

Construction and Operational Lighting Mitigation Plan

674 - Ocotillo Express LLC

Ocotillo, CA

For submittal to:
BLM / Imperial County

Prepared by:
Blattner Energy, Inc.

April 2012

Date: 9-26-11

Name(s): BLM, Imperial County

RE: Statement of Conformance with MM VR-2 – Construction and Operational Lighting Mitigation Plan

Blattner Energy, Inc. (BEI) is knowledgeable of requirements listed in the Visual Resource Mitigation Measure VR-2. BEI, on behalf of Ocotillo Express LLC, is hereby providing the County of Imperial and Bureau of Land Management (BLM) that we will implement the following Mitigation Measure (MM) for all permanent exterior lighting and temporary construction lighting.

MM No. VR-2

- The Applicant shall design and install all permanent exterior lighting and all temporary construction lighting such that: (a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; (b) lighting does not cause excessive reflected glare; (c) direct lighting does not illuminate the nighttime sky, except for required FAA aircraft safety lighting (which should be an on-demand, audio-visual warning system that is triggered by radar technology); (d) illumination of the project and its immediate vicinity is minimized; and (e) the plan complies with local policies and ordinances. The Applicant shall submit to the BLM and Imperial County for review and approval a lighting mitigation plan that includes the following:
 - Location and direction of light fixtures that take the lighting mitigation requirements into account;
 - Lighting design that considers setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;
 - Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
 - Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;
 - All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
 - Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

BEI has provided a Construction Lighting Mitigation Plan (below) which outlines our permanent exterior lighting and temporary construction lighting procedures.

Please contact me at with any questions or concerns.

Regards,

Field Engineer, Blattner Energy, Inc.

INTRODUCTION

This Construction Lighting Mitigation Plan was prepared by Blattner Energy, Inc. (BEI) to define our minimum practices which will be employed on the Ocotillo Wind Express Project to assure our compliance with MM VR-2.

PROJECT DESCRIPTION

The Ocotillo Express Wind Project consists of installing 137 Siemens 2.3 MW wind turbine generators (WTG). The project is located approximately 3 miles north / northwest of Ocotillo, CA in Imperial County. The main construction activities on this project will include the following: building project roads, digging foundations, massive foundation concrete pours, trenching of electrical system, and installation of wind turbine generators. In addition to these temporary construction activities, an electrical substation and Operations and Maintenance (O&M) building will also be constructed. The electrical substation and O&M building will result in permanent structures on the project site.

WORK DESCRIPTION

Temporary Construction Activities

The majority of the temporary construction activities (building project roads, digging foundations, massive foundation concrete pours, trenching of electrical system and installation of wind turbine generators) will be conducted during daylight hours and will not require additional outdoor lighting. Due to scheduling and heat constraints, there may be a possibility that some construction activities must be performed during the nighttime. These activities may include massive foundation concrete pours and installation of wind turbine generators. For activities that will require nighttime work, MM VR-2 will be taken into full consideration when selecting and setting up portable light towers. Lighting will be directed downwards, shielded to the greatest extent feasible and limited to the amount absolutely necessary to perform the required work when crews are working in an area in order to perform work in a safe manner. Please see Exhibit 1 for a specification sheet of a similar portable light tower that may be used on the Ocotillo Express Wind Project.

Laydown Yard / Construction Office Trailers

Construction office trailers will be setup in the laydown yard for the duration of the construction process. Limited lighting will be setup around the trailers, as most office staff will only utilize the office trailers during the daytime hours. Small security lights (motion sensors) may be installed on the outside of the perimeter of office trailers to alert security staff of any intrusion. If it becomes necessary, portable light plants may be installed at the entrance of the laydown yard to provide safety to security staff and equipment; however the lighting will be motion censored to the greatest extent feasible to ensure safe ingress/egress while minimizing night lighting. Motion sensors and portable light plants will be set up in accordance to MM VR-2.

O&M Building

Prior to final design, a lighting plan will be provided that ensures the measures as defined in MM VR-2 have been incorporated into the final design. The lighting mitigation plan will be provided to BLM and Imperial County for review and comment prior to completing the final design and installation of long-term lighting O&M building. The O&M building will have motion-activated lights on the exterior of the building

Wind Turbines

Prior to final design, a lighting plan will be provided that ensures the measures as defined in MM VR-2 have been incorporated into the final design. The lighting mitigation plan will be provided to BLM and Imperial County for review and comment prior to completing the final design and installation of long-term lighting at the wind turbines.

Electrical Substation

Substation lighting shall meet the minimum lighting levels for the appropriate circumstances of indoor, outdoor, and roadway areas given in the latest editions of NFPA 70 and ANSI C2.

At completion of construction, the locations and proposed direction of the lights can be found in the attached General Arrangement Plan and additionally the attached Conduit & Cable Plan either post mounted or on the steel where the lighting junction box numbers (LBJX) are indicated.

Also provided with this document are typical lighting equipment details including brochures, cut-sheets, and photometric specifications for the type of floodlight proposed for use in the Ocotillo Express Substation. The draft proposal consists of 400W HPS lamps. Control to these lights will be through a lighting contactor located inside the Substation Control Building. Unless work is to be performed in the evening requiring the lights to be illuminated, the station lights are to remain off limiting unnecessary light migration into the night sky.

SDG&E Switchyard

It is anticipated that the SDG&E Switchyard will follow a similar design as the Ocotillo Express Substation as follows:

The lights shown in the attached plan will be controlled by breakers or a switch with a contactor in the control house. A light by the main gate will remain on from dusk to dawn. The light will point down to a switch that operates the lights on the outside of the control building in the event someone needs to enter the switchyard after dark so they could see to drive safely to the control building. If work is required during dark hours, additional lights would be turned on only in the area where work is to occur. All A-Frame legs are equipped for flood lighting to be mounted at 40' height. See the attached plan view of the station with equipment yard lighting provided by SDGE.

EXHIBIT 1



AL5000

Light Tower

LIGHT TOWER
AL5000



Specifications	
30 ft (9.1 m) extended height floodlight produces enough light to illuminate 7-1/2 acres.	Light fixtures plug into weatherproof receptacle box at top of tower with UL and CSA-approved connectors.
Self-braking, erecting and extending hand-operated winch with self-lubricating steel cable is mounted inside the cabinet.	Individual quick-connect plug-in ballasts installed in galvanized steel boxes.
Storage racks for light fixtures are also inside cabinet.	Control panel is inside, away from the elements. Houses main and branch circuit breakers and hourmeter.
Spring-loaded pin automatically locks galvanized 360° rotatable tower in upright position.	Galvanized outriggers with pre-set position stops insure quick and proper spacing for safe operation in heavy winds.
Retractable power cord automatically recoils into protective rotatable mast sleeve to prevent damage when raising, lowering and moving tower.	Single point lifting eye and forklift pockets provided for easy loading and unloading.

EXHIBIT 1 – CONTINUED

Light Tower
AL5000

Specifications - Standard Unit

Lamps	Metal Halide 4 x 1,000 W
Generator	Brushless 60 Hz, 8.0 kW
Engine	Kubota diesel 13.6 hp
Fuel capacity	30 gal (114 L)
Wheel size	15 in (38 cm)
Axle rating	3,500 lbs (1,588 kg)
Tongue weight travel position	220 lbs (100 kg)
Total weight no fuel	2,425 lbs (1,101 kg)

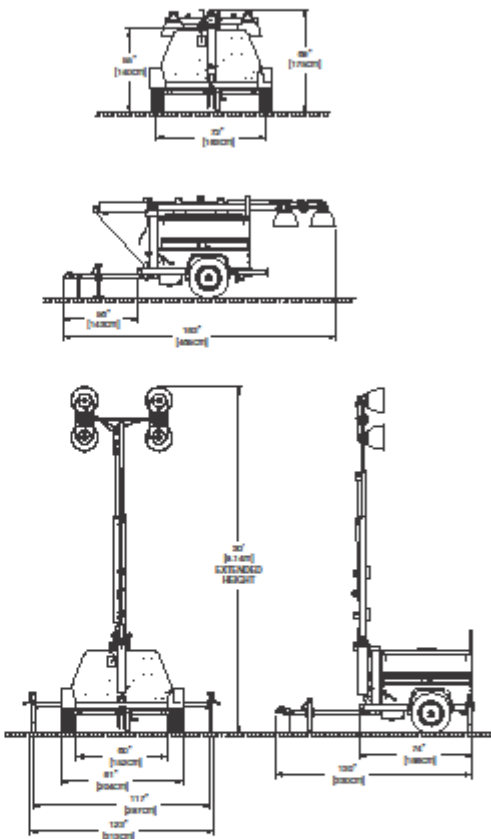
Specifications - 20 kW Upgrade

Lamps	Metal Halide 4 x 1,000 W
Generator	Brushless 60 Hz, 20 kW
Engine	Isuzu diesel 34.5 hp
Extra Receptacle Package	
3 each – 30 amp	125/250 volt Twistlock
2 each – 20 amp	120/240 volt GFCI
Fuel capacity	30 gal (114 L)
Wheel size	15 in (38 cm)
Axle rating	3,500 lbs (1,588 kg)
Tongue weight travel position	220 lbs (100 kg)
Total weight no fuel	2,735 lbs (1,245 kg)

Optional Equipment

Block heater	3/8" Highway safety chains with snap hook
Tough coat paint (front of unit and trailer)	Spare tire and wheel
Plastic fenders	Rubber door hold-down latches
Rock shield (under entire unit)	Extra GFI duplex receptacle with breaker
60 gallon dual fuel tank system	Low temperature coolant mixture (-40 deg F)
Combination ring/ball hitch	Battery heater blanket
Tail light package	Auto-start/stop**
1000 CCA battery	Metal halide 6 x 1,000 W or 8 x 1,000 W lamps
Fuel line heater	
Roda Desco electronic air shutdown system*	

Dimensions



*Extra GFI and auto-start/stop not available with this system.
**Not available with 8 light configuration.

For more information, product demonstration, or details on purchase, lease and rental plans, please contact your local Genie distributor.



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