

Chapter 5

Alternatives Analysis Summary and Comparison of Alternatives

5.1 Introduction

As described in Chapter 3, *Alternatives Description*, the California Public Utilities Commission (CPUC) developed a range of reasonable, potentially feasible alternatives to the Proposed Project in compliance with California Environmental Quality Act (CEQA) requirements. The alternatives development process is documented in the Final Alternatives Screening Report (ASR), which is included as Appendix B to the Draft Environmental Impact Report (DEIR). The environmental effects of the alternatives considered in this DEIR have been evaluated within the individual resource sections (Sections 4.1 through 4.20). This chapter provides a summary of the alternatives considered for the Proposed Project and their environmental impacts, and includes a discussion of the environmentally superior alternative.

5.2 Summary of the Alternatives Analysis

5.2.1 Alternative Pairings and Combinations

Although the alternatives are evaluated separately in Sections 4.1 through 4.20, practically, individual alternatives would be implemented in tandem with one or more other alternatives. This is due to the nature of the Proposed Project, which includes a substation and 70 kV power line, as well as future distribution components that are reasonably foreseeable. Thus, a substation siting (SS) alternative would always be paired with a power line routing (PLR) alternative (as well as possibly a battery storage [BS] alternative to meet the distribution objective of the Proposed Project). The potential alternative pairings or combinations are shown in Table 3-22 of Chapter 3, *Alternatives Description*.

As indicated in Table 3-22, numerous potential pairings or combinations are possible, particularly when considering the distribution components. For the purposes of this summary and informing the public and decision-makers, the following primary alternative combinations are discussed further in this chapter:

- **Alternative Combination #1 (With Undergrounding):** Proposed Project, Alternative PLR-3, Alternative BS-2, and Alternative BS-3
- **Alternative Combination #2 (Estrella Route):** Estrella Substation, Alternative PLR-1A, Alternative BS-2, and Alternative BS-3
- **Alternative Combination #3 (Bonel Ranch):** Alternative SS-1, Alternative PLR-1C, Alternative BS-2, and Alternative BS-3

- **Alternative Combination #4 (South River Road):** Alternative SE-1A, Alternative SE-PLR-2, Alternative BS-2, and Alternative BS-3
- **Alternative Combination #5 (With Distributed Energy Resources [DERs]):** Proposed Project, Alternative BS-2, and Alternative BS-3

The specific characteristics of the alternative combinations are summarized in Table 5-1. Because the Transmission Objective cannot be solved through battery storage alone or by other means (see Final ASR for further discussion), a substation and power line must be included in any alternative combination in order to meet this objective. The Distribution Objective could either be solved through future buildout of the reasonably foreseeable distribution components or through implementation of front-of-the-meter (FTM) battery storage (Alternative BS-2) and/or behind-the-meter (BTM) solar and battery storage (Alternative BS-3). Alternatives BS-2 and BS-3 are included in each of the alternative combinations to provide alternative combinations that meet both of the Proposed Project objectives.

In lieu of the battery storage alternatives, traditional distribution infrastructure could theoretically be built out from any of the alternative substation sites under consideration (however, only the reasonably foreseeable distribution components, which would be constructed from the Estrella Substation, are evaluated in this DEIR). In addition to the alternative combinations listed above, the No Project Alternative and Proposed Project are also discussed in this chapter.

5.2.2 Summary of Alternatives Combinations and Their Relative Environmental Impacts

Table 5-1 below summarizes the characteristics of the No Project Alternative and the primary alternative combinations described in Section 5.2.1, and their respective environmental impacts, as they relate to the Proposed Project's impacts. For a more detailed description of each individual alternative, refer to Chapter 3, *Alternatives Description*.

Table 5-1. Alternatives Analysis Summary

Alternative Combination		Project Objectives Accomplished	Primary Characteristics of Alternative or Alternative Combination	Environmental Impacts Compared to the Proposed Project	
No.	Alternative / Title			Increased	Reduced
N/A	No Project Alternative	None	The Proposed Project is not constructed.	Increased impacts related to wildfire and hazards (emergency response and evacuation), as the 70 kV transmission system in the area of Paso Robles would remain vulnerable to an N-1 or N-1-1 outage. Such an outage, if it occurred at the same time as a wildfire, could lead to load shedding and blackouts, thereby hampering emergency response and evacuation efforts.	All construction- and operation-related impacts of the Proposed Project would be avoided. No significant and unavoidable impacts to aesthetics, agriculture and forestry resources, air quality, and noise would occur.
1	Proposed Project Alternative PLR-3: Strategic Undergrounding (Option 1 or 2) Alternative BS-2: Battery Storage to Address the Distribution Objective Alternative BS-3: Third Party, Behind-the-Meter Solar and Battery Storage	Transmission and Distribution	<p>Estrella Substation is built as described for the Proposed Project.</p> <p>The 70 kV power line route is similar to the Proposed Project, except a portion of the proposed alignment near Golden Hill Road north of SR 46 is undergrounded.</p> <p>Front-of-the-meter (FTM) battery energy storage systems (BESSs) are constructed at example sites identified in this DEIR (FTM Sites 1 through 8) or at other sites and connected to the distribution system to defer the need for additional distribution capacity in the Paso Robles DPA or procured for installation by a third party via the Distribution Infrastructure Deferral Framework (DIDF).¹</p> <p>Third-party behind -the-meter (BTM) solar and battery storage (i.e., “BTM resources”) systems are procured/adopted by customers in the Paso Robles DPA to reduce loading on circuits. BTM resources are metered at the building-level, and could be owned and/or operated by either the building owner or a third-party provider.</p> <p>Reasonably foreseeable distribution components and ultimate substation buildout are not needed with deployment of solar and BESSs.</p>	<p>Trenching techniques for Alternative PLR-3, including the loosening of soils and use of hazardous materials, increases potential for off-site movement of pollutants to waterbodies and riparian habitat; however, these impacts are less than significant with implementation of the Stormwater Pollution Prevention Plan (SWPPP).</p> <p>Trenching activities also result in greater impacts on biological resources (e.g., blue oak woodland) due to increased disturbance area, although these impacts are less than significant with mitigation.</p> <p>There are increased transportation impacts due to extended temporary single lane closures required for construction of Alternative PLR-3; these impacts are less than significant with implementation of Mitigation Measure TR-1 and compliance with encroachment permits.</p> <p>Potentially greater quantities of solid waste associated with excavation and trenching activities for Alternative PLR-3, as well as potentially increased construction-related noise associated with use of asphalt saws; these impacts are less than significant with implementation of APMs and mitigation measures.</p> <p>Increased potential for construction activities for Alternative PLR-3 to encounter paleontological and cultural resources as a result of the increased excavation/ground-disturbance activities; however, impacts are less than</p>	<p>Reduced aesthetic impacts, including avoiding the significant and unavoidable impacts to the visual character and quality of the Golden Hill Road area. The significant and unavoidable aesthetic impacts from the Estrella Substation would remain under this alternative combination.</p> <p>Reduced impacts to special-status birds (e.g., potential electrocution or collision with overhead power lines) from the portion of the Proposed Project 70 kV power line along Golden Hill Road. A known golden eagle nest is present in this vicinity near Huerhuero Creek. Avoided overhead distribution lines (i.e., reasonably foreseeable distribution components) due to deployment of BESSs also would reduce potential impacts to special-status birds.</p> <p>Although the alternative combination would increase fire risks associated with BESSs, the undergrounded portion of the Proposed Project 70 kV power line (Alternative PLR-3) would have reduced fire risk compared to the same section of overhead line. Avoided overhead distribution lines (i.e., reasonably foreseeable distribution components) also could reduce fire risk.</p> <p>Depending on scale of FTM facilities and nature of BTM resources procurement (e.g., if resources are primarily within or on existing buildings), this could result in overall reduced construction activity (e.g., air and greenhouse gas (GHG) emissions, pollutant discharges from construction</p>

¹ See Chapter 3, *Alternatives Description*, Section 3.3.8 for further details about the DIDF.

Alternative Combination		Project Objectives Accomplished	Primary Characteristics of Alternative or Alternative Combination	Environmental Impacts Compared to the Proposed Project	
No.	Alternative / Title			Increased	Reduced
				<p>significant with implementation of APMs and mitigation measures.</p> <p>Potentially increased fire risk associated with FTM BESS installations (particularly lithium-ion BESSs); however, the fire risk associated with overhead distribution lines is avoided.</p>	<p>sites, etc.) from avoidance of need for reasonably foreseeable distribution components and substation buildout.</p> <p>Deployment of BESSs and solar could reduce GHG emissions associated with the electrical grid over the long-term (e.g., by avoiding or reducing the need for conventional [fossil fuel] energy production).</p>
2	<p>Estrella Substation</p> <p>Alternative PLR-1A: Estrella Route to Estrella Substation</p> <p>Alternative BS-2: Battery Storage to Address the Distribution Objective</p> <p>Third Party, Alternative BS-3: Behind-the-Meter Solar and Battery Storage</p>	<p>Transmission and Distribution</p>	<p>Estrella Substation is built as described for the Proposed Project.</p> <p>A 70 kV power line route is constructed to connect the Estrella Substation to the existing Paso Robles Substation, following a northern route that passes north of the Paso Robles Municipal Airport. The new 70 kV power line segment is 3.5 miles longer than the Proposed Project's new 70 kV power line segment, and approximately 6 miles of reconductoring is needed for the existing San Miguel-Paso Robles 70 kV Power Line (compared to 3 miles of reconductoring for the Proposed Project).</p> <p>FTM BESSs and third-party BTM solar and battery storage systems are constructed/procured as described above for Combination #1.</p> <p>Reasonably foreseeable distribution components and ultimate substation buildout are not needed with deployment of solar and BESSs.</p>	<p>Due to the longer length of 70 kV power line route, there is increased potential for many construction-related impacts (e.g., hazardous materials spills/exposure, pollutant discharges off-site, potential to encounter special-status species and/or buried cultural or paleontological resources, air and GHG emissions, energy use, etc.); with the exception of air quality, these impacts would be less than significant with implementation of APMs and mitigation measures. The air quality impacts would be significant and unavoidable for this alternative combination and the Proposed Project.</p> <p>Slightly increased wildfire risk because a segment of the 70 kV power line route would border a high fire hazard severity zone (HFHSZ) (whereas no portion of the Proposed Project's 70 kV power line would directly border or pass through the HFHSZ); this impact would be less than significant with implementation of mitigation measures.</p> <p>Potentially increased fire risk associated with FTM BESS installations (particularly lithium-ion BESSs); however, the fire risk associated with overhead distribution lines is avoided.</p>	<p>Reduced aesthetic impacts due to routing of 70 kV power line through more agricultural and rural areas north of Paso Robles; significant and unavoidable impacts of the Proposed Project's 70 kV power line would be avoided under this alternative combination, although the significant and unavoidable aesthetics impacts from the Estrella Substation would remain.</p> <p>Reduced noise impacts due to the routing of the 70 kV power line through more rural areas where fewer sensitive receptors are located nearby; however, overall, noise impacts would still be significant and unavoidable under this alternative combination, as helicopters would still be required for construction of the reconductoring segment near numerous residences.</p> <p>Reduced disruption to traffic flow during construction compared to the Proposed Project since the alternative alignment runs through largely rural, agricultural lands and then eventually along Wellsona Road, which is not a main thoroughfare.</p> <p>Reduced recreational impacts, including potential impacts to Barney Schwartz Park, the Paso Robles Sports Club, or Cava Robles RV Resort, compared to the Proposed Project, as the Alternative PLR-1A alignment would avoid these recreational resources.</p> <p>Although the avoided need for overhead distribution lines (i.e., reasonably foreseeable distribution components) due to deployment of BESSs would reduce potential impacts to special-status birds; these advantages must be weighed against the longer length of the 70 kV power line route. Similarly, the potential advantages of the avoided</p>

Alternative Combination		Project Objectives Accomplished	Primary Characteristics of Alternative or Alternative Combination	Environmental Impacts Compared to the Proposed Project	
No.	Alternative / Title			Increased	Reduced
					<p>distribution components related to fire risk (from overhead lines) and overall construction activity must be weighed against the longer 70 kV power line.</p> <p>Deployment of BESSs and solar could reduce GHG emissions associated with the electrical grid over the long-term (e.g., by avoiding or reducing the need for conventional [fossil fuel] energy production).</p>
3	<p>Alternative SS-1: Bonel Ranch Substation Site</p> <p>Alternative PLR-1C: Estrella Route to Bonel Ranch</p> <p>Alternative BS-2: Battery Storage to Address the Distribution Objective</p> <p>Alternative BS-3: Third Party, Behind-the-Meter Solar and Battery Storage</p>	Transmission and Distribution	<p>A substation, similar in size, electrical components, and equipment type to the Proposed Project, is built at Bonel Ranch, which is located along Estrella Road, approximately 4.5 miles northeast of the Estrella Substation site.</p> <p>A 70 kV power line route is constructed to connect the substation at Bonel Ranch to the Paso Robles Substation following a northern route that passes north of the Paso Robles Municipal Airport. The new 70 kV power line segment is 3 miles longer than the Proposed Project's new 70 kV power line segment, and approximately 6 miles of reconductoring is needed for the existing San Miguel-Paso Robles 70 kV Power Line (compared to 3 miles of reconductoring for the Proposed Project).</p> <p>FTM BESSs and third-party BTM solar and battery storage systems are constructed/procured as described above for Combination #1.</p> <p>Reasonably foreseeable distribution components and ultimate substation buildout are not needed with deployment of solar and BESSs.</p>	<p>Due to longer length of 70 kV power line route, increased potential for many construction-related impacts (e.g., hazardous materials spills/exposure, pollutant discharges off-site, air and GHG emissions, energy use, etc.); with the exception of air quality, these impacts would be less than significant with implementation of APMs and mitigation measures. The air quality impacts would be significant and unavoidable for this alternative combination and the Proposed Project.</p> <p>Due to the substation's location adjacent to the Estrella River (identified as sensitive for cultural resources by Native American tribes), increased potential for construction activities to encounter cultural resources, although these impacts would be less than significant with implementation of APMs and mitigation.</p> <p>The location of the substation and power line near the Estrella River also increase potential for construction activities to impact biological resources, but again, these impacts would be less than significant with implementation of APMs and mitigation measures.</p> <p>Increased wildfire risk for this alternative combination because both the substation site and portions of the 70 kV alignment are located within a HFHSZ; this impact would be less than significant with implementation of mitigation measures.</p> <p>Potentially increased fire risk associated with FTM BESS installations (particularly lithium-ion BESSs); however, the fire risk associated with overhead distribution lines is avoided.</p>	<p>Reduced aesthetic impacts due to routing of 70 kV power line route through more agricultural and rural areas north of Paso Robles and locating the substation in a more rural and less scenic portion of San Luis Obispo County; significant and unavoidable aesthetic impacts of the Proposed Project would be avoided under this alternative combination.</p> <p>Reduced noise impacts due to the routing of the 70 kV power line through more rural areas where fewer sensitive receptors are located nearby; however, overall, noise impacts would still be significant and unavoidable under this alternative combination, as helicopters would still be required for construction of the reconductoring segment near numerous residences.</p> <p>Reduced disruption to traffic flow during construction compared to the Proposed Project since the alternative alignment and substation site are located primarily within rural, agricultural lands.</p> <p>Reduced recreational impacts, including potential impacts to Barney Schwartz Park, the Paso Robles Sports Club, or Cava Robles RV Resort, compared to the Proposed Project, as the Alternative SS-1 site and Alternative PLR-1C alignment would avoid these resources.</p> <p>Although the avoided need for overhead distribution lines (i.e., reasonably foreseeable distribution components) due to deployment of BESSs would reduce potential impacts to special-status birds; these advantages would have to be weighed against the longer length of the 70 kV power line route. Similarly, the potential advantages of avoiding the distribution components related to fire risk (from overhead</p>

Alternative Combination		Project Objectives Accomplished	Primary Characteristics of Alternative or Alternative Combination	Environmental Impacts Compared to the Proposed Project	
No.	Alternative / Title			Increased	Reduced
					lines) and overall construction activity must be weighed against the longer 70 kV power line. Deployment of BESSs and solar could reduce GHG emissions associated with the electrical grid over the long-term (e.g., by avoiding or reducing the need for conventional [fossil fuel] energy production).
4	<p>Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation</p> <p>Alternative SE-PLR-2: Templeton-Paso South River Road Route</p> <p>Alternative BS-2: Battery Storage to Address Distribution Objective</p> <p>Alternative BS-3: Third Party, Behind-the-Meter Solar and Battery Storage</p>	Transmission and Distribution	<p>A substation, similar in size, electrical components, and equipment type to the Proposed Project, is built adjacent to the existing Templeton Substation, which is located along El Pomar Drive, approximately 7.1 miles southwest of the Estrella Substation site.</p> <p>A 70 kV power line is constructed to connect the substation at the Templeton Substation Expansion site to Paso Robles Substation. The route follows South River Road for much of its length. The new 70 kV power line segment is 1.8 miles shorter than the Proposed Project’s new 70 kV power line segment, and no reconductoring of any existing power lines is required (compared to 3 miles of reconductoring for the Proposed Project).</p> <p>FTM BESSs and third-party BTM solar and battery storage systems are constructed/procured as described above for Combination #1.</p> <p>Reasonably foreseeable distribution components and ultimate substation buildout are not needed with deployment of solar and BESSs.</p>	<p>In spite of shorter length of 70 kV power line and reduced overall construction activity, there would be increased potential for impacts to cultural resources due to the alignment passing through the Santa Ysabel Ranch area, which Native American tribes in the area have indicated is sensitive for cultural resources; these impacts would be less than significant with implementation of APMs and mitigation measures.</p> <p>Despite reduced overall construction activity, there would be increased potential for impacts to hydrology and water quality due to construction activities in hilly and undeveloped areas (e.g., erosion and discharge of sediments); these impacts would be less than significant with implementation of the SWPPP.</p> <p>Increased potential for impacts to biological resources (special-status birds) during construction and operation of the 70 kV power line due to the multiple known golden eagle nests located in proximity to the power line route. Also, there would be increased disturbance to sensitive habitats.</p> <p>Increased wildfire risk for this alternative combination because the substation site and much of the 70 kV power line alignment are located within a HFHSZ; this impact would be less than significant with implementation of mitigation measures.</p> <p>Potentially increased fire risk associated with FTM BESS installations (particularly lithium-ion BESSs); however, the fire risk associated with overhead distribution lines (reasonably foreseeable distribution components) is avoided.</p>	<p>Due to the shorter length of the new 70 kV power line and avoided need for reconductoring, there would be reduced potential for several construction-related impacts (e.g., hazardous materials spills/exposure, air and GHG emissions, energy use, etc.); however, the air quality impacts would be still be significant and unavoidable for this alternative combination, as they would be for the Proposed Project.</p> <p>While siting the substation at Templeton Substation would reduce aesthetic impacts compared to the Estrella Substation (thereby avoiding the significant and unavoidable impact on visual character and quality from the Estrella Substation); the Alternative SE-PLR-2 70 kV power line alignment would result in significant and unavoidable impacts on aesthetics in this location.</p> <p>Although the avoided need for overhead distribution lines (i.e., reasonably foreseeable distribution components) due to deployment of BESSs would reduce potential impacts to special-status birds; these advantages would have to be weighed against the 70 kV power line route being located near known golden eagle nests. Similarly, the potential advantages of avoiding the distribution components related to fire risk (from overhead lines) and overall construction activity must be weighed against the 70 kV power line’s location in a HFHSZ.</p> <p>Deployment of BESSs and solar could reduce GHG emissions associated with the electrical grid over the long-term (e.g., by avoiding or reducing the need for conventional [fossil fuel] energy production).</p>

Alternative Combination		Project Objectives Accomplished	Primary Characteristics of Alternative or Alternative Combination	Environmental Impacts Compared to the Proposed Project	
No.	Alternative / Title			Increased	Reduced
5	<p>Proposed Project</p> <p>Alternative BS-2: Battery Storage to Address the Distribution Objective</p> <p>Alternative BS-3: Third Party, Behind-the-Meter Solar and Battery Storage</p>	<p>Transmission and Distribution</p>	<p>Estrella Substation and 70 kV power line are constructed as described for the Proposed Project.</p> <p>FTM BESSs and BTM solar and battery storage systems are constructed/procured as described above for Combination #1.</p> <p>Reasonably foreseeable distribution components and ultimate substation buildout are not needed with deployment of solar and BESSs.</p>	<p>Potentially increased fire risk associated with FTM BESS installations (particularly lithium-ion BESSs); however, the fire risk associated with overhead distribution lines (reasonably foreseeable distribution components) is avoided.</p>	<p>Likely reduced aesthetic impacts by avoiding the need for overhead distribution lines; although speculative, aesthetic impacts from FTM and BTM storage and solar facilities are likely to be minor and less severe than those from the reasonably foreseeable distribution components.</p> <p>Likely reduced biological resources impacts due to the avoided need for overhead distribution lines; FTM and BTM storage and solar facilities are likely to have relatively small footprints (or be installed within or on existing buildings) and would not pose the same hazard to special-status birds that the reasonably foreseeable distribution components would.</p> <p>Deployment of BESSs and solar could reduce GHG emissions associated with the electrical grid over the long-term (e.g., by avoiding or reducing the need for conventional [fossil fuel] energy production).</p>

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5.3 Environmentally Superior Alternative

The CEQA Guidelines, under Section 15126.6(e)(2), state that “if the environmentally superior alternative is the ‘no project’ alternative, the environmental impact report (EIR) shall also identify an environmentally superior alternative among the other alternatives.” This section discusses the No Project Alternative, Proposed Project, and alternative combinations in terms of their relative environmental benefits and drawbacks and identifies an environmentally superior alternative.

5.3.1 Discussion

As indicated in Table 5-1, and discussed below, there are environmental tradeoffs with each of the alternative combinations such that each alternative combination and/or individual alternative considered in the DEIR would decrease at least some environmental impacts compared with the Proposed Project, while increasing others. Therefore, each alternative combination may be perceived as environmentally superior to the Proposed Project in some ways. Selecting the overall environmentally superior alternative, then, requires taking multiple factors into account and determining which alternative combination offers the most advantages and least drawbacks among the Proposed Project and other alternative combinations. The following discussion provides support for this selection.

No Project Alternative

With respect to the No Project Alternative, while this alternative would avoid all construction- and operation-related impacts of the Proposed Project, including the significant and unavoidable environmental impacts related to aesthetics, agriculture and forestry resources, air quality, and noise, this alternative would result in significant impacts of its own. Specifically, in not addressing the Transmission Objective of the Proposed Project, the No Project Alternative would not alleviate the transmission system vulnerabilities that are described in Chapter 2, *Project Description*. Therefore, the No Project Alternative would leave the Paso Robles 70 kV system vulnerable to an N-1 or N-1-1 contingency, which would likely ultimately result in load shedding and/or blackouts for customers in this service area. If this were to occur at the same time as a wildfire, for example, this could hamper emergency response and evacuation efforts (e.g., residents in the affected areas not being able to receive communications via their televisions or being able to charge their phones to receive communications). For these reasons, the No Project Alternative is not considered environmentally superior.

Proposed Project

As described throughout the DEIR, the Proposed Project would result in several impacts that would be significant and unavoidable, as well as a number of impacts that would be less than significant with mitigation. Most notably, the Proposed Project would have significant adversely effects on aesthetics from the placement of the Estrella Substation along Union Road and from the Proposed Project’s 70 kV power line, which would pass through the area of Golden Hill Road where there are several sensitive uses and no existing overhead transmission or distribution lines. The sensitive uses that would be impacted include the Cava Robles RV Resort, which was recently constructed (2017-2018). As part of the City of Paso Robles’ review and approval of this resort, the property was designated as Parks and Open Space (POS) (see Figure 4.11-1), and

existing distribution lines along this portion of Golden Hill Road were undergrounded during the resort's construction (Dawson, pers. comm., 2020). Other impacts of the Proposed Project include permanent conversion of Important Farmland to non-agricultural uses due to the substation and portions of the power line being constructed on agricultural land. The Proposed Project also would result in significant impacts related to noise and air quality during construction, and would make a considerable contribution to cumulative impacts to aesthetics, agricultural resources, and air quality.

Development of the reasonably foreseeable distribution components and the ultimate substation buildout, which would occur in the future as a result of the Proposed Project, would result in similar but less severe impacts, all of which could be reduced to a level that is less than significant with implementation of applicant proposed measures (APMs) and mitigation measures. Relative to Alternative Combinations 3 and 4, the Proposed Project would site the substation in an area that is outside the High Fire Hazard Severity Zone (HFHSZ), thus resulting in reduced fire risk. Relative to Alternative Combinations 2 and 3, the Proposed Project would involve a shorter 70 kV power line route, which would reduce several construction-related impacts (e.g., air and greenhouse gas [GHG] emissions, etc.). However, each of the alternative combinations would offer important advantages over the Proposed Project, as discussed further below.

Alternative Combination #1

Alternative Combination #1 would offer the advantage of avoiding the significant aesthetics impacts associated with the overhead 70 kV power line in the area of Golden Hill Road, which does not currently have above-ground transmission or distribution lines and includes sensitive recreational and residential uses. This includes the Cava Robles RV Resort and surrounding area, as described above, which was designated as POS (see Figure 4.11-1) by the City of Paso Robles during the City's review and approval of the RV resort. However, the undergrounding construction process would increase impacts on the transportation system by requiring extended lane closures to install the underground power line, as well as biological impacts due to the increased disturbance area. That being said, undergrounding the power line in this area would have the advantage of reducing or avoiding impacts on special-status birds that could occur as a result of the Proposed Project's overhead power line, particularly considering that there is a known golden eagle nest in this area. Additionally, constructing FTM BESSs and/or procuring BTM resources under this alternative combination could increase fire risk (associated with lithium-ion BESSs, in particular) on the one hand but would avoid the need for the reasonably foreseeable distribution components and ultimate substation buildout, avoiding the fire risk associated with those facilities.

Alternative Combination #2

Alternative Combination #2 would offer the advantages of avoiding the significant aesthetic impacts of the Proposed Project's 70 kV power line by routing the power line through a predominantly more rural, agricultural area that would pass north of the City of Paso Robles and the Paso Robles Municipal Airport. This would create aesthetic impacts in these areas along the Alternative PLR-1A alignment. Due to the nature of this area, the impacts would be less severe than those for the Proposed Project's 70 kV alignment and would be less than significant with mitigation. The alternative combination also would reduce transportation impacts relative to

the Proposed Project due to the more rural route and would avoid the impacts the Proposed Project would have on recreational resources such as Barney Schwartz Park, Paso Robles Sports Club, and Cava Robles RV Resort. As noted above, the Cava Robles RV Resort property was recently designated POS by the City of Paso Robles during the City's review and approval process for the RV resort, and existing overhead distribution lines along Golden Hill Road were undergrounded as part of the resort construction (Dawson, pers. comm., 2020). This alternative combination would reduce noise impacts by avoiding many of the sensitive receptors along the Proposed Project's 70 kV alignment and following a more rural route, although noise impacts would still be significant and unavoidable overall under Alternative Combination 2.

The Alternative PLR-1A alignment included in Alternative Combination #2 would be substantially longer (approximately 6.5 miles longer) than the Proposed Project's 70 kV power line route, which would increase a variety of construction-related environmental impacts, such as air and GHG emissions, energy use, potential hazardous materials spills/exposure and discharges of pollutants, among others. The Alternative PLR-1A alignment also would border a HFHSZ in two locations, which would increase fire risk compared to the Proposed Project's 70 kV power line alignment. The same tradeoffs with respect to the FTM BESSs and BTM resources described above for Alternative Combination #1 would apply to Alternative Combination #2. Overall, the advantages of avoiding the reasonably foreseeable distribution components and ultimate substation buildout through solar and battery storage approaches would have to be weighed against the increased length of the 70 kV power line under this alternative combination.

Alternative Combination #3

Alternative Combination #3 would offer many of the same advantages and drawbacks as Alternative Combination #2 in that it would utilize a variation of the northern Estrella Route (i.e., Alternative PLR-1C). The primary difference is that the substation would be placed at Bonel Ranch rather than the proposed Estrella Substation site. The Bonel Ranch site is in a more rural location along Estrella Road, which is scenic in its own right, but does not have the same scenic quality as the Union Road location that is typified by rolling vineyards (and is along a designated visual corridor according to the City of Paso Robles General Plan). Thus, placing the substation in this location would reduce the significant aesthetic impacts that were identified for the proposed Estrella Substation. Coupled with the Alternative PLR-1C route, this alternative combination would reduce the significant and unavoidable aesthetics impacts of the Proposed Project. Additionally, while the Bonel Ranch site is currently in agricultural use (alfalfa production), it is not on land classified as one of the protected categories of Important Farmland under CEQA (Prime Farmland, Farmland of Statewide Importance, or Unique Farmland); thus, placing the substation at this location would reduce the Proposed Project's significant impacts on agriculture resources. Alternative Combination #3 would have the same benefits of reducing transportation, recreational resources, and noise impacts as described above for Alternative Combination #2 by routing the 70 kV power line through a more rural area relative to the Proposed Project's 70 kV power line route. This alternative combination also would avoid the impacts to Golden Hill Road, including Cava Robles RV Resort. Noise impacts would still be significant and unavoidable overall.

In spite of the relative advantages, the Bonel Ranch site is located adjacent to the Estrella River and thus would have increased potential for impacts on biological and cultural resources (which are more likely to occur near the river). Additionally, the Bonel Ranch site, and a greater

proportion of the Alternative PLR-1C power line route, are located within the HFHSZ, which would increase fire hazards relative to Alternative Combination #2 and the Proposed Project. In a similar manner to Alternative Combination #2, the potential advantages of avoiding the reasonably foreseeable distribution components and ultimate substation buildout by pursuing solar and battery storage (Alternatives BS-2 and BS-3) must be weighed against the longer length of the 70 kV power line and locating the facilities partially within the HFHSZ.

Alternative Combination #4

Alternative Combination #4 would offer several important advantages from an environmental perspective. First, co-locating the new 230/70 kV substation with the existing Templeton Substation would reduce the aesthetic impacts of the new facilities from existing conditions. Additionally, since the Templeton Substation Expansion site is classified as Farmland of Local Importance and Farmland of Local Potential (i.e., not one of the categories specified in the CEQA Guidelines Appendix G significance criteria), placing the substation at this location would avoid the significant effects of the proposed Estrella Substation on agricultural resources. Further, the power line route under Alternative SE-PLR-2 would be substantially shorter (4.8 miles shorter in total length) than the Proposed Project's 70 kV power line, which would reduce a number of construction-related impacts, such as those related to air quality, GHG emissions, energy, and potential hazardous materials spills/exposure. As discussed previously, implementing FTM and/or BTM BESSs and solar as part of this combination and thus avoiding the need for traditional distribution infrastructure would avoid the environmental impacts associated with these facilities (e.g., fire risk, biological resources, etc.); however, these potential advantages would be balanced by some of the drawbacks of this alternative combination, as discussed below.

In spite of Alternative SE-PLR-2's shorter length and the co-location of the substation with existing transmission facilities, certain characteristics of this alternative combination may increase environmental impacts relative to the Proposed Project's 70 kV power line. First, much of the length of the Alternative SE-PLR-2 route (and the Alternative SE-1A site) is located within the HFHSZ, which would increase the fire risk associated with this combination during construction and operation. Additionally, South River Road is a very scenic area in the area of the Alternative SE-PLR-2 alignment (particularly south of Charolais Road), typified by rolling hills and oak trees, such that the 70 kV power line would significantly affect aesthetics. There are also several known golden eagle nests in relatively close proximity to the alignment, and construction and operation of the 70 kV line under this alternative could have increased potential to impact biological resources overall due to the presence of suitable habitat for a number of species.

Alternative Combination #5

As described in Table 5-1, Alternative Combination #5 would likely reduce several impacts of the Proposed Project (with construction of the reasonably foreseeable distribution components and ultimate substation buildout). Although certain elements of Alternatives BS-2 and BS-3 are speculative at this time, it is reasonable to assume that deployment/procurement of DERs to meet the distribution needs in the Paso Robles Distribution Planning Area (DPA) in lieu of traditional distribution infrastructure would reduce environmental impacts. Specifically, it is likely that DERs (including potentially both FTM and BTM resources), many of which may be

installed within or on existing buildings or tastefully enclosed within building structures, would have reduced aesthetic impacts compared to overhead distribution lines. Similarly, by avoiding the need for traditional overhead distribution lines, Alternative Combination #5 would reduce potential impacts to special-status birds, which can be impacted due to electrocution from or collision with overhead lines. Alternative Combination #5 also would avoid the fire risk that is associated with overhead electrified lines; however, certain DERs (e.g., battery storage) may have some fire risk of their own.

5.3.2 Conclusion and Draft EIR Environmentally Superior Alternative

Given the numerous tradeoffs involved with each alternative combination, the selection of a single, Environmentally Superior Alternative was not clear-cut. Depending on how the trade-offs are weighted, several of the alternatives could be considered the Environmentally Superior Alternative. Taking all factors into account, Alternative Combination #2 offers the most advantages and least drawbacks among the Proposed Project and other alternative combinations. Most significantly, this combination would route the new 70 kV power line north of the City of Paso Robles and thus would avoid the significant aesthetic impacts of the Proposed Project's 70 kV power line. In particular, the Alternative PLR-1A route would avoid the impacts on the Golden Hill Road area, including the Cava Robles RV Resort, San Antonio Winery, and residents at the Circle B Homeowners' Association. The northern power line route also would avoid the sensitive habitat (i.e., blue oak woodland) located along and north of Golden Hill Road, including the area where there is a known golden eagle nest nearby.

During the scoping period and Draft ASR review period, the CPUC received a large number of comments expressing concerns about the impacts of the Proposed Project's overhead 70 kV power line, particularly in this area along Golden Hill Road. While undergrounding is one way to resolve these concerns (as is contemplated under Alternative PLR-3, as part of Alternative Combination #1), this would increase a number of environmental impacts, as described above, and may limit the utility of the power line. It should be noted that the City of Paso Robles expressed a preference for the Proposed Project 70 kV route, and PG&E has stated that having an overhead power line through an industrial area (Golden Hill Industrial Park) would be advantageous to customers that may wish to connect directly to the 70 kV system. The CPUC also received comments opposing the northern Alternative PLR-1A route, however, these were less numerous than those related to the Proposed Project route.

Retaining the proposed Estrella Substation under Alternative Combination #2 would not resolve the significant impacts identified for this facility related to agricultural resources and aesthetics; however, the other alternative substation sites are not clearly preferable for the reasons described in Section 5.3.1. Implementing FTM BESSs or BTM BESSs and solar under this alternative combination would likely be less impactful, on balance, than buildout of the reasonably foreseeable distribution components (and ultimate substation buildout). In particular, pursuit of the BTM resources under Alternative BS-3 could largely resolve the distribution needs projected for the Paso Robles area in the foreseeable future (with certain specific exceptions), as the BTM Solar plus Storage Adoption Propensity Analysis report (see Final ASR [Appendix B to this DEIR]) showed tremendous potential for BTM resources adoption in the region. This scenario would be best from an environmental perspective, as the FTM BESS facilities would not need to be constructed and environmental impacts would be limited overall. Nevertheless, if traditional infrastructure was preferred for other reasons, the Estrella

Substation location would be better-suited to serve the likely growth areas through traditional distribution lines compared to the other substation locations (Alternative SS-1 and SE-1A).

Taking into account all relevant factors, Alternative Combination #2 is considered the most advantageous option and is identified as the Environmental Superior Alternative for this DEIR. The full ranking of the alternative combinations and the Proposed Project is provided in Table 5-2. The tiers identified in Table 5-2 indicate which alternative combinations are close to one another in terms of environmental costs and benefits, such that any of the alternative combinations within a given tier could be determined to be environmentally superior to one another depending on how relative impacts are weighed. In general, for the ranking, environmental impacts with long-term or permanent effects are weighted more heavily than impacts with short-term or temporary effects. Similarly, impacts with widespread effects are weighted more heavily than those with localized effects.

Table 5-2. Environmental Superiority Ranking of the Alternative Combinations and Proposed Project

Rank	Alternative	Rationale
<u>Tier A</u>		
1	Alternative Combination #2 (Estrella Route): Estrella Substation, Alternative PLR-1A, Alternative BS-2, and Alternative BS-3	Significant, permanent aesthetic impacts along Golden Hill Road from the Proposed Project's 70 kV power line would be avoided. Biological resources impacts would be reduced by avoiding area of blue oak woodland where a known golden eagle nest is located nearby. Aesthetic and biological resources impacts of reasonably foreseeable distribution components would be reduced.
2	Alternative Combination #1 (with Undergrounding): Proposed Project, Alternative PLR-3, Alternative BS-2, and Alternative BS-3	Significant, permanent aesthetic impacts along Golden Hill Road from the Proposed Project's overhead 70 kV power line would be avoided. Aesthetic and biological resources impacts of reasonably foreseeable distribution components would be reduced.
<u>Tier B</u>		
3	Alternative Combination #5 (with DERs): Proposed Project, Alternative BS-2, and Alternative BS-3	Aesthetic and biological resources impacts of reasonably foreseeable distribution components would be reduced.
<u>Tier C</u>		
4	Proposed Project	Estrella Substation and Proposed Project 70 kV route's location outside the HFHSZ would reduce fire risk compared to Alternative Combinations 3

Rank	Alternative	Rationale
		and 4. Shorter length of 70 kV power line compared to Alternative Combination #3 would reduce construction-related, temporary impacts.
<i>Tier D</i>		
5	Alternative Combination #3 (Bonel Ranch): Alternative SS-1, Alternative PLR-1C, Alternative BS-2, and Alternative BS-3	Although significant, permanent aesthetic and agricultural resources impacts of Estrella Substation and the Proposed Project 70 kV power line would be reduced, the increased fire risk from portions of the alternative combination being located in the HFHSZ are weighted heavily in the analysis. Fire could have widespread and devastating effects in the Paso Robles area. Location of Bonel Ranch site near Estrella River also could increase potential biological resources and cultural resources impacts. The longer length of the 70 kV power line would increase construction-related impacts.
6	Alternative Combination #4 (South River Road): Alternative SE-1A, Alternative SE-PLR-2, Alternative BS-2, and Alternative BS-3	Although significant aesthetic impacts of Estrella Substation would be reduced, the South River Road 70 kV power line alignment would create significant aesthetic impacts in this area. Significant agricultural resources impacts the Proposed Project would be reduced; however, fire risk would be increased due to the substation and power line under Alternative Combination #4 being located in HFHSZ. Fire risk is weighted heavily in the environmental superiority analysis due to the widespread and potentially devastating effects of wildfire. Despite shorter 70 kV power line, location of the line near known golden eagle nests and through an area sensitive for cultural resources (Santa Ysabel Ranch) would increase impacts to biological and cultural resources.

For each of the alternative combinations ranked above, it is possible that the reasonably foreseeable distribution components could be installed instead of Alternative BS-2 and Alternative BS-3. For example, DER procurement might be sought under the CPUC's Distribution Infrastructure Deferral Framework (DIDF), but the third-party bids received might not be cost effective. If this were to occur, the traditional, wired solution would be installed instead of a DER alternative. Impacts would be greater than under the alternative combinations evaluated because of the approximately 1.7 miles of new distribution line and 8 miles of reconductoring.

Since this outcome would not reduce impacts, it was not included in the alternative combinations evaluated.

Further information about the DIDF is provided in Chapter 3, *Alternatives Description*.

5.4 Cost Considerations

Specific costs for the Proposed Project and alternatives are marked as confidential by the Applicants. For illustrative purposes, costs have been estimated for the 70 kV power line components of the Proposed Project and alternative combinations using assumptions explained in the footnotes to Table 5-3. Since the substation, whether located at the Estrella Substation site, Bonel Ranch, or the existing Templeton Substation, would include the same equipment and have the same general layout/scope, costs for constructing the substation are assumed to be similar across the different alternative combinations; however, costs could be elevated for the substation at the existing Templeton Substation site (Alternative Combination #3; see footnote 3 in Table 5-3). Based on publicly available information, the Proposed Project overall is estimated to cost about \$150 million.²

For all of the alternative combinations that include Alternative BS-2 and BS-3, the costs associated with DER procurement are unknown at this time and are not included in Table 5-3. As of 2019, the reasonably foreseeable distribution components associated with the Proposed Project were estimated to cost \$18.5 million (CPUC 2020). For Alternative BS-2 and BS-3 to be developed through the DIDF, the cost cap would be less than this amount since the DER solution needs to be cost-effective.

² Based on PG&E's public 2020 AB 970 report, which identified its portion of the Proposed Project as costing \$90 to \$100 million (PG&E 2020). HWT's portion of the Proposed Project (230/70 kV components) was estimated to cost \$35 to \$45 million in CAISO's 2013-2014 Transmission Plan (CAISO 2014).

Table 5-3. Approximated Cost Calculations for the Proposed Project and Alternative Combinations

Component	Cost/Mile ^{1, 2}	Proposed Project		Alternative Combination #1 (With Undergrounding)		Alternative Combination #2 (Estrella Route)		Alternative Combination #3 (Bonel Ranch)		Alternative Combination #4 (South River Road) ³		Alternative Combination #5 (With DERs)	
		Length (miles)	Cost Estimate	Length (miles)	Cost Estimate	Length (miles)	Cost Estimate	Length (miles)	Cost Estimate	Length (miles)	Cost Estimate	Length (miles)	Cost Estimate
New Overhead 70 kV Power Line	\$3,008,000	7	\$21,056,000	5.9	\$17,747,200	10.5	\$31,584,000	10	\$30,080,000	5.2	\$15,641,000	7	\$21,056,000
Reconducted Overhead 70 kV Power Line	\$1,738,000	3	\$5,214,000	3	\$5,214,000	6	\$10,428,000	6	\$10,428,000	0	\$0	3	\$5,214,000
Undergrounded 70 kV Power Line	\$17,705,000	0	\$0	1.1	\$19,457,500	0	\$0	0	\$0	0	\$0	0	\$0
Total:			\$26,270,000		\$42,436,700		\$42,012,000		\$40,508,000		\$15,641,600		\$26,270,000
Cost compared to Proposed Project:			N/A		+62%		+60%		+54%		-40%		0%

Notes: Cost calculations are estimated for the 70 kV power line only, including engineering and construction.

1. Cost assumptions for new overhead 70 kV power line and reconducted overhead 70 kV power line are taken from PG&E's 2019 per unit cost guide spreadsheet (PG&E 2019). The cost for the new power line segment assumes double-circuit, strung on both sides, tubular steel pole (TSP) construction, and is therefore conservative (the new power line segments for the Proposed Project and alternatives would use a combination of TSPs and light duty steel poles [LDSPs]). The cost for the reconducting segment assumes single-circuit construction, with an evenly split percentage of TSPs and LDSPs. Unit cost per mile for both new and reconducting overhead power line segments assumes flat land/rural setting, and includes engineering and construction costs only. Environmental, permitting, and right of way acquisition costs are not included.
2. The assumed cost per mile for undergrounded 70 kV power line is based on the range of estimates (middle point between highest and lowest) from PG&E, Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E), and Edison Electric Institute's (2013) publication "Out of Sight, Out of Mind," which are shown below. Portions of the Alternative Combination #2 undergrounding segment would likely be considered urban, while other portions would be considered rural.

Underground Estimates

- Out of Sight, Out of Mind (new underground transmission construction, rural): \$1.4M to \$27M/mile
- Out of Sight, Out of Mind (new underground transmission construction, urban): \$3.5M to \$30M/mile
- SDG&E (new underground transmission construction, 69 kV): \$10M to \$15M/mile
- SCE (new underground subtransmission line, 66 kV): \$5.7M to \$8.5M/mile
- PG&E: concurred with Out of Sight, Out of Mind estimates but escalated to current dollars. In 2020 dollars, the Out of Sight, Out of Mind estimates would translate to roughly \$1.59M to \$30.61M/mile (rural) or \$3.97M to \$34.01M/mile (urban).

3. Engineering and construction costs for the 70 kV power line portion of Alternative Combination #3 would likely be less than the Proposed Project 70 kV power line due to the shorter line length. However, right of way acquisition costs could be higher due to the difficulties associated with obtaining approval from the homeowners associations along this route. Additionally, the substation under Alternative Combination #3 would be more expensive to construct due to the need to rebuild portions of the existing Templeton Substation and because the land may be more expensive to require. PG&E data responses to Energy Division in 2017 indicate that the Templeton Expansion Alternatives would be more expensive than the Proposed Project. PG&E marked these responses as confidential.

Sources: PG&E 2019; Edison Electric Institute 2013; SCE 2019; SDG&E 2019; Smith, pers. comm., 2019

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