

# CHAPTER 5

---

## Comparison of Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project/Weed Segment and the alternatives evaluated in this EIR<sup>1</sup>. This comparison is based on the assessment of environmental impacts of the Proposed Project/Weed Segment and each alternative, as identified in Sections 4.2 through 4.12. Section 2 introduces and describes the Proposed Project and Weed Segment. Section 3 introduces and describes the alternatives considered in this EIR.

Section 5.1 describes the methodology used for comparing alternatives. Section 5.2 summarizes the environmental impacts of the Proposed Project/Weed Segment and the alternatives. Section 5.3 defines the Environmentally Superior Alternative, based on comparison of each alternative with the Proposed Project/Weed Segment. Section 5.4 presents a comparison of the No Project Alternative with the alternative that is determined in Section 5.3 to be environmentally superior.

### 5.1 Comparison Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (e.g., visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6(d), Evaluation of Alternatives, which states that:

*“The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects*

---

<sup>1</sup> Since the Final Mitigated Negative Declaration (MND) was adopted (CPUC, 2006), the project description for the Proposed Project and Weed Segment has not changed in such a manner that would affect the conclusions of MND Section 2.6, *Geology, Soils, and Seismicity*; MND Section 2.10, *Mineral Resources*; and MND Section 2.12, *Population and Housing*. Therefore, those sections are incorporated into this EIR by reference and are not addressed in this alternatives comparison.

*of the alternative shall be discussed, but in less detail than the significant effects of the proposed project as proposed.”*

If the Environmentally Superior Alternative is the No Project Alternative, CEQA requires identification of an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

- Step 1: Identification of Alternatives.** An alternatives screening process (described in Section 3) was used to identify approximately 10 alternatives to the Proposed Project/Weed Segment. That screening process identified three alternatives for detailed EIR analysis. Each of the alternatives consist of route variations. A No Project Alternative was also identified. No other feasible alternatives meeting most of the basic project objectives were identified that would lessen or alleviate significant impacts.
- Step 2: Determination of Environmental Impacts.** The environmental impacts of the Proposed Project/Weed Segment and alternatives were identified in Sections 4.1 through 4.12, including the potential impacts of construction and operation. Section 1.5 describes the environmental impacts of the Proposed Project/Weed Segment and alternatives for those impact sections incorporated by reference from the Final MND.
- Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the Proposed Project/Weed Segment were compared to those of each alternative to determine the Environmentally Superior Alternative. The Environmentally Superior Alternative was then compared to the No Project Alternative.

Although this comparison focuses on the 12 issue areas (described in Sections 4.1 through 4.12), determining an environmentally superior alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an Environmentally Superior Alternative, it is possible that the Commission could choose to balance the importance of each impact area differently and reach a different conclusion.

## 5.2 Evaluation of Project Alternatives

Three alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. A detailed analysis of environmental impacts and mitigation for all project alternatives is provided in Sections 4.1 through 4.12. Table 5-1 provides a summary of significant unmitigable (Class I) impacts for the Proposed Project/Weed Segment and alternatives. Table 5-2 provides a summary of environmental impact conclusions for the Proposed Project/Weed Segment and each of the alternatives for each environmental resource area.

There would be no significant unmitigable (Class I) impacts associated with the Weed Segment. The Proposed Project would add approximately 1.2 miles of new ROW within which approximately 15 new wood poles and 3 conductors would be installed where none currently exists. This new 1.2-mile ROW would be constructed within approximately one-half mile of an

existing transmission line ROW, and would result in a cumulatively considerable change to the visual character of the study area, which is a significant and unmitigable (Class I) impact.

All three route alternatives would result in significant unmitigable (Class I) visual impacts along a 0.5-mile segment of Highway 97, a National Scenic Byway, designated County Scenic Highway, and Eligible State Scenic Highway. Although this corridor is the ROW for the existing transmission line, the taller poles and heavier conductor required for the 115 kV transmission line would result in substantial changes to the views along Highway 97.

**TABLE 5-1  
SUMMARY OF SIGNIFICANT UNMITIGABLE (CLASS I) ENVIRONMENTAL IMPACTS  
OF THE PROPOSED PROJECT/WEED SEGMENT AND ALTERNATIVES**

<b>Alternative</b>	<b>Significant (Class I) Impacts</b>
Proposed Project	Would result in a cumulatively considerable impact to visual resources in the study area as a result of constructing a new 1.2-mile ROW for the transmission line where none currently exists
Weed Segment	No significant (Class I) unmitigable environmental impacts would occur with the Weed Segment
<b>Class I Impacts Eliminated or Created by Alternatives</b>	
PacifiCorp Option 4 Alternative	<p>Would eliminate the cumulatively significant visual impact of the Proposed Project</p> <p>Would adversely affect the visual character within an approximately 0.5-mile portion of Highway 97 corridor, a County-designated Scenic Highway, an Eligible State Scenic Highway, and a segment of the Volcanic Legacy National Scenic Byway</p>
Mackintosh/ALJ Variation A Alternative	<p>Would eliminate the cumulatively significant visual impact of the Proposed Project</p> <p>Would adversely affect the visual character within an approximately 0.5-mile portion of Highway 97 corridor, a County-designated Scenic Highway, an Eligible State Scenic Highway, and a segment of the Volcanic Legacy National Scenic Byway</p>
Mackintosh/ALJ Variation B Alternative	<p>Would eliminate the cumulatively significant visual impact of the Proposed Project</p> <p>Would adversely affect the visual character within an approximately 0.5-mile portion of Highway 97 corridor, a County-designated Scenic Highway, an Eligible State Scenic Highway, and a segment of the Volcanic Legacy National Scenic Byway</p>

## 5.3 Environmentally Superior Alternative

As shown in Table 5-2, there is no environmentally superior alternative for any resource area but Aesthetics. All three alternatives studied in this EIR were variations of route alignments that would avoid establishing approximately 1.2 miles of new ROW where no transmission line currently exists, and so each of the three alternatives would avoid that cumulatively significant

unmitigable (Class I) visual impact of the Proposed Project. Each of the three route alternatives would result in a significant unmitigable (Class I) visual impact along a 0.5-mile portion of Highway 97, but the change to the visual character along that 0.5-mile segment would be seen by passing motorists for less than a minute. Although fewer people (mostly local residents and visitors driving on Hoy Road) would be affected by the cumulative visual impact created by constructing the new 1.2-mile ROW, the degraded visual character would be of longer duration and, in the case of local residents, a constant experience. For this reason, the degraded visual character of the Proposed Project is given greater weight than the degraded visual character of the alternatives. Therefore, each of the three route alternatives is preferable to the Proposed Project.

Among the three route alternatives, the differences in environmental impacts are generally subtle. The PacifiCorp Option 4 Alternative would shift the ROW 15 feet north for approximately 1.7 miles, requiring removal of several mature trees. This feature makes the PacifiCorp Option 4 Alternative less preferable than the Mackintosh/ALJ Variation A and B Alternatives. The Mackintosh/ALJ Variation A Alternative would keep the new transmission line within the existing ROW, but would require additional temporary disturbance at the Weed Substation for installation of a temporary transformer. Further, the additional lead time to procure the temporary transformer for the Mackintosh/ALJ Variation A Alternative may push the construction schedule into summer 2009, past the time when PacifiCorp estimates that Line 14 would exceed its thermal limit and possibly resulting in local electricity curtailments. The Mackintosh/ALJ Variation B Alternative, on the other hand, would also keep the new transmission line in the existing ROW but would not require a temporary transformer and so would avoid the associated temporary disturbance and additional construction time. The Mackintosh/ALJ Variation B Alternative would require installation of a temporary pole line, which would require trimming and possible removal of a few trees along the southern edge of the existing ROW, but these impacts would be minor. Therefore, it is the conclusion of this EIR that the Mackintosh/ALJ Variation B Alternative is the Environmentally Superior Alternative.

As noted above, although this EIR identifies an Environmentally Superior Alternative, it is possible that the Commission could choose to balance the importance of each impact area differently and reach a different conclusion.

**TABLE 5-2  
PROPOSED PROJECT/WEED SEGMENT VS. ALTERNATIVES  
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS**

Resource Area	Proposed Project and Weed Segment	PacifiCorp Option 4 Alternative	Mackintosh/ALJ Variation A Alternative	Mackintosh/ALJ Variation B Alternative
Aesthetics	Would result in cumulatively significant unmitigable visual impacts resulting from new 1.2-mile ROW where none currently exists.	Would result in significant unmitigable visual impacts along 0.5-mile portion of Highway 97.  Would require shifting the existing ROW 15 feet north for approximately 1.7 miles, resulting in removal of several mature trees.	Would result in significant unmitigable visual impacts along 0.5-mile portion of Highway 97.  Would keep the new line in the existing ROW, but would require longer to construct because of temporary transformer needed at Weed Substation, possibly resulting in local electricity curtailments in summer 2009.	Would result in significant unmitigable visual impacts along 0.5-mile portion of Highway 97.  <b>Preferred</b> because the cumulatively significant unmitigable impact of the new 1.2-mile ROW would be avoided, would have less impact to mature trees than PacifiCorp Option 4 Alternative, and would not require temporary transformer at Weed Substation.
Agriculture Resources	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>
Air Quality	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>
Biological Resources	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that fewer wetlands would have temporary impacts but a substantial number of mature trees would be removed.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that fewer wetlands would have temporary impacts but some mature trees would be trimmed or removed.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that fewer wetlands would have temporary impacts but some mature trees would be trimmed or removed.  <b>No preference</b>
Cultural Resources	Impacts determined to be Class II.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>
Hazards and Hazardous Materials	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>

**TABLE 5-2 (CONTINUED)  
PROPOSED PROJECT/WEED SEGMENT VS. ALTERNATIVES  
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS**

<b>Resource Area</b>	<b>Proposed Project and Weed Segment</b>	<b>PacifiCorp Option 4 Alternative</b>	<b>Mackintosh/ALJ Variation A Alternative</b>	<b>Mackintosh/ALJ Variation B Alternative</b>
Hydrology and Water Quality	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that potential impact to springs and shallow groundwater would be avoided in the 1.2-mile segment where no line currently exists.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that potential impact to springs and shallow groundwater would be avoided in the 1.2-mile segment where no line currently exists.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that potential impact to springs and shallow groundwater would be avoided in the 1.2-mile segment where no line currently exists.  <b>No preference</b>
Land Use and Planning	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>
Noise	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>
Public Services	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>
Transportation and Traffic	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment, except that construction period would be slightly longer.  <b>No preference</b>
Utilities and Service Systems	Impacts determined to be Class II to Class III.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>	Impacts would be similar to Proposed Project/Weed Segment.  <b>No preference</b>

## 5.4 No Project Alternative vs. the Environmentally Superior Alternative

### 5.4.1 Summary of the No Project Alternative and its Impacts

The No Project Alternative is described in Section 3.4.4. Under the No Project alternative, the Proposed Project/Weed Segment would not be built and Line 1 would not be operational because there would be no 115 kV transmission line connection between the Yreka and Weed Junction Substations. There is a possibility that new generation capacity and/or transmission capacity would be necessary in Siskiyou County or elsewhere to compensate for existing system limitations and anticipated loads. It would be speculative to predict the type and location or schedule of development for new power plants and transmission that would be needed to overcome the transmission system constraints remaining under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include either of the following components or combination of components:

- Construction of new transmission facilities at 115 kV or higher voltage, requiring the development of a new transmission corridor from either the east or north into the Weed area.
- Construction of additional regional generation.

The environmental impacts of the No Project Alternative would primarily result from operation of a power plant and/or development of new transmission. Long-term operational impacts from power generation would include substantial air emissions and ongoing noise near the generators, as well as visual impacts of the generators depending on their locations. Construction and operation of new transmission facilities would primarily be the same as those identified for the Proposed Project/Weed Segment with the exception of land use and visual resources for which impacts could be greater if a substantially longer new transmission corridor would have to be developed.

### 5.4.2 Summary of the Environmentally Superior Alternative and its Impacts

The Environmentally Superior Alternative is defined in Section 5.3 as the Mackintosh/ALJ Variation B Alternative. Impacts of the Mackintosh/ALJ Variation B Alternative are defined in each resource area's impact analysis in Sections 4.1 through 4.12. The Environmentally Superior Alternative would have one significant unmitigable (Class I) impact on visual character along a 0.5-mile portion of Highway 97, a National Scenic Byway, designated County Scenic Highway, and Eligible State Scenic Highway . The other following types of impacts would also occur with the Mackintosh/ALJ Variation B Alternative, but they would be mitigable to less than significant levels:

- Construction disturbances from dust, air emissions, hazardous materials, noise, traffic, soil erosion, and public services.

- Temporary impacts to sensitive biological resources.
- Potential impacts to unknown cultural resources.
- Potential for impacts to springs and shallow groundwater during construction.

### **5.4.3 Conclusion: Comparison of the Environmentally Superior Alternative with the No Project Alternative**

The Environmentally Superior Alternative (the Mackintosh/ALJ Variation B alternative) would keep the new transmission line within an existing ROW and would have minimal long-term impacts on residences or other sensitive land uses. In comparison, the most significant impact of the No Project Alternative is its likelihood of creating long-term air emissions and noise impacts along with visual impacts from generation or transmission facilities. In addition, the No Project Alternative has the potential to result in electric service disruption. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative.