

AMENDMENT AASI-20-002

Section 5.201

FRONT RANGE-MIDWAY SOLAR PROJECT EL PASO COUNTY, COLORADO

Prepared for Applicant:

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Appendices

Revision Notes

A	Application Form	Revised
B	Mineral Rights Certification	
C	Vicinity Map	Revised
D	Interconnection Agreements	
E	Preliminary Site Plan	Revised
F	WSE-O Plan	Revised
G	FONSI	
H	Noxious Weed Management Plan	
I	Lighting Plan	Revised
J	List of Adjacent Property Owners	Revised
K	Final Environmental Assessment	
L	Class III Cultural Resources Inventory	
M	Wetlands, Waterbodies, and Threatened, Endangered, and Species of Special Concern Report; CPW Correspondence	
N	El Paso County Zoning Map	Revised
O	Land Use/Land Cover Map	Revised
P	Public Lands Map	Revised
Q	Critical Issues Analysis	
R	Air Quality Management Plan	
S	Transportation Memorandum	Revised

T	Operations and Maintenance Plan	Revised
U	Decommissioning Plan	Revised
V	Preliminary Drainage Report Amendment	Revised
W	Preliminary Emergency Response Plan	
X	Fire Protection Plan and Hanover Fire District Commitment Letter	Revised
Y	Visual Simulation and Solar Glare Hazard Analysis Tool Report	Revised
Z	Preliminary Geotechnical Engineering Report	
A1	Feasibility Summary Report	
A2	Soils Map	Revised
A3	NexTracker Design Bulletin-Snow Stowing	
A4	Phase I Environmental Site Assessment	
A5	Regional Setting Map	
A6	Existing Transmission Lines Map	
A7	Site Plan with Easements	Revised
A8	Physical Constraints Map	Revised
A9	Wigwam Mutual Water Company Commitment Letter	
A10	Noise Study	New
A11	Jurisdictional Determination from US Army Corps of Engineers	New
A12	Response to Comments	New

El Paso County Land Development Code Appendix B – Guidelines and Regulations for Areas and Activities of State Interest

The Front Range-Midway Solar Project, LLC (Applicant), a wholly owned subsidiary of Savion, LLC, is seeking an Amendment to the 1041 permit approved by El Paso County, Colorado on June 26, 2018 (AASI-18-002) to allow for modifications to the Front Range-Midway Solar Project (FRMW Project). Since the AASI-18-002 approval by El Paso County in 2018, the FRMW Project design has been optimized resulting in changes to the FRMW Project. Applicant requests approval of an amendment (AASI-20-002) pursuant to El Paso County Land Development Code (LDC) Appendix B, Section 2.504 to accommodate the following FRMW Project changes detailed further in this Amendment application:

- Removing certain parcels from the FRMW Project area
- Inclusion of O&M building details
- Inclusion of energy storage facility details
- Increase to the maximum height of Project substation facilities from 35 feet to 70 feet
- Increase to the maximum height of overhead transmission and collection line poles from 90 feet to 100 feet

Section 5.201 Application Submission Requirements

The FRMW Project includes the Applicant's intent to construct, operate, and maintain a 100.2-megawatt (MW) photovoltaic solar energy generation facility. The following text addresses the requirements listed in El Paso County LDC Chapter 5 Site Selection and Construction of Major Facilities of a Public Utility, Article 2 Permit Application and Procedure, Section 5.201 Application Submission Requirements.

I Vicinity Map of Proposed Site and Surrounding Area

- (a) The Area Within a Fifty Mile Radius of the Site for a Power Plant

The FRMW Project (AASI-20-002) is a 100.2-MW solar energy generating facility shown in a regional setting with a 50-mile radius in Appendix A5: Regional Setting Map.

- (b)) If New Transmission Line is Proposed, a Map Showing all Transmission Lines Within a Two-Mile Radius of Alternatives Studied

The FRMW Project includes a short transmission line (generation-tie line) between the FRMW Project substation and the existing Western Area Power Administration (WAPA) or the Public Service Company of Colorado (PSCo) substation; existing transmission lines are shown in Appendix A6: Existing Transmission Lines Map.

- (c) For Upgrades to Existing Transmission Lines, a Map Showing Existing Transmission Lines Within One Mile

There are no upgrades proposed to existing transmission lines for the FRMW Project.

- (d)) For all Other Major Facilities, the Area Within Ten Miles of the Site

A site vicinity map showing the area within a 10-mile radius is included in Appendix C: Vicinity Map.

2 Type of Facility

- (a) Voltage and Length of Transmission Line

The exact length of the project transmission line will be determined during the Site Development Plan stage. However, it is not anticipated to exceed 4,000 feet in length. The voltage of the transmission line will be determined once the exact interconnection location is known.

(b) Type of Poles Used, with Graphic Depictions

The transmission line connecting the FRMW Project to the PSCo or WAPA substation would use wood or steel poles with a maximum height of approximately 100 feet, including a fiber optic communications and lightning protection ground wire. Typical details of the poles can be found in Appendix F: WSE-O Plan.

(c) Power Source and Generating Capacity

The FRMW Project is a 100.2-MW solar energy generating facility with a transmission line and substation.

(d) The Functions and Size of Substations

The FRMW Project would construct a single, small substation (one to three acres) that would serve to interconnect the energy produced by the FRMW Project to the electric grid.

(e) The Diameters and Lengths of Pipelines

No pipelines are being proposed with this application.

(f) Capacities of Storage Tanks and Types of Petroleum Derivatives to be Stored

A water tank may be needed for the Operations and Maintenance (O&M) building for use by the maintenance staff. A septic tank may also be associated with the O&M building. The final size of the water and septic tanks will be detailed in the Site Development Plan. The battery storage system will be comprised of multiple, specifically designed cabinets that will house the batteries, inverters, and transformers. The final number of battery storage containers will be detailed in the Site Development Plan.

(g) Corridor Locations and Dimensions

The specific location and dimensions of the transmission line corridor connecting the FRMW Project to the WAPA or PSCo substation will be determined upon execution of a Power Purchase Agreement (PPA) and detailed in the Site Development Plan. The PPA will identify the utility off taker which will determine the exact location and dimensions of the transmission line and interconnection. Preliminary potential corridor routes are shown on the Preliminary Site Plan (Appendix E: Preliminary Site Plan) and the WSE-O Plan (Appendix F: WSE-O Plan).

(h) Service Area

The service area will be determined upon execution of a PPA. The PPA will identify the utility off taker which will determine the service area. The Applicant requests a waiver to provide the service area in the Site Development Plan.

3 Resource Area (i.e. Source of Power Generation)

The FRMW Project is a renewable, solar energy generation project.

4 Projected Development Schedule

(a) Timetable for Planning (Permits, Zoning, etc.)

The Amendment to the WSEO-20-001 was approved by the Planning Commission and Board of County Commissioners in October 2020. This 1041 Amendment (AASI-20-002) follows. Following the approval of AASI-20-002, the Applicant will hire a general contractor. The Applicant currently anticipates submitting the Site Development Plan for review in Q2 2021. The building permit application process is currently anticipated to take place during fourth quarter of 2021, prior to construction.

(b) Estimated Beginning of Construction, Completion of Construction and Beginning of Operation of the Facility

It is anticipated that construction will begin sometime in the fourth quarter of 2021 with a commercial operation date in late 2022.

5 Hazards and Emergency Procedures

- (a) Description of Hazards, if any, Including Fire, Explosion and any Other Dangers to Employees and the General Public

A Preliminary Geotechnical Engineering Report (Appendix Z: Preliminary Geotechnical Engineering Report) found the FRMW Project area to be low risk for earthquakes and other geologic hazards. The Preliminary Drainage Report (Appendix V: Preliminary Drainage Report with Addendum) indicates low risk for flooding; there are no perennial streams in the FRMW Project area and development within the 100-year floodplain would not occur. There is low risk for wildfire in the FRMW Project area as it is located in a low hazard/non-forested area of the county according to the Wildfire Hazards Based on Colorado Vegetation Classification Project – El Paso County, Colorado (Appendix X: Fire Protection Plan and Hanover Fire District Commitment Letter). The chance of wildfire is not likely to increase significantly as a result of development of the FRMW Project. Should wildfire occur, the Hanover Fire District has reviewed the Project and provided a fire commitment letter (Appendix X: Fire Protection Plan and Hanover Fire District Commitment Letter).

The amended FRMW Project (AASI-20-002) includes details for the energy storage facility that will utilize battery technology to store energy for later use. The batteries, inverters, and transformers will be contained in multiple, specially designed cabinets including temperature control equipment installed on each cabinet. These energy storage cabinets are arranged in a separate graveled area of the FRMW Project site. Additional safety features of these energy storage cabinets include one or more of the following (1) integrated fire protection system (2) UL 9540 certifications, or (3) National Fire Protection Association-qualified equipment. The Applicant has discussed the addition of energy storage with Hanover Fire Protection District and a Commitment Letter from the fire chief is provided in Appendix X: Fire Protection Plan and Hanover Fire District Commitment Letter. The Hanover Fire Department requests the ability to review and understand the site design associated with the energy storage facility. The Applicant will continue to coordinate with the fire chief with a fire protection plan addressing energy storage as provided to the fire chief for review (included with the fire commitment letter in Appendix X: Fire Protection Plan and Hanover Fire District Commitment Letter). Final plans will be provided with the Site Development Plan.

No other hazards are a high risk to the FRMW Project, employees, and the general public.

- (b) Describe Hazards of Environmental Damage

Hazards of environmental damage limited to leaks and spills of petroleum products and lubricants from construction equipment or transformers would be addressed in a Spill Prevention Control and Countermeasures (SPCC) Plan prepared for the FRMW Project prior to construction. The SPCC Plan would describe procedures for managing leaks and spills, should they occur. No other hazards of environmental damage are anticipated due to activities or materials used on the FRMW Project.

- (c) Description of Emergency Procedures

A Wildland Fire and Hazard Mitigation Plan has been updated for the FRMW Project (Appendix X: Fire Protection Plan and Hanover Fire District Commitment Letter) to address design features and procedures for fire protection including battery storage. The Preliminary Emergency Response Plan for the FRMW Project is provided in Appendix W: Preliminary Emergency Response Plan; additional details to the Emergency Response Plan will be provided at the Site Development Plan permitting stage. A SPCC Plan would be prepared prior to construction.

6 Description of Non-structural Alternatives to the Project

The Colorado RES statute (Section 40-2-124, C.R.S) requires electricity providers to obtain a minimum percentage of their power from renewable energy resources by 2020 and thereafter. Other renewable energy resources that would meet the State's renewable energy mandates, include wind and geothermal energy production. The Project site is not suitable for wind or geothermal development. A similar-sized wind project would require a much larger project site and a better wind resource; and there is no geothermal resource present beneath the Project site. The FRMW Project area is suitable for solar development and would support Colorado power providers in achieving that state required standard. The solar resource is present and considered sufficient to produce 100.2 MW of renewable energy. In addition, the Project property provides enough space for construction of the solar arrays and is located immediately adjacent to existing substations for a Project interconnection. Multiple utilities along the Front Range have issued RFPs for solar renewable energy sources to satisfy those local, state, and federal statutes. The Project would satisfy this demand by supplying 100.2 MW of solar generated renewable energy to be distributed to utility customers along the Front Range.

7 Analysis of Structural Alternatives to the Project

Meeting future energy demands without development of renewable energy sources would require the expansion of currently operating coal or gas facilities within EPC. Other structural alternatives would include different Project locations. Finding locations where large amounts of electricity generation can be injected into the transmission grid is difficult. Prior to commencing the application process to develop this site, numerous analyses were conducted on potential sites throughout Colorado to assess feasibility. Prior to the selecting the Project site location, the Applicant analyzed approximately 20 site locations within El Paso County for utility-scale solar development feasibility. The analysis began with a desktop review of multiple layers of GIS data to identify sites characterized by large (1,000 acres), open tracts of land, with minimal slope, free of environmental constraints and in close proximity to electrical power transmission. Site reconnaissance was then conducted to verify the desktop analysis and to glean additional information. Of the potential site locations analyzed, the Project was sited due to the proximity to two substations where available capacity was anticipated. In addition, several transmission lines transect the FRMW Project area. Co-locating utility-scale solar development with existing electrical power transmission infrastructure significantly reduces a Project's environmental and visual impacts.

8 Description of Need for the Proposed Development

(a) Present Population of Area to be Served and Population When Operating at Full Capacity

If constructed to the maximum size allowed by the interconnection, the solar array, when commissioned, could serve an estimated 16,400 households. Since the population served is dependent upon the utility providing the energy, the exact population to be served is not known at this time. The Project would support the need for renewable energy by supplying approximately 100.2 MW of solar produced renewable energy to one of the utilities that distribute electricity to customers along the Front Range.

(b) Predominant Type of Users or Communities to be Served

Predominant users would be customers of a commercial utility company.

(c) The Percentage of Design Capacity at Which the System is Currently Operating

Not applicable.

(d) If Proposal is for a New Facility and the Capacity Exceeds a ten-year Projected Increase in Demand, a Detailed Explanation of the Excess Service Capacity and Cost

The Project would not exceed the ten-year projected increase in electric demand.

(e) Relationship to the Applicants Long-range Planning and Capital Improvement Programs

The purpose of the Project is construct, operate and maintain a 100.2-MW photovoltaic solar facility to provide clean, cost effective, renewable energy. The need for the Project was established by multiple factors. Colorado has a RES statute (Section 40-2-124, C.R.S.) requiring 30% of retail energy sales to be derived from renewable generation by 2020 from investor owned utilities, and 10% for large municipal utilities and cooperatives. While some utilities are in full compliance with the RES, other utilities have not yet achieved compliance. The Project would allow cost effective solar energy to be delivered to those entities. In addition to the RES, however, other statutory and policy directives, including but not limited to the Colorado Governor's Climate Action Plan, and local initiatives of Colorado rural cooperatives, municipal utilities, and generation and transmission associations are driving an increased need for clean, renewable sources of electricity that the Project intends to meet, in part. The cost of solar energy generation continues to decline making it more competitive with other sources of electricity generation, which has increased utility companies' demand for procuring solar beyond requirements established by the state.

(f) Description of User Needs and User Patterns to be Fulfilled by the Project

Not applicable.

(g) Description of Relationship of the Project to Other Existing and Planned Utility Facilities of a Similar Nature, Other Communication or Energy Generation and Transmission Facilities, Local Government Capital Improvement Programs and Special District Expansion Programs

Not applicable.

9 Environmental Impact Analysis

(a) Land Use

The FRMW Project will tie into one of two existing substations within the FRMW Project boundary. Due to location, the FRMW Project would not require a transmission line to extend outside of the FRMW Project boundary. Power would be transmitted in the vicinity of the existing transmission line infrastructure associated with the two existing substations. Multiple easements are located within the FRMW Project area (Appendix A7: Site Plan with Easements). FRMW Project facilities would cross some existing easements and the Applicant would obtain easement crossing agreements prior to the ground disturbance of each crossing.

(b) Information Regarding Other Utility Facilities

(i) Map Showing Existing Major Facility of a Public Utility within the County of the Type Proposed for Development

Clear Spring Ranch Solar Array and Palmer Solar Project are located northwest and northeast, respectively, of FRMW Solar Project in El Paso County as shown on the vicinity map (Appendix C: Vicinity Map). Two existing substations are shown within the FRMW Project area (Appendix F: WSE-O Plan). Existing transmission lines near the FRMW Project are included in Appendix A6: Existing Transmission Lines Map.

(ii) The Design Capacity of Each Such Facility, the Excess Capacity of Each Such Facility and the Percentage of Capacity at Which Each Such Facility Operates

Colorado Springs Utilities (CSU) owns and operates the Clear Springs Ranch Solar Array approximately six miles to the north of the Project site. CSU is a municipal utility that distributes solar energy to residents of Colorado Springs. The facility produces 10 MW at full capacity, at present (Appendix C: Vicinity Map). El Paso County has approved four additional phases of the Clear Springs Ranch Solar Array. However, construction is not planned for additional phases at this time.

Palmer Solar Project has a 60 MW capacity. The Williams Creek substation is owned and operated by CSU to accommodate the Palmer Solar Project.

(iii) Can Present Facilities be Upgraded to Adequately Accommodate a Ten-year Projected Increase in Demand for Services to be Offered by the Proposed Project

There are four additional phases planned for Clear Springs Ranch Solar Array. However, the 10 MW maximum capacity once all phases are constructed would not satisfy the need for increased renewable energy production as mandated by the Colorado RES statute. Additional renewable energy facilities are needed to meet the demand even with the 60 MW capacity of Palmer Solar.

10 For Power Plant Applicants, a Map Locating and Describing Resource Areas to be Utilized as Source of Energy

A map of the energy source is not applicable as a power plant is not proposed. The solar resource for the solar energy generation project is ubiquitous throughout El Paso County.

11 For Applicants Seeking Permit for the Construction of Transmission Lines or Substations

(a) Computer Modeled Electromagnetic Field Measurement Within the Proposed Transmission Line Easement for the Portion of the Transmission Line Between Substations and Transition Sites

The FRMW Project includes a short transmission line (generation-tie line) between the FRMW Project substation and the existing PSCo or WAPA substation located adjacent to several existing transmission lines (Appendix F: WSE-O Plan). All transmission lines produce an electromagnetic field (EMF); however, the fields are the strongest directly under the lines and drop dramatically the farther away you move. According to the National Institute of Environmental Health Sciences and the Electric Power Research Institute, a magnetic field immediately beside a 230-kilovolt transmission line would drop to levels below typical residential background levels at a distance of 300 feet¹. Given that the closest residential structure would be located over 1,000 feet from the Project transmission line, the associated EMF levels are not anticipated to have an adverse impact on residents in the surrounding area. As such, a computer modeled EMF is not necessary. AASI-18-002 was approved without the modeled EMF.

(b) Measures Taken to Comply with the Concept of Prudent Avoidance with Respect to Planning, Siting, Construction and Operation of Transmission Lines

The FRMW Project was sited adjacent to two existing substations in part to avoid construction and operation and maintenance and potential impacts of a lengthy transmission line.

¹

https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf