

USDA. FOREST SERVICE
 COLUMBIA RIVER GORGE NATIONAL SCENIC AREA
 902 WASCO AVENUE, SUITE 200
 HOOD RIVER, OR 97031

Telephone: 541-308-1700
Fax: 541-386-1916

PROJECT REVIEW APPLICATION

Rev (5) UPDATED: Big Eddy – Knight Transmission Project – CD-11-10-G

DATE OF APPLICATION: DATE COMPLETE: 30-DAY NOTICE REQUIRED

APPLICANT(S)			PROPERTY OWNERS
Bonneville Power Administration			Multiple as shown in Wasco & Klickitat County Assessors offices.
Nathan Mullen, Project Manager			
MAILING ADDRESS			MAILING ADDRESS
PO Box 61409			
Vancouver, WA 98666-1409			
APPLICANT'S SIGNATURE AND DATE			PROPERTY OWNER'S SIGNATURE AND DATE
/s/ Nathan Mullen 11/14/12			
PHONE: 360-619-6302			PHONE:
E-MAIL: ndmullen@bpa.gov			E-MAIL:
LOCATION OF PROPERTY			PROPERTY ADDRESS (IF APPLICABLE)
TOWNSHIP:	RANGE:	SECTION:	
QUARTER SECTION:	TAX LOT:		
PARCEL SIZE (ACRES):			COUNTY:
EXISTING LAND USE:			STATE:

Application Checklist: the following is required to complete your application:

- Application form completed and signed
- Site Plan
- Key viewing areas checklist (attached)
- Names and addresses of adjacent property owners within 200 feet of parcel (see note)
- Any additional information as required:

Original application was submitted on September 30, 2011, and the Forest Service Consistency Determination CD_11_10_g was approved on November 22, 2011 are incorporated by reference and not included in the application.

See Attached Files:

- BE-K Mile 9 Photomap
- BE-K Mile 9 Access Road Grading Plan
- BE-K Railroad Crossing Guard Structures
- BE-K Obstruction Lighting Installation Details Structure AZE 33

KEY VIEWING AREAS: Key viewing areas are important public viewpoints and areas that afford opportunities to view the Gorge scenery. Key viewing areas are listed below. Please check those sites which can be seen from your property.

- | | |
|---|---|
| <input type="checkbox"/> Historic Columbia River Highway | <input checked="" type="checkbox"/> Washington State Route 14 |
| <input type="checkbox"/> Sandy River | <input type="checkbox"/> Washington State Route 142 |
| <input type="checkbox"/> Portland Women's Forum State Park | <input type="checkbox"/> Washington State Route 141 |
| <input type="checkbox"/> Crown Point | <input type="checkbox"/> Cook-Underwood Road |
| <input type="checkbox"/> Rooster Rock State Park | <input type="checkbox"/> Dog Mountain Trail |
| <input type="checkbox"/> Multnomah Falls | <input type="checkbox"/> Beacon Rock |
| <input type="checkbox"/> Larch Mountain | <input type="checkbox"/> Cape Horn |
| <input type="checkbox"/> Highway I-84, including rest stops | <input checked="" type="checkbox"/> Columbia River |
| <input type="checkbox"/> Bonneville Dam Visitor Centers | <input type="checkbox"/> Pacific Crest Trail Oregon Highway 35 |
| <input type="checkbox"/> Sherrard Point on Larch Mountain | |
| <input checked="" type="checkbox"/> Rowena Plateau/Nature Conservancy Viewpoint | |
| <input type="checkbox"/> Larch Mountain Road | |
| <input type="checkbox"/> Wyeth Bench Road | |
| <input type="checkbox"/> County Road 1230 (Old WA St. Route 14) | |

PROJECT SITE PLAN:

Please see photomap drawings that provide the following information:

- Applicant(s) name
- Location and width of existing and proposed roads, driveways, and trails
- Scale and north arrow
- Location and size of existing and proposed structures
- Boundaries of parcel with dimensions and size
- Location of existing and proposed services including wells or other water supplies, structures, power and telephone poles and lines and outdoor lighting.
- Significant terrain features or landforms
- Location and depth of all proposed grading and ditching
- Groupings and species of trees or other vegetation on the parcel
- Location and species of vegetation that would be removed or planted
- Water courses and bodies of water

**ADJACENT PROPERTY OWNERS AND EXISTING LAND USE
ON ADJACENT PARCELS WITHIN 200 FEET OF PROJECT PROPERTY:**

This requirement was completed in the original September 30, 2011 application.

<u>TOWNSHIP, RANGE, SECTION, TAX LOT</u>	<u>NAME AND ADDRESS</u>	<u>EXISTING LAND USE</u>

BEK MILE 8-9 DESIGN ADJUSTMENTS

The Big Eddy – Knight Transmission line project has experienced some delays due to cultural findings in miles 8 and 9. Culturally sensitive areas have been identified in several locations along this section of line. BPA has updated the transmission design to help address the culturally sensitive areas which eliminates one tower and relocates the new towers to existing 230-kV tower locations where possible. These new tower relocations will help keep the construction impacts to previously disturbed areas when the 230-kV line was originally built. Tower 8/1 has been relocated 20 feet north away from the rock cliff face. The original towers affected by this design change are towers 8/1 (AZE 33), 9/1 (AZE 34), 9/2 (AZE 35), 9/3 (AZE 36) and 9/4 (AZE 37).

Transmission Line:

BPA’s Big Eddy – Knight Transmission line’s design adjustments in miles 8 to 9 will require the placement of similar towers proposed in the original design. One tower from the original design (9/3) will be removed and the tower leg extensions will be modified based on new terrain associated with the new tower locations. This new design will result in a reduction to the area impacts by providing a smaller overall ground disturbance footprint, moving future disturbances closer to past disturbances, and reducing the requirement to install one tower as described in further detail below.

Tower 8/1 (AZE 33) moves 20 feet north away from the cliff face and will require four drilled concrete shaft foundations that are approximately eight feet in diameter and augered to an approximate depth of 34 feet below ground. The tower will have an above ground height of 243 feet, which is six feet taller than originally designed. This additional six feet will be achieved by extending the top of concrete for the drilled concrete shaft foundation above ground. The depth of the foundation and overall tower footprint will remain the same. This tower will maintain its prior submitted Federal Aviation Administration (FAA) Airway Lighting design.

Tower 9/1 (AZE 34) remains in the same previously submitted location utilizing the same four 8.25' x 8.25' grillages buried to a depth of approximately 12 feet. This tower maintains its previous height above ground at 190 feet.

Tower 9/2 (AZE 35) shifts back on line approximately 110 feet to be in the same previously disturbed area as the existing 230-kV tower. This tower utilizes the same 8.25' x 8.25' grillages buried to a depth of approximately 12 feet. The height of this tower will increase from the previous height of 165 feet up to 195 feet but will not be required to be lit for FAA Airway Lighting.

Tower 9/3 (AZE 36) is removed from the new design. This eliminates the ground disturbance activities and impacts of four grillage foundations and the tower erection process.

Tower 9/4 (AZE 37) shifts back on line approximately 480 feet. The new location of this tower is in the same area of the existing 230-kV tower that is to be removed. This allows the new footings to be installed in an area which was previously disturbed. The four new grillage footings for tower 9/4 are 11' x 11' and buried to an approximate depth of 13.5 feet. The height of this tower would become approximately 195 feet and will not necessitate the need to light for FAA Airway Lighting.

The new design eliminates four footing excavation sites for one tower and moves the excavation locations for two other towers to overlap existing 230kV towers and the earth that was previously disturbed by their installation. This will keep new ground excavations and cultural impacts to a minimum without imposing any additional FAA lighting requirements.

Access Roads:

Existing roads to be repaired or maintained are identified as solid and dashed red lines respectively on the photomap sheets. As defined by BPA existing roads are travel routes used by BPA for the purpose of transmission line/tower inspection and maintenance. Dashed yellow lines are current federal access road easements. Existing roads shown in photomaps may not align with existing access road easements shown as dashed yellow lines because of land use changes over time resulting in access road relocations. Easements to be acquired are identified as solid blue lines that border the existing roads (the solid and dashed red lines on the photomap sheets).

Existing access road conditions vary greatly depending on their location within the gorge, adjacent terrain, annual use, and annual maintenance of the roads. Existing roads are currently accessible by a 4 wheel drive pick-up truck and have been accessed within the last year. Existing road repair/maintenance is required to return the roads to their original condition due to adjacent erosion issues and inadequate road surfacing to support tower construction activities and future maintenance of the transmission line.

- **New Road Construction within NSA:**

The access roads described below are either being relocated to fall within BPA transmission line Right-of-Way or are supporting the construction of temporary guard structures adjacent to the BNSF railroad. These access roads will be classified as New Road Construction within the Scenic Gorge based on criteria defined classifying the road to be outside the activities of Repair/Maintenance of Existing Roads. The location shown in the photomap (Solid Magenta Line) provides access to the following:

- Haul Road realignment with temporary road to be constructed within BNSF Right-of-Way as shown on the Photomap. This temporary road will be abandoned in place.
- Temporary access road constructed across the railroad tracks to support the installation of temporary guard structures on BNSF Right-of-Way near the Columbia River under the transmission line Right-of-Way. Both the access road and guard structures will be removed with site restoration to occur once the transmission line construction is complete.
- Permanent new access road to towers 9/2 and 9/1 would be constructed to support construction and future maintenance of the transmission line facility. This road is being relocated to fall within the transmission line Right-of-Way and will help to reduce the permanent access roads in this area by 2000 linear feet. Previously proposed construction roads are shown in gray on the photomap.

Per the Scenic Gorge permitting requirements New Road Construction within the NSA would require grading plans defining the proposed work unless the construction activities fall under NSA exemptions. Exemptions to development of grading plans for New Road Construction within NSA are as follows:

- Cumulative Grading of 200 CY or Less
- Construction within Urban Land Use Classification
- Construction within Tribal Lands Classification

Grading plans were not developed for the access road to the temporary guard structures as the road work at each site will be less than 200 CY of material being graded. Grading plans were developed for the access road to towers 9/1 and 9/2 as none of the Scenic Gorge exemptions applied. The access road to towers 9/1 and 9/2 has been identified as New Road Construction within NSA with limits defined in the attached Photomaps and Grading Plans with specific details regarding the activities to be conducted by the contractor outlined in the Road Cross Section Typical Detail which can be reference in the original application document.

- **Routes of Travel**

Two Route of Travel roads have been identified providing access to the following:

- Access to support the temporary construction of the access road and the guard structures via an existing BNSF gravel access road from Wishram.
- Access via an existing field access route to support the construction of tower 9/3. This existing field access route has been used in the past to support the inspection and maintenance activities on the existing transmission line. This access route will be

traveled and maintained as needed to support vehicle access to construct tower 9/3 and will help to reduce the permanent access roads in this area by 2000 linear feet. Previously proposed construction roads are shown in gray on the photomap.

Both locations as shown in the photomap (Dashed Yellow & Black) follows existing access routes and will only be maintained as needed to support the construction activities then restored to a condition acceptable to the property owners and BPA.

The Table below indentifies proposed Construction, Repair, and Maintenance items by sheet for the access roads. Construction details for each item are included in the original application.

Map Sheet	Construction	Repair	Maintenance	Route of Travel	Light Riprap	Culvert Install	Culvert Cleaning	Construct Ford	Water Bars	Drain Dips	Restore Ditch	Geotextile Fabric	Stocyard Fence Gate	Heavy Duty Gate	Vehicle Turnouts	Slope Stabilization	Access Road Approach	Seed and Mulching
9	x	x	x	x	x	x	x			x		x	x		x		x	x

GUARD STRUCTURES

During the removal of the existing wires and the installation of the new wires temporary guard structures will need to be installed on either side of the BSNF Railroad tracks. This is a safety precaution in the unfortunate event the wires fall during removal or installation. The guard structures will help keep the wires off the tracks such that BNSF operations are not significantly affected. The guard structures consist of 65-foot wood poles buried 8.5 feet below ground with a series for wood poles hung horizontally at a minimum of 30 feet about the tracks. In this case the existing alignment and new alignment are different enough that two sets of guard structures will be required. A total of 14 poles will be installed to protect the tracks during construction and will then be removed. These guard structures will be located within BPA’s transmission Right-of-Way. Please see the attached pdf named “Big Eddy-Knight Railroad Guard Structures”. This will also show the location of the railroad track crossing.

KLICKITAT PUD ULITILY SERVICE

The new Big Eddy – Knight river crossing tower 8/1 on the Washington side of the Columbia River also requires utility service to power the river crossing beacons. The existing 230-kV river crossing deadend tower has utility service and once removed the new tower 8/1 will be installed 20 feet north of the existing tower location. The existing utility service can be used for the new lights; however a new meter pole must be installed between Klickitat PUD’s existing pole and BPA’s new tower 8/1 to update to current standards. The new meter pole will be approximately 45 feet in length and will require one line guy to support the pole. The pole and line guy will be buried approximately 5-7 feet deep. BPA will own the meter pole and overhead wire within the existing transmission Right-of-Way. Please see the plan and profile views on the attached pdf named “BE-K Obstruction Lighting Installation Details Structure AZE 33”.

WORK AREA – STRINGING SITE

This is a wire pulling site where the contractor will setup their equipment to remove and install the groundwire, conductor, and fiber on the towers. This site needs to be located directly behind the towers so the wires can be pulled through the towers in a straight line. The wires must maintain a minimum slope of 2H:1V from where it attaches onto the tower down to the stringing equipment as it is installed. This means that the highest wire attachment location on the tower (groundwire) governs the pulling site. If the wire attachment is 100 feet above ground, the equipment must be located a minimum of 200 feet away from the tower. In general, a wire slope of 3H:1V is preferred because it provides an extra factor of safety. The site needs to be level so some grading will be required, but minimized as much as possible. The site will be contoured and vegetated once the work is complete.

The following equipment is expected, but not limited, to be used in the pulling sites:

- Pick-up and flatbed trucks to transport workers, materials, and tools,
- Puller to pull wire through the tower from the wire reels,
- Tensioner to assist the puller to keep tension on the wires and off the ground,
- Tractor and trailer to transport the wire reels,
- Cat dozer to help anchor (snub) the wire during installation,
- Helicopter to fly nylon rope to each tower used to pull wire,
- Crane trucks with man baskets for lifting small equipment working off the ground, and
- Air compressor to install wire fittings.

The construction contractor will obtain permission from the landowner to use this wire pulling site and BPA is responsible for the cultural compliance before work begins.