Prevention and Risk Management

- (1) To issue a site certificate, the Council must find that:
 - (a) The applicant has adequately characterized wildfire risk within the analysis area using current data from reputable sources, by identifying:
 - (A) Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, including but not limited to topography, vegetation, existing infrastructure, and climate;
 - (B) Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation and fuel moisture content;
 - (C) Areas subject to a heightened risk of wildfire, based on the information provided under paragraphs (A) and (B) of this subsection;
 - (D) High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat; and
 - (E) All data sources and methods used to model and identify risks and areas under paragraphs (A) through (D) of this subsection.
 - (b) That the proposed facility will be designed, constructed, and operated in compliance with a Wildfire Mitigation Plan approved by the Council. The Wildfire Mitigation Plan must, at a minimum:
 - (A) Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;
 - (B) Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under subsection (a) of this section;
 - (C) Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including

procedures that will be used to adjust operations during periods of heightened wildfire risk;

- (D) Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards in the event that a wildfire occurs at the facility site, regardless of ignition source; and
- (E) Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.
- (2) The Council may issue a site certificate without making the findings under section (1) if it finds that the facility is subject to a Wildfire Protection Plan that has been approved in compliance with OAR chapter 860, division 300.
- (3) This Standard does not apply to the review of any Application for Site Certificate or Request for Amendment that was determined to be complete under OAR 345-015-0190 or 345-027-0363 on or before the effective date of this rule.

The Applicant is not aware of a Wildfire Protection Plan (that has been approved in compliance with OAR chapter 860, division 300) including the area within the Site Boundary or analysis area. Therefore, OAR 345-022-0115(2) is not anticipated to apply. As the Application for Site Certificate for the Project has not been determined complete at the time of the effective date of this rule (July 29, 2022), the standard under OAR 345-022-0115 applies to the Project.

2.0 Characterization of Wildfire Risk within the Analysis Area - OAR 345-022-0115(1)(a)

OAR 345-022-0115(1)(a) requires the applicant to adequately characterize the wildfire risk within the analysis area using current data from reputable sources. Per OAR 345-001-0010 (34)(c), the analysis area for wildfire risk is the area within the Site Boundary plus the area within one-half mile of the Site Boundary. The Oregon Department of Energy has provided direction that the Applicant may rely on data and reports from the Oregon Wildfire Risk Explorer (ODF et al. 2022) to satisfy the requirements under OAR 345-022-0115(1)(a). The statewide wildfire risk map was developed (and will be updated and maintained) per requirements under Senate Bill 762 and associated administrative rules. The map shows the assigned risk classification (extreme, high, moderate, low and no risk) for every tax lot in the state. For those tax lots that are both within the wildland-urban interface and classified as high or extreme risk, the owners will receive written notification from Oregon Dept. of Forestry and may be subject to future changes to defensible space and home building codes.

However, as of August 4, 2022, the statewide wildfire risk map (that was released on June 30, 2022, as an outcome of Senate Bill 762) has been temporarily withdrawn for further refinement. Prior to

the removal of the statewide wildfire risk map from the Oregon Explorer website, the Applicant was able to view the Site Boundary and analysis area and notes that the area within the Site Boundary was mapped as having *moderate* wildfire risk and the area within the analysis area as having *moderate* or *low* wildfire risk.

The Oregon Wildfire Risk Explorer website that hosts the wildfire risk map does currently provide the 2018 Quantitative Wildfire Risk Assessment data which includes the following layers:

- Hazard to Potential Structures.
 - Per the Oregon Wildfire Risk Explorer website, Hazard to Potential Structures shows impact levels to structures within 150 meters of a burnable fuel type, as if structures were present, and if a wildfire occurs. This data is based on modeled vegetation and not on building construction materials.
 - Most of the area within the Site Boundary is mapped as having a low hazard to potential structures with some discrete areas showing moderate to high hazard to potential structures (see Figure V-1). Within the Site Boundary, the only existing structures are the existing BPA and PacifiCorp transmission lines.
 - Most of the area within the analysis area and outside the Site Boundary is mapped as having a low to very low hazard to potential structures (see Figure V-1).
- Burn Probability.
 - Per the Oregon Wildfire Risk Explorer website, Burn Probability shows the likelihood of a wildfire greater than 250 acres burning a given location, based on wildfire simulation modeling. This is an annual burn probability, adjusted to be consistent with the historical annual area burned. Viewing local small fires in conjunction with this layer can give a more comprehensive view of local fire history and potential.
 - Most of the Site Boundary area is mapped as having a moderate or low burn probability with discreet areas of very low burn probability along S. Edwards Road (see Figure V-2).
 - Most of the areas within the analysis area north, south, and west of the Site Boundary are unmapped in this layer. However, areas east of the Site Boundary are mapped as either very low burn probability (along S. Edwards Road), low burn probability, and moderate burn probability (see Figure V-2).
- Vegetation Type.
 - Per the Oregon Wildfire Risk Explorer website, Vegetation Type is a layer derived from the LANDFIRE (2010) dataset, where existing vegetation is mapped using predictive landscape models based on extensive field reference data, satellite imagery, biophysical gradient layers, and classification and regression methods. The data represents the current distribution of terrestrial ecological systems, a group of plant community types that tend to co-occur within landscapes with similar

ecological processes, substrates, and/or environmental gradients. This type of data provides the basis for fuel models used in wildfire risk assessment and other wildfire modeling.

- Most of the Site Boundary area is mapped as shrubland with patches of non-native grass and grassland (see Figure V-3).
- Most of the areas within the analysis area north, south, and west of the Site Boundary are mapped as agricultural and areas east of the Site Boundary are mapped similar to the Site Boundary (shrubland with patches of non-native grass, grassland, and conifer) (see Figure V-3).
- Average Flame Length.
 - Per the Oregon Wildfire Risk Explorer website, Average Flame Length shows the average length of flames expected, given local fuel and weather conditions. Flame lengths have potential to exceed the mapped values shown, even under normal weather conditions. Flame length is commonly used as a direct visual indication of fire intensity and is a primary factor to consider for firefighter safety and for gauging potential impacts to resources and assets. It can also guide mitigation work to reduce the potential for catastrophic fires by showing where work can be done to reduce higher potential flame lengths/fire intensities to lower flame lengths/fire intensities.
 - Most of the Site Boundary area is mapped as having an average flame length of 4 to 8 feet or less than 4 feet (see Figure V-4). Per the Oregon Wildfire Risk Explorer, fires with a flame length of 4 to 8 feet can be expected to have moderate intensity under normal weather conditions and fires with a flame length of below four feet are expected to be low intensity under normal weather conditions.
 - Most of the areas within the analysis area north, south, and west of the Site Boundary are unmapped in this layer. However, areas east of the Site Boundary are mapped similar to the Site Boundary as having an average flame length of 4 to 8 feet or less than 4 feet (see Figure V-4).
- Fire History and Active Fires.
 - The Oregon Wildfire Risk Explorer provides several layers in this dataset including fire locations from 1992 to 2019, fire perimeters from 2000 to 2020 and current fire points and perimeters.
 - No historic or active fire locations or perimeters occur within the Site Boundary or analysis area.

In addition to the information available on the Oregon Wildfire Risk Explorer website, the Applicant reviewed monthly climate data from the weather station at Hermiston Municipal Airport (Station USW00004113, located 1.7 miles northwest of the Site Boundary) (NOAA 2022). The average temperature and precipitation at this weather station for the most recent standard climatological period (1991 to 2020) is provided in Table V-1 below. The Project Site Boundary and analysis area

receive most of its precipitation from November to February with a mean annual precipitation of 8.61 inches (NOAA 2022). The summer months of July through September are typically the driest with the highest temperatures.

Month	Max Temp (°F)	Min Temp (°F)	Ave Temp (°F)	Precip (Inch)
January	43.3	28.7	36	1.14
February	49.4	29.2	39.3	0.86
March	59.1	33.7	46.4	0.77
April	66.6	38.9	52.8	0.78
May	76.2	46.3	61.2	0.83
June	82.2	53	67.6	0.64
July	92.7	58.6	75.6	0.12
August	91	56.8	73.9	0.17
September	81.2	47.9	64.6	0.33
October	66.5	39	52.7	0.8
November	50.7	32.3	41.5	1.05
December	42.1	28.2	35.2	1.12

Table V-1. Summary of Monthly Normal Temperature and Precipitation at Hermiston
Municipal Airport (1991-2020) (NOAA 2022)

Based on the information above and based on the relatively flat terrain and low-density development in the analysis area, responses to each of the factors under OAR 345-022-0115(1)(a) are provided below.

(A) Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, including but not limited to topography, vegetation, existing infrastructure, and climate;

RESPONSE: Although the climate in the Project vicinity is dry, the baseline wildfire risk within the Site Boundary is moderate based on the relatively flat topography, lack of structures/low-density infrastructure (existing infrastructure within Site Boundary limited to existing transmission lines that run through the site), and shrubland/grassland vegetation. The area within the analysis area immediately east of the Site Boundary also has a moderate baseline wildfire risk as it shares similar vegetation, topography, climate, and lack of structures/low density infrastructure. The areas north, south, and west of the Site Boundary (within the analysis area) have a low baseline wildfire risk as these areas are dominated by irrigated agricultural lands which have lower fire risk than the vegetation type within the Site Boundary and east of the Site Boundary.

(B) Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation and fuel moisture content;

RESPONSE: As discussed above, the Project Site Boundary and its vicinity receives a mean annual

precipitation of 8.61 inches (NOAA 2022) and July through September are typically the driest months with the highest temperatures. Fuel moisture content varies depending on changes in weather (both seasonally and during short periods) and determination of exact fuel-moisture values at any time is complicated by both the nature of the fuels and their responses to the environment (Schroeder and Buck 1970). Therefore, fuel moisture content is dynamic throughout the year.

Current conditions such as precipitation to-date, current fuel moisture data, and local weather may increase or decrease seasonal fire risk. The Northwest Interagency Coordination Center (NWCC) Predictive Services group provides fire weather advisories (such as Red Flag Warnings) and fuel and fire behavior advisories (including fuel status reports and fuel moisture content predictions) for each predictive service area (PSA) in the northwest. The Project Site Boundary is located within PSA NW10. Fire danger forecasts for the Project area will be monitored, and Project activities and mitigation measures will be adjusted based on their annual variations.

(C) Areas subject to a heightened risk of wildfire, based on the information provided under paragraphs (A) and (B) of this subsection;

RESPONSE: Based on the data available from the Oregon Wildfire Risk Explorer, there is no extreme or high wildfire risk in the analysis area. The area within the Project Site Boundary has a moderate wildfire risk and the land immediately east of the Site Boundary has a moderate wildfire risk due to the existing vegetation and the relatively dry climate in this region. The lands immediately north, west, and south of the Site Boundary (within the analysis area) have a low wildfire risk as these lands are mostly irrigated agriculture. Risk of wildfire entering the Project site boundary from the north or south is low given the low wildfire risk in these irrigated agriculture areas. Risk of wildfire entering the Project site boundary from the west is very low given the low wildfire risk in these irrigated agriculture areas and given the fact that Canal Road is located along the Site Boundary's western perimeter would likely serve as a wildfire break. Moderate fire risk has been assigned to the non-irrigated agricultural lands east of the Site Boundary; however, average flame length is predicted to be below 4 feet along S. Edwards Road based on the Oregon Wildfire Risk Explorer data set, which means that under normal weather conditions, a fire in this area can be expected to be low intensity and is expected to be low to moderately difficult to control. S. Edwards Road would provide a fire break along the east perimeter of the Project Site Boundary and given the low flame length predicted long this road, this road would lower the risk of wildfire entering into the Site Boundary from the east.

(D) High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat; and

RESPONSE: The analysis area is not urbanized and contains very few existing structures. Within the Site Boundary, the only existing structures area the existing transmission lines. The transmission line towers may be considered areas of high fire consequence as there is the potential for high fire hazard for these structures. Outside the Site Boundary, the analysis area contains one house off Canal Road and several agricultural structures north, west, and south of the Site Boundary as well as irrigation infrastructure. These agricultural structures and irrigation

infrastructure areas may be considered areas of high-fire consequence; however, the Hazard to Potential Structures layer identifies these areas as having low to moderate hazard to potential structures as they are located within or adjacent to irrigated agricultural fields which have a reduced fire hazard compared to the shrub/grassland vegetation within and east of the Site Boundary.

(E) All data sources and methods used to model and identify risks and areas under paragraphs (A) through (D) of this subsection.

RESPONSE: All data sources used to model and identify risks came from the Oregon Wildfire Risk Explorer (ODF et al. 2022).

3.0 Wildfire Mitigation Plan – OAR 345-022-0115 (1)(b)

A Draft Emergency Management and Wildfire Mitigation Plan (EMWMP, Attachment V-1) has been prepared to meet the approval standard under Oregon Administrative Rules (OAR) 345-022-0115(1)(b), which requires the Plan to:

(A) Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;

RESPONSE: See section 1.3.3 of the Draft EMWMP (Attachment V-1).

(B) Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under subsection (a) of this section;

RESPONSE: See Section 1.2.3.1 and Section 4.2.2 of the Draft EMWMP (Attachment V-1).

(C) Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including procedures that will be used to adjust operations during periods of heightened wildfire risk;

RESPONSE: See section 1.2.3.2 of the Draft EMWMP (Attachment V-1).

(D) Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards in the event that a wildfire occurs at the facility site, regardless of ignition source; and

RESPONSE: See section 1.1.1 of the Draft EMWMP (Attachment V-1).

(E) Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.

RESPONSE: See section 1.1.1 of the Draft EMWMP (Attachment V-1).

4.0 Conclusion

This Exhibit provides evidence that the Energy Facility Siting Council's wildfire risk management standard (OAR 345-022-0115) will be met as wildfire risk introduced by the construction and operation of the Project will be minimized through the implementation of the wildfire mitigation plan and wildfire risk to the Project is minimal considering the surrounding irrigated agricultural lands and low-density fire fuel.

5.0 Reference

- LANDFIRE 2010. LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture. Available: http://landfire.cr.usgs.gov/viewer/
- NOAA (National Oceanic and Atmospheric Administration). 2022. National Environmental Satellite, Data, and Information Service. National Centers for Environmental Information. Station: Hermiston Muni Ap, OR US USW00004113. Generated on 10/11/22. URL: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normalsmonthly&timeframe=30&station=USW00004113
- ODF (Oregon Department of Forestry), OSU (Oregon State University Institute for Natural Resources), USFS (US Forest Service). 2022. Oregon Wildfire Risk Explorer. Accessed on Aug. 9th, 2022. URL: <u>Wildfire Risk Explorer (oregonexplorer.info)</u>
- Schroeder, Mark J. and Charles C. Buck. 1970. A Guide for Application of Meteorological Information to Forest Fire Control Operations. U.S. Department of Agriculture Forest Service Handbook 360 - May 1970. Available at: <u>https://www.nwcg.gov/publications/pms425-1</u>.

Figures

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Attachment V-1. Draft Emergency Management and Wildfire Mitigation Plan

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West End Solar Project Draft Emergency Management and Wildfire Mitigation Plan

West End Solar Project October 2022

Prepared for EE West End Solar LLC

Prepared by



Tetra Tech, Inc.

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1.0 General Information

1.1 Introduction

EE West End Solar LLC (Applicant) proposes to construct the West End Solar Project (Project or Facility), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. The Project will be a photovoltaic solar energy facility with an estimated nominal and average generating capacity of 50 megawatts (MW) of alternating current (AC). The Project may include an energy storage system with a capacity of up to 70 MW. The Project Site Boundary is 324 acres within which all Project facilities will be located.

This document provides an annotated outline of the Emergency Management Plan and the Projects' Wildfire Mitigation Plan (Emergency Management and Wildfire Mitigation Plan or EMWMP) that would be implemented at the Project during construction and operation of the Project. The information in this outline is subject to change and the full WMWMP will be prepared prior to construction by the Applicant and construction contractor and will contain policies and procedures for preparing for and responding to a range of potential emergencies, including fires.

The plan will list project emergency contact information for the contractor, Applicant, subcontractors, and local emergency services. The plan will also establish a communication plan for the Project's operational period that will provide annual communications with emergency providers to discuss emergency planning and response should an onsite emergency occur such as a fire. At the beginning of Project operations, a copy of the site plan indicating the arrangement of the Project structures and access points will be provided to the local fire district.

1.1.1 Plan Purpose and Updates

This EMWMP sets forth the Applicant's plan to effectively respond to and address all types of emergency and hazardous situations that may affect facility generation and operations. It will be finalized prior to construction and will comply with all Federal, State, Original Equipment Manufacture's standard operation procedures and utility industry requirements and or best practices.

This EMWMP specifies communication channels the Applicant intends to pursue with local fire protection agency personnel, for example, annual meetings to discuss emergency planning, and invitations to observe any emergency drill conducted at the Project. At the beginning of Project operations, a copy of the site plan indicating the arrangement of the Project structures and access points will also be provided to the local fire district as well as ODOE. Implementation of the EMWMP will ensure risks to public health and safety and risks to emergency responders are minimized.

As discussed in this EMWMP, the Applicant will minimize risk of facility components causing wildfire through Project design, through operations and maintenance activities including the regular maintenance and inspection of Project components and the Project's vegetation

management program, and through the Project's emergency response plan. These measures and activities will minimize potential for wildfire damage to resources evaluated by Council standards such as the potentially eligible historic utility lines located within the Site Boundary.

The Applicant will conduct a review and update (if necessary) this EMWMP every five years during the operational period of the Project. The review of the EMWMP will include an evaluation of wildfire risks following the outline in Section 1.3.4. Updates to the EMWMP wildfire risk assessment outlined in Section 1.3.3 and wildfire risk minimization and management measures as outlined in Section 4.2, will be made if needed and applicable to the facility based on the review of the wildfire risk. Best practices and emerging technologies to minimize and mitigate wildfire risk will be reviewed and incorporated into the plan as appropriate. Best practices and emerging technologies could be related to vegetation management, equipment updates, or updates in remote monitoring devices. If the EMWMP is updated after each five-year review, a copy of the updated plan will be provided to the Oregon Department of Energy (ODOE) with the annual compliance report required under OAR 345-026-008(2). If after the 5-year review of the EMWMP, a determination is made that no updates are required, an explanation of this determination will be provided in the annual compliance report.

The Applicant will incorporate a summary of the results of the quarterly facility inspections (see Section 1.2.3.1) and the annual vegetation survey assessment (see Section 4.2.2) into each of the annual compliance reports required under OAR 345-026-008(2). A summary of the vegetation management conducted within the fence line will also be included in the annual report. The EMWMP will be periodically updated to account for changes in local fire protection agency personnel and changes in best practices for minimizing and mitigating fire risk. A copy of the updated EMWMP will be provided to ODOE

A revision control summary is set forth at the very end of this document.

Implementation of the EMWMP shall be coordinated with reliability measures and policies implemented by EMWMP personnel pursuant to the standards and regulations of all applicable Federal and State agencies including, but not limited to, the Federal Emergency Management Agency (FEMA), North American Energy Reliability Corporation ("NERC") and the Western Electric Reliability Council (WECC), Occupational Health and Safety Administration etc.

1.1.2 Activation Trigger/EMP Situation

The EMP shall be activated whenever a Regulatory Agency announces, or it becomes evident to Facility personnel, that an emergency, threat or hazard has occurred or is about to occur. Any such set of circumstances shall be treated as an "EMP Situation".

It shall be the responsibility of the Facility Site Manager, in consultation with management of the Applicant to identify and declare such an EMP Situation, activate the EMP, and initiate all relevant and applicable steps towards mitigating potential damage to Facility operations. Emergency conditions necessitating activation of this EMP shall also be communicated to the Facility 24/7 Remote Operations Control Center (ROCC), Qualified Scheduling Entity (QSE) and power

purchaser and any required Regulatory Agency. However, in the absence of an alert from an outside party, the Facility Manager shall monitor potential emergencies or threats of any kind as they occur and be prepared to respond accordingly.

1.2 Project Description

The major components of the Project are the solar arrays (composed of solar modules), collector line system, battery energy storage system (BESS), Project collector substation, switchyard substation, operations and maintenance (O&M) enclosure, and access roads. All components will be within the approximately 324-acre Site Boundary. The layout of the Project has not been finalized and may vary depending on project size, technology, and other constraints. Prior to finalization of this plan, the final site plan will be incorporated into Section 1.3.2.

Detailed description of facility design features that reduce the risk of fires are described in Section 1.2.1 and details about vegetation management practices that reduce the risk of wildfire are discussed in Section 4.2.2.

1.2.1 Project Design Features that Minimize Fire Risk

- Maintain a noncombustible, defensible space clearance along the fenced perimeter of the Site Boundary. Any potential fires inside the solar array will be controlled by trained Facility staff who will be able to access the Facility around the clock. These measures will help keep external fires out or internal fires in.
- Smoke/fire detectors will be placed around the site that will be tied to the supervisory control and data acquisition (SCADA) system and will contact local firefighting services. The SCADA system allows each component of the Project to be monitored for activity in present time. If an issue arises with a solar string, it alerts the O&M staff so that the component can be shut down to minimize consequences of failure and potential safety risks. In the event an anomaly is observed by the SCADA system or during an inspection, original equipment manufacturer (i.e., OEM) engineering is advised, and further inspection may be carried out by subject matter experts to determine root cause and resulting action required to rectify the issue.
- Roads and Vehicles:
 - Project access roads would be sufficiently sized for emergency vehicle access.
 Specifically, roads would be 12 to 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade to provide access to emergency vehicles. Vegetation will be cleared and maintained along perimeter roads to provide a vegetation clearance for fire safety. All newly constructed roads will be graded and graveled to meet load requirements for all equipment.
 - Maintenance vehicles would drive and park on maintained gravel roads and areas cleared of vegetation, avoiding hazards associated with driving or parking in tall dry grass.
- Solar Panel and BESS Design:

- Proper installation and maintenance of electrical equipment to prevent short-circuits and consequent sparking, and reduction in fuel to reduce the chance of fire spreading.
- Electrical equipment would meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and would not pose a significant fire risk.
- Solar array would have shielded electrical cabling, as required by applicable code, to prevent electrical fire.
- The collector system and substation/switchyard will have redundant surge arrestors to deactivate the Project during unusual operational events that could start fires.
- The substation and switchyard will also include a lightning protection system.
- The areas immediately around the Project substation, BESS, and switchyard would be graveled, with no vegetation present. The collector substation, switchyard, and battery storage will have also sufficient spacing between equipment to prevent the spread of fire.
- The lithium-ion ESS will have the following fire prevention features and controls:
 - Each energy storage system unit will have a thermal management system designed and sized so heat generated can be removed ensuring the batteries operate in an environment that does not exceed the operational temperature range defined by the battery manufacturer.
 - Each unit will have temperature, current, voltage, and humidity sensors which provide a real time information of the conditions inside the enclosures.
 - There will be a Fire Safety System that monitors heat, and smoke, and provides dedicated annunciation/alarming in the event a fire condition is detected, automatically returns the system to a standby mode and if necessary automatically deploys an appropriate suppression agent. The fire alarm functions are handled by a common fire alarm control panel (FACP) in the auxiliary control cabinet. The FACP monitors the status of the detectors and initiates an alarm if a fire is detected. The panel is set up with fire detection zones for the detectors in the battery enclosures. The FACP is connected to the local strobe and siren unit for alarm annunciation. Internal batteries in the FACP provide backup power if the main power supply is temporarily lost.
 - The structure of the enclosure will be designed so that if an internal fire occurs, it can impede flames from moving to adjacent enclosures or the environment.
 - The energy storage system enclosures will be equipped with proper safety labels and signages for the safety of site personnel. The enclosure will be electrically touch safe and grounded.
 - On-site personnel will be able to activate an emergency stop via an emergency stop button on the external wall of the energy storage system enclosures.
 - Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams will minimize any public hazard related to transport, use, or disposal of batteries.
- Vegetation within the fence line will be managed as needed to reduce fuels for fire (see Section 4.2.2).

1.2.2 Construction Activities and Sequencing/Schedule

To be determined (TBD)

1.2.3 Operations and Maintenance Activities and Schedule

1.2.3.1 Facility Inspections

In general, the Project will be monitored and operated remotely using the Supervisory Control and Data Acquisition (SCADA) System which will be installed to collect operating and performance data from the solar arrays. Smoke/fire detectors will be placed around the site that will be tied to the SCADA System and will contact local firefighting services as needed.

Additionally, the BESS will have an integrated fire safety system that monitors heat, and smoke, and provides dedicated annunciation/alarming in the event a fire condition is detected, automatically returns the system to a standby mode and if necessary, automatically deploys an appropriate suppression agent. The fire alarm functions are handled by a common fire alarm control panel (FACP) in the auxiliary control cabinet. The FACP monitors the status of the detectors and initiates an alarm if a fire is detected. The panel is set up with fire detection zones for the detectors in the battery enclosures. The FACP is connected to the local strobe and siren unit for alarm annunciation. Internal batteries in the FACP provide backup power if the main power supply is temporarily lost.

The SCADA system will allow the Applicant to monitor the Project components, such as the substation, solar arrays, and BESS, 24 hours a day, 7 days a week. The SCADA system will have functionality that will allow the applicant to start and stop any aspect of the facility. These facility components would be inspected quarterly.

These operational monitoring and maintenance measures are also discussed in Section 1.2.1, under Project Design Features that Minimize Fire Risk.

In addition to the remote monitoring, onsite inspections of Project equipment will occur quarterly. Onsite inspections will include check lists provided by the Original Equipment Manufacturer and the use of utility industry best practices.

1.2.3.2 Heightened Wildfire Risk Preventive Action

The Applicant will minimize risk of facility components causing wildfire through Project design (see Section 1.2.1), through operations and maintenance activities including the regular maintenance and inspection of Project components (see Section 1.2.3.1) and the Project's vegetation management program (see Section 4.2.2), and through the emergency response procedures described in this EMWMP.

Additionally, The Northwest Interagency Coordination Center (NWCC) Predictive Services group provides fire weather advisories (such as Red Flag Warnings) and fuel and fire behavior advisories (including fuel status reports and fuel moisture content predictions) for each predictive service area (PSA) in the northwest. The Project Site Boundary is located within PSA NW10. Fire danger

forecasts for the Project area will be monitored, and Project activities and mitigation measures will be adjusted based on their annual variations.

1.3 Site Description

1.3.1 Site Access

Site access will be limited to authorized personal only and based on Federal and State legislation in addition to utility industry best practices. Ingress and egress points will be identified in Facility specific construction drawings.

1.3.2 Site Plan

TBD

1.3.3 Areas Subject to Heightened Fire Risk

Based on data provided in Exhibit V of the 2022 ASC and in the Final Order on the ASC, the area within the Project Site Boundary has a moderate wildfire risk mainly due to the existing vegetation and the relatively dry climate in this region.

However, the lands immediately north, west, and south of the Site Boundary have a low wildfire risk as these lands are mostly irrigated agriculture. Lands immediately east of the site boundary share similar characteristics as the land within the Site Boundary and therefore has a moderate wildfire risk. However, the moderate risk lands east of the Site Boundary are separated from the Site Boundary by S. Edwards Road, a paved county road that would serve as a fire break were a wildfire to occur east of the Site Boundary. Therefore, there is low risk of a wildfire entering into the Site Boundary from surrounding lands.

Within the Site Boundary, the only existing structures area the existing transmission lines. If a wildfire were ignited onsite, the areas subject to heighted risk would be the areas associated with the existing transmission line poles. The transmission line towers may be considered areas of high fire consequence as there is the potential for high fire hazard for these structures.

During Project operations, the areas within the Site Boundary that are subject to a heightened risk of wildfire include the solar array areas. This is because the solar array areas will have low-growing vegetation maintained below them during the operational period of the Project. Measures for reducing the risk of fire ignition and reducing the risk of equipment damage were a wildfire to occur will include regular maintenance and inspection of Project components (see Section 1.2.3.1), the Project's vegetation management program (see Section 4.2.2), and through the emergency response procedures described in this EMWMP. The substation and switchyard areas as well as the distributed inverter/transformer pads will have reduced risk for fire due to the fact that these areas will have a gravel base with no vegetation to reduce fire risk.

1.3.4 Updated Review of Wildfire Risk

Every five years, the Applicant will review wildfire risk at the Project site. Evaluation of wildfire risk will be consistent with the requirements of OAR 345-022-0115(1) and will include an evaluation of Baseline and Seasonal wildfire risk using current data from reputable sources and will update as applicable:

- Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, which may include topography, vegetation, Fire Hazards to Infrastructure, Fire History, Active Fires, and Burn Probability and climate;
- Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation, weather advisories, and fuel moisture content;

During the 5-year review of wildfire risk at the Project site, the Applicant will also include the evaluation and identification of:

- Areas subject to a heightened risk of wildfire, based on the information provided above.
- High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat.

2.0 Personnel Responsibilities and Communication

2.1 Project Emergency Information

Preliminary list below – TBD.

Title	Name	Phone	Email	Physical Address	
Local Emergency Services					
Oregon 811		811 800.332.2344			
Emergency Services	EMS	911			
Local Law Enforcement	Umatilla County Sheriff	541-966-3600 541-966-3651		915 SE Columbia Ave., Hermiston, Oregon 97838	
Local Fire Department	Umatilla County Fire District #1 Station 24	541-667-5130	fire.district@ucfd1.com	280 W Coe Ave., Stanfield, Oregon 97875	
Local Occupational Clinic	Health One	541-567-2600		645 West Orchard, Hermiston, OR 97838	
Local Health Care Facility (Level III Trauma Center)	Good Shepherd Health Care Services	541-667-3400		610 NW 11 th Street, Hermiston, Oregon 97838	
Local Hospital (Level I Trauma Center)	Oregon Health & Science University Hospital and Legacy Emmanuel Medical Center	503-413-2200		2801 N. Gantenbein Ave. Portland, OR 97227	
		EE West End Solar L	LC		
Facility Manager	Jerod Cole	214-437-6818	jcole@eurusenergy.com	84670 Ringer Road Milton-Freewater, OR 97862	
Engineering Manager	Lee Peacock	858-444-7704	lpeacock@eurusenergy.com	9255 Towne Centre Drive Suite 840, San Diego, CA 92121	
		<contractor></contractor>			
TBD; Operations Manager					
<subcontractors></subcontractors>					
TBD					
		Local Utility Service	es		
TBD					

2.2 Personnel Roles and Responsibilities

- TBD
- Jerod Cole is currently anticipated to be the Facility Manager with overall responsibility for Facility operations.
- Lee Peacock is currently anticipated to be Engineering Manager supporting overall performance of the Facility.
- A contracted Operations Manager has yet to be determined.
- Personnel will be identified and added to this section prior to finalization of this plan.

2.2.1 Project Safety Manager

- TBD
- Jerod Cole is currently anticipated to be the Facility Manager with overall responsibility for operations of the Facility.

2.2.2 Site Personnel / Subcontractors

- TBD
- A Facility Operations Manager and subcontractors are to be determined.

2.3 Communication

2.3.1 Communication Plan

Upon the recognition of an EMP Situation, the Facility Manager shall communicate immediately to all Facility personal, EEA and all necessary outside parties: what type of emergency is taking place as well as all short- and medium-term actions will be taken.

2.4 Training

Training to be based on Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices.

3.0 Pre-Emergency Planning

3.1 Pre-Emergency Planning

All Facility personnel and relevant support personal involved with managing the operations shall participate in an annual drill to test the procedures outlined in this EMP. It is important that all types of emergencies (physical, meteorological and cyber, etc.) all considered when conducting a drill, because often the response to different kinds of emergencies will be substantially the same. Following any drill, Facility staff and support personal will assess the effectiveness of the drill and modify the EMWMP Plan as needed.

3.2 Notices and Signage

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices.

3.3 PPE and Emergency Equipment

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manual and utility industry best practices.

4.0 Emergency Response Procedures

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manual and utility industry best practices.

4.1 Emergency Medical Treatment

In the event of a medical emergency facility personal or designated representative will call Emergency Servies at 911.

4.2 Fire Prevention and Protection and Emergency Responsibilities and Procedures

To be in accordance with Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices and in accordance with construction drawings.

4.2.1 Fire Prevention and Protection

4.2.1.1 Understanding Conditions Associated with Photovoltaic Solar Arrays

TBD

4.2.1.2 Construction Avoidance, Reduction, and Mitigation Measures to Reduce Fire Hazard

Preliminary list of Construction Avoidance, Reduction, and Mitigation Measures to Reduce Fire Hazard provided below. Subject to revision prior to finalizing plan.

- The Facility will be deenergized for most of the construction period, only during the final commissioning stage it's expected to be connected to grid.
- During construction, contractor will follow all relevant Occupational Safety and Health Administration and NFPA requirements related to fire hazards including: no smoking policy, fire permit requirement, hazardous material and combustible storage areas, pre task planning to assess fire risks, relevant fire awareness training, lockout-tagout requirement, hazardous materials documentation, appropriate management, and disposal.

- Fire Prevention, Suppression and Emergency Preparedness:
 - During periods of high fire danger potential sources of fire ignition (vehicle exhaust systems, cigarettes, matches, propane torches, sparks from various hot work operations, etc.) must be used with extra precaution.
 - During construction, a water truck would be on-site to keep the ground and vegetation moist during extreme fire conditions.
 - Prior to start of construction work activities, contact the local fire department(s) and advise them of work type, location, and probable duration. Maintain open communication with local fire district personnel to identify and address fire hazards
 - Keep emergency firefighting equipment on-site when potentially hazardous operations are taking place.
 - Prior to performing hot work (anything that creates a spark or an open flame is considered hot work), fire suppression equipment must be immediately available, hot work must only be done on road or surfaces cleared of vegetation, and the on-site Safety Supervisor must be notified (see also Section 4.2.4.1).
- Vehicles:
 - Plan and manage the work and the movement of vehicles. No off-road driving is to be done while working alone.
 - Prohibit construction workers from parking vehicles in areas of tall dry vegetation, to prevent fires caused by contact with hot mufflers or catalytic converters
 - Each vehicle used on-site shall have a fire extinguisher of sufficient type and capacity to suppress small fires around vehicles. Vehicle occupants shall be familiar with the location of these fire extinguishers. All employees who may have a need to use a fire extinguisher shall be current in their training on the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.
 - The general contractor would be responsible for identifying and marking the path for all off-road vehicle travel.
 - All off-road vehicle travel is to stay on the identified path.
 - In the event a vehicle gets stuck, shut the engine off. Periodically inspect the area adjacent to the exhaust system for evidence of ignition of vegetation. Do not "rock" the vehicle to free it; rather, pull it out. Inspect the area after the vehicle has been moved.
 - In tall grass (i.e., tall or taller than the exhaust system of the vehicle[s]), pre-wet the area with water prior to driving on it with vehicles.
- Fueling
 - The general contractor would designate a location for field fueling operations at each construction yard. Any fueling of generators, pumps, etc., shall take place at this location only.
 - Fuel containers, if used, shall remain in a vehicle or equipment trailer, parked at a designated location alongside county rights-of-way. No fuel containers shall be in the

vehicles that exit the right-of-way except for one 5-gallon container that is required for the water truck pump

- Smoking
 - Smoking shall only be allowed in the designated smoking areas of the Proposed facility.

4.2.1.3 Operations Avoidance, Reduction, and Mitigation Measures to Reduce Fire Hazard

The Applicant will minimize risk of facility components causing wildfire through Project design (see description of design features that minimize fire risk in Section 1.2.1), through operations and maintenance activities including the regular maintenance and inspection of Project components (see Section 1.2.3.1) and the Project's vegetation management program (see Section 4.2.2 below), and through emergency response procedures described in this EMWMP.

4.2.2 Vegetation Management Fire Risk Reduction Procedures

- Vegetation within the fence line and below the solar arrays will be maintained to a height of 18- inches and provide a minimum of 24-inch clear distance to any exposed electrical cables. Exposed electrical wires should be running under the solar panels at the midpoint or higher than the center of the panel.
- Vegetation will be removed within 10-foot perimeter of the inverter/transformer/battery unit pads. Gravel or similar noncombustible base will be located within the 10-foot perimeter of these pads. Vegetation will be removed from inside the Project collector substation fence line. Gravel or similar noncombustible base shall be used.
- Vegetation maintenance during operation of the Project will ensure that vegetation does not grow in a manner that blocks or reduces solar radiation reaching the solar panels and reduce the risk of starting a fire. Vegetation control will employ Best Management Practices (BMPs) and techniques that are most appropriate for the local environment. BMPs may include physical vegetation control such as mowing or introduction of a non-invasive species that is low growing. In rare circumstances where it is necessary to use herbicides, an effort will be made to minimize use and only apply bio-degradable, Environmental Protection Agency -registered, organic solutions that are non-toxic to wildlife. Any herbicides used for vegetation management the site will be selected and used in a manner that fully complies with all applicable laws and regulations.
- To minimize vegetation maintenance, an agency-approved seed mix for low-growing vegetation will be applied post construction, following preparation of the soil. The seed mix is anticipated to encourage low-growing vegetation that does not require mowing. However, periodic vegetation maintenance through various means such as mechanical/grazing/hand pulling may be needed in the spring in combination with the noxious weed control plan. (*Reference to be made to separate Noxious Weed Control Plan. The final version of this plan will identify the selected seed mix for revegetation*).

Vegetation Management Procedures and Timing

- The Applicant will conduct periodic vegetation maintenance within the Project's fenced area to maintain vegetation within the fence line and to maintain a 5-foot noncombustible, defensible space clearance along the fenced perimeter of the Site Boundary. Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle. The timing and frequency of the periodic vegetation maintenance (e.g., mechanical/grazing/hand pulling, etc.) will depend on the conditions on site (weather, vegetation growth, season, etc) but is anticipated to be conducted weekly or monthly during the vegetation growing season (spring/early summer) and will be less frequent during the dry season where vegetation is anticipated to go dormant.
- A physical vegetation survey assessment of the fenced area will be completed at least once annually to monitor for vegetation clearances, maintenance of fire breaks, and monitor for wildfire hazards. The vegetation survey assessment will occur in May or June, prior to the start of the dry season, a time when wildfire risk is heightened. The survey will be conducted by the Site Operations Manager and will be used to assess the frequency of the periodic vegetation maintenance (e.g., mechanical/grazing/hand pulling, etc.) and identify areas that may need additional attention. Observations in the vegetation survey will include:
 - Location
 - Species
 - Estimated growth rate
 - Abundance
 - Clearance / Setbacks
 - Risk of fire hazard

4.2.3 Fire Department Access

(See also Section 1.3.1)

4.2.3.1 Site Access

To be defined in construction drawings.

4.2.3.2 Internal Site Access Roads

To be defined in construction drawings.

4.2.3.3 Access Aisles

To be defined in construction drawings.

4.2.4 Controlling Hazards & Prevention Practices

4.2.4.1 Welding and Open Flame / Hot Work

To be in accordance with Occupational Health and Safey Code of Federal Regulation 1917.153 Welding, cutting and heating (hot work)

4.2.4.2 Combustibles

To be in accordance with National Fire Protection Association (NFPA) and Occupational Health and Safety Codes of Federal Legislation.

4.2.4.3 Electric Fire Hazards

To be in accordance with National Fire Protection Association (NFPA) and Occupational Health and Safety Codes of Federal Legislation

4.2.5 Equipment Fire Safety

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices.

4.2.6 Emergency Response

- Emergency Notification and Follow Up
 - The following course of action should be taken if an emergency situation develops:
 - Evacuate as necessary. Maintain site security and control if possible. If crews are working at different areas of the site, a designated meeting location would be created for all people to gather.
 - Notify proper emergency services (fire, ambulance, etc.) for assistance.
 - Notify site management of any possible fires.
 - Prepare a summary report of the incident as soon as possible after the incident.

4.3 Spill Prevention and Response

Reference to be made to separate Spill Prevention, Control, and Countermeasures (SPCC Plan)

4.4 Severe Weather

4.4.1 Severe Thunderstorm and Tornado Warnings

4.4.2 Floods

4.4.3 Extreme Temperatures and Red Flag Warnings

The Northwest Interagency Coordination Center (NWCC) Predictive Services group provides fire

weather advisories (such as Red Flag Warnings) and fuel and fire behavior advisories (including fuel status reports and fuel moisture content predictions) for each predictive service area (PSA) in the northwest. The Project Site Boundary is located within PSA NW10.

Fire danger forecasts for the Project area for PSA NW10 will be monitored by the Site Operations Manager or designee. Project activities and mitigation measures will be adjusted as needed to address fire risks.

5.0 Post-Emergency Procedures

5.1 Accident / Incident Reporting

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices.

5.2 Restoration and Salvage

To be based on Federal, State and local legislation, Original Equipment Manufacturer's manuals and utility industry best practices.

6.0 Attachments and Forms

Revision Control Summary

Date of change	Sections Amended	Approval Signature(s)

The last update to this EMP was approved effective _____, and supersedes and replaces all previous EMPs or amendments adopted, including the last comprehensive update on October __, 2022.

7.0 References

References will be added based on final sources used to finalize plan and when plan is reviewed and updated.