

## 1.10 HYDROLOGY AND WATER QUALITY

The following discussion evaluates the potential changes in impacts associated with hydrology and water quality and the conclusions from the Proponent's Environmental Assessment (PEA) with the incorporation of the Proposed Project's design modifications as described in the redlined version of Chapter 3 – Project Description. The table below summarizes the impact determination from the PEA and the impact determinations with the incorporation of the design modifications.

Would the project:	PEA Impact Determination	Impact Determination with Design Modifications
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less-than-Significant Impact	Less-than-Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less-than-Significant Impact	Less-than-Significant Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Less-than-Significant Impact	Less-than-Significant Impact
i) result in a substantial erosion or siltation on- or off-site;	Less-than-Significant Impact	Less-than-Significant Impact
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Less-than-Significant Impact	Less-than-Significant Impact
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less-than-Significant Impact	Less-than-Significant Impact
iv) impede or redirect flood flows?	Less-than-Significant Impact	Less-than-Significant Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less-than-Significant Impact	Less-than-Significant Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact	No Impact

## **Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

### *Construction, Operations and Maintenance*

#### LSPGC Components

**Less-than-Significant Impact.** Ground-disturbing activities during construction of the design modifications to the Proposed Project components would not cause a significant change in impacts beyond those discussed in the PEA. One or more Stormwater Pollution Prevention Plans (SWPPPs) would be implemented by LS Power Grid California, LLC (LSPGC) and Pacific Gas and Electric Company (PG&E) to reduce potential water quality impacts. Further, with the elimination of the in-river transition structure from the Proposed Project design, all permanent impacts within the Sacramento-San Joaquin River Delta (Delta) would be eliminated.

With the current design modifications, the cables associated with the proposed LSPGC 230 kV Submarine Segment would be brought on land through open trenches to two proposed riser structures on the north shore of the Delta where the LSPGC 230 Kilovolt (kV) Transmission Line would transition to an overhead configuration. Use of the open trench construction method would lead to an increase in total suspended solids in the vicinity of the submarine cables. However, the potential impacts from this temporary increase in suspended solids would be reduced with the implementation of applicant-proposed measure (APM) HYD-1. This APM would require the use of sediment curtains, silt barriers, turbidity curtains, or similar technologies when open trenching, reducing the diffusion of the sediment to the surrounding area and thereby reducing potential short-term impacts on surrounding benthic environments. Additionally, appropriate best management practices (BMPs) would be implemented in accordance with the Proposed Project's SWPPPs to prevent erosion and surface water quality impacts. With the implementation of APM HYD-1 and BMPs potential impacts would continue to be less than significant.

The design modifications would reduce the number of submarine cables from six to four. During the submarine cable installation process, a hydroplow and water-jetting equipment would be used to install the cable below the sediment surface. While approximately 75 percent of sediments would remain in the furrow, this process would cause turbidity in the water column. When compared to the original design in the PEA, the design modifications would reduce the potential turbidity by approximately 33 percent. Impacts from this activity would continue to be less than significant.

#### PG&E Components

**Less-than-Significant Impact.** During a field investigation at the proposed 500 kV Transposition Structures, multiple potentially jurisdictional wetlands and drainages were observed within work areas and along access roads. To reduce the potential for impacts to these features, PG&E would flag the features for avoidance during construction activities. If the potentially jurisdictional features could not be avoided, temporary mats or plates would be placed over these features to protect them from disturbance during construction activities. Should it not be feasible to utilize mats or plates, PG&E would obtain any necessary permits from the applicable jurisdictional agencies prior to the start of construction and implement all applicable permit requirements to reduce the potential impacts to water quality. Further, construction BMPs

identified in the SWPPPs would be implemented to minimize sediment erosion and other potential pollutant discharges to the wetlands and ephemeral stream during construction. Additionally, the proposed PG&E 500 kV Transposition Structures would be sited outside of any known jurisdictional aquatic features to the extent practicable to avoid permanent impacts. As a result, impacts would be less than significant.

**Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

*Construction, Operations and Maintenance*

LSPGC and PG&E Components

**Less-than-Significant Impact.** Design modifications to the Proposed Project components would be located within the same two groundwater basins (i.e., the Solano Subbasin and Eastern San Joaquin Valley Subbasin) that were previously analyzed in the PEA. The design modifications would require a minor incremental increase water over what was analyzed in the PEA. As noted, construction water requirements for the Proposed Project would represent approximately 0.01 percent of the approximately 150,000 acre-feet of groundwater pumped from the Solano Subbasin in Water Year 2023 (Solano Collaborative). As a result, the Proposed Project, with the design modifications incorporated, would not cause a substantial increase in groundwater usage, nor would it interfere substantially with groundwater recharge.

Operation and maintenance (O&M) activities of the design modifications to the Proposed Project components would be similar to those described in the PEA and would not require additional water usage. In addition, the design modifications would not substantially increase the amount of impervious surfaces, and therefore the amount of groundwater recharge in the area during rain events would remain consistent with current conditions. As a result, and consistent with the PEA, impacts would continue to be less than significant.

**Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on-site or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?**

*Construction*

LSPGC Components

**Less-than-Significant Impact.** The design modifications would eliminate the in-river transition structure from the Delta, reducing the impervious surfaces that would be introduced by the Proposed Project. Additionally, the two on-shore riser structures associated with the proposed LSPGC 230 kV Overhead Segment and the proposed LSPGC Collinsville Substation have been sited to avoid potentially jurisdictional features. As a result, these design modifications would reduce the temporary and permanent impacts to waterbodies. Further, the design modifications

would not result in an increase in impervious surfaces. As a result, and consistent with the PEA, impacts would continue to be less than significant.

### PG&E Components

**Less-than-Significant Impact.** As previously described, the proposed PG&E 500 kV Transposition Structures and associated work areas may overlap with potentially jurisdictional wetlands located within Solano County. However, these features would be avoided to the extent practical. If avoidance is not feasible, PG&E would secure and implement all requirements of the necessary permits from applicable jurisdictional agencies. In addition, appropriate BMPs would be implemented in accordance with the Proposed Project's SWPPPs. The proposed structures would not be located within these features, thereby avoiding any new permanent impacts. Additionally, the design modifications would not result in a significant increase in impervious surfaces. As a result, and consistent with the PEA, impacts would continue to be less than significant.

### *Operations and Maintenance*

#### LSPGC and PG&E Components

**No Impact.** O&M of the design modifications associated with the Proposed Project components would be the same as those described in the PEA and would not involve any activities that would require the alteration of drainage patterns or the increase of impervious surfaces. O&M activities associated with the proposed PG&E 500 kV Transposition Structures would be included in routine inspections of PG&E's existing Vaca Dixon-Tesla 500 kV Transmission Line. The proposed LSPGC 230 kV riser structures would be included in the O&M activities for the proposed LSPGC 230 kV Overhead Segment. Additionally, the removal of the in-river transition structure from the Proposed Project design would decrease the amount of impervious surfaces near the north shore of the Delta. The design modifications associated with the remaining LSPGC and PG&E Proposed Project components would not affect the O&M activities described in the PEA. Further, maintenance would continue to be performed by small crews traveling on established access roads and would typically involve conductor washing and general structure maintenance. As a result, and consistent with the PEA, no impacts would occur.

### **Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

#### *Construction, Operations and Maintenance*

#### LSPGC and PG&E Components

**Less-than-Significant Impact.** Proposed PG&E 500 kV Transposition Structure D and its associated work areas would be located within an area designated as a Regulatory Floodway in Contra Costa County, but not within a designated Flood Hazard Zone, according to the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map. Development within a Regulated Floodway that may potentially increase the water surface elevation more than a designated height is subject to approval by the local jurisdiction (FEMA 2020). Proposed PG&E 500 kV Transposition Structure D would not create a significant threat of upstream flooding due to its relatively sparse construction, as compared to typical residential or industrial building development projects. Further, there would be no hazardous materials

associated with the transposition structure that could degrade water quality during a flood. All other design modifications to the Proposed Project components would not change the flood hazard designations described in the PEA. As a result, and consistent with the PEA, impacts would continue to be less than significant.

### **Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

#### *Construction, Operations and Maintenance*

#### LSPGC and PG&E Components

**No Impact.** Consistent with the PEA, the design modifications would not conflict with or obstruct the implementation of the Central Valley Regional Water Quality Control Board (RWQCB) and San Francisco Bay RWQCB Basin Plans nor any sustainable groundwater management plan. Groundwater may be encountered and/or utilized during the construction of the design modification; however, use or discharge of groundwater would be in coordination with the Solano Collective, and sufficient groundwater supply exists to accommodate use during construction. The design modifications would not require the construction or relocation of water infrastructure. As noted previously, the design modifications would require an incremental increase in water during construction; however, ample supply exists in the Proposed Project area.

O&M of the design modifications would not require a significant water supply as the proposed LSPGC Collinsville Substation would continue to be unmanned and remotely operated, the proposed LSPGC 230 kV Submarine Segment would not require any ongoing O&M, and the changes to the proposed LSPGC 230 kV Overhead Segment would not affect the water required during O&M. Routine maintenance of the proposed PG&E Transposition Structures would be covered by the existing activities along PG&E's existing Vaca Dixon-Tesla 500 kV Transmission Line. As a result, and consistent with the PEA, no impacts would occur.

#### **References**

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- Solano Collaborative. 2024. Solano County and Solano Subbasin Groundwater Sustainability Annual Report – Water Year 2023. Online. [https://www.solanogsp.com/wp-content/uploads/2024/04/5-022.66\\_WY\\_2023\\_Compressed.pdf](https://www.solanogsp.com/wp-content/uploads/2024/04/5-022.66_WY_2023_Compressed.pdf). Site visited January 2025.
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