MOHAVE COUNTY WIND FARM

Transportation and Traffic Plan

Draft April 27, 2012

Purpose:

The purpose of this document is to provide a summary of the manner in which transportation to the site will be managed, and how any associated traffic will be managed. This document will be supplemented with further drawings and specifications during the course of detailed design.

Table of Contents:

1. Introduction

The Mohave County Wind Facility is a proposed wind facility located in Mohave County, Arizona. The project will consist of up to 283 turbines which will generate up to 500 MW. The facility will be owned and operated by BP Wind Energy North America Inc. or an affiliate.

The details and plan provided in this document are primarily in relation to transport and traffic during construction. The operations of the facility require little special transport and add little traffic.

2. Surrounding Area and Routes to Site

The proposed site is located near Arizona State Highway 93 between Las Vegas, Nevada and Kingman, AZ. Access to the project site will be from Highway 93 onto an existing turnout accessing the gravel pit in Detrital Wash as depicted in Figure 1. The area is sparsely populated, however Highway 93 adjacent to the site is a very high speed roadway with moderate to heavy traffic. In general site visibility along the roads is good and the roadways are in good condition. Figures 2 through 6 provide viewpoints from the existing turn-out off US 93.

The origin of turbine components, equipment, and materials is not known at this time, and for sub components is generally not tracked by BP Wind Energy. Further, BP Wind Energy has limited control over what routes are used outside the immediate surrounding area. In general, BP Wind Energy develops traffic and transportation plans from the exit off of federal interstates or from local rail yards. This transportation and traffic plan follows that model.

The attached map provides the new planned roadway that will extend from the existing turnout off US 93. This roadway to the site will be used in the delivery of turbine components, equipment, and material. Transport vehicles will likely exit from Interstate 515 in the vicinity of Las Vegas or from Interstate 40 in the vicinity of Kingman. If any equipment or turbine components are shipped by rail it is assumed they will be unloaded in at rail yards in the vicinity of either Las Vegas or Kingman. By either rail or road transport, turbine components and equipment will use Highway 93 for final transportation to the site.

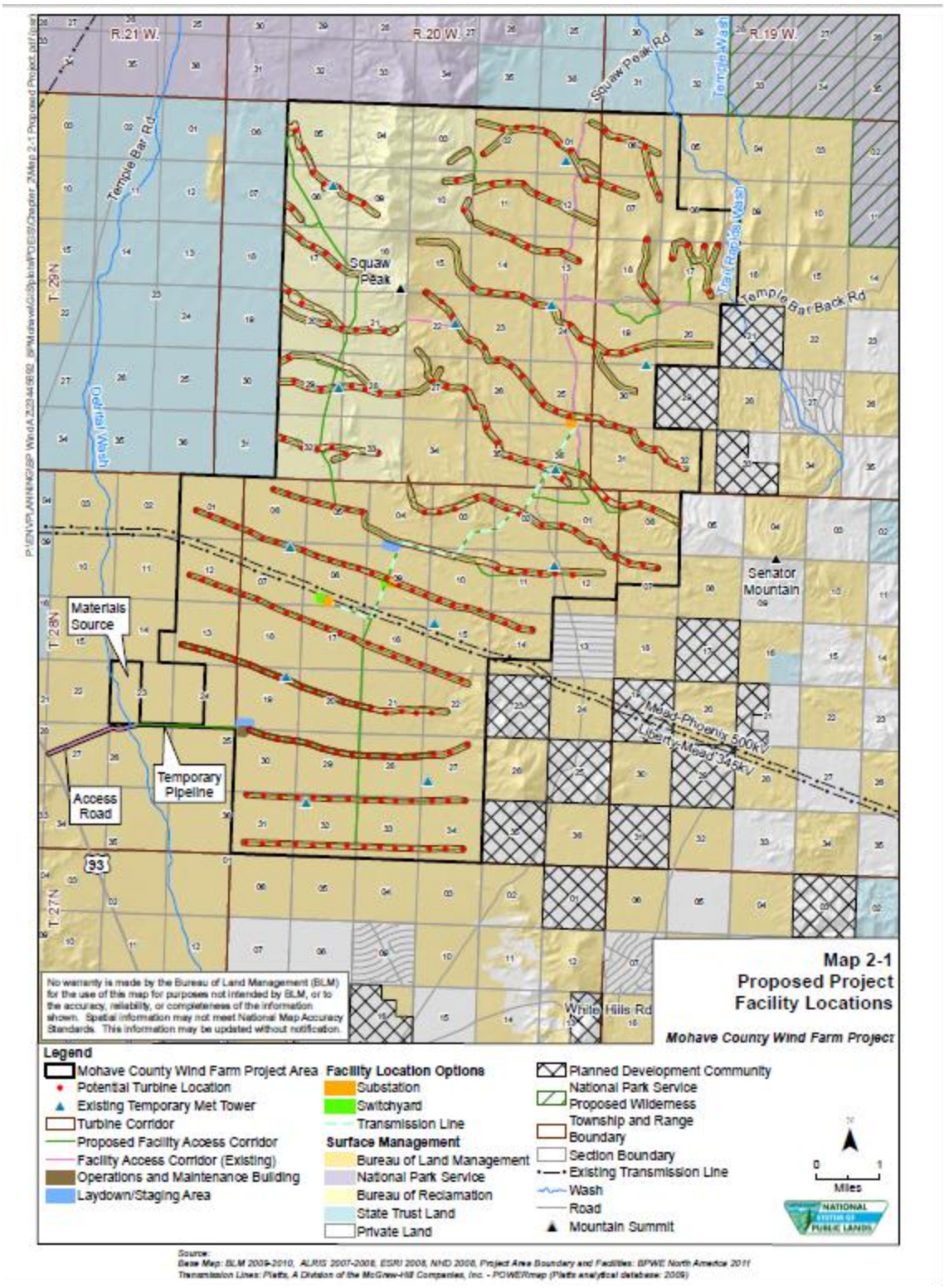

Figure 1: Mohave County Wind Farm Site Plan

Figure 2: Existing turnoff from North Bound lane on US93 towards existing mine pit

Figure 3: Existing turnoff from North Bound lane on US93 towards existing mine pit and will be extended to Project Site.

Figure 4: Turnoff looking back towards US93 North Bound Lane

Figure 5: Median Crossover from South bound lanes to North bound lanes on US93

Figure 6: South bound lane on US93 with existing turnout to cross median over the North Bound lane and onto the mineral pit.

3. Equipment to Be Transported

The general categories of items to be transported include: turbine components, facility and construction equipment, and facility and construction material. Further detail on each category is provided below.

a. Turbine Components

Turbine components are the most visible transportation requirement for the project. Turbine components generally are described in three sections: blades, towers, and the nacelle. The weights and dimensions for all these components vary depending on the vendor. A reasonable range is provided below.

Each blade typically weighs from 13,000 to 29,000 pounds. Blade lengths are typically between 111 feet and 180 feet.

Tower sections vary in length and dimension depending on where they are in the tower. In general lower tower sections are the shorter and heavier while higher tower sections are taller and lighter. Tower sections vary in weight from 63,000 pounds to 138,000 pounds. Tower lengths typically range from 32 feet to 98 feet, with diameters ranging from 14.5 feet to 8 feet.

Nacelles (the section of the turbine at the top of the tower) are shipped in various configurations. The weights indicated here include all sub-components that will be added to the nacelle prior to operation. Typical nacelles weigh from 163,000 to 227,000 pounds (note the weight of the rotor hubs are included in this range). Dimensions for nacelles can vary, but do not typically exceed standard construction trailer dimensions.

b. Facility and Construction Equipment

Major equipment for the facility (beyond the turbines) include the main step up transformers, pad mounted transformers, substation equipment, and substation control building. Major construction equipment includes turbine installation cranes, turbine offloading cranes, earthmoving equipment, trenching equipment, and miscellaneous cranes, forklifts, and lifting equipment.

c. Facility and Construction Material

Significant material for the project includes road aggregate, concrete, rebar steel, underground electrical conductor and fiber optic cable, grounding cable, transmission poles, transmission wire, and materials for the operations and maintenance building. Significant material for construction includes water,

4. Transport Requirements

Transport requirements vary depending on the type of equipment being transported. Detail on the transport requirements are provided corresponding to each paragraph in section 3.

a. Turbine Components

The turbine components transportation requirements will generally govern the road design and access design. This is due to the length and weight of the equipment being transported. The length of the components (especially the blades and tower sections) generally result in a requirement of a 150 foot turning radius for all turns and a maximum of a 6 inch hump or dip per 50 foot stretch of road. The weight of the turbine components generally results in a requirement for grades on public roads not to exceed eight percent and Maximum Load Class (MLC) ratings of 20 tons per axle or greater (MLC ratings are generally only an issue on local roads). Based on state specific transport requirement for oversized loads (which most of the turbine components are)

lead and trail flag vehicles may be required, and possibly police escort vehicles (depending on the requirements of each state).

b. Facility and Construction Equipment

The majority of the facility and construction equipment will use standard transport vehicles and therefore will not have special transport requirements. The main step up transformer(s) generally are permitted loads due to the weight of the transformer. Since the weight of the transformer and axle loading will be equal or less than for the turbine components, this transport requirement will generally not be a factor. The large turbine installation cranes are transported to the site in pieces and assembled on site; accordingly there are generally no special transport requirements for the turbine installation cranes.

c. Facility and Construction Material

The majority of the facility and construction material will use standard transport vehicles and therefore will not have special transport requirements. Depending on the type of transmission structure used, an oversized vehicle permit may be required to transport them (if a single piece transmission poles over a certain length are used). These loads will have similar transport requirements as the turbine blades. Aggregate loads for the roads and foundation will not have specific transport requirements, but due to the high volume will require dust control measures and a road maintenance program.

5. Estimated Transport Vehicle Trip Counts

For estimating purposes, the transport vehicle trip count will be based on the number of round trips that transport vehicles will make from the last major highway (Highway 93) to the main construction area. Trip counts within the site will not be estimated as they will be on limited access private roads. Trip counts are summarized in Table 5.a.

This most visible transport will be the turbine components. Depending on vendor shipping configuration, each turbine will require 7 to 16 trailers per turbine. For this project (based on the Plan of Development), there will be between 166 and 333 turbines. Accordingly, during the course of construction, between 1,162 and 5,328 round trips will be required for turbine transport vehicles. The majority of turbine vendors require closer to 10 trucks per turbine, therefore it is expected there will be roughly 2,000 round trips for turbine deliveries.

Depending on the source of aggregate and water for the project, aggregate and water may add a significant number of trip counts. If aggregate and water are obtained from within the project area, then the trip count will only reflect the initial arrival of vehicles on site to start the day and their departure at the end of the work day. Assuming ten aggregate and water trucks are needed per day over a 26 week period (five day work week) 1,300 rounds trips will be required for aggregate and water trucks (which would likely be less as some truck drivers would elect to leave trucks on site overnight).

The project will almost certainly use an on-site concrete mixing and batching plant. Therefore, concrete trucks will make only one round trip per day as they start work and finish work. Assuming ten concrete trucks working over a 26 week period (five day work week) 1,300 rounds trips will be required for concrete delivery trucks.

Site mobilization and demobilization will require significant transport as well. Each mobilization and demobilization activity will require two round trips (for example the delivery of one construction trailer will require one round trip at the start of the project and one round trip at the conclusion of the project). Equipment and material included in the mobilization and demobilization trip counts include the construction equipment, substation equipment, electrical and transmission equipment and materials, and miscellaneous facilities equipment. Based loosely on previous projects it is expected there will be approximately 500 round trips based on mobilization and demobilization activities.

The last significant contributor to trip counts will be the daily commute of workers to and from the site during construction. It is assumed that most workers will take company or personal vehicles (cars and light duty trucks) from their place of residence or temporary residence to the main job site once per day. It is expected the construction duration will be approximately 9 to 12 months, and that at the peak of construction there will be up to 300 workers on site. However, most workers will not be on site the entire duration of construction and consequently there will usually be less than 300 workers on site on any given day. Assuming for a lower bound estimate an average of 75 workers on site and a 39 week (five day work week) construction duration there will be 14,625 rounds trips for personnel transports. Assuming for an upper bound estimate an average of 150 workers on site and a 52 week (five day work week) construction duration there will be 39,000 rounds trips for personnel transports. A reasonable estimate for expected personnel transport round trips for this project is the approximate average of the two, 26,800, spread out over a 10 month duration.

The results of these estimates are summarized in Table 5.a below.

Table 5.a -
Estimated Number of Vehicle Round Trips into the MCWF Project Site

Transport Vehicle Category	Lower Bound Estimate	Upper Bound Estimate	Expected Number of Round Trips
Turbine Components	1,162	5,328	2,000
Aggregate and Water	1,300	33,550	3,000
Concrete Delivery Vehicles	1,300	1,300	1300
Mobilization and Demobilization	500	500	500
Personnel Transport	14,625	39,000	26,800
Total	**18,887**	**79,678**	**33,600**

6. Estimated Traffic Congestion

The expected round trip count of 33,600 over a ten month period (as estimated in the previous section) results in an average trip count of 156 trips into the project area per workday. At this level, it is not expected that construction traffic will not have a significant impact to the federal interstates or to the Las Vegas or Kingman areas.

Daily vehicle usage numbers for Highway 93 are not known at this time, but it is expected that construction traffic for the project will not represent a significant increase. While limited impacts are expected to traffic along the majority of Highway 93, there will likely be some impact to traffic in the vicinity of the turn off to County Highway 145 as slow moving vehicles enter and exit.

Daily vehicle usage numbers for County Highway 145 are not known at this time, but it is expected that construction traffic for the project will represent a significant increase. Construction vehicles along the section of this road from Highway 93 to the turn of for the limited access project site roads will create a noticeable increase in traffic. Non-construction vehicles users of this route should expect slower speeds and increased travel times during the construction period.

7. Proposed Traffic Control Measures

Traffic Control Measures are currently being discussed with possible contractors and engineering firms and will be updated in this plan.