

APPENDIX L

COMPARISON OF IMPACTS – ADDITIONAL SUMMARY TABLES

Introduction

This appendix provides additional tables that summarize the potential impacts of the Proposed Action and alternatives in various formats. Information for these tables has been drawn from the discussion of potential impacts and mitigation measures in Chapter 3 of the Libby-Troy Rebuild Project EIS. Two main types of tables are included in this appendix:

- A summary of the level of impact for each potential impact of the Proposed Action, Alternative 1, and the No Action Alternative, both before and after implementation of identified mitigation measures (Table L-1).
- A summary comparison of potential impacts, as well as the level of impact both before and after implementation of identified mitigation measures, for each of the proposed realignment options as compared to the equivalent segments of the existing transmission line (Tables L-2 through L-4).

The following discussion further summarizes the information in each of these tables.

Impacts Before and After Implementation of Mitigation for the Proposed Action, Alternative 1, and the No Action Alternative

As discussed in Chapter 2 of the EIS, the Proposed Action would consist of a rebuild of the existing 115-kilovolt (kV) Libby-Troy transmission line as a 115-kV single-circuit line, and Alternative 1 would consist of a rebuild as a 230-kV double-circuit line. Construction of either the Proposed Action or Alternative 1 would result in some adverse impacts that cannot be fully avoided even with implementation of mitigation measures. However, most impacts would occur during the construction phase of either alternative and thus would be temporary.

As shown for the Proposed Action in Table L-1, long-term adverse effects to most project area resources would return to low after implementation of proposed mitigation. However, impacts to cultural resources would remain moderate. Structure replacement and construction and improvement of access roads would adversely impact prehistoric cultural resources and Traditional Cultural Properties. Additionally, removal of danger trees would make the rebuilt line more visible to residents and from local area roads located along the rebuilt line.

In general, Alternative 1 would result in higher impact levels after mitigation than the Proposed Action, mainly because of the need for a wider cleared corridor and taller structures for the 230-kV line under Alternative 1 (see Table L-1). For Alternative 1, long-term adverse effects to residential lands, recreation lands, resource management areas, visual resources, and cultural resources would remain moderate after implementation of mitigation and completion of the project. Clearing of trees that screen the corridor would make the line more visible to residents and would adversely affect the recreational experience. Taller, steel double-circuit structures would be visible from homes and along local area trails and roads. Placement of new steel structures and construction and improvement of access roads within or near prehistoric cultural sites and Traditional Cultural Properties would continue to have a moderate effect on cultural resources. Impacts to native plant species from compaction of soils and introduction of noxious weeds during construction would remain moderate after implementation of mitigation.

For the No Action Alternative, implementation of mitigation is not proposed. Adverse effects to project area resources would continue, as shown in Table L-1.

Comparison of Impacts between the Existing Corridor and Proposed Realignment Options

As discussed in Chapter 2 of the EIS, there are three proposed realignment options under consideration: the Pipe Creek Realignment Option, the Quartz Creek Realignment Option, and the Kootenai River Crossing Realignment Option. Table L-2 compares the impacts and levels of impact of the Pipe Creek Realignment Option to a rebuild in the existing transmission line corridor in this area, under both the 115-kV single-circuit and 230-kV double-circuit rebuild alternatives. Table L-3 shows similar information for the Quartz Creek Realignment Option, and Table L-4 shows similar information for the Kootenai River Crossing Realignment Option.

Generally, the three realignment options would result in greater adverse effects compared to those sections of the existing transmission corridor that they would replace, largely because the realignment options would introduce a transmission line with its associated cleared transmission corridor and access roads to areas that currently do not have transmission lines, as opposed to simply rebuilding the line in the same location where it currently exists. However, the realignment options would serve to reduce or remove some impacts to certain resources along the existing transmission line, depending on the particular realignment option. For example, the Pipe Creek and Quartz Creek realignment options would remove the existing transmission line from rural residential areas that have developed along the existing transmission corridor, thereby reducing or eliminating land use, visual, and potential health and safety impacts for residents of these areas. As another example, the Kootenai River Crossing Realignment Option would move the existing transmission line in the vicinity of the Kootenai Falls area, thereby reducing visual, cultural, and potential fish and wildlife impacts in this area.

Pipe Creek Realignment

Construction of the Pipe Creek realignment rather than rebuilding on the existing corridor through the Pipe Creek area would have greater impacts on the following resources (at either voltage): soils and water resources, land use, vegetation (old growth and weeds), wetlands and floodplains, wildlife, visual resources (one private parcel and Kootenai NF land) and cultural resources.

- Impacts to soils and water resources would be greater with the realignment from clearing of new right-of-way in the riparian areas of Pipe and Bobtail creeks. Soil disturbance would occur in the floodplains and riparian wetlands with the potential delivery of sediment to those creeks. Although about the same amount of total clearing would occur on the realignment and existing corridor, much less area would be cleared within the riparian areas of Pipe and Bobtail creeks along the existing corridor.
- Land use on the realignment would change from bald eagle habitat and old growth to transmission line; land use on the existing corridor would not change. Full use of the existing corridor would not be restored to landowners; the electrical distribution line that is currently attached to the existing transmission line along Kootenai River Road has the same corridor width as the transmission line and would remain in its current location.
- The potential for the spread of noxious weeds is greater on the realignment. Even following mitigation, the potential for weed infestation is higher on newly disturbed soil as compared to areas along the existing corridor managed by residents as front yards, animal enclosures or forest.
- Nesting bald eagles may abandon the Pipe Creek nest site as result of habitat removal within Zones I and II. The Pipe Creek realignment also would be expected to increase the potential

risk of bald eagle mortality because new conductor would cross the primary flight corridor between the nest and the Kootenai River. Very little habitat would be removed to rebuild on the existing corridor.

- Clearing of new right-of-way would impact migratory birds because suitable habitat for nesting, foraging, and roosting would be removed with this realignment. Very little habitat would be removed to rebuild on the existing corridor.
- Visual impacts to the private parcel crossed by the realignment would occur from new conductor placed within the view to the southwest of the Cabinet Mountains. The view is currently unobstructed.
- Visual impacts to residents living along Kootenai River Road in the Pipe Creek area would be lower with the realignment; however the distribution line would remain within the existing corridor and views of those residents.
- Visual Quality Objectives (VQO) on Kootenai NF land would not be met with construction of the realignment.
- New right-of-way would be cleared within areas along Pipe Creek referred to as traditional cultural properties by Kootenai tribes.

Rebuilding on the existing corridor would have greater impacts than the realignment option on visual resources and public health and safety.

- Clearing of danger trees and right-of-way would open views of the transmission line from homes along Kootenai River Road. Additionally, if the existing alignment is straightened through the Pipe Creek residential area, one landowner would be affected by loss of trees on their property and placement of the line where no line currently exists. Use of the realignment would remove BPA's need for a safe right-of-way clear of tall growing vegetation.
- Noise and construction related traffic during construction activities would impact residents living along the transmission line and travelers along Kootenai River Road. Residents may still experience construction noise and traffic as construction equipment moves along Kootenai River Road if the realignment is used.
- Residents in one house along the existing corridor in the Pipe Creek area would experience average magnetic field levels above 3 mG but below 4 mG for the Proposed Action (115 kV). Average magnetic field levels for Alternative 1 would not be above 3 mG at any home in this area. Impacts from magnetic fields from BPA's line would be removed if the realignment is used.

Similar impacts would occur on the existing corridor and the realignment option to fish, amphibians, and reptiles, recreation resources, social and economic resources, transportation, and air quality.

Quartz Creek Realignment

Construction of the Quartz Creek realignment rather than rebuilding on the existing corridor through Big Horn Terrace would have greater impacts on the following resources (at either voltage): soils, land use (on Kootenai NF lands), vegetation (old growth and weeds), wildlife, visual resources (Highway 2 travelers and VQOs) and cultural resources.

- Clearing of new right-of-way and construction of structures would disturb considerably more soil than rebuilding on the existing corridor. The existing corridor has existing structure sites and cleared right-of-way.
- Land use on the realignment would change from grizzly bear and big-game species habitat and old growth to transmission line; on the existing corridor, full use of the corridor would be restored to residents in the Big Horn Terrace subdivision.

- The potential for the spread of noxious weeds is greater on the realignment. Even following mitigation, the potential for weed infestation is higher on newly disturbed soil as compared to areas along the existing corridor managed by residents as front and backyards.
- Clearing of new right-of-way would impact migratory birds because suitable habitat for nesting, foraging, and roosting would be removed with this realignment. Very little habitat would be removed to rebuild on the existing corridor.
- During construction, helicopter use and construction and opening of roads would impact grizzly bears and their habitat. Short-term disturbance to grizzly bear habitat would occur whenever line maintenance activities are conducted in the realignment areas within the grizzly bear recovery zone. While grizzly bears do not in all likelihood recognize the boundary, the Big Horn Terrace subdivision located along the existing corridor is not within the grizzly bear recovery zone.
- Visual impacts to residents in the Big Horn Terrace area would be lower with the realignment; however new structures and right-of-way would be visible from across the Kootenai River to eastbound travelers on Highway 2.
- Visual Quality Objectives (VQO) on Kootenai NF land would not be met with construction of the realignment.
- New right-of-way would be cleared in areas considered culturally sensitive by Kootenai tribes.

Rebuilding on the existing corridor would have greater impacts than the realignment option on visual resources (for residents of Big Horn Terrace) and public health and safety.

- Clearing of danger trees would open views of the transmission line from homes within the Big Horn Terrace subdivision. Some homes would lose trees in their front or back yards or along driveways. Use of the realignment would remove the line from the Big Horn Terrace subdivision.
- Noise and construction related traffic during construction activities would impact residents living along the line. Residents may still experience construction noise and traffic as construction equipment moves along Kootenai River Road if the realignment is used.
- Residents in four homes within the Big Horn Terrace area would experience average magnetic field levels above 4 mG for the Proposed Action (115 kV). Average magnetic field levels for Alternative 1 would not be above 3 mG at any home in this area. Impacts from magnetic fields would be removed if the realignment is used.

Similar impacts would occur on the existing corridor and the realignment option to water resources, wetlands and floodplains, fish, amphibians, and reptiles, recreation resources, social and economic resources, transportation, and air quality.

Kootenai River Crossing Realignment

Construction of the Kootenai River crossing realignment rather than rebuilding the existing river crossing would have greater impacts on the following resources (at either voltage): land use (to Inventoried Roadless Areas), wildlife (bald eagle and migratory birds), amphibians, visuals (negative along Highway 2 but positive near Kootenai Falls), and cultural resources (positive).

- Construction of the realignment would remove the line from the view shed of the Kootenai Falls area, a culturally sensitive area for local area tribes. This would be a positive impact.
- Although visual resources along the south side of Highway 2 would be negatively impacted, the impact to visuals within the Kootenai River recreational area would be positive.
- Impacts to grizzly bear habitat in Bear Management Unit 10 would be removed with the realignment.

- Placement of conductor in a new location along the Kootenai River could potentially increase the risk of line collision for bald eagles and other migratory birds. Leaving the Kootenai River crossing in the same place would continue current impacts, if any.
- Use of the realignment would remove the need for clearing and bridge construction in the floodplain and riparian wetlands of China Creek.
- Coeur d’Alene salamanders could be displaced from their habitat or killed with use of the realignment. No salamanders are located along the existing corridor.

Rebuilding on the existing corridor would have greater impacts on wetlands and floodplains, wildlife, fish and reptiles, visual resources, recreation resources, and cultural resources, than the realignment option.

- Rebuilding on the existing corridor with the same Kootenai River crossing and bridge at China Creek would continue the visual intrusion on the Kootenai Falls area, a culturally sensitive area to local area tribes.
- Impacts to grizzly bear habitat during use of roads for line maintenance of the existing corridor would continue.
- Impacts to visual resources and recreational use along Sheep Range Road near China creek would continue.
- Clearing and bridge construction would remove riparian vegetation in the floodplain and riparian wetlands of China Creek with the potential delivery of sediment to this fish-bearing creek. Removal of riparian wetland vegetation could also negatively impact reptiles and their habitat.

Similar impacts would occur to soils and water resources, land use, vegetation (from weeds), noise, public health and safety, social and economic resources, transportation, and air quality.

Additional Information

Following the summary tables, a photograph of the Kootenai River valley (Photograph L-1) and a topographic map (Figure L-1) of the project have been included as additional information.

Table L-1. Impacts Before and After Implementation of Mitigation for the Proposed Action, Alternative 1, and the No Action Alternative

Impact	Level of Impact Before Mitigation			Mitigation Identified?			Level of Impacts After Mitigation			
	Alternative	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action
Soils, Geology, and Water Resources										
Effects on soil disturbance and erosion	Low to Moderate	Low to Moderate	Low to Moderate	Low to Moderate	Yes	Yes	No	Low	Low	Low to Moderate
Effects on sedimentation and water quality	Low to Moderate	Low to Moderate	Low to Moderate	Low to Moderate	Yes	Yes	No	Low	Low	Low to Moderate
Effects on water quantity	Low	Low	Low	Low	Yes	Yes	No	Low	Low	Low
Land Use										
Effects on Residential Lands	Low to High	Low to High	Existing impacts would continue	Existing impacts would continue	Yes	Yes	No	Low	Moderate	None
Effects on Commercial Lands	Low to Moderate	Low to Moderate	Existing impacts would continue	Existing impacts would continue	Yes	Yes	No	Low	Low	None
Effects on Industrial Lands	None	Low	None	None	Yes	Yes	No	None	None	None
Effects on Recreation Lands	Low to High	Low to High	Existing impacts would continue	Existing impacts would continue	Yes	Yes	No	Low	Low to Moderate	None
Effects on Tribal Lands	Low	Low to Moderate	None	None	Yes	Yes	No	None	Low	None
Effects on Resource Management Areas	Low to High	Low to High	Existing impacts would continue	Existing impacts would continue	Yes	Yes	No	Low	Moderate	None
Vegetation										
Effects to Threatened and Endangered Species	None	None	Low to High	Low to High	No	No	No	None	None	Low to High
Effects to Forest Sensitive Species	Low to High	Low to High	Low to High	Low to High	Yes	Yes	No	Low	Low	Low to High
Effects on Old Growth	Low	Low	No change	No change	Yes	Yes	No	Low	Low	None
Effects on the introduction of Noxious Weeds	Moderate to High	Moderate to High	Low to Moderate	Low to Moderate	Yes	Yes	No	Low to Moderate	Low to Moderate	Low to Moderate
Wetlands and Floodplains										
Effects to Wetlands	Low to High	Low to High	Moderate to High	Moderate to High	Yes	Yes	No	Low	Low	Moderate to High
Effects to Floodplains	None to Moderate	None to Moderate	Moderate to High	Moderate to High	Yes	Yes	No	None to Low	None to Low	Moderate to High
Wildlife										
Effects to Common Wildlife Species	Low to High	Low to High	Low	Low	Yes	Yes	No	Low	Low	Low
Effects to Gray Wolf	Low	Low	Low	Low	Yes	Yes	No	Low	Low	Low
Effects to Grizzly Bear, a species listed as threatened	Low to Short-term High	Low to Short-term High	Low	Low	Yes	Yes	No	Low	Low	Low

Table L-1. Impacts Before and After Implementation of Mitigation for the Proposed Action, Alternative 1, and the No Action Alternative

Impact	Level of Impact Before Mitigation			Mitigation Identified?			Level of Impacts After Mitigation		
	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action
Effects to Bald Eagle	Low to Moderate	Low to Moderate	Low	Yes	Yes	No	Low	Low	Low
Effects to Peregrine Falcon	Low	Low	Low	Yes	Yes	No	Low	Low	Low
Effects to Pileated Woodpecker	Low	Low to Moderate	Low	Yes	Yes	No	Low	Low	Low
Effects to Flammulated Owl	Low	Low to Moderate	No increase in impacts	Yes	Yes	No	Low	Low	Low
Effects to Harlequin Duck	None to Low	None to Low	Low	Yes	Yes	No	Low	Low	Low
Effects to Elk and White-Tailed Deer	Low	Low	Low	Yes	Yes	No	Low	Low	Low
Effects to Bighorn Sheep	Low	Low	Low	Yes	Yes	No	Low	Low	Low
Fish, Amphibians, and Reptiles									
Effects to White Sturgeon	None	None	None	No	No	No	None	None	None
Effects to Bull Trout	None to Low	None to Low	Low	Yes	Yes	No	None	None	Low
Effects to Westslope Cutthroat Trout, Redband Rainbow Trout, Slimy Sculpin, Brook Trout, and Hybrid Trout	None to Low	None to Low	Low	Yes	Yes	No	None	None	Low
Effects to Boreal Toad	Low	Low	Low	Yes	Yes	No	None	None	Low
Effects to Coeur d'Alene Salamander	Moderate to High	Moderate to High	Low	Yes	Yes	No	Low	Low	Low
Effects to Other Species	None to Low	None to Low	Low	Yes	Yes	No	None	None	Low
Effects to Aquatic Habitat	Low and Short-term	Low and Short-term	Low	Yes	Yes	No	None	None	Low
Visual Resources									
Effects on Visual Resources	Low to High	Moderate to High	Low to Moderate	Yes	Yes	No	Low	Moderate	Low to Moderate
Consistency with Visual Quality Objectives	Low	Low to High	Low to Moderate	Yes	Yes	No	Low	Moderate	Low to Moderate
Cultural Resources									
Effects on Prehistoric Resources	Low to High	Moderate to High	Low to Moderate	Yes	Yes	No	Low to Moderate	Low to Moderate	Low to Moderate
Effects on Historic Resources	None to High	None to High	Low to Moderate	Yes	Yes	No	Low	Low	Low to Moderate
Effects on Traditional	High	High	Low to Moderate	Yes	Yes	No	Low to Moderate	Moderate	Low to Moderate

Table L-1. Impacts Before and After Implementation of Mitigation for the Proposed Action, Alternative 1, and the No Action Alternative

Impact	Level of Impact Before Mitigation			Mitigation Identified?			Level of Impacts After Mitigation		
	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action	Proposed Action	Alternative 1	No Action
Cultural Properties									
Recreation Resources									
Effects on General Recreation	None to Moderate	None to Moderate	Low to Moderate	Yes	Yes	No	None to Low	None to Low	Low to Moderate
Recreation Opportunity Spectrum Analysis	None to High	None to High	Low to Moderate	Yes	Yes	No	None to Low	Low	Low to Moderate
Noise, Public Health and Safety									
Effects from Construction Noise	Moderate to High but Short-term	Moderate to High but Short-term	None	Yes	Yes	No	Low	Low	None
Operation and Maintenance Noise	None to Low	None to Low	Low to Moderate	Yes	Yes	No	None	None	Low to Moderate
General Safety Issues	Low to Moderate	Low to Moderate	Moderate	Yes	Yes	No	Low	Low	Moderate
Effects from Electric and Magnetic Fields	None to Low	None to Low	None to Low	Yes	Yes	No	None to Low	None to Low	Low
Effects from Toxic and Hazardous Substances	None	None	None	Yes	Yes	No	None	None	None
Social and Economic Resources									
Effects on Employment and Income	Short-term Low	Short-term Low	Low	No	No	No	None	None	Low
Effects on Minority and Low-Income Populations	None	None	None	No	No	No	None	None	None
Effects on Housing	Short-term Low	Short-term Low	None	No	No	No	None	None	None
Effects on Local Businesses	Low	Low to Moderate	Moderate	No	No	No	None	None	Moderate
Effects on Public Services	Low	Low	Moderate	No	No	No	None	None	Moderate
Effects on Property Values	Short-term Low	Short-term Low	Low	Yes	Yes	No	None	None	Low
Transportation									
Effects on Roads, Railroads, and Airports	Short-term Low to Moderate	Short-term Low to Moderate	Low	Yes	Yes	No	None	None	Low
Air Quality									
Effects from Construction	Low	Low to Moderate	None	Yes	Yes	No	None	None	None
Effects from Operation and Maintenance	Low	Low	Low to High	Yes	Yes	No	None to Low	None to Low	Low to High

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Soils, Geology and Water Resources							
Clearing of the existing corridor and danger trees and construction of new roads would disturb about 2.0 acres of soils.	Clearing of the existing corridor and danger trees and construction of new roads would disturb about 2.6 acres of soils.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	Clearing of new right-of-way and construction of new roads would disturb about 2.8 acres of soils.	Clearing of new right-of-way and construction of new roads would disturb about 3.2 acres of soils.	115 kV: Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low
About 0.01 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	About 0.01 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	115 kV: Low 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	About 2.2 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	About 2.8 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	115 kV: Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low
Land Use							
About 2 acres of Kootenai NF land would be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the corridor.	About 2.5 acres of Kootenai NF land would be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the corridor.	115 kV: Low to Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low	About 7.4 acres of Kootenai NF land would be crossed by the new right-of-way. Land use would permanently change on Kootenai NF land from bald eagle habitat and old growth to transmission line.	About 9.2 acres of Kootenai NF land would be crossed by the new corridor. Land use would permanently change on Kootenai NF land from bald eagle habitat and old growth to transmission line.	115 kV: High 230 kV: High	115 kV: Low to Moderate 230 kV: Low to Moderate
Rebuilding on the existing corridor would not remove the transmission line from Lincoln County land along Kootenai River Road.	Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	The new transmission line would be removed from Lincoln County land along Kootenai River Road. A distribution line would remain in the existing corridor.	Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: None 230 kV: None

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
<p>About 4 acres of private land (9 residential or subdivided parcels) would be crossed by using the existing corridor. Land use would not change along the existing corridor.</p> <p>Conductor and new wood structures would be visible from the private land along Kootenai River Road where they currently are visible.</p>	<p>About 5 acres of private land (9 residential or subdivided parcels) would be crossed by using the existing corridor. Land use would not change along the existing corridor.</p> <p>Conductor and new steel structures would be visible from the private land along Kootenai River Road where wood structures are currently visible.</p>	<p>115 kV: Low to High 230 kV: Low to High</p>	<p>115 kV: Low 230 kV: Moderate</p>	<p>Private ownership would be about 0.6 acres on the new corridor (1 residential or subdivided parcel). Conductor and one new structure would be visible from the private land crossed by the new realignment where no views of the line currently exist.</p> <p>Full use of the existing corridor would not be restored to landowners; the electrical distribution line that is currently attached to the existing transmission line along Kootenai River Road has the same corridor width as the transmission line and would remain in its current location.</p>	<p>Private ownership would be about 0.7 acres on the new corridor (1 residential or subdivided parcel). Conductor and one new steel structure would be visible from the private land crossed by the new realignment where no views of the line currently exist.</p> <p>Full use of the existing corridor would not be restored to landowners; the electrical distribution line that is currently attached to the existing transmission line along Kootenai River Road has the same corridor width as the transmission line and would remain in its current location.</p>	<p>115 kV: Moderate to High 230 kV: Moderate to High</p>	<p>115 kV: Low 230 kV: Moderate</p>
Vegetation							
<p>Corridor clearing would not occur in designated old growth.</p>	<p>About 0.01 acres would be cleared within the 170-acre designated old growth stand located near Bobtail Creek.</p>	<p>115 kV: Low 230 kV: Low</p>	<p>115 kV: Low 230 kV: Low</p>	<p>About 1.5 acres would be cleared within the 170-acre designated old growth stand located near Bobtail Creek for new right-of-way.</p>	<p>About 1.8 acres would be cleared within the 170-acre designated old growth stand located near Bobtail Creek.</p>	<p>115 kV: Moderate to High 230 kV: Moderate to High</p>	<p>115 kV: Low 230 kV: Low</p>
<p>About 0.3 acres of danger trees would be</p>	<p>Same as Proposed Action</p>	<p>115 kV: Low 230 kV: Low</p>	<p>115 kV: Low 230 kV: Low</p>	<p>About 38.9 acres of designated and</p>	<p>Same as 115-kV realignment option.</p>	<p>115 kV: Low to Moderate</p>	<p>115 kV: Low 230 kV: Low</p>

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
removed in the designated and undesignated old growth buffer area.				undesignated old growth buffer area would be affected from danger tree clearing.		230 kV: Low to Moderate	
Spread of noxious weeds could occur from rebuilding and maintaining the existing line.	Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low	Spread of noxious weeds could occur from new construction and maintenance.	Same as 115-kV realignment option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate
Wetlands and Floodplains							
Since Pipe and Bobtail creeks have been channelized in close proximity to Kootenai River Road to limit impacts to private lands from flooding, riparian wetlands no longer exist in this area.	Same as Proposed Action	115 kV: None 230 kV: None	115 kV: None 230 kV: None	About 2.2 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	About 2.8 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low
Wildlife							
Effects to Common Wildlife Species: Some corridor clearing and danger tree removal would occur along the existing line removing forested habitat used by common wildlife species.	Effects to Common Wildlife Species: Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Common Wildlife Species: Clearing of new right-of-way would impact migratory bird nesting, foraging, and roosting habitat because suitable habitat for those activities would be removed with this realignment.	Effects to Common Wildlife Species: Same as 115-kV realignment option.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low
Effects to Migratory Birds: Replacing the	Effects to Migratory Birds: Replacing the	115 kV: Low 230 kV:	115 kV: Low 230 kV: Low	Effects to Migratory Birds: Construction of	Effects to Migratory Birds: Potential for line	115 kV: Low 230 kV:	115 kV: Low 230 kV: Low

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
existing line with 115-kV wood pole structures would only slightly increase the risk for line collision in the Pipe Creek area.	existing line with 230-kV steel pole double-circuit structures would increase the risk for line collision because of the taller structures with a stacked configuration.	Moderate		new wood pole structures would only slightly increase the risk for line collision when placed in new right-of-way especially across Pipe Creek.	collision would increase if taller 230-kV structures with conductor placed in a stacked configuration were placed in new right-of-way especially across Pipe Creek.	Moderate	
Effects to Bald Eagle: No canopy removal would occur within ½ mile of the Pipe Creek nest although about 2.6 acres of clearing and 0.5 miles of road construction would occur in the edge affected area.	Effects to Bald Eagle: No canopy removal would occur within ½ mile of the Pipe Creek nest although about 1.6 acres of clearing and 0.5 miles of road construction would occur in the edge affected area.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Bald Eagle: About 6.9 acres of mature forest habitat would be cleared within ½ mile of the Pipe Creek Nest. Additional clearing outside the buffer (about 6.8 acres) would remove suitable nesting, perching, and roosting trees. Additionally, clearing of about 1.5 acres of designated old growth would occur in the old growth stand near Bobtail Creek from this realignment. This realignment would cross the primary flight corridor between the Pipe Creek nest tree and the Kootenai River increasing the potential for eagles to collide with the conductors.	Effects to Bald Eagle: About 8.7 acres of mature forest habitat would be cleared within ½ mile of the Pipe Creek Nest. Additional clearing outside the buffer (about 5.4 acres) would remove suitable nesting, perching, and roosting trees. Additionally, clearing of about 1.8 acres of designated old growth would occur in the old growth stand near Bobtail Creek from this realignment. This realignment would cross the primary flight corridor between the Pipe Creek nest tree and the Kootenai River increasing the potential for eagles to collide with the conductors.	115 kV: High 230 kV: High	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
					The risk would increase further for 230-kV structures with multiple wires.		
Effects to Pileated woodpecker: Corridor clearing would not occur in designated old growth although some danger trees would be removed within the old growth buffer zones.	Effects to Pileated woodpecker: About 0.01 acres would be cleared within the 170-acre designated old growth stand located near Bobtail Creek with some danger trees removed within the old growth buffer zones.	115 kV: Low 230 kV: Moderate	115 kV: Low 230 kV: Low	Effects to Pileated woodpecker: About 1.5 acres within the 170-acre designated old growth stand located near Bobtail Creek would be cleared. About 3.5 acres would be cleared in undesignated old growth located along the realignment. About 38.9 acres at both voltages of old growth buffer zone would be impacted by danger tree clearing or thinning. About 34 trees preferred by pileated woodpecker and 10 snags would be removed.	Pileated woodpecker: About 1.8 acres within the 170-acre designated old growth stand located near Bobtail Creek would be cleared. About 4.3 acres would be cleared in undesignated old growth located along the realignment. The 230 kV option would disturb the same area of old growth buffer zone as the 115 kV option from danger tree clearing or thinning. The same number of trees and snags preferred by pileated woodpecker would be removed as under the 115-kV option.	115 kV: Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low
Effects to Flammulated owl: Suitable nesting habitat was not identified along this section of the existing line.	Effects to Flammulated owl: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects to Flammulated owl: Approximately 12 suitable flammulated owl nesting trees would be removed for the Pipe Creek realignment within	Flammulated owl: The same number of suitable nesting trees would be removed as under the 115-kV option. About 15.7	115 kV: Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
				the Pipestone PSU regardless of voltage. About 12.7 acres of foraging and nesting habitat would be removed.	acres of foraging and nesting habitat would be removed.		
Fish, Amphibians and Reptiles							
Effects to Fish: About 0.01 acres would be cleared within the riparian zones of Pipe and Bobtail creeks crossed by the existing line.	Effects to Fish: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: None-low 230 kV: None-low	Effects to Fish: About 2.2 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	Effects to Fish: About 2.8 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	115 kV: None to Low 230 kV: None to Low	115 kV: None to low 230 kV: None to low
Effects to Amphibians and Reptiles and Aquatic Habitat: About 0.01 acres would be cleared within the riparian zones of Pipe and Bobtail creeks crossed by the existing line.	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: None-low 230 kV: None-low	Effects to Amphibians and Reptiles and Aquatic Habitat: About 2.2 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	Effects to Amphibians and Reptiles and Aquatic Habitat: About 2.8 acres would be cleared within the riparian zones of Pipe and Bobtail creeks potentially increasing sediment delivery to those streams.	115 kV: None to Low 230 kV: None to Low	115 kV: None to low 230 kV: None to low
Visual Resources							
The rebuilt line would look similar to the existing corridor along Kootenai River Road unless the 2-pole line jog just west of Central Road is removed. This would place new poles in new right-of-way. Corridor clearing	New 230-kV structures would be visible along Kootenai River Road. Additional corridor clearing would open up views of the rebuilt line.	115 kV: Moderate to High 230 kV: High	115 kV: Moderate 230 kV: Moderate	About 300 feet of new right-of-way with wood poles structures would be visible from Kootenai River Road east of the Pipe Creek area.	About 300 feet of new right-of-way with new steel pole structures would be visible from Kootenai River Road east of the Pipe Creek area.	115 kV: Low 230 kV: Moderate to High	115 kV: Low 230 kV: Moderate

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
would open up views of the rebuilt line.							
Structures near the existing crossing of Pipe Creek would be replaced in the same location with new wood pole structures.	Structures near the existing crossing of Pipe Creek would be replaced in the same location with new steel structures.	115 kV: Moderate to High 230 kV: High	115 kV: Moderate 230 kV: Moderate	Adjacent to new crossing of Pipe Creek, new wood pole structures and conductor would be visible where none currently exist.	Adjacent to new crossing of Pipe Creek, new steel pole structures and conductor would be visible where none currently exist.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Moderate 230 kV: Moderate
Along Kootenai River Road where the existing line crosses about 2 acres of Kootenai NF, the VQO of “Modification” would be met.	Consistency with VQOs would be the same as for the 115-kV option.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	Where the realignment would cross Pipe Creek on Kootenai NF land, the “Modification” VQO would not be met because the new structures and right-of-way would dominate the landscape in this area. Where the realignment would cross Bobtail Creek Forest land, the “Partial Retention” VQO would not be met because the new structures and cleared right-of-way would most likely result in modification or maximum modification of the landscape.	Consistency with VQOs would be the same as for the 115-kV option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Moderate 230 kV: Moderate
Cultural Resources							
Effects to Prehistoric Resources: No known sites were identified within this section of	Effects to Prehistoric Resources: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: None to Low 230 kV: None to Low	Effects to Prehistoric Resources: No known sites were identified within the proposed right-	Effects to Prehistoric Resources: Same as 115-kV realignment option.	115 kV: None to Low 230 kV: None to Low	115 kV: None to Low 230 kV: None to Low

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
existing line.				of-way however one NRHP eligible site is located near the proposed corridor.			
Effects to Historic Resources: The existing line crosses over 2 historic ditches. Rebuilt structures would not be placed in those areas.	Effects to Historic Resources: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects to Historic Resources: Construction of new roads and structures would not disturb known historic logging sites or an historic road.	Effects to Historic Resources: Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: None 230 kV: None
Effects to Traditional Cultural Properties: There would be no impact to areas referred to as traditional cultural properties by Kootenai tribes within the Pipe Creek area from rebuilding the line in the existing location.	Effects to Traditional Cultural Properties: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects to Traditional Cultural Properties: New right-of-way would be cleared within areas along Pipe Creek referred to as traditional cultural properties by Kootenai tribes.	Effects to Traditional Cultural Properties: Same as 115-kV realignment option.	115 kV: High 230 kV: High	115 kV: High 230 kV: High
Recreation Resources							
The existing line crosses land not used for recreation; however during construction, increased traffic levels would be expected on many area roads with temporary displacement of recreationists due to	Same impact as the 115-kV option.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low	Unauthorized use of new roads could occur. During construction, increased traffic levels would be expected on many area roads with temporary displacement of recreationists due to noise, traffic, and dust, and for safety reasons.	Same impact as the 115-kV option.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
noise, traffic, and dust, and for safety reasons.							
Noise, Public Health and Safety							
Regardless of route location, residents in the Pipe Creek area within 4800 feet of this section of existing corridor would be impacted by noise above 50 dBA during construction.	Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate	For this reroute, noise impacts would be nearly the same as for those along the existing corridor. Residents in the Pipe Creek area within 4800 feet of the realignment would be impacted by noise above 50 dBA during construction.	Same as 115-kV realignment option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low
The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor.	Same as 115-kV realignment option.	115 kV: None 230 kV: None	115 kV: None 230 kV: None
Effects from Average Magnetic Fields: Residents in one house along the existing corridor would experience levels above 3 mG but below 4 mG.	Effects from Average Magnetic Fields: Field levels would not be above 3 mG at any house along this section of the existing line.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects from Average Magnetic Fields: Field levels would not be above 3 mG at any house along this realignment.	Effects from Magnetic fields: Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low

Table L-2. Comparison of Impacts between the Existing Corridor and the Pipe Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Pipe Creek Realignment 115 kV	Pipe Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Social and Economic Resources							
Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after construction.	Same as Proposed Action.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: Low 230 kV: Low	Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after construction.	Same as 115-kV realignment option.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: None to Low 230 kV: None to Low
Transportation							
Increased traffic, detours and delays on Kootenai River Road during construction.	Same as Proposed Action.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low	Increased traffic, detours and delays on Kootenai River Road and Bobtail Road during construction.	Impacts would be the same as those for the 115-kV option.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low
Air Quality							
About 0.09 tons/year of PM-2.5 at 115 kV would be generated from construction along the existing corridor within the non-attainment area for PM-2.5. This area is not within the non-attainment area for PM-10.	About 0.1 tons/year of PM-2.5 at 230 kV would be generated from construction along the existing corridor within the non-attainment area for PM-2.5. This area is not within the non-attainment area for PM-10.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	About 0.6 tons/year of PM-2.5 at 115 kV would be generated from construction of this realignment within the non-attainment area for PM-2.5. The realignment is not within the non-attainment area for PM-10.	About and 0.7 tons/year of PM-2.5 at 230 kV would be generated from construction of this realignment within the non-attainment area for PM-2.5. The realignment is not within the non-attainment area for PM-10.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Soils, Geology and Water Resources							
Clearing of the existing corridor and danger trees and construction of new roads would disturb about 2.5 acres of soils.	Clearing of the existing corridor and danger trees and construction of new roads would disturb about 3.0 acres of soils.	115 kV: Low 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	New right-of-way clearing and structures sites for the Quartz Creek realignment would disturb about 23 acres of soils.	New right-of-way clearing and structures sites for the Quartz Creek realignment would disturb about 28 acres of soils.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low
About 0.03 acres would be cleared within the riparian zone of Quartz Creek crossed by the existing line.	Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	There is the potential that some tall growing vegetation in the Quartz Creek riparian wetlands within the new right-of-way would be removed if the “sock-line” and “hard-line” used to string the conductor sag low enough to hit trees.	Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Land Use							
About 3 acres of Kootenai NF land would be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the corridor.	About 3.8 acres of Kootenai NF land would be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the corridor.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	About 26 acres of Kootenai NF land would be crossed by the new right-of-way. Land use would permanently change on Kootenai NF land from grizzly bear and big game species habitat and old growth to transmission line.	About 32 acres of Kootenai NF land would be crossed by the new right-of-way. Land use would permanently change on Kootenai NF land from grizzly bear and big game species habitat and old growth to transmission line.	115 kV: Low to High 230 kV: Low to High	115 kV: Moderate 230 kV: Moderate
Rebuilding on the existing corridor would not remove the	Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	The new line would be removed from Lincoln County land north of Big	Same as 115-kV realignment option.	115 kV: None 230 kV: None	115 kV: None 230 kV: None

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
transmission line from Lincoln County land.				Horn Terrace.			
About 17 acres of private land (33 residential or subdivided parcels) would be crossed by using the existing corridor. Land use would not change along the existing corridor.	About 22 acres of private land (33 residential or subdivided parcels) would be crossed by using the existing corridor. Land use would not change along the existing corridor.	115 kV: Moderate to High during construction 230 kV: Moderate to High during construction	115 kV: Impacts would be similar to existing conditions 230 kV: Impacts would be moderate to high following construction	Private ownership would be about 1.8 acres on the new corridor. Conductor would be visible from the four private parcels crossed by the new realignment where no views of the line currently exist. Full use of the existing corridor would be restored to landowners of the Big Horn Terrace subdivision.	Private ownership would be about 2.2 acres on the new corridor. Conductor would be visible from the private land crossed by the new realignment where no views of the line currently exist. Full use of the existing corridor would be restored to landowners of the Big Horn Terrace subdivision.	115 kV: Low to Moderate during construction; 230 kV: Low to Moderate during construction.	115 kV: Low; Positive impact for landowners of Big Horn Terrace 230 kV: Low; Positive impact for landowners of Big Horn Terrace
Vegetation							
Corridor clearing would not occur in designated old growth.	About 0.01 acres would be cleared within the 35-acre designated old growth stand located northwest of Big Horn Terrace	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	About 2.0 acres would be cleared within the 35-acre designated old growth stand located northwest of Big Horn Terrace for new right-of-way.	About 2.5 acres would be cleared within the 35-acre designated old growth stand located northwest of Big Horn Terrace for new right-of-way.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate
About 0.3 acres of danger trees would be removed in the designated and undesignated old growth buffer area.	The same amount of danger trees as the 115 kV would be removed in the designated and undesignated old growth buffer area.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	About 30.9 acres of designated and undesignated old growth buffer area would be affected regardless of voltage from danger tree clearing.	About 30.9 acres of designated and undesignated old growth buffer area would be affected regardless of voltage from danger tree clearing.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Spread of noxious weeds could occur from rebuilding and maintaining the existing line.	Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low	Spread of noxious weeds could occur from new construction and maintenance.	Same as 115-kV realignment option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate
Wetlands and Floodplains							
Since Quartz Creek has been channelized in close proximity to Kootenai River Road to limit impacts to private lands from flooding, riparian wetlands no longer exist in this area.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	There is the potential that some tall growing vegetation in the Quartz Creek riparian wetlands within the new right-of-way would be removed if the “sock-line and “hard-line” used to string the conductor sag low enough to hit trees.	Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Wildlife							
Effects to Common Wildlife Species: Some corridor clearing and danger tree removal would occur along the existing line removing forested habitat used by common wildlife species.	Effects to Common Wildlife Species: Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Common Wildlife Species: Clearing of new right-of-way would impact migratory bird nesting, foraging, and roosting habitat because suitable habitat for those activities would be removed with this realignment.	Effects to Common Wildlife Species: Same as 115-kV realignment option.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low
Effects to Migratory Birds: Replacing the existing line with 115-kV wood pole structures would only	Effects to Migratory Birds: Replacing the existing line with 230-kV steel pole double-circuit	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Migratory Birds: Construction of new wood pole structures would only slightly increase the risk for line	Effects to Migratory Birds: Potential for line collision would increase if taller 230-kV structures with	115 kV: Low 230 kV: Moderate	115 kV: Low 230 kV: Low

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
slightly increase the risk for line collision.	structures would increase the risk for line collision because of the taller structures with a stacked configuration.			collision when placed in new right-of-way.	conductor placed in a stacked configuration were placed in new right-of-way.		
Effects to Grizzly Bears: <u>Bear Management Unit 10</u> : Potential impacts to grizzly bear would occur during construction because of the two to three weeks of helicopter use and its impact on habitat effectiveness. After construction is complete, potential impacts to grizzly bear would decrease.	Effects to Grizzly Bears: <u>Bear Management Unit 10</u> : The 230 kV option would have the same impact on grizzly bears as the 115 kV option.	115 kV: Short-term High 230 kV: Short-term High	115 kV: Low 230 kV: Low	Effects to Grizzly Bear: <u>Bear Management Unit 10</u> : Potential impacts to grizzly bear would occur during construction because of the two to three weeks of helicopter use and its impact on habitat effectiveness, and the addition of new access roads and their effect on linear ORD and OMRD. This realignment option would add 550 acres (0.8 square miles) to the helicopter influence zone and would require construction and re-opening of 1.3 miles of new road. After construction is complete, potential impacts to grizzly bear would decrease. <u>Effects on Grizzly Bear Outside Recovery Zones</u> : The percentage of OMRD and linear Total Motorized	Effects to Grizzly Bear: <u>Bear Management Unit 10 and Bear Outside Recovery Zones</u> : The 230 kV option would have the same impact on grizzly bears as the 115 kV option.	115 kV: High 230 kV: High	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
				Route Density (TMRD) would remain unchanged within the West Kootenai Bear Outside Recovery Zone (BORZ) polygon.			
Effects to Bald Eagle: About 0.5 acres of canopy removal would occur within ½ mile of the Quartz Creek nest (formerly named the Hunter Gulch Nest). About 6.5 acres of clearing and 0.1 miles of road construction would occur in the edge affected area.	Effects to Bald Eagle: About 2.8 acres of canopy removal would occur within ½ mile of the Quartz Creek nest (formerly named the Hunter Gulch Nest). About 4.2 acres of clearing and 0.1 miles of road construction would occur in the edge affected area.	115 kV: Moderate 230 kV: Moderate	115 kV: Low 230 kV: Low	Effects to Bald Eagle: No clearing or road building would occur within ½ mile of the Quartz Creek Nest (formerly named the Hunter Gulch Nest). Some clearing outside the ½ mile buffer would potentially remove suitable nesting, perching, and roosting trees. Additionally, clearing of about 2.0 acres of designated old growth would occur in the old growth stand near Big Horn Terrace.	Effects to Bald Eagle: No clearing or road building would occur within ½ mile of the Quartz Creek Nest (formerly named the Hunter Gulch Nest). Some clearing outside the ½ mile buffer would potentially remove suitable nesting, perching, and roosting trees. Additionally, clearing of about 2.5 acres of designated old growth would occur in the old growth stand near Big Horn Terrace.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Effects to Pileated woodpecker: Corridor clearing would not occur in designated old growth although some danger trees would be removed within the old growth buffer zones.	Effects to Pileated woodpecker: About 0.05 acres would be cleared within the 170-acre designated old growth stand located within the designated stand northwest of Big Horn Terrace with some danger trees	115 kV: Low 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	Effects to Pileated woodpecker: About 2.0 acres of the 35-acre designated old growth stand located northwest of Bighorn Terrace would be cleared. About 30.9 acres of old growth buffer zone would be impacted by danger tree clearing. About 142 trees preferred	Effects to Pileated woodpecker: About 2.5 acres of the 35-acre designated old growth stand located northwest of Bighorn Terrace would be cleared. About 30.9 acres of old growth buffer zone would be impacted by danger tree clearing.	115 kV: Moderate 230 kV: Moderate	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
	removed within the old growth buffer zones.			by pileated woodpecker and 6 snags regardless of voltage would be removed.	About 142 trees preferred by pileated woodpecker and 6 snags regardless of voltage would be removed.		
Effects to Flammulated owl: Suitable nesting habitat was not identified along this section of the existing line.	Effects to Flammulated owl: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects to Flammulated owl: Approximately 21 suitable flammulated owl nesting trees would be removed within the Quartz and Sheep PSUs. About 31.7 acres of foraging and nesting habitat would be removed.	Effects to Flammulated owl: Approximately 21 suitable flammulated owl nesting trees would be removed within the Quartz and Sheep PSUs. About 39.1 acres of foraging and nesting habitat would be removed.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Effects to Bighorn Sheep: Some danger tree clearing would occur within the Sheep PSU along the existing line.	Effects to Bighorn Sheep: Some additional corridor and danger tree clearing would occur within the Sheep PSU along the existing line.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Bighorn Sheep: About 10.6 acres of canopy removal would occur within the Sheep PSU.	Effects to Bighorn Sheep: About 13.2 acres of canopy removal would occur within the Sheep PSU.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Fish, Amphibians and Reptiles							
Effects to Fish: About 0.03 acres would be cleared within the riparian zone.	Effects to Fish: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	Effects to Fish: There is the potential that some tall growing vegetation in the Quartz Creek riparian zones within the new right-of-way would be removed.	Effects to Fish: Same as 115-kV realignment option.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Effects to Amphibians and Reptiles and Aquatic Habitat: Same as effects to Fish.	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as effects to Fish.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as effects to Fish.	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as effects to Fish.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None
Visual Resources							
The rebuilt line would look similar to the existing corridor through the Big Horn Terrace subdivision. Corridor clearing would open up views of the rebuilt line from the residential area.	New 230-kV structures would be visible through Big Horn Terrace. Additional corridor clearing would open up views of the new steel structures.	115 kV: Moderate to High 230 kV: High	115 kV: Moderate 230 kV: Moderate	New wood pole structures, conductors, and right-of-way would be visible across the Kootenai River to eastbound travelers on Highway 2. The existing line would be removed from the Big Horn Terrace area.	New steel structures, conductors, and right-of-way would be visible across the Kootenai River to eastbound travelers on Highway 2. The existing line would be removed from the Big Horn Terrace area.	115 kV: Low to Moderate and Positive 230 kV: Low to Moderate and Positive	115 kV: Low 230 kV: Low
Along Kootenai River Road where the existing line crosses about 3 acres of Kootenai NF, the VQO of “Modification” would be met.	Consistency with VQOs would be the same as for the 115-kV option.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	Construction of the Quartz Creek realignment would mean that the VQO of “Partial Retention” would not be met under either voltage option. New structures and cleared right-of-way would most likely result in maximum modification in this area.	Consistency with VQOs would be the same as for the 115-kV option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Moderate 230 kV: Moderate
Cultural Resources							
Effects to Prehistoric Resources: No known sites were identified.	Effects to Prehistoric Resources: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: None to Low 230 kV: None to Low	Effects to Prehistoric Resources: No known sites were identified on this realignment.	Effects to Prehistoric Resources: Same as 115-kV realignment option.	115 kV: None to Low 230 kV: None to Low	115 kV: None to Low 230 kV: None to Low
Effects to Historic Resources: Construction of new	Effects to Historic Resources: Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Historic Resources: Construction of new roads and	Effects to Historic Resources: Same as 115-kV realignment	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
roads and structures would not disturb known historic sites eligible for listing on the NRHP.				structures would not disturb known historic sites eligible for listing on the NRHP.	option.		
Effects to Traditional Cultural Properties: The existing line in this area is located along the Kootenai Trail, a culturally sensitive site. Existing impacts would not change.	Effects to Traditional Cultural Properties: Same as Proposed Action.	115 kV: High 230 kV: High	115 kV: High 230 kV: High	Effects to Traditional Cultural Properties: New right-of-way would be cleared in areas considered culturally sensitive by local area tribes.	Effects to Traditional Cultural Properties: Same as 115-kV realignment option.	115 kV: High 230 kV: High	115 kV: High 230 kV: High
Recreation Resources							
The existing line crosses land not used for recreation; however during construction, increased traffic levels would be expected on many area roads with temporary displacement of recreationists due to noise, traffic, and dust, and for safety reasons.	Same impact as the 115-kV option.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low	New access roads would not cross or affect established recreation areas or trails although ORV trespass of new gated access roads would occur.	Same impact as the 115-kV option.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low
Noise, Public Health and Safety							
All residents in the Big Horn Terrace area within 4800 feet of this portion of existing corridor would be impacted by noise	Same impact as the 115-kV option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate	Fewer residents in the Big Horn Terrace area within 4800 feet of the realignment would be impacted by noise levels above 50 dBA during	Same impact as the 115-kV option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
levels above 50 dBA during construction.				construction; the mountain located on the northerly edge of the subdivision would block some of the noise.			
The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor.	The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor.	115 kV: None 230 kV: None	115 kV: None 230 kV: None
Effects from Average Magnetic Fields: Residents in four houses along the existing corridor would experience levels above 4 mG.	Effects from Average Magnetic Fields: Field levels would not be above 3 mG at any house along this section of the existing line.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects from Average Magnetic Fields: Field levels would not be above 3 mG at any house along this realignment.	Effects from Average Magnetic Fields: Field levels would not be above 3 mG at any house along this realignment.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
No potential hazards to low flying aircraft.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Potential hazard to low flying aircraft through the Quartz Creek drainage.	Same as Proposed Action.	115 kV: Moderate 230 kV: Moderate	115 kV: Moderate 230 kV: Moderate
Social and Economic Resources							
Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after	Same as Proposed Action.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: Low 230 kV: Low	Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after construction.	Same as 115-kV realignment option.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: None to Low 230 kV: None to Low

Table L-3. Comparison of Impacts between the Existing Corridor and the Quartz Creek Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Quartz Creek Realignment 115 kV	Quartz Creek Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
construction.							
Transportation							
Increased traffic, detours and short delays on Kootenai River Road, Quartz Mountain Road and potentially Quartz Creek Road during construction.	Impacts would be the same as those for the 115-kV option.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low	Increased traffic, detours and delays on Kootenai River Road, Quartz Mountain Road, and Quartz Creek Road during construction.	Impacts would be the same as those for the 115-kV option.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low
Air Quality							
About 0.09 tons/year of PM-2.5 at 115 kV would be generated from construction along the existing corridor within the non-attainment area for PM-2.5. This area is not within the non-attainment area for PM-10.	About 0.12 tons/year of PM-2.5 at 230 kV would be generated from construction along the existing corridor within the non-attainment area for PM-2.5. This area is not within the non-attainment area for PM-10.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None	About 1.3 tons/year of PM-2.5 at 115 kV would be generated from construction of this realignment within the non-attainment area for PM-2.5. The realignment is not within the non-attainment area for PM-10.	About and 1.5 tons/year of PM-2.5 at 230 kV would be generated from construction of this realignment within the non-attainment area for PM-2.5. The realignment is not within the non-attainment area for PM-10.	115 kV: None to Low 230 kV: None to Low	115 kV: None 230 kV: None

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Soils, Geology and Water Resources							
Construction of structures and improvement of existing access roads would disturb about 2.7 acres of soils.	Construction of structures and improvement of existing access roads would disturb about 3.0 acres of soils.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	Approximately 2.6 acres of soils would be disturbed from new road construction, road improvement and structure construction.	Approximately 3.0 acres of soils would be disturbed from new road construction, road improvement and structure construction.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
About 0.5 acres of soils would be disturbed from clearing and bridge building in the riparian zone of China Creek. Danger tree clearing along the existing line would remove about 4.5 acres within the riparian zone of the Kootenai River.	About 0.5 acres of soils would be disturbed from clearing and bridge building in the riparian zone of China Creek. Additional right-of-way width and danger tree clearing would remove about 9 acres within the riparian zone of the Kootenai River.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	Clearing and bridge building would not occur in the riparian zone of China Creek. About 0.5 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River.	Clearing and bridge building would not occur in the riparian zone of China Creek. About 0.8 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River.	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low
Land Use							
About 7 acres of Kootenai NF land would continue to be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the	About 8 acres of Kootenai NF land would continue to be crossed by using the existing corridor. Land use would not change on Kootenai NF land already crossed by the	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low	About 6 acres of Kootenai NF land would be crossed by the new right-of-way. Few trees would be cleared. Construction, operation and maintenance activities for the new right-of-way	About 7 acres of Kootenai NF land would be crossed by the new right-of-way. Few trees would be cleared. Construction, operation and maintenance activities for the new	115 kV: None to Low or Positive 230 kV: None to Low or Positive	115 kV: None 230 kV: None

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
corridor.	corridor.			would be relocated about 1.3 miles east from Kootenai Falls and to the eastern edge of the Kootenai Falls Cultural Resource District. About 4,000 feet of corridor currently within the Grizzly Bear Management Unit (BMU) 10 would be moved to BMU 1 located on the south side of the Kootenai River.	right-of-way would be relocated about 1.3 miles east from Kootenai Falls and to the eastern edge of the Kootenai Falls Cultural Resource District. About 4,000 feet of corridor currently within the Grizzly Bear Management Unit (BMU) 10 would be moved to BMU 1 located on the south side of the Kootenai River.		
Rebuilding on the existing corridor would not remove the transmission line from Montana Department of Natural Resources and Conservation land within the Kootenai River bed.	Rebuilding on the existing corridor would not remove the transmission line from Montana Department of Natural Resources and Conservation land within the Kootenai River bed.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Construction of the realignment would not remove the transmission line from Montana Department of Natural Resources and Conservation land within the Kootenai River bed.	Construction of the realignment would not remove the transmission line from Montana Department of Natural Resources and Conservation land within the Kootenai River bed.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Rebuilding on the existing corridor would not remove the transmission line from 1.6 acres of Lincoln County land.	Additional right-of-way would be needed on Lincoln County land crossed by the existing line.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Ownership by Lincoln County would be increased to about 3 acres on the new corridor.	Ownership by Lincoln County would be increased to about 3.5 acres on the new corridor.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
The existing line is not within an Inventoried Roadless Area.	The existing line is not within an Inventoried Roadless Area.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	This realignment is not within the Cabinet Face East Inventoried Road Area.	This realignment is not within the Cabinet Face East Inventoried Road Area.	115 kV: None 230 kV: None	115 kV: None 230 kV: None
Vegetation							
The existing corridor does not cross any lands with designated or undesignated old growth stands.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	The realignment does not cross any lands with designated or undesignated old growth stands.	The realignment does not cross any lands with designated or undesignated old growth stands.	115 kV: None 230 kV: None	115 kV: None 230 kV: None
Spread of noxious weeds could occur from rebuilding and maintaining the existing line. The existing corridor between structures 25/2 and 25/10 could continue to be a significant vector for weed spread unless the right-of-way and associated access roads were sprayed for weeds and re-vegetated.	Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low	Spread of noxious weeds could occur from new construction. About 2.5 acres of the proposed realignment right-of-way is currently infested with common tansy. The existing corridor between structures 25/2 and 25/10 could continue to be a significant vector for weed spread unless the right-of-way and associated access roads were sprayed for weeds and re-vegetated.	Spread of noxious weeds could occur from new construction and maintenance. About 2.5 acres of the proposed realignment right-of-way is currently infested with common tansy. The same impact could occur along the existing corridor between structures 25/2 and 25/10 as the 115 kV alternative.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate
Wetlands and Floodplains							
Clearing would occur in the riparian wetlands of China Creek for a new bridge.	Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to	115 kV: Low 230 kV: Low	About 0.5 acres of new right-of-way would be cleared within the riparian zone of the Kootenai	About 0.8 acres of new right-of-way would be cleared within the riparian zone of the	115 kV: Low to Moderate 230 kV: Low to Moderate	115 kV: Low 230 kV: Low

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
		High		River.	Kootenai River.		
New wood poles structures would be placed in the same locations as the existing within the Kootenai River floodplain.	New steel structures would be placed in the same locations as the existing within the Kootenai River floodplain.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	One new structure would be constructed about 100 feet from the bank of the Kootenai River, within the 1,200-foot-wide floodplain.	One new structure would be constructed about 100 feet from the bank of the Kootenai River, within the 1,200-foot-wide floodplain.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Wildlife							
Effects to Common Wildlife Species: Some corridor clearing and danger tree removal would occur along the existing line removing forested habitat used by common wildlife species.	Effects to Common Wildlife Species: Same as Proposed Action.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Common Wildlife Species: Clearing of new right-of-way would only impact migratory bird nesting, foraging, and roosting habitat adjacent to the Kootenai River. Much of the realignment was previously cleared for Highway 2 right-of-way.	Effects to Common Wildlife Species: Clearing of new right-of-way would only impact migratory bird nesting, foraging, and roosting habitat adjacent to the Kootenai River. Much of the realignment was previously cleared for Highway 2 right-of-way.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Effects to Migratory Birds: Replacing the existing line with 115-kV wood pole structures would only slightly increase the risk for line collision within the existing Kootenai River crossing.	Effects to Migratory Birds: Replacing the existing line across the Kootenai River with 230-kV steel pole double-circuit structures would increase the risk for line collision because of the taller structures with a stacked configuration.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Migratory Birds: Construction of new wood pole structures would only slightly increase the risk for line collision when placed in new right-of-way across the Kootenai River.	Effects to Migratory Birds: Potential for line collision across the Kootenai River would increase if taller 230-kV structures with conductor placed in a stacked configuration were placed in new right-of-way.	115 kV: Low 230 kV: Moderate	115 kV: Low 230 kV: Low

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
<p>Effects to Grizzly Bears:</p> <p><u>Bear Management Unit 10</u>: Potential impacts to grizzly bear would occur during construction because of the two to three weeks of helicopter use and its impact on habitat effectiveness, and the addition of new access roads and their effect on linear Open Road Density (ORD) and Open Motorized Route Density (OMRD). After construction is complete, potential impacts to grizzly bear would decrease.</p> <p><u>Bear Management Unit 1</u>: Effects would be minimal.</p> <p><u>Bear Outside Recovery Zone</u>: No impact</p>	<p>Effects to Grizzly Bears:</p> <p><u>Bear Management Unit 10 and 1</u>: The 230 kV option would have the same impact on grizzly bears as the 115 kV option.</p>	<p>115 kV: Low to High 230 kV: Low to High</p>	<p>115 kV: Low to Moderate 230 kV: Low to Moderate</p>	<p>Effects to Grizzly Bear:</p> <p><u>Bear Management Unit 10</u>: Effects would be minimal.</p> <p><u>Bear Management Unit 1</u>: Potential impacts to grizzly bear would occur during construction because of the two to three weeks of helicopter use and its impact on habitat effectiveness, and the addition of new access roads and their effect on linear ORD and OMRD. This realignment option would require construction of 0.2 miles of new road slightly affecting linear ORD, OMRD, and TMRD; however road storage elsewhere in BMU 1 would offset the impact. After construction is complete, potential impacts to grizzly bear would decrease.</p> <p><u>Bear Outside Recovery Zone</u>: No impact</p>	<p>Effects to Grizzly Bear:</p> <p><u>Bear Management Unit 10 and 1</u>: The 230 kV option would have the same impact on grizzly bears as the 115 kV option.</p>	<p>115 kV: Low to High 230 kV: Low to High</p>	<p>115 kV: Low 230 kV: Low</p>
<p>Effects to Bald Eagle: Although no canopy removal would occur within ½ mile of the</p>	<p>Effects to Bald Eagle: About 2.1 acres of canopy removal would occur within ½</p>	<p>115 kV: Low 230 kV: Low</p>	<p>115 kV: Low 230 kV: Low</p>	<p>Effects to Bald Eagle: About 3.7 acres of forested habitat would be removed within ½ mile of</p>	<p>Effects to Bald Eagle: About 4.6 acres of forested habitat would be removed within ½</p>	<p>115 kV: Moderate 230 kV:</p>	<p>115 kV: Low 230 kV: Low</p>

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Kootenai River nest, about 11.7 acres of clearing and 0.3 miles of road construction would occur in the edge affected area.	mile of the Kootenai River nest with about 9.6 acres of clearing and 0.3 miles of road construction in the edge affected area.			the Kootenai River nest with about 1.0 acres of clearing and 0.3 miles of road construction in the edge affected area. Additional clearing outside the buffer would remove suitable nesting, perching, and roosting trees. This realignment would cross the Kootenai River in a new location increasing the potential for eagles to collide with the conductors.	mile of the Kootenai River nest with about 0.7 acres of clearing and 0.3 miles of road construction in the edge affected area. The potential for eagles to collide with the conductors would increase further for 230-kV structures with multiple wires.	Moderate	
Effects to Harlequin duck: Clearing would not occur on the riverbank of the Kootenai River. Potential for collisions would remain low.	Effects to Harlequin duck: Clearing would not occur on the riverbank of the Kootenai River. Potential for collisions would slightly increase.	115 kV: None to Low 230 kV: None to Low	115 kV: Low 230 kV: Low	Effects to Harlequin duck: About 0.5 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River although very little duck habitat would be removed on the riverbank.	Effects to Harlequin duck: About 0.8 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River although very little duck habitat would be removed on the riverbank.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Effects to Bighorn sheep: Danger tree clearing would remove about 4.5 acres within the Sheep PSU.	Effects to Bighorn sheep: Additional corridor and danger tree clearing would clear about 9 acres within the Sheep PSU.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low	Effects to Bighorn sheep: About 0.3 acres would be cleared near the northern crossing structure within the Sheep PSU.	Effects to Bighorn sheep: About 0.4 acres would be cleared near the northern crossing structure within the Sheep PSU.	115 kV: None to Low 230 kV: None to Low	115 kV: Low 230 kV: Low

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Fish, Amphibians and Reptiles							
Effects to Fish: About 0.5 acres of soils would be disturbed from clearing and bridge building in the riparian zone of China Creek.	Effects to Fish: Same as Proposed Action.	115 kV: None to Low 230 kV: None to Low	115 kV: Low to None 230 kV: Low to None	Effects to Fish: About 0.5 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River.	Effects to Fish: About 0.8 acres of new right-of-way would be cleared within the riparian zone of the Kootenai River.	115 kV: Low to None 230 kV: Low to None	115 kV: Low to None 230 kV: Low to None
Effects to Amphibians and Reptiles and Aquatic Habitat: This section of the existing corridor and the river crossing do not pass through Coeur d'Alene salamander habitat.	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects to Amphibians and Reptiles and Aquatic Habitat: Coeur d'Alene salamanders could be displaced from their habitat or killed where the new corridor runs parallel to Highway 2.	Effects to Amphibians and Reptiles and Aquatic Habitat: Same as 115-kV realignment option.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low 230 kV: Low
Visual Resources							
H-frame steel structures would be replaced in the same locations as existing structures. The line would look similar although the steel would be more visible along the Bighorn Trail than the existing wood structures.	Taller, single pole steel structures would most likely be visible from Highway 2. Additional corridor clearing would open up views of the new steel structures.	115 kV: High 230 kV: High	115 kV: Moderate 230 kV: Moderate	Steel structures and conductor would be visible adjacent to the south side of Highway 2.	Steel structures and conductor would be visible adjacent to the south side of Highway 2.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Rebuilding the line in the existing corridor would continue a situation in which the VQO of “Retention” would not be met.	Consistency with VQOs would be the same as for the 115-kV option.	115 kV: High 230 kV: High	115 kV: Moderate 230 kV: Moderate	The Kootenai River crossing would be moved about 3/4 mile east of the existing crossing and out of the view shed of the Kootenai Falls recreation area, a positive affect. Removal of the line on the north side of the Kootenai River would improve the visual quality in an area where the VQO is “Retention.” Construction of this realignment would create a situation in which the VQO of “Partial Retention” would not be met in the area of the realignment, because the transmission line would dominate the landscape along Highway 2, resulting in maximum modification.	As with the 115-kV alternative, the Kootenai River crossing would be moved further away from the Kootenai Falls. Consistency with VQOs would be the same as for the 115-kV option.	115 kV: Positive and High 230 kV: Positive and High	115 kV: Moderate 230 kV: Moderate
Cultural Resources							
Effects to Prehistoric Resources: Construction of one tensioning site and rebuilding structures would disturb known sites.	Effects to Prehistoric Resources: Same as Proposed Action.	115 kV: High 230 kV: High	115 kV: Moderate 230 kV: Moderate	Effects to Prehistoric Resources: Access road work, tensioning site preparation, and the new river crossing structure construction would disturb a newly recorded site.	Effects to Prehistoric Resources: Same as 115-kV realignment option.	115 kV: High 230 kV: High	115 kV: Low to Moderate 230 kV: Low to Moderate

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Effects to Historic Resources: Improvement of roads and structure rebuilding would disturb known historic sites.	Effects to Historic Resources: Same as Proposed Action.	115 kV: Moderate to High 230 kV: Moderate to High	115 kV: Moderate 230 kV: Moderate	Effects to Historic Resources: Construction of new roads and structures would not disturb known historic sites eligible for listing on the NRHP.	Effects to Historic Resources: Same as 115-kV realignment option.	115 kV: Low 230 kV: Low	115 kV: Low 230 kV: Low
Effects to Traditional Cultural Properties: Rebuilding the line in the existing location would continue impacts to the Kootenai Falls area, a culturally sensitive area to the Kootenai tribes.	Effects to Traditional Cultural Properties: Same as Proposed Action.	115 kV: High 230 kV: High	115 kV: High 230 kV: High	Effects to Traditional Cultural Properties: Construction of the realignment would move the line further away from the Kootenai Falls area.	Effects to Traditional Cultural Properties: Same as 115-kV realignment option.	115 kV: Low but Positive 230 kV: Low but Positive	115 kV: Low 230 kV: Low
Recreation Resources							
The rebuilt line would continue to cross through areas used by recreationists.	Same impact as the 115-kV option except additional right-of-way would be cleared.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low	New access roads would not cross or affect established recreation areas or trails although ORV trespass of new gated access roads would occur. This realignment would remove the line from a portion of the Bighorn Trail improving the recreational experience.	Same low and positive impacts as the 115-kV option.	115 kV: Low to Moderate: Positive 230 kV: Low to Moderate: Positive	115 kV: Low 230 kV: Low

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Noise, Public Health and Safety							
No homes are located within 4800 feet of this portion of existing corridor although travelers on Highway 2 and recreationalists hiking the Bighorn Trail would be impacted by construction noise above 50 dBA.	Same as Proposed Action.	115 kV: Moderate to High: Short-term 230 kV: Moderate to High: Short-term	115 kV: Low 230 kV: Low	No homes are located within 4800 feet of the realignment although travelers on Highway 2 and recreationalists hiking the historic Highway 2 would be impacted by construction noise above 50 dBA.	Effects from construction noise above 50 dBA.	115 kV: Low to Moderate: Short-term 230 kV: Low to Moderate: Short-term	115 kV: Low 230 kV: Low
The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor. In this portion of the existing line, no residences or residential properties would be affected.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	The electric field strength at the edge of the right-of-way would not exceed 1 kV per meter at any residences or subdivided parcels along the transmission line corridor. In this portion of the realignment, no residences or residential properties would be affected.	Same as 115-kV realignment option.	115 kV: None 230 kV: None	115 kV: None 230 kV: None
Effects from Average Magnetic Fields: No houses are located along the existing corridor in this area.	Effects from Average Magnetic Fields: Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	Effects from Average Magnetic Fields: No houses are located along the proposed realignment.	Effects from Average Magnetic Fields: Same as 115-kV realignment option.	115 kV: None 230 kV: None	115 kV: None 230 kV: None

Table L-4. Comparison of Impacts between the Existing Corridor and the Kootenai River Crossing Realignment

Existing Corridor 115 kV (Proposed Action)	Existing Corridor 230 kV (Alternative 1)	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation	Kootenai River Crossing Realignment 115 kV	Kootenai River Crossing Realignment 230 kV	Level of Impact before Mitigation	Level of Impact Remaining After Mitigation
Social and Economic Resources							
Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after construction.	Same as Proposed Action.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: Low 230 kV: Low	Effects to Employment and Income, Minority and Low-income Populations, Housing, Local Business, Public Services, and Property Values during and after construction.	Same as 115-kV realignment option.	115 kV: None to Moderate and Positive 230 kV: None to Moderate and Positive	115 kV: Low 230 kV: Low
Transportation							
No roads that allow non-administrative vehicles are located along this portion of the existing line. Stringing of conductor on the existing corridor across state highways would cause short traffic delays.	Same as Proposed Action.	115 kV: Low; Short-term 230 kV: Low; Short-term	115 kV: None 230 kV: None	This realignment would cause short traffic delays as conductor is strung across Highway 2 and railroad during construction. Small planes and helicopters would be affected by placement of the line in a new location and potentially at a different height.	Impacts would be the same as those for the 115-kV option.	115 kV: Low to Moderate; Short-term 230 kV: Low to Moderate; Short-term	115 kV: Low 230 kV: Low
Air Quality							
This section of the existing corridor is not within either the PM-2.5 or PM-10 non-attainment areas.	Same as Proposed Action.	115 kV: None 230 kV: None	115 kV: None 230 kV: None	This realignment is not within either the PM-2.5 or PM-10 non-attainment areas.	This realignment is not within either the PM-2.5 or PM-10 non-attainment areas.	115 kV: None 230 kV: None	115 kV: None 230 kV: None

Additional Information

Photograph L-1: View to west of the Kootenai River valley from Bobtail Ridge. The existing Libby-Troy 115 kV transmission line is visible in the foreground.

