Attachment A: Submittal Review Form

Document(s) Submitted:	Application and Proponent's Environmental Assessment (PEA) for LS Power Grid's Collinsville 500/230 kV Substation Project (project) Application Proponent's Environmental Assessment (PEA) for LS Power Grid's Collinsville 500/230 kV Substation Project (project)
Review Form Number:	4
Description:	Data Request #2
From:	California Public Utilities Commission (CPUC) and Panorama Environmental Inc. (Panorama)
To:	LS Power Grid California, LLC (LSPGC)
Date Submitted:	March 7, 2025

DETERMINATION

☐ Meets CPUC Requirements, No Additional Information Needed

☐ Does not Meet CPUC Requirements (see Deficiencies below)

☒ Additional Data Needed (see Data Requests below)

REPORT OVERVIEW

The California Public Utilities Commission (CPUC) has identified data requests in LS Power Grid California, LLC's (LSPGC) Application (A.24-07-018) and Proponent's Environmental Assessment (PEA) for a Certificate of Public Convenience and Necessity (CPCN) for the Collinsville 500/230 Kilovolt (kV) Substation Project. Data requests were identified using the CPUC Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments (November 2019) (PEA Checklist). Deficiencies are presented in Table 1. Data requests are presented below.

TABLE 1 DATA REQUESTS

PEA Section 3: Project Description

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
EIR Admin Draft Project Description	**DR-1: Review of Admin Draft EIR Project Description** On February 27, 2025, the CPUC shared a copy of the Admin Draft EIR Project Description (dated 2/19/25) with LSPGC and PG&E including a copy of Appendix A: Detail Route Maps. The CPUC requested that LSPGC and PG&E review the information in these documents for accuracy and completeness, and to respond to the requests for clarification or additional information directed identified in the comment bubbles.	A	The CPUC requests responses from LSPGC and PG&E by March 14, 2025 (e.g., as tracked change edits and responses to the comments).	
Deficiency Report #1; DR-2 PEA Section 3.3.4.1.2 and 3.5.6.4.1	**DR-2: Submarine Cable Depth, Erosion Projections, and Maintenance** The revised PEA Project Description currently states: "…The submarine cables would be buried 6 to 15 feet below the sediment surface, or as specified by engineering and/or permitting agency requirements, to protect them from mechanical damage..." The erosion/deposition projections in the Seabed Morphology Analysis report (January 20, 2025) prepared by Coast & Harbor Engineering suggests exposure of the submarine cable could occur after 25 years. If the cable becomes exposed, it may be at increased risk of damage, such as due to an anchor strike or from sand mining activities/dredging. More information is needed about how LSPGC would determine the appropriate submarine cable depth to minimize risks to the submarine cables, and what installation depths are possible using the proposed jet-sled. In addition, more information is needed about possible maintenance of submarine cables if they were left exposed and were to be damaged.	A	Please explain if a specific depth for the submarine cable would be targeted to address the findings in the Seabed Morphology Analysis report to reduce the potential erosion and exposure of the cables?	
		B	What is the maximum depth possible the submarine cables could be installed using the jet-sled method proposed?	
		C	Please explain what maintenance activities/steps would be taken to determine if submarine cables have become exposed (such as periodic studies or inspections), what risks would occur if the submarine cables were exposed, and what maintenance activities could occur to rebury or cover the cables after they are initially installed.	
		D	If cables become damaged and they must be replaced, could the cables be removed from the waterway and disposed of or would they be abandoned within the Delta riverbed.	
PEA Section 3.3.4.1.2 and 3.5.6.4.1	**DR-3: Submarine Cable Depth** The revised PEA Project Description currently states: "…The submarine cables would be buried 6 to 15 feet below the sediment surface, or as specified by engineering and/or permitting agency requirements, to protect them from mechanical damage..." According to USACE, USACE have identified specific areas where the cable should be buried at a minimum of 10 feet or a minimum of 15 feet, as well as other areas where less than 10 feet are acceptable. Specific locations and minimum cable depths consistent with the USACE directions are requested.	A	Please provide a map and GIS data identifying the submarine cable routes and minimum installation depths that would be met following USACE directions. The maps should identify the widths of federal navigation channels and other features where these depths must be achieved.	
PEA Section 3.5.10.1: Water Use	**DR-4: Water Use by Entity/Component** The revised PEA Project description provides the estimated water use volume combined for all project components (what is the value?). A further breakdown and explanation of estimated water use and volumes are needed.	A	Please provide a detailed breakdown of water use volume by LSPGC project components and PG&E project components, including for the construction and operation of each component. Identify and provide estimated values for each activity that would or could require the use of water.	PG&E – dust control, preliminary rough estimates: LZ 12 days x 5000 gal/day = approx. 60,000 gallons Preliminary rough estimates for Access Roads are 7 weeks x 5 days/week x 5000 gal/day = approx. 175,000 gallons. For Substation & IT Yard Civil, they are 5 days x 2,500 gal/day = approx. 12,500 gallons

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PEA Section 3.5.12.1: Solid Waste	**DR-5: Waste Volumes by Entity/Component** The revised PEA project description states that construction debris volumes are estimated at a total of 2,750 cubic yards. A breakdown of this information is needed by LSPGC vs PG&E project components.	A	Please provide a breakdown of waste volume estimates by LSPGC vs PG&E project components.	PG&E – dumpster use – preliminary rough estimates: T-line/dist work - 40 cubic yards per 2 weeks x 18 weeks of construction = approx. 360 cubic yards Substation & IT Yard Civil - 40 cubic yards per 4 weeks x 25 weeks of construction = approx. 250 cubic yards PG&E Spoils from work at substation = preliminary rough estimate approx. 1,500 cubic yards.
NA	**DR-6: Wind Turbine Throw Distances** Additional information is needed regarding the potential risks, positioning, and design considerations associated with the proposed project's locations adjacent to existing wind turbines.	A	Please explain the potential risk to proposed project facilities or personnel working at the facilities associated with adjacent wind turbines, such as but not limited to a thrown blade. Identify the height ranges of adjacent wind turbines and explain the potential hazard area where blades could be thrown, and how the proposed project facilities would or would not be within these zones. Please explain if and how this risk has been considered in the siting and design of the proposed project.	Based on the wind farm owner conducted study; "The Wind Turbine Safety Evaluation performed on the Solano 4 Project determined that the setback distance from the turbine to a transmission right of way is 1.1 times the total height of the wind turbine. The calculation is 1.1 x 180 m = 198 m." PG&E 500kV line is maintaining 1.5x180 setback as conservative approach. in addition, PG&E is performing its independent blade throw study to confirm the previous findings or provide suggestions. The study is anticipated to be completed in July 2025.
NA	**DR-7: Underground Telecommunication Lines Interconnection Construction**	A	Please explain the process for coordinating construction activities associated with the underground telecommunication line in the City of Pittsburg, where the line would be located adjacent to the Marine Community Center and on the associated property. Clarify how access would be maintained to the community center and parking area/driveway.	
PEA Section 3.10.2	**DR-8: Proposed Substation Property Size** The revised PEA Project Description states that "LSPGC would obtain rights for an approximately 32-acre portion of a parcel from an existing private landowner…" and that this area includes the temporary construction areas needed to construct the substation, as well as the potential 4-acre future buildout area. The area identified for the substation in the GIS data that was provided is 28.8 acres, which includes the surrounding temporary and permanent workspaces and potential future buildout area south and west of Stratton Lane.	A	Please explain how the 32-acre substation property was determined and where the limits of the proposed property. Does the property extend north or east of Stratton Lane and if so, where?	

PEA Section 5.3: Air Quality

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
	DR-9: Health Risk Assessment	A	**Uncontrolled Scenario (Data Request #1, DR-3C follow-up)**	

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PEA, Section 5.3.4.4, page 5.3-22 Deficiency Report #1, DEF-13 Health Risk Assessment (HRA) Data Request #1: DR-3: HRA	In Response #2 to Data Request #2, LSPGC provided a Health Risk Assessment (Ldn Consulting, Inc. February 2025). Staff with Baseline Environmental Consulting have identified the follow-up data requests listed in the columns to the right.		Baseline requested the uncontrolled emission scenario to be analyzed in the previous round of review. However, the uncontrolled emission scenario was not added to the revised HRA. LSPGC states that because the APM was provided by the applicant as a part of the Project Description (PD), the uncontrolled scenario would not be a project condition, and therefore not analyzed. This statement is not consistent with CPUC CEQA compliance guidelines for Pre-filing and PEA as well as Office of Environmental Health Hazard Assessment's (OEHHA's) Guidance Manual for Preparation of Health Risk Assessments (2015) which required that AQ section should "include a summary of uncontrolled AQ emissions (prior to application of any APMs) and controlled AQ emissions (after application of APMs). Clearly identify the assumptions that were applied in the controlled emissions estimates." Although this requirement is for criteria air pollutant emissions, the health risk assessment should be prepared in a manner that is consistent with the rest of the AQ section. Please revise the HRA so the uncontrolled emission scenario is analyzed.	
		B	**Averaging Period (Data Request #1, DR-3E follow-up)** Please update the averaging period for both the Collinsville Substation and the Pittsburg Substation based on the most up-to-date project description. The discrepancies for the Collinsville Substation was listed in the previous round of review. For the PG&E Substation Modifications, PD Table 3-12 shows that the estimated total number of active workdays for (denoted as P-19 of Attachment 5.3-A) should be 102 working days (June 2026 to October 2026), not 250 days. This is important because if the construction duration is only 4 months in total for three substations (P-19: Vaca Dixon, Tesla, and Pittsburg Substation), then construction at each location will be less than 2-months and HRA at this location may not be needed.	The preliminary rough estimates for PG&E construction duration for all three existing substations and the new IT yard adjacent to Collinsville Substation (Vaca Dixon, Tesla, and Pittsburg, Collinsville IT yard) are from May 2027 to May 2028 for 250 days. These dates are included in the latest draft EIR Project Description.
		C	**Exhaust Emissions (Data Request #1, DR-3F follow-up)** At the bottom of page 8, it states that "the total diesel particulate emissions during the construction activities (P-19) would cumulatively generate 0.0084 tons of diesel particulates 10 microns or smaller (PM10) which is the primary TAC considered in this analysis." Please confirm that the total emissions should be 0.0084 tons instead of 0.0034 tons.	
		D	**TAC DPM Emission Rates for both the Collinsville and Pittsburg Substations** On page 10, it states that "Over the construction duration, the project would emit 0.222 tons over 651-day elapsed period which works out to an average of 0.0036 grams of PM10 exhaust per second (g/s)." It appears this 0.0036 g/s exhaust PM10 emission rate was estimated based on the assumption of 24-h of construction activities on every calendar day. Please provide the assumptions in the HRA and discuss whether this assumption is more conservative than assuming emissions would occur on active workdays during daylight hours. Same comment for Pittsburg Substation TAC DPM discussion on page 11.	
		E	**Grading Area (Data Request #1, DR-3H follow-up)** On page 10, under Collinsville Substation TAC DPM, it was mentioned that "Based on the site configuration, the average emission rate over the grading area is 1.05x10-7 grams/second per meter squared (g/s-m2)". Please clarify which figure or Site Plan was referenced here. It is unclear to us how the source area was determined (does it refer to	

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			the total area of disturbance? If so, was the area of disturbance determined based on a site plan or map?). Same comment for Pittsburg Substation TAC DPM discussion on page 11.	
		F	**Additional Information to Confirm the HRA Results (Data Request #1, DR-3K follow-up)** The AERMOD files are provided as Attachment A, B, E, and F show the model parameters but did not include reference and justification for the model parameter used. Please provide reference or justification for the model parameters used, such as release height and initial vertical dimensions. Provide meteorological data source.	

PEA Section 5.4: Biological Resources

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
NA	**DR-10: Take Permits for Listed Species** Information is needed about anticipated permits that will be obtained by LSPGC and PG&E regarding specific state and federally listed species.	A	Please provide a list of state-listed and/or candidate species for which LSPGC plans to file incidental take permit applications with CDFW.	
		B	Please provide a list of state listed and/or candidate species for which PG&E plans to file incidental take permit applications with CDFW. Separately provide a list of species that PG&E already has take coverage for under existing permits that cover the proposed PG&E project activities, if any.	PG&E is currently evaluating whether take coverage is needed for state-listed species. PG&E does not plan to utilize existing permits.
		C	Please provide a list of federally listed and/or candidate species for which LSPGC plans to obtain Section 7 take coverage and file applications with federal agencies.	
		D	Please provide a list of federally listed and/or candidate species for which PG&E plans to obtain Section 7 take coverage and file applications with federal agencies. Separately provide a list of species that PG&E already has take coverage for under existing permits that cover the proposed PG&E project activities, if any.	PG&E is currently evaluating whether take coverage is needed for federally-listed species. PG&E does not currently plan to utilize existing permits.
		E	Please provide a copy or public link to PG&E's existing take permits.	n/a
NA	**DR-11: In-water Work Periods and Restrictions** The proposed in-water work is identified between July 1 through November 30, to protect listed fish species. Please clarify if this period is consistent with NMFS recommendations for all federally protected marine species that could occur in the area.	A	Please clarify if this period is consistent with NMFS recommendations for federally protected marine species that could occur in the area.	

PEA Section 5.11: Land Use and Planning

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
PEA Land Use Figure 3 Special Land Uses	**DR-12: Special Land Uses** PEA Section 5.11 includes Figure 5.11-3: Special Land Uses in the Proposed Project Vicinity which depicts the boundaries of various special land uses in the Project vicinity.	A	Please provide the GIS source(s) of these special area boundaries, and explain if the features were digitized or obtained published GIS data sources.	
		B	Please provide copies of the GIS layers used in Figure 5.11-3.	

PEA Section 5.15: Mineral Resources

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
PEA Section 5.12.4 Impact Analysis	**DR-13: Lind Marine Sand and Gravel Operation** PEA Section 5.12 details information regarding the Lind Marine Mine (note that after research, this lease appears to be owned by Suisun Associates which includes Lind Marine). The PEA text describes "The LSPGC 230 kV Transmission Line submarine segment is anticipated to require a 450-foot-wide right-of-way along the approximately 1,200-foot-long crossing, resulting in the loss of availability of approximately 12.4 acres of the 367-acre area authorized for dredging."	A	Please explain how the 12.4-acre loss of authorized dredging area was calculated.	
		B	Please provide the source information regarding the 367-acre area.	
		C	Please state how crossing the mine would specifically result in impacts on mining operations. Could dredging continue over the buried submarine cables? If not, explain why.	
		D	What depth would the submarine cables need to be buried for dredging along the submarine corridor to continue without damaging the lines? Provide information on the feasibility and potential methods for installing the submarine cables to this depth.	

PEA Section 5.19: Utilities

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
Revised PEA Page 3-88	**DR-14: Water Source Information** The PEA states that water may be obtained from the Solano County Water Agency and Rio Vista and trucked to the site but does not identify the location where water tanks would be filled. The revised PEA states that five percent of the water for the project could be obtained from wells. Additional information is needed on potential sources of water.	A	Please identify the location (or distance from the site) that water would be obtained/trucked in from?	
		B	Please identify the location of the well that would be used to supply up to five of the project water. What is the current use of the well?	
PEA Page 5.19-13 and 5.19-14	**DR-15: Existing Utilities in the City of Pittsburg** The PEA does not include consideration of potential water, sewer, stormwater, or natural gas lines in the city of Pittsburg along the underground telecommunication path.	A	Please provide GIS data or other available data on the location of buried electric, water, sewer, stormwater, or natural gas facilities along the proposed underground telecommunications path.	

PEA Section 4: Alternatives

Section/Page Reference	CPUC Comment	Request ID	CPUC Request	LSPGC Response
Chapter 4: Description of Alternatives	**DR-16: Identification of Additional Potential Alternate Substation Sites and Supporting Information** One alternative site for the proposed Collinsville Substation was identified in the PEA, which is located approximately 0.8 mile north of the site identified for the Proposed Project. CPUC requests the identification of additional potential alternative substation sites for the project to consideration in the CPUC's alternatives screening analysis and in the EIR. At a minimum, the identification of conceptual alternative sites is needed based on the criteria listed to the right. Ensure one or more alternative sites are identified for each of the scenarios listed and identify the associated project components and alignments that would change under each scenario compared to the Proposed Project.	A	Please provide any additional background information and locations regarding other alternative substations that LSPGC may have considered beyond the one alternate site identified in the PEA.	
		B	Regardless of feasibility, please identify one or more potential alternate locations for the proposed Collinsville Substation for the following scenarios: • **Scenario A:** Near the existing wind resource area substations located along the Vaca-Dixon 500 kV Transmission Line, approximately 3 miles north of the Proposed substation site. • **Scenario B:** Along the Vaca-Dixon 500 kV Transmission Line, in the range of roughly 1.5 to 3.5 miles east of the proposed 500 kV interconnection loop tie-in location. • **Scenario C:** On publicly owned lands in the vicinity of the Vaca-Dixon 500 kV Transmission Line including but not limited to the federally owned land located along the norther shore of the Delta roughly 2.3 miles or greater southeast of the proposed substation site.	

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			• **Scenario D:** Within previously developed or disturbed land northeast of the Pittsburg Substation where the vacant Pittsburg Power Plant is currently located. • **Scenario E:** Within previously developed or disturbed land south of the Pittsburg Substation where vacant storage tanks are currently located.	
		C	Please provide maps and associated GIS data layers identifying any previously reviewed substation sites (request part A) and the requested scenarios listed above (request part B). Please provide GIS data layers for the conceptual project components associated with these alternatives like those provided for the Proposed Project, including the following: • LSPGC Collinsville Substation (all temporary and permanent work areas, including potential future expansion areas) • LSPGC 230 kV Collinsville-Pittsburg Transmission Line (overhead segment, submarine segment, and underground segment) • LSPGC telecommunication lines interconnection • PG&E 500 kV interconnection loop • PG&E 12 kV distribution line (substation power connection) • Any permanent access roads/driveways Please also provide these GIS layers for the alternative substation site identified in the PEA. GIS data was provided for one alternative substation site and the basic 230 kV and 500 kV alignments differences, but additional details are requested as listed above.	
		D	Please provide a table listing alternative substation sites considered, including the PEA alternative substation site, any other sites considered that were not included in the PEA (request part A), and the requested scenarios listed above (request part B). In the table, provide LSPGC's understanding of feasibility issues and any other major challenges for each alternative. Also identify any key differences in the type of or extent of environmental impacts that LSPGC may be aware of in comparison to the Proposed Project, that will support the CPUC's alternatives screening review.	
NA	**DR-17: Land Ownership Data** Detailed property and landowner information for Salano County is needed along portions of the existing Vaca-Dixon 500 kV Transmission Line to support the CPUC's alternative screening review.	A	Provide GIS data identifying property and landowner information within 2 miles on either side of the existing Vaca-Dixon 500 kV Transmission Line, along a corridor that extends approximately 5 miles north and south of the proposed interconnection loop tie-in location (10 mile long by 4-mile-wide buffered corridor). At a minimum, the data should include parcel information and identify the name of the landowner or entity that controls the land, and if the land is publicly or privately owned.	
NA	**DR-18: Tubular Poles instead of Lattice Towers Alternative, and Avian Deterrents** A scoping comment has suggested LSTs have greater potential to attract avian nesting and perching activities within the SMUD wind farm area, that could result in impacts on avian species associated with the adjacent wind turbines. Information on the feasibility of using tubular poles/towers (either steel monopoles or multi-pole structures) instead of the proposed lattice steel towers (LSTs) is requested. This also applies to the proposed LST for the microwave tower.	A	Please explain if tubular steel monopoles could be used in lieu of the proposed LTSs along the PG&E 500 kV interconnection loop. Explain any potential design or construction differences that could apply if used, such as the number of structures needed or the heights.	PG&E employs tubular steel monopoles in select locations where their design proves both practical and beneficial. Currently, we are designing them at specific intercept points, such as tie-in sites, where limited space prevents the use of lattice steel towers (LSTs). From a design standpoint, monopoles are less rigid than LSTs and cannot support the heavy loads, as their thinner walls make them susceptible to significant deflection. Monopole foundations are primarily driven by the

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				overturning moment at their base, requiring deeper and often wider foundations than those of lattice towers. Given the substantial loads, the base diameter of monopoles can become quite large, necessitating expansive foundations. Excavating these large, deep foundations can pose construction challenges, particularly with drilling. The high loading along the 500 kV interconnection loop makes it impractical to use monopoles across the entire corridor. Additionally, PG&E has yet to establish standards for tubular steel monopoles at 500 kV. A further limitation is that monopoles can only carry one conductor or phase per structure and require shorter spans compared to LSTs, resulting in a need for more structures overall. Lattice towers, by contrast, can efficiently support all three phases on a single tower. Lattice towers, with their four-legged design, provide greater structural redundancy. Their steel components are more versatile, enabling easier reinforcement for future upgrades or maintenance. Tubular steel monopoles, on the other hand, are challenging to retrofit and cannot be inspected internally for corrosion. Moreover, their foundations are less effective in soft soil conditions, as they rely heavily on lateral soil resistance to counteract the significant overturning moment. Given the limited historical use of tubular steel monopoles for 500 kV circuits, we consider lattice towers the more reliable and proven solution for effectively managing these demanding loads in most situations.
		B	Please explain if other types of multi-pole tubular steel pole structures (like H-frames structures) could be used in lieu of the proposed LTSs along the PG&E 500 kV	H-frame structures incorporate a monopole design featuring two poles instead of one and are employed within PG&E's design philosophy for 230 kV circuits

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			interconnection loop. Explain any potential design or construction differences that could apply if used, such as the number of structures needed or the heights.	and below. These structures are typically engineered to support all three phases in a horizontal arrangement. However, due to the same design limitations outlined for monopoles in the response above, H-frames present challenges that make them a less viable option for this application.
		C	Please explain if a tubular pole could be installed for the microwave tower in lieu of the proposed LST structure. Explain any potential design or construction differences that could apply if used.	PG&E IT standard max height for tubular poles is 100'. Proposed MW antenna path profile requires the centerline heights to be above 100'. Considering the limiting factors, PG&E would not be able to satisfy the system integrity and protection requirements if diverted to tubular monopole.
		D	Please explain PG&E design guidelines that would be followed, if any, to deter avian nesting and perching on their structures for the Proposed Project.	PG&E is not aware of any published studies indicating that TSP design is less likely to support nesting or perching bird activity than LST. Towers will be designed to Avian Power Line Interaction Committee (APLIC) standards to reduce the risk of avian electrocution or line strike.
NA	**DR-19: Potential Alternate Submarine Cable Installation Methods** Additional information is needed regarding the potential use of alternate or hybrid methods to install the submarine cables.	A	**Horizontal Directional Drilling (HDD).** Please explain if horizontal directional drilling (HDD) methods could be used to install the submarine cables in part or in full. Please identify any segments of the alignment where HDD methods may be used, such as but not limited to the mining area, or where the method could be used to minimize sediment dispersion and impacts on fish. Please explain the pros and cons of such methods, and how the construction schedule could change if used.	
		B	**Mechanical Trenching.** Please explain if mechanical trenching methods could be used to install the submarine cables in part or in full. What is the maximum burial depth that could be achieved through mechanical trenching methods? What is the approximate width of disturbance on either side of the cables with such methods. Please identify any segments of the alignment where mechanical trenching methods may be used, such as but not limited to the mining area.	
		C	**Rock Cutting or Pre-Sweeping.** Please explain if rock cutting or pre-sweeping methods could be used to install portions of the submarine cables. What is the maximum burial depth that could be achieved through mechanical trenching methods? What is the approximate width of disturbance on either side of the cables with such methods. Please identify any segments of the alignment where mechanical trenching methods may be used, such as but not limited to the mining area.	