



**Pacific Gas and  
Electric Company™**

**VIA ELECTRONIC MAIL**

May 10, 2019

**Mr. Robert Peterson**  
**California Public Utilities Commission**  
Energy Division, Infrastructure Permitting and CEQA  
300 Capitol Mall, Suite 418, Workstation #85  
Sacramento, CA 95814

**Re: Estrella Substation and Paso Robles Area Reinforcement Project (A.17-01-023) –  
Pacific Gas and Electric Company Comments on Draft Alternatives Screening  
Report**

Dear Mr. Peterson:

Enclosed are Pacific Gas and Electric Company's ("PG&E") comments on the Draft Alternatives Screening Report ("ASR") that the California Public Utilities Commission ("CPUC") Infrastructure Permitting and CEQA Section ("Energy Division") released on March 28, 2019 regarding the Estrella Substation and Paso Robles Area Reinforcement Project ("Proposed Project"). PG&E's comments on the ASR are focused on its most significant concerns with the analysis of alternatives presented in the ASR. PG&E reserves the right to supplement its comments on the ASR at a later date.

PG&E and NextEra Energy Transmission West, LLC (now known as Horizon West Transmission ("HWT")) (collectively referred to as "Applicants"), jointly filed on January 25, 2017 an application requesting Permits to Construct ("PTCs") the Proposed Project, with a targeted in-service date of May 2019. The Proposed Project is a reliability-driven upgrade to the Los Padres Area transmission system and to the Paso Robles Distribution Planning Area that was selected by the California Independent System Operator Corporation ("CAISO") through its regional transmission planning process. The Proposed Project would interconnect a new 230 kilovolt ("kV") source into the Paso Robles area by constructing a new 230/70 kV substation, as described in the PTC application.

While PG&E's specific comments on the various alternatives are enclosed in Attachment 1, PG&E has the following concerns about the ASR process in general:

- APMs are part of the Proposed Project. To strip them from the Proposed Project in order to analyze alternatives conflicts with CEQA principles<sup>1</sup> as well as Energy Division practice.<sup>2</sup> Ignoring the proposed APMs results in analysis not of the whole of the proposed action – as CEQA requires - but, rather, a hypothetical project that (a) no one intends to build and (b) is fundamentally different from (and more impactful than) the Project that is actually proposed in the Application and will be carried out if the Application is approved. The Commission should base its CEQA review on projects as they are proposed in the application, continuing its longstanding policy of encouraging project proponents to carefully consider and incorporate into their proposed projects reasonable and feasible means of minimizing environmental impacts.
- Energy Division has replaced the Applicants' three project objectives with two project objectives that "cannot achieve the project's underlying fundamental purpose"<sup>3</sup> and that therefore do not comply with CEQA.<sup>4</sup> (*Bay-Delta* at 1165).

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<sup>1</sup> See CEQA Guidelines § 15378(a) ("Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment...). Ignoring the APMs in the project description results in analysis not of the whole of the proposed action, but, rather, a hypothetical project that (a) no one intends to build and (b) is fundamentally different from (and more impactful than) the Project that is actually proposed in the Application and will be carried out if the Application is approved. This approach is contrary to case law, which recognizes that when mitigation is built into the project's design, the lead agency should presume that the project will be implemented consistent with the project description. *South County Citizens for Smart Growth v. County of Nevada*, 221 Cal.App.4th 316, 337 (2013); *Environmental Council of Sacramento v. City of Sacramento*, 142 Cal.App.4th 1018, 1035-36 (2006); see also *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 47 Cal.3d 376, 405 (1988) (stating purpose of CEQA environmental document is to enable governmental decision makers and the public to "understand and consider meaningfully the issues raised by the proposed project."); CEQA Guidelines § 15002(a)(1) (same); *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 192-193 (1977) (recognizing importance of accurate project description to prepare an informative and legally sufficient EIR).

<sup>2</sup> Energy Division routinely considers APMs as part of the project when it evaluates the project's potential environmental impacts. See, e.g., Final Initial Study/Mitigated Negative Declaration for PG&E's Ravenswood-Cooley Landing 115 kV Reconductoring Project (A.17-12-010) at 1-4 ("PG&E's PEA identified measures to address significant impacts – the APMs – and these APMs are considered to be part of the project"), 4-25; Final Mitigated Negative Declaration for Pacific Gas & Electric Company's Embarcadero-Potrero 230 kV Transmission Project at 1-6; see also *id.* at 4-70 ("Applicant Proposed Measures (APMs) listed in Table 4-5 are considered part of the Proposed Project and are considered in the evaluation of environmental impacts.")

<sup>3</sup> Fundamental to the Applicants' transmission and distribution project objectives is to connect a new 230/70 kV source into the DPA. The Energy Division's project objectives must include this key component of the project in order to identify alternatives that can achieve the Proposed Project's fundamental underlying purpose.

<sup>4</sup> CEQA requires an EIR to contain a clearly written statement of the underlying fundamental purpose and the objectives sought by the proposed project, which will help the lead agency develop a reasonable range of

As identified in the CAISO Functional Specifications and carried forward by the Applicants, the fundamental underlying purpose of the Proposed Project is to reinforce the electric transmission and distribution systems in the Paso Robles Distribution Planning Area (DPA) by improving system reliability, capacity and flexibility with a single, strategically located substation that interconnects with the area's 230 kV, 70 kV and 21 kV systems.<sup>5</sup> Because this basic purpose was not retained in the Energy Division project objectives, alternatives are included in the ASR that do not meet the critical needs identified.

- The Energy Division relied in part on out-of-scope and inappropriate considerations to develop its project objectives. First, the Energy Division lists “consideration of CPUC initiatives” as one of the bases for the project objectives it identified. (ASR, p. 2-6.) The CPUC has set up a separate framework and process to ensure compliance with legislative storage targets, and PG&E is meeting its targets under that Framework, so there is no need to use the Proposed Project as a means to meet storage mandates. Second, the Energy Division discusses sections of the Public Utilities Code that are applicable to applications for a Certificate of Public Convenience and Necessity (“CPCN”) but not to this and other applications for PTCs. PTCs are a permitting mechanism created under General Order 131-D, which sets forth the specific issues for the CPUC to consider when evaluating a PTC application. The ALJ ruled early on in this proceeding that a PTC rather than a CPCN is the appropriate permitting mechanism for the Proposed Project.<sup>6</sup> Accordingly, the Energy Division should stay within the confines of the ALJ’s ruling and not consider CPCN criteria to identify project objectives for this Proposed Project, as alternatives based on these criteria will not be reasonable.

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alternatives to evaluate in the EIR and aid the decision-makers in preparing findings or a statement of overriding considerations, if necessary. *See* CEQA Guidelines § 15124(b). The project objectives are integral to the analysis of alternatives because CEQA requires an EIR to focus on alternatives that can eliminate or reduce significant environmental impacts while attaining most of the project objectives. *Id.* at § 15126.6(a)-(b). Correctly identifying the underlying fundamental purpose of the Proposed Project and its project objectives is critical because an EIR is not required to study an alternative that “cannot achieve the project’s underlying fundamental purpose.” *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings*, 43 Cal.4<sup>th</sup> 1143, 1165 (2008) (“*Bay-Delta*”). Similarly, an EIR is not required to consider alternatives that would change the basic nature of the project. *See Al Larson Board Shop Inc. v. Board of Harbor Commissioners*, 18 Cal.App.4<sup>th</sup> 729, 745 (1993).

<sup>5</sup> The Proposed Project would accomplish these fundamental reinforcement goals by constructing a new substation that would (1) interconnect a second existing 230 kV transmission line into the DPA, (2) create a second 70 kV power source for the Paso Robles and San Miguel substations by connecting them to the new substation, (3) include space for new 70/21 kV transformers to meet anticipated distribution demand in the DPA that will exceed existing capacity in approximately five years, (4) be located close to the area in which demand is forecasted to increase, and (5) be located where it would be relatively easy to interconnect with existing distribution circuits. *See* PEA Section 1.3 (“Purpose, Need, and Project Objectives”) and PEA Appendix G (“Distribution Need Analysis”).

<sup>6</sup> Administrative Law Judge’s Ruling Giving Notice of Anticipated Scope of Issues, Timing of Prehearing Conference; and Addressing Other Procedural and Substantive Matters (dated July 14, 2017) at pp. 8-12.

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We appreciate your consideration of these comments. Please do not hesitate to contact me with any questions.

Very truly yours,

/s/ Mathew Swain

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Enclosures

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# Attachment 1

## Pacific Gas and Electric Company Estrella Substation and Paso Robles Reinforcement Project (A.17-01-023)

### Comments on Specific Alternatives Presented in Alternatives Screening Report

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#### A. ALTERNATIVE PLR-1A: ESTRELLA ROUTE TO ESTRELLA SUBSTATION

##### 1. Objectives

PLR-1A would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, the additional length of the route would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain.

##### 2. Feasibility

Alternative PLR-1A has potential feasibility issues due to the lack of all-weather access roads for maintenance. All-weather roads would need to be established adjacent to the pole line in the agricultural areas, which would likely be opposed by the farmers. If no permanent access can be established and the existing access roads are passable, PG&E would need to drop or remove a row of grapevines to drive over the area to conduct maintenance, likely resulting in 5 years of crop loss reimbursement, which would increase impacts compared to the Proposed Project 70 kV route and add to the project cost. If the access roads and agricultural areas are not passable, access for construction and maintenance would need to be conducted by foot and/or helicopters, which would increase impacts compared to the Proposed Project 70 kV route and add to the project cost.

##### 3. Potentially Significant Impacts

The Alternatives Screening Report (ASR) considers the Proposed Project's impacts to aesthetics and agricultural resources as potentially significant. It also states that other impacts may be significant, including impacts to biological resources, cultural resources, and wildfire. Although PG&E disagrees with the ASR's preliminary conclusions, we address those impacts here.

The ASR does not adequately consider the increased agricultural impacts associated with PLR-1A compared to the Proposed Project 70 kilovolt (kV) route. Agricultural impacts would be increased beyond the Proposed Project 70 kV route because the PLR-1A route would extend almost entirely through agricultural lands, resulting in more disruption to active agricultural operations. While permanent impacts to agricultural resources would likely not exceed the

CPUC's recognized standard of significance for permanent impacts to agricultural lands,<sup>1</sup> construction activities would result in greater disruptions to agricultural operations. Disruptions to agricultural operations would increase because the PLR-1A route is approximately 7 miles longer than the Proposed Project 70 kV route with more severe angles, which would require more large structures (tubular steel poles [TSPs]), pull and tension sites, and work areas on agricultural lands. In addition, because the PLR-1A route would traverse agricultural land, access for operation and maintenance activities would be limited, as stated previously. As a result, permanent roads and/or overland access routes would need to be established if possible, which would require the removal of agricultural crops. As described previously, if permanent roads cannot be established, PG&E would need to drop a row of grapevines and drive over rows to install new poles and conduct maintenance, which would be an ongoing temporary impact to agricultural crops. The traversing of the PLR-1A route through agricultural land would also cause a number of properties to be severed because PG&E would have to establish easements for the route, further affecting agricultural operations. Cutting across properties was identified as a public concern during our open houses in late 2015 and 2016 because it could impact ranch operations and diminish property values. Therefore, PLR-1A would result in greater impacts to agriculture resources compared the Proposed Project 70 kV route.

The ASR concludes that the PLR-1A route would reduce aesthetic impact due to its avoidance of highly sensitive viewing areas. The ASR also concludes that the PLR-1A route could still result in aesthetic impacts in other locations, but leaves any further elaboration of such impacts to the Environmental Impact Report (EIR). It should be noted, however, that the PLR-1A route would be located in more rural/agricultural areas (compared to more urban/industrial areas along the Proposed Project 70 kV route), which would result in a more drastic change to the visual quality of the landscape than if the line was constructed in an urban/industrial area. PLR-1A would also be visible from a number of wine tasting rooms along the route. Due to the longer length of the PLR-1A route, the route would be visible from more locations, although it would affect a lower number of viewers. Therefore, PLR-1A would result in similar aesthetic impacts compared to the Proposed Project 70 kV route.

Biological impacts associated with the PLR-1A route would be reduced, as impacts to sensitive natural communities (i.e., blue oak woodlands, sandy wash, Central Coast cottonwood-sycamore riparian forest, and coastal and valley freshwater marsh) would be fewer than along the Proposed Project 70 kV route. Therefore, PLR-1A would result in reduced biological impacts compared to the Proposed Project 70 kV route.

#### **4. Other Impacts**

The longer length of the PLR-1A route would increase the construction schedule by 2 months or more compared to the Proposed Project 70 kV route. In addition, construction may be limited to certain times of year to accommodate harvest and other agricultural activities. During our open

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<sup>1</sup> As stated on page 3.2-21 of the PEA for PG&E's Shepherd Substation Project (A.10-12-003, approved May 23, 2013), the CPUC recognized a standard of significance based on California Government Code Section 51222 (see Shepherd Substation Project Initial Study/Mitigated Negative Declaration [May, 2012], pp. 3.2-8–3.2-9), which identifies 10 acres as the size of a parcel large enough to sustain agricultural use in the case of prime agricultural land and 40 acres for Farmland of Statewide Importance, Unique Farmland, and non-Prime Williamson Act lands.

houses in late 2015 and 2016, many attendees encouraged the project team to choose the shortest and most cost-effective route. This longer construction schedule would result in additional off-road construction equipment usage and on-road truck trips, which would result in increased air and greenhouse gas (GHG) emissions, noise, and truck trips in the PLR-1A route vicinity. While generally more rural than the Proposed Project 70 kV route, there are scattered areas of suburban communities that would be impacted by the increased construction activities. Therefore, PLR-1A would result in greater impacts to air quality, GHG emissions, noise, and transportation and traffic compared to the Proposed Project 70 kV route.

## **5. Conclusion**

There are potential feasibility issues with PLR-1A associated with access; however, these feasibility issues have not been fully vetted. Although PLR-1A would result in greater impacts to agricultural resources, it would reduce impacts to biological resources compared to the Proposed Project 70 kV route. Therefore, PG&E does not object to the Energy Division retaining Alternative PLR-1A for full analysis in the EIR.

### **B. ALTERNATIVE PLR-1B: ESTRELLA ROUTE TO MILL ROAD WEST**

The PLR-1B route would generally follow a similar route and traverse similar land uses as described for PLR-1A.

#### **1. Objectives**

PLR-1B would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, the additional length of the route would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain.

#### **2. Feasibility**

Feasibility issues would be similar to those described for PLR-1A.

#### **3. Potentially Significant Impacts**

PLR-1B would result in the same agricultural resources and aesthetic impacts described for PLR-1A, but would also result in additional impacts due to the additional length of the line. The additional approximately 2-mile segment goes through vineyards and grazing land, as well as crossing a National Wetlands Inventory riverine and National Hydrography Dataset stream/river twice in the area adjacent to the Treasure Wine Estates winemaking facility. Therefore, PLR-1B would result in greater agricultural resource and aesthetic impacts compared to the Proposed Project 70 kV route.

Biological impacts associated with the PLR-1B route could be reduced, as impacts to sensitive natural communities (i.e., blue oak woodlands, sandy wash, Central Coast cottonwood-sycamore riparian forest, and coastal and valley freshwater marsh) would likely be fewer than along the Proposed Project 70 kV route; however, the additional segment has not been surveyed or designed, so the type and extent of impacts to sensitive natural communities have not been

verified. Therefore, PLR-1B could result in reduced biological resource impacts compared to the Proposed Project 70 kV route.

The close proximity of this route to a river also has potential for impacting unknown cultural and tribal resources, which have a higher likelihood of occurring in areas next to rivers. Therefore, PLR-1B could result in greater cultural resource impacts compare to the Proposed Project 70 kV route.

#### **4. Other Impacts**

PLR-1B would result in similar, but slightly increased impacts to air and GHG emissions, noise, and truck trips due to the increase length of the line. Soils near the river may be less conducive to compaction, which could necessitate additional import of fill material and could cause stability challenges while drilling foundations. The corresponding increases in truck trips required to stabilize soils near the river would also increase construction-related air quality, noise, and GHG emissions impacts. Therefore, PLR-B would result in greater air quality, GHG emissions, noise, and transportation and traffic impacts compared to the Proposed Project 70 kV route.

Because the PLR-1B route crosses a river, there is potential for increased erosion and sedimentation risks. As such, impacts to hydrological resources would be greater when compared to the Proposed Project 70 kV route, although impacts to the water feature would likely be mitigated through the implementation of best management practices.

#### **5. Conclusion**

Based on the elimination of Alternative SS-2: Mill Road West Substation Site, PG&E concurs with the Energy Division that Alternative PLR-1B should be screened out from full analysis in the EIR.

### **C. ALTERNATIVE PLR-1C: ESTRELLA ROUTE TO MCDONALD RANCH, OPTION 1**

The PLR-1C route would generally follow a similar route and traverse similar land uses as described for PLR-1A and PLR-1B.

#### **1. Objectives**

PLR-1C would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, the additional length of the route would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain.

#### **2. Feasibility**

Feasibility issues would be similar to those described for PLR-1A.

### **3. Potentially Significant Impacts**

PLR-1C would result in the same agricultural resources and aesthetic impacts described for PLR-1A and PLR-1B, but would also result in additional impacts due to the longer length of the line. The additional approximately 2.2-mile segment goes through vineyards and grazing land, as well as crossing a National Wetlands Inventory riverine and National Hydrography Dataset stream/river once in an area adjacent to the Treasure Wine Estates winemaking facility. In addition, during our open houses in late 2015 and 2016, property owners and surrounding ranches strongly opposed the McDonald Ranch substation site associated with PLR-1C. Therefore, PLR-1C would result in greater agricultural resource and aesthetic impacts compared to the Proposed Project 70 kV route.

Biological impacts associated with the PLR-1C route could be reduced, as impacts to sensitive natural communities (i.e., blue oak woodlands, sandy wash, Central Coast cottonwood-sycamore riparian forest, and coastal and valley freshwater marsh) would likely be fewer than along the Proposed Project 70 kV route; however, the additional segment has not been surveyed or designed, so the type and extent of impacts to sensitive natural communities have not been verified. Therefore, it is undetermined if PLR-1C would reduce biological impacts compared to the Proposed Project 70 kV route.

The close proximity of PLR-1C to a stream/river also has potential for impacting unknown cultural and tribal resources, which have a higher likelihood of occurring in areas next to rivers. Therefore, PLR-1C could result in greater cultural resource impacts compare to the Proposed Project 70 kV route.

### **4. Other Impacts**

PLR-1C would result in similar, but slightly increased impacts to air and GHG emissions, noise, and truck trips due to the increase length of the line. Soils near the river may be less conducive to compaction, which could necessitate additional import of fill material and could cause stability challenges while drilling foundations. The corresponding increases in truck trips required to stabilize soils near the river would also increase construction-related air quality, noise, and GHG emissions impacts. Therefore, PLR-1C would result in greater air quality, GHG emissions, noise, and transportation and traffic impacts compared to the Proposed Project 70 kV route.

Because the PLR-1C route crosses a stream/river, there is potential for increased erosion and sedimentation risks. As such, impacts to hydrological resources would be greater when compared to the Proposed Project 70 kV route, although impacts to the water feature would likely be mitigated through the implementation of best management practices.

### **5. Conclusion**

There are potential feasibility issues with PLR-1C associated with access; however, these feasibility issues have not been fully vetted. Although PLR-1C would result in greater impacts to agricultural resources and aesthetics, it is undetermined if it would reduce potentially significant impacts to biological resources compared to the Proposed Project 70 kV route. Therefore, PG&E does not object to Energy Division retaining Alternative PLR-1C for full analysis in the EIR.

## **D. ALTERNATIVE PLR-1D: ESTRELLA ROUTE TO MCDONALD RANCH, OPTION 2**

### **1. Objectives**

PLR-1D would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, the additional length of the route would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain.

### **2. Feasibility**

Alternative PLR-1D has potential feasibility issues due to difficult access or no existing access roads along a majority of the PLR-1D route as the route runs cross-country through residents' yards and pastures. During the walkdown process to evaluate this route, PG&E's team discovered that access was almost non-existent and new temporary roads would have to be built to construct a double-circuit 70 kV transmission line along much of this route, which would likely not be supported by the property owners. If a double-circuit 70 kV line was constructed along this route, maintenance will be difficult during the wet seasons. Many of the new poles would not be adjacent to roads, so trucks would have to cross fields to reach them. Those fields will not be accessible by trucks when they are heavily saturated and muddy. If repairs were needed during these times, access to the site would be limited to by foot or possibly by helicopter, which would increase impacts compared to the Proposed Project 70 kV route and add to the project cost.

In addition, a segment of the PLR-1D route is located along a plateau exhibiting substantial erosion due to the Estrella River. Due to soil stability issues and areas of slide concern, the route was moved into agricultural areas in the middle of properties away from the existing distribution corridor.

### **3. Potentially Significant Impacts**

The ASR lumps the discussion of potential environmental impacts associated with the PLR-1D route with the other Estrella route alternatives (PLR-1A and PLR-1C) and considers impacts to be equivalent. However, while the PLR-1D route crosses similar land uses as the other Estrella route alternatives, the PLR-1D route also crosses fundamentally different topographic features (e.g., the Estrella river and an elevated plateau), which could result in impacts that differ from the other Estrella route alternatives.

The PLR-1D route generally traverses similar land uses and exhibits similar access limitations as those described under the PLR-1A route. In addition, because the PLR-1D route would traverse agricultural land, access for construction, operation and maintenance activities would be limited. As a result, roads and/or overland access routes would need to be established, which would require the removal of agricultural crops. The traversing of the PLR-1D route through agricultural land would also cause a number of properties to be severed by easements established for the route, further disrupting agricultural operations. During our open houses in late 2015 and 2016, members of the public voiced concerns about routing the transmission line through this area and the negative impact it could have on ranches, such as by cutting across properties rather

than following roads and constructing poles in the middle of fields. Therefore, PLR-1D would result in greater agricultural resource impacts compared to the Proposed Project 70 kV route.

The ASR concludes the PLR-1D route would reduce aesthetic impact due to its avoidance of highly sensitive viewing areas. The ASR also concludes that the PLR-1D route could still result in aesthetic impacts in other locations, but leaves any further elaboration of such impacts to the EIR. However, it should be noted that the PLR-1D route would be located in more rural/agricultural areas (compared to more urban/industrial areas along the Proposed Project 70 kV route) and portions of the PLR-1D route would be situated on an elevated plateau that would be visible to motorists along Estrella Road and would result in a stark contrast from the surrounding landscape that includes the Estrella River. The introduction of utility features to the viewshed along Estrella Road would change the visual quality of the landscape. Therefore, PLR-1D would result in similar aesthetic impacts compared to the Proposed Project 70 kV route.

Constructing a new double-circuit transmission line along the same route as the existing distribution line would create numerous acute angles that require installation of TSPs to handle the line tension. TSPs typically require a 6- to 8-foot wide concrete foundation and require heavy equipment to build, which will impact property owners. The TSPs would likely be 80 to 100 feet tall or taller to meet required clearances and to accommodate an underbuilt distribution circuit. The PLR-1D route would result in the installation of more TSPs due to underlying geologic and soil instability. Construction activities associated with the additional TSP installations would require more vegetation to be removed when compared to the Proposed Project 70 kV route, particularly in riparian areas near the Estrella River. Therefore, PLR-1D would result in greater biological resource impacts as compared to the Proposed Project 70 kV route.

The close proximity of PLR-1D to a stream/river and Estrella River also has potential for impacting unknown cultural and tribal resources, which have a higher likelihood of occurring in the area next to the river. Therefore, PLR-1D could result in greater cultural resource impacts compared to the Proposed Project 70 kV route.

#### **4. Other Impacts**

The portion of the PLR-1D route that traverses the plateau is susceptible to geologic and soil instability, as the underlying land has been subjected to substantial erosion due to its proximity to the Estrella River. As a result, engineering fill would likely need to be imported to address slope instability issues. Because the PLR-1D route crosses the Estrella River in multiple locations, there is potential for increased erosion and sedimentation risks. Therefore, PLR-1D would result in greater hydrology and water quality impacts compared to the Proposed Project 70 kV route, although impacts to the water feature would likely be mitigated through the implementation of best management practices.

Soils near the Estrella River may be less conducive to compaction, which could necessitate additional import of fill material and could cause stability challenges while drilling foundations. The corresponding increases in truck trips required to stabilize soils along the plateau and near the Estrella River would increase construction-related air quality, noise, and GHG emissions impacts.

The PLR-1D route is approximately 5.5 miles longer than the Proposed Project 70 kV route and would require up to 2 additional months to complete construction activities. The longer construction schedule would further compound air quality, noise, and GHG emissions impacts, as additional off-road construction equipment usage and on-road truck trips would be required. Therefore, PLR-1D would result in greater air quality, GHG emissions, noise, and transportation and traffic impacts compared to the Proposed Project 70 kV route.

The existing distribution line traverses a number of properties but does not follow existing property lines or roads. Rather, it runs in more of a random alignment, mostly from service point to service point (pumps and homes), and appears to have been constructed to fill the needs in existence at the time it was built. Because we would have to obtain easements across these properties to construct a transmission line along the same route as the existing distribution line, the properties would be severed leaving a large amount of unusable land in the middle of the properties. Therefore, PLR-1D would result in greater land use impacts compared to the Proposed Project 70 kV route.

## **5. Conclusion**

Based on the feasibility issues and because PLR-1D would not reduce any potentially significant impacts associated with the Proposed Project 70 kV route, PG&E recommends that Alternative PLR-1D be screened out from full analysis in the EIR.

### **PLR-1 ROUTES SUMMARY**

All of the PLR-1 routes are 5 to 7 miles longer than the Proposed Project 70 kV route (including the reconductoring segments), and all of these routes alternatives include more sharp direction changes requiring angle poles. The Proposed Project 70 kV route would minimize the use of large TSP angle poles, which involve more permanent ground disturbance and are much more costly to install than light duty steel tangent poles. Longer, hard to access routes with more angles could drive the construction and material cost of the PLR-1 70 kV line route alternatives up to 50 to 100% higher than the cost of the Proposed Project 70 kV route.

## **E. ALTERNATIVE PLR-3: STRATEGIC UNDERGROUNDING**

### **1. Objectives**

Alternative PLR-3 would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, undergrounding would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain. In addition, new large block load customers moving to the Golden Hill industrial park would find connection to the underground 70 kV power line cost-prohibitive thus erasing one of the key benefits of routing the transmission line through the industrial park.

### **3. Potentially Significant Impacts**

The ASR states that aesthetic impacts associated with the PLR-3 route could be potentially significant due to the presence of a new utility line near the Golden Hill Road area north of

Highway 46. The ASR argues that because the area is an emerging commercial and industrial space, supports existing and single-family residential development and recreational use, and generally lacks existing utility infrastructure, the introduction of a new utility line associated with the Proposed Project 70 kV route would result in potentially significant aesthetic impacts.

North of Highway 46, the Proposed Project 70 kV route passes through an area zoned as Commercial/Light Industry and Planned Industrial. Existing land uses in the area include a car dealership, natural gas fueling station, warehouse facilities, and other commercial/industrial uses. PG&E disagrees with the assertion that the introduction of a new 70 kV line into an area of existing commercial/industrial use would result in potentially significant aesthetics impacts in this area. While it is true that the area lacks existing utility infrastructure, the new 70 kV line would be compatible with the existing industrial character of the area. Further, the route for this portion of the proposed Estrella route was strategically selected to avoid sensitive viewers to the maximum extent possible; commercial/industrial areas typically have low viewer sensitivity. In addition, an overhead 70 kV line would provide opportunities for businesses to access lower cost, higher voltage power for commercial/industrial operations. The industrial park is exactly where a utility transmission line should be located. The zoning is correct for this type of facility and it will support development of large block commercial/industrial loads.

The portion of the Proposed Project 70 kV route that travels along Golden Hill Road would add additional industrial features to the landscape that could alter the visual quality of the landscape and affect sensitive viewers. The San Antonio Winery would be particularly affected by this route from an aesthetics perspective. Additionally, residential viewers north of the San Antonio winery located east and west of Golden Hill Road would also be affected due to the installation of replacement poles to accommodate the new 70 kV power line. An existing overhead distribution line follows Golden Hill Road north of San Antonio Winery, which would be replaced with taller poles to accommodate both the distribution line and the new 70 kV power line. While the new utility line would change the visual quality of the landscape to nearby sensitive viewers, this change is not anticipated to be significant due to the presence of existing utility infrastructure.

In considering the entire PLR-3 route, the route overall would reduce aesthetic impacts to sensitive viewers. It should be noted, however, that for reasons previously described, the ASR overstates the significance of the potential aesthetic impacts where the Proposed Project 70 kV route crosses industrial/commercial land uses. Additionally, the ASR does not consider the potential visual impacts that would result from the construction of approximately 150-foot by 150-foot transition stations (visually akin to small substations), which may be required at either end of the underground segment to allow for maintenance of the underground line. Overall, however, PLR-3 would result in reduced aesthetic impacts compared to the Proposed Project 70 kV route.

During a recent walkdown of the Proposed Project 70 kV route, we discovered that a portion of our proposed overhead double-circuit transmission line route that would run through the Golden Hill Industrial Park will need to be re-routed to address a new construction project currently underway on Tractor Danley Court Street between Germaine Engine Street Way and Golden Hill Road. We propose to make a minor modification to the proposed overhead routing of the new transmission line as outlined in blue in Figure 1. We note that this slight change to the routing of

the overhead line would place it out of the direct view of the San Antonio Winery tasting room. Also, this new construction project would impact the routing of PLR-3 as shown on Figure 3-6 of the ASR.

Construction of the PLR-3 route would require more ground disturbance than the Proposed Project 70 kV route. While the ASR indicates that the PLR-3 route would reduce biological impacts due to the elimination of a new overhead line that could potentially impact special-status bird species, the ASR fails to consider that PLR-3 would require the removal of all the scrub oaks within a 60- to 80-foot-wide corridor from the entrance to Circle B homeowners' association (HOA) north to the end of the underground segment to facilitate trenching activities, as well as operation and maintenance of the underground line. These scrub oaks could serve as habitat for special-status bird species known to occur in the area and other passerine and raptors. Additionally, any potential impacts to bird species caused by the overhead power line could be mitigated by requiring the installation of bird diverters along the power line. Therefore, PLR-3 would result in increased biological resource impacts compared to the Proposed Project 70 kV route.

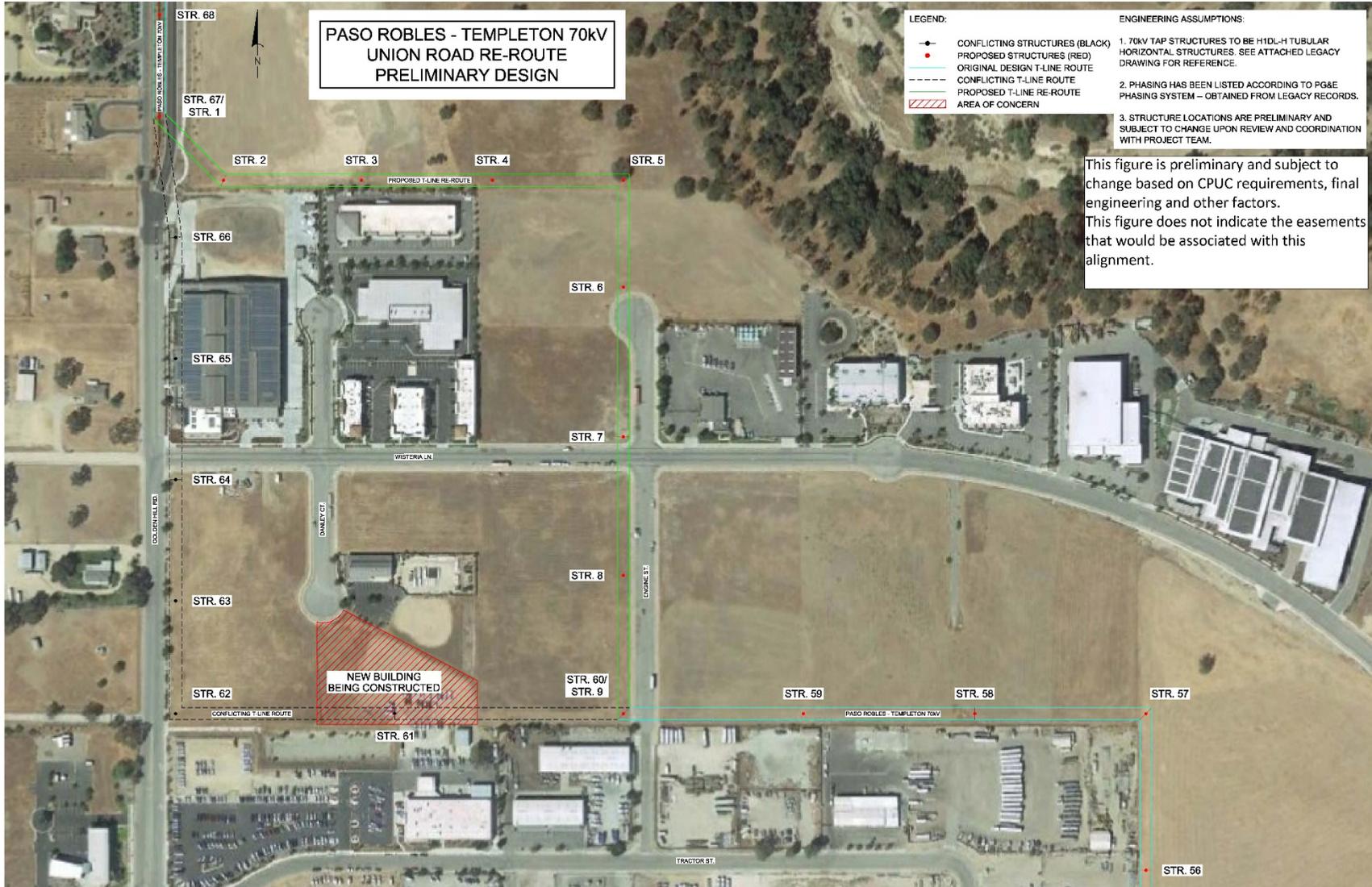
#### **4. Other Impacts**

The trenching activities would also increase construction related noise, impact air quality, and GHG, as well as result in greater disruptions to traffic. Therefore, PLR-3 would result in increased air quality, GHG emissions, noise, and transportation and traffic impacts compared to the Proposed Project 70 kV route.

#### **5. Conclusion**

Although PLR-3 would result in greater impacts to biological resource, it would reduce potentially significant impacts to aesthetics compared to the Proposed Project 70 kV route. The overhead reroute identified in Figure 1 would reduce the potentially significant aesthetic impacts from sensitive receptors within the industrial park while retaining the lower biological resources impacts of the Proposed Project 70 kV route. Therefore, PG&E recommends that the overhead reroute identified in Figure 1 be retained for full analysis in the EIR and that Alternative PLR-3 be screened out from further analysis.

**Figure 1: Proposed Project 70 kV Reroute**



## **F. ALTERNATIVE SE-PLR-1: TEMPLETON-PASO 70 KV ROUTE (EXISTING)**

### **1. Objectives**

SE-PLR-1 would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, SE-PLR-1 would result in potentially significant biological and cultural resource impacts that could not be avoided.

### **2. Feasibility**

To convert the existing single-circuit Paso Robles-Templeton 70 kV line to a double-circuit requires expanding Paso Robles substation to incorporate a new 70 kV source at the substation. Adding a new 70 kV source requires converting the existing bus to a ring bus design. In addition, converting the existing line to a double circuit requires replacing the existing poles with taller and stronger poles to accommodate the second 70 kV line. Both of these aspects have significant feasibility constraints.

#### Feasibility Constraints on Converting the Existing Paso Robles Substation Bus to a Ring Bus

- There is not enough space within the existing substation yard to convert to a ring bus. We evaluated two expansion options: (1) build new equipment on the vacant lot east of the substation; and (2) expand the boundary of the existing substation eastward. Both options have significant constraints.
- The eastern lot is not big enough to accommodate the new equipment and access requirements. Therefore, it is technically infeasible.
- In addition, both expansion options require relocating several underground utilities that run between the existing yard and the eastern lot, including a water main owned by the City of Paso Robles. The City has expressed unwillingness to permit PG&E to relocate the water main. PG&E cannot force the City to move the water main in an eminent domain action because the City's public use is deemed "more necessary" as a matter of law. Therefore, it is legally infeasible. Even if it were legally feasible, and lengthy and expensive litigation could be avoided, the cost of moving all of the utilities could be several million dollars.

#### Feasibility Constraints on Converting the Existing 70 kV Line to Double Circuit

- Six wood poles that would need to be replaced with TSPs to convert the existing line to double circuit are located in an area that will be extremely difficult to work in.
- These poles are located in the back yards of luxury homes located to the east and bounded on the west by steep slopes bordering the Salinas River. Therefore, the only way to access the sites is from the street in front of the homes to enter the backyards.

- There is not enough room in the backyards to accommodate the necessary heavy equipment to construct the poles. The use of heavy-lift helicopters during construction is not advisable because the windshear would damage the homes.
- Even if it were possible to construct the poles, the cost to restore the severe impacts to these luxury properties would be high.

### **3. Potentially Significant Impacts**

Overall, changes brought about by the construction of the power line would be adverse and would substantially degrade the existing visual character or quality of the landscape setting. Construction activities would involve moderate to significant grading due to topographic constraints, moderate to significant temporary alterations of landforms and vegetation to support construction of new access roads, and the installation of new larger double-circuit poles and a temporary shoo-fly, which would exacerbate view blockage. These construction activities would be visually intrusive to viewers along portions of adjacent public roadways, including Vaquero Drive, El Pomar Drive, Santa Ysabel Avenue, South River Road, Charolais Road, and Niblick Road. Construction activities would also be visible from private roadways and residences within Santa Ysabel Ranch HOA and from other residences located within the power line vicinity (although CEQA only addresses public views accessible to many people, not private views that will affect particular persons). Due to the visually intrusive features and adverse visual changes associated with construction of the power line, impacts to the existing visual character or quality of the landscape setting would be potentially significant. Therefore, SE-PLR-1 would result in greater aesthetic impacts compared to the Proposed Project 70 kV route.

SE-PLR-1 would result in greater impacts to vernal pool fairy shrimp (*Branchinecta lynchi*), Western spadefoot toad (*Spea hammondi*), and California red-legged frog (*Rana draytonii*) than the proposed alignment based on preliminary engineering, which resulted in one temporary shoo-fly pole being placed within a seasonal wetland and an existing pole replacement located approximately 130 feet southwest of a seasonal wetland, both of which provide suitable habitat for these species. The Proposed Project 70 kV route avoids impacts to wetlands. In addition, preliminary engineering of the SE-PLR-1 route identified numerous new permanent access roads that would need to be established to provide adequate access for the larger equipment needed to install TSPs and for maintenance activities, as well as likely repairs to existing paved roads. Establishment of these roads would also necessitate the removal of heritage oak trees. The alignment along South River Road and Vaquero Drive would also require the topping or removal of heritage oak trees, whereas the Proposed Project 70 kV route would only require trimming of heritage oaks. Therefore, SE-PLR-1 would result in greater biological resource impacts compared to the Proposed Project 70 kV route.

SE-PLR-1 would also result in impacts to known cultural resource sites due to existing poles to be replaced within potentially eligible archaeological sites. The Proposed Project 70 kV route avoids impacts to known cultural resource sites. Therefore, SE-PLR-1 would result in greater cultural resource impacts compared to the proposed to the Proposed Project 70 kV route.

#### **4. Conclusion**

Based on feasibility issues and because PLR-1D would not reduce any potentially significant impacts associated with the Proposed Project 70 kV route, PG&E concurs with Energy Division that Alternative SE-PLR-1 should be screened out from full analysis in the EIR.

#### **G. ALTERNATIVE SE-PLR-2: TEMPLETON-PASO SOUTH RIVER ROAD ROUTE**

##### **1. Objectives**

SE-PLR-2 would enable the Applicants to increase the reliability of the electrical transmission system in the area. However, this alternative route would result in potentially significant biological resource impacts that could not be avoided.

##### **2. Feasibility**

The SE-PLR-2 route appears feasible, although efforts to construct it could be complicated due to the need to acquire easements from two homeowners' associations. Depending on whether HOAs are able to sign-off on easements without signatures from each homeowner and whether there is significant opposition from the HOAs as a whole, eminent domain may be required to obtain the easements, which would add to the time and cost necessary to construct this alternative.

##### **3. Potentially Significant Impacts**

The ASR concludes that the SE-PLR-2 route would marginally reduce impacts to agricultural resources compared to the Proposed Project 70 kV route because the route would largely avoid impacts to Farmland of Statewide Importance, though it would impact land subject to Williamson Act contracts. SE-PLR-2 would result in generally similar agricultural resource impacts compared to the Proposed Project 70 kV route.

The ASR concludes that because the SE-PLR-2 route avoids industrial/commercial areas and is of shorter length than the proposed Estrella route, aesthetic impacts would slightly be reduced. However, the ASR does not adequately consider the fact that the SE-PLR-2 route crosses El Pomar Drive, which exhibits higher average daily traffic (2,870) than along Union Road (1,870), which is located adjacent to the proposed Estrella substation.<sup>2</sup> Additionally, the SE-PLR-2 route parallels South River Road, which also has a higher average daily traffic (2,064) than Union Road.<sup>2</sup> While the visual quality of the landscape as seen from El Pomar drive and portions of South River Road already includes existing utility lines, the route would add additional industrial features to a highly scenic area (particularly along South River Road between Santa Ysabel Avenue and Lothar Lane) that is characterized by rolling hills, pockets of densely populated oak trees, and suburban residences. While it is true that SE-PLR-2 is shorter than the Proposed

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<sup>2</sup> San Luis Obispo County. 2018. Traffic Count Data for all County Maintained Roads. Available at: <https://www.slocounty.ca.gov/getattachment/23541d9d-50f6-449e-b9b5-a5f46ec73554/Traffic-Count-Data.aspx>. Accessed May 7, 2019.

Project 70 kV route, because average daily traffic along El Pomar Drive and South River Road is greater than along Union Road, SE-PLR-2 would be visible from a greater number of motorists and would adversely affect the visual quality of the landscape. Furthermore, the SE-PLR-2 route would be visible from HOA residences located on elevated bluffs to the west and east. The routes presented at the first series of open houses in late 2015 and early 2016 included a portion of the SE-PLR-2 route along South River Road, but was dropped from the second series due to public concerns about the route's potential impact on the surrounding communities, environmental impacts, and aesthetics. Therefore, SE-PLR-2 would result in greater aesthetic impacts compared to the Proposed Project 70 kV route.

The SE-PLR-2 route would result in greater impacts to biological resources, as more oak trees would need to be removed and/or topped to facilitate construction. Removal or topping of these trees would reduce habitat availability for passerine birds and raptors. Portions of the SE-PLR-2 route would also occur within the 0.5 mile avoidance buffer of a known golden eagle nest. Additionally, the SE-PLR-2 route would potentially impact jurisdictional waterways that may provide suitable aquatic breeding habitat for California red-legged frog and impact seasonal wetlands/potential vernal pool habitat. Therefore, SE-PLR-2 would result in greater biological resource impacts compared to the Proposed Project 70 kV route.

#### **4. Other Impacts**

Because the SE-PLR-2 route is shorter in length, the duration of construction activities would be shorter than the Proposed Project 70 kV route. As such, fewer off-road construction equipment usage and on-road truck trips would be required, and impacts to noise, GHG, and air quality would be reduced when compared to the Proposed Project 70 kV route. Therefore, SE-PLR-2 would result in reduced air quality, GHG emissions, noise, and transportation and traffic impacts compared to the Proposed Project 70 kV route.

#### **5. Conclusion**

There are potential issues with SE-PLR-2 associated with obtaining easements; however, these issues have not been fully vetted. Although SE-PLR-2 would not reduce potentially significant impacts of the Proposed Project 70 kV route, the route is shorter and would result in reduced air quality, GHG emissions, noise, and transportation and traffic impacts. Therefore, PG&E does not object to Energy Division retaining Alternative SE-PLR-2 for full analysis in the EIR.

### **H. ALTERNATIVE SE-PLR-3: TEMPLETON-PASO CRESTON ROAD ROUTE**

#### **1. Objectives**

SE-PLR-3 would meet the Applicants' objective to reinforce electrical reliability. However, it would result in potentially significant biological resource impacts that could not be avoided.

#### **2. Feasibility**

Efforts to construct the SE-PLR-3 route could be complicated due to the need to acquire easements from homeowners' associations. Depending on whether HOAs are able to sign off on

easements without signatures from each homeowner and whether there is significant opposition from the HOAs as a whole, eminent domain may be required to obtain the easements, which would add to the time and cost necessary to construct this alternative.

In addition, as described in the PEA and reiterated in the ASR, the SE-PLR-3 route has potential engineering feasibility conflicts with existing utilities.

### **3. Potentially Significant Impacts**

The ASR concludes that SE-PLR-2 would have similar, or possibly more significant, aesthetic impacts compared to the Proposed Project 70 kV route because a portion of the route follows Creston Road through a relatively densely populated residential area that does not currently have a transmission line; although, there is an existing distribution line. However, the ASR does not consider that transmission infrastructure would have less impact on the visual character and quality of a more urban residential setting than a rural residential setting. The routes presented at the open houses in late 2015 and 2016 included a portion of the SE-PLR-3 route along Creston, Charolais Road, and South River Road; and public comments claimed that the route seems the most direct and logical route that does not impact property values, has less interference with vineyards and birds, and has less impact on horse farms, while other public comments were completely opposed to the route. Therefore, SE-PLR-3 would have similar aesthetic impacts compared to the Proposed Project 70 kV route.

Along Charolais Road and South River Road, there is dense urban development and a number of large heritage oaks that would require removal. This route would require the removal and trimming of heritage oaks, whereas the Proposed Project 70 kV route would only require trimming of heritage oaks. The SE-PLR-3 route could also result in direct or indirect impacts to vernal pool fairy shrimp and/or vernal pool fairy shrimp habitat, whereas the Proposed Project 70 kV route is designed to avoid such habitat. Therefore, SE-PLR-3 would have greater biological resource impacts compared to the Proposed Project 70 kV route.

### **4. Conclusion**

There are potential feasibility issues with SE-PLR-3 associated with conflicts with existing utilities and challenges related to obtaining easements. In addition, SE-PLR-3 would not reduce the potentially significant impacts of the Proposed Project 70 kV route. Therefore, PG&E concurs with the Energy Division that Alternative SE-PLR-3 should be screened out from full analysis in the EIR.

#### **I. BS-1: BATTERY STORAGE TO ADDRESS TRANSMISSION OBJECTIVE**

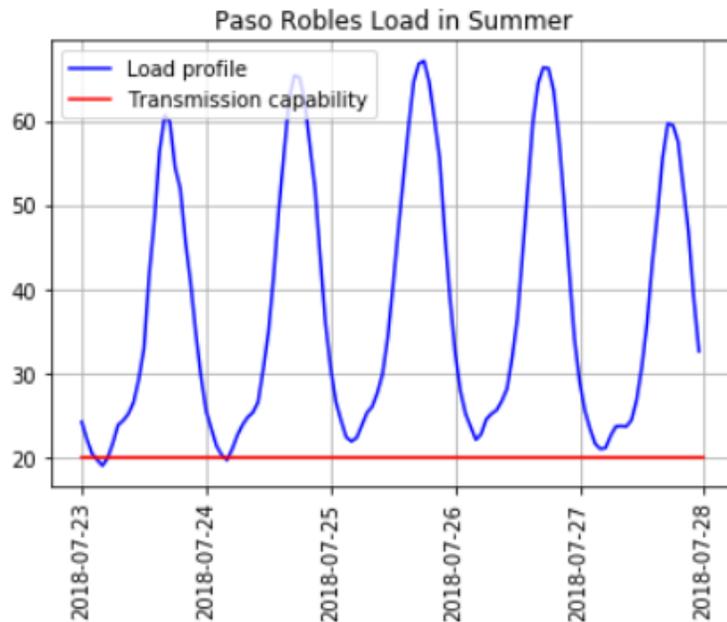
In the event that the Paso Robles-Templeton 70 kV line was lost (P1), PG&E has determined that a transmission-level battery energy storage system (BESS) would need to provide a minimum of 24 hours of load relief to allow for sufficient time to conduct repairs on this line. Alternative BS-1C is sized to address an outage of 24 hours and would involve installing roughly 65 MW / 715 MWh of battery storage. (ASR, Table 3-4.) Alternatives BS-1A, BS-1B, and BS-1D would not provide the minimum hours of load relief needed to conduct repairs on this line.

PG&E agrees with ZGlobal’s analysis of the MW and MWh sizing of the transmission connected BESS at the Paso Robles Substation in order to meet the NERC TPL-001-4 P1 (N-1) requirement, but a transmission-level BESS is not a viable solution based on the following observations.

When the 65 MW of battery is connected to the Paso Robles Substation at 70 kV, under the P1 contingency involving outage of Templeton-Paso Robles 70 kV transmission line, charging of the battery will be infeasible. If there were two 70 kV line outages lasting at least 24 hours, the BESS would be depleted from providing load relief from the first P1 contingency and would not have had time to recharge before the second P1 contingency.

A simple power flow analysis shows that under the P1 contingency involving an outage of Templeton-Paso Robles 70 kV transmission line, the Paso Robles substation can support at most approximately 20 MW of load (see Figure 2) before reaching the thermal limit of the Coalinga-San Miguel 70 kV transmission line.

**Figure 2: Paso Robles Substation Summer Peak Load (MW) and the Transmission Capability During P1 Contingency (Loss of Paso Robles-Templeton 70 kV Line)**



According to load data at Paso Robles Substation, the load is higher than the available transmission capability (under the P1 contingency above) even in the night during the summer peak period (see Figure 2). Meanwhile with the battery alternative, the transmission capacity will not increase but the load will increase in the future. This situation will make charging the BESS infeasible. Following the current operational standard, the system should be operated to secure N-1 outages (P1); i.e., if a P1 contingency were to happen, there should be no violations without system adjustment. In order to meet this standard, the BESS has to discharge once the load is higher than 20 MW to make the system N-1 secured. According to the real-time data

shown in Figure 2, there will be no charging window or not enough charging window in multiple days during the summer peak period after discharge if the battery energy requirement is for 24-hours only.

If the 65 MW BESS is sited at or near the Paso Robles Substation, the battery connection to the substation bus will trigger a bus conversion per PG&E's substation design standard. As discussed above regarding Alternative SE-PLR-1, this bus conversion is infeasible.

The ASR suggests using five parcels identified on Figure 3-12 to locate batteries that could be connected into 70 kV system at Paso Robles Substation. Based on ASR Table 3-4, this size of BESS would require approximately 6 to 7 acres of property and the five parcels shown on Figure 3-12 total 6.7 acres. Inability to acquire any one of the five parcels would make the BESS too small to properly address the P-1 contingency.

Finally, we are unclear on how all five parcels can be linked together in the 70 kV network based on current transmission design criteria and location of parcels.

### **Conclusion**

Based on the failure to be able to address the P1 contingency (loss of the Paso Robles-Templeton 70 kV Line), inability to expand Paso Robles Substation to accommodate one more 70 kV line, risk of not being able to acquire property needed for a transmission-level BESS, and uncertainty of how multiple transmission-level BESS locations would connect into the 70 kV network, PG&E recommends that Alternative BS-1 be screened out from further analysis.

### **K. BS-2 BATTERY STORAGE TO ADDRESS DISTRIBUTION OBJECTIVE**

Distribution BESS installations have the potential to be interconnected to individual banks or feeders in order to reduce forecasted overloads or defer capacity upgrades. Under this scenario, a distribution BESS would discharge at times of bank or feeder peak, thus serving some distribution load and thereby reducing or eliminating forecasted overloads. While able to specifically target overloads at the desired level (i.e., bank, feeder, or even more localized), distribution interconnected BESS could potentially have some detrimental impacts, as well.

A distribution BESS used for peak-shaving in order to reduce forecasted overloads would have a daily discharging/charging pattern during periods of peak loading. The BESS would likely discharge at a level and duration required to maintain distribution facilities under their normal ratings, after which as loads reduced at either the feeder or bank level, the BESS would need to recharge in time to be available for the next day's peak. While an adequate charging window might initially be available on a distribution bank or feeder, load profile changes either due to new loads with off-peak usage, or customer demand shifting due to changing rate structures could reduce or eliminate a charging window to a point where the BESS could not recharge to a level to guarantee availability for consecutive peak days. The off-peak charging of a BESS could potentially limit, not improve, operational flexibility, as higher off-peak loads on the bank or feeder could constrain distribution clearances or switching that previously might have been possible.

While potentially reducing or eliminating overloads on a bank or especially feeder, distribution BESS installations would not improve feeder reliability in the same way that a new distribution feeder could. A BESS could maintain a distribution feeder below its normal rating, but the physical length and exposure to outages would remain the same. In comparison, a new distribution feeder would enable load transfers off of adjacent distribution feeders, thereby shortening the original feeder lengths and likely reducing potential causes of outages. Additionally, a BESS could constrain normal or emergency distribution switching since installation at a certain location on a specific feeder in order to mitigate a feeder or localized overload could be negated with a temporary or permanent distribution reconfiguration.

The fixed capacity of a BESS installation dictates that as load demand or duration increases on a distribution bank or feeder, or due to degradation of battery capacity, at a certain point the BESS might not have adequate capacity to mitigate overloads for the required duration. Since BESS installations are highly modular, it would be possible to potentially increase energy storage capacity at a certain site in the future if needed, assuming available site space. Oversizing of the BESS installation from the start to cover degradation and possible future load growth would also be an option, although obviously at an increased implementation cost.

A BESS installation would be better suited for targeting a distribution transformer bank overload, in comparison to multiple, dispersed distribution feeder overloads. To mitigate multiple feeder overloads, one or more BESS installations on each overloaded feeder would be required. Each BESS installation would require duplication of permitting and facilities such as step-up transformers, switchgear, protective relaying, and control schemes, all of which constitute a substantial cost for each location.

In summary, the pros and cons of this alternative are as follows:

**Pros:**

- Ability to target currently forecasted overloads, either at the circuit level, or more localized level
- Site space permitting, could potentially increase storage in the future to meet additional demand requirements

**Cons:**

- Fixed size BESS may only offer temporary relief of overloads
- Charging window (off-peak) of BESS could potentially limit, not improve, operational flexibility
- Distribution interconnected BESS would not improve certain aspects of circuit reliability (i.e., would do nothing to reduce potential causes to outages or reducing exposure on circuits)
- While potentially relieving a feeder level (outlet) overload, a distribution BESS located at or near a substation would not resolve localized overloads further out on a circuit

- Load profile changes on feeders, either from new loads with off-peak usage, or customer demand shifting due to changing rate structures, could reduce or eliminate BESS charging window
- Circuit reconfigurations could cause BESS to be transferred away from the targeted circuit
- Multiple BESS sites require duplication of facilities: step-up transformers, switchgear, protective relaying, control schemes, increasing costs

### **Conclusion**

While distribution interconnected BESS are certainly a feasible solution to mitigate forecasted overloads, BS-2 will not increase reliability in the DPA as stated in the project objective and in fact, might make reliability worse. There are a lot of unknowns in terms of charging availability now and into the future, as well as the impacts or constraints the BESS might impose on distribution system flexibility. Therefore, PG&E recommends that Alternative BS-2 be screened out from further analysis.