

# **Draft Compatibility Determination**

## **Title**

Draft Compatibility Determination for Ignacio-Mare Island Tower Replacement Right-of-Way, San Pablo Bay National Wildlife Refuge.

## **Refuge Use Category**

Rights-of-way and Rights to Access

## **Refuge Use Type(s)**

Right-of-Way (utility)

## **Refuge**

San Pablo Bay National Wildlife Refuge

## **Refuge Purpose(s) and Establishing and Acquisition Authority(ies)**

“... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” 16 U.S.C. 715d (Migratory Bird Conservation Act),

“... particular value in carrying out the national migratory bird management program.” 16 U.S.C. 667b (An Act Authorizing the Transfer of Certain Real Property for Wildlife, or other purposes), and

“... to conserve (A) fish or wildlife which are listed as endangered species or threatened species... or (B) plants...” 16 U.S.C. 1534 (Endangered Species Act of 1973).

## **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

## **Description of Use**

Is this an existing use?

No

### What is the use?

Pacific Gas and Electric (PG&E) has requested a right-of-way permit to replace or modify eight (8) aging (over 100 years old) existing transmission towers along its Ignacio-Mare Island 115 kV transmission line on the San Pablo Bay National Wildlife Refuge. The new towers will be constructed in-line with the existing conductor adjacent to the existing towers. Due to new conductor sway and tower design additional right-of-way extending to the south of the existing right-of-way will be required. In addition to the replacement of eight towers, minor boardwalk modification will be needed to establish access to new tower locations.

### Is the use a priority public use?

No

### Where would the use be conducted?

Seven of the eight towers to be replaced are located on Parcel APN 0067-020-130 which is located on the Detjen Unit in tidal marsh vegetation. Key wildlife on the Detjen Unit include salt marsh harvest mouse, Suisun shrew, California vole and other small native mammals. The other tower modification is located on Parcel 0067-030-140, which is located at the Cullinan Ranch Unit in an open water salt pond. Access to this tower would be conducted by barge. Key wildlife on the Cullinan Ranch Unit include shorebirds, other waterbirds, and some waterfowl species. The area is unlikely to provide any suitable fish nursery habitat. Approximately 5.16 acres of wetland and open water habitat will be temporarily impacted for several months by access and construction. Approximately 288 square feet of wetland will be permanently impacted by the placement of new towers. Both temporary and permanent impacted habitat is negligible to the total wetland and open water habitat on the Refuge. See Figure 1.

Access to the Refuge will require transiting through CalTrans and County properties along Skaggs Island Road. The staging of equipment will take place on these properties, not on the Refuge.

### When would the use be conducted?

The duration and timing of construction is September 1, 2025-January 15, 2026. Foundation work will be completed on a 6-day week, 10 hours per day schedule. Steel and line work will be on a 7-day week, 12 hours per day schedule.

### How would the use be conducted?

New towers will be constructed via a combination of helicopter and heavy equipment vehicle access. Towers will also be accessed via trucks and heavy equipment vehicles. To provided vehicle access, existing levee roads (CalTrans and Solano County) will be

utilized and temporary matting will be installed adjacent to the existing boardwalk and for work areas around existing and future towers. No vegetation will be removed. All temporary access would be disassembled and removed after each new tower is in place and the existing tower has been removed.

Temporary 40-foot-wide access roads would be constructed in the wetland habitat using modular engineered wood construction matting. In addition, at each old tower a 12-foot area of matting will circle around old tower locations and at each new tower location a 80 foot by 80 foot work area matting area will be installed. Due to water depth surrounding the most eastern tower on Parcel 067-030-140 a barge will be used to replace the tower and to pull conductor from adjacent towers. Prior to installation matting will be staged and stored alongside Skaggs Island Road. On flat upland surfaces, matting would be laid directly on the ground. On non-uniform surfaces and wetlands, matting would be laid on top of support beams. Support beams are staggered at regular intervals and are wider than the road to disperse load.

Following construction activities, emergent saline marsh vegetation is expected to recover passively. PG&E would monitor vegetation impact locations to ensure revegetation efforts are successful, as guided by the project Habitat Restoration Plan.

Replacement towers would be installed prior to removal of existing towers. Tower foundations would be installed once access is established to the new tower location. Each tower foundation consists of 4 pile-supported footings. Towers would require one 36-inch pipe pile to support each footing. Piles would be initially installed with a crane- or excavator-mounted vibratory hammer. A crane- or excavator-mounted impact hammer would be used to complete steel pile installation and drive to final depths. One pile from each tower would be proof tested to ensure load capacity. Once installed to depth, piles would be reinforced internally with rebar cage and concrete. A base plate would be installed to connect the pipe piles to the tower leg. Tower footing replacement and repair activities are a covered activity described in Section 3.3.3.6 of PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan.

The new steel lattice towers will be constructed following completion of the new foundations. Structures will be constructed at a staging area/landing zone away from tower locations. Leg extensions will be installed by crane onsite, and towers will then be flown in by helicopter from the LZ and installed onsite

Once the electric conductors for both circuits are relocated to the replacement towers and the circuits have been fully energized, the existing towers will be removed. The steel lattice will be removed first in segments using mechanical hand tools such as saws and torch cutters in combination with helicopters and cranes to remove pieces of steel for disposal. Following removal, footings and associated support piles will be removed to be 2 to 3 feet below grade. Mechanical methods such as hoe rams will be used to remove tower footings.

Minor boardwalk deconstruction and construction will occur using hand tools. All

materials and tools will be transported by foot with no vehicle or machinery necessary for construction. Four-inch by four-inch composite support pilings will be installed at approximately 10-foot spacing and driven directly into the mud. A 10-foot-wide work area is required to construct and decommission boardwalk. Final layout will be determined during final design.

The following types of equipment are anticipated to be used during construction: generators, cranes, crane-mounted vibratory and impact hammers, backhoe, excavator, compactor, hoe-ram, concrete trucks and pumps, front end loader, grader, and heavy-duty dump trucks. For land-based access, pickup trucks and sport utility vehicles would be used to access the project sites. For air-based access, helicopters would be utilized.

A Right-of-Way permit will be issued.

Why is this use being proposed or reevaluated?

The existing transmission line towers are over 100 years old and need replacement to maintain safe and reliable electric service. These transmission lines provide electric service to communities North of the San Francisco Bay.

### **Availability of Resources**

Existing U.S. Fish & Wildlife Service (USFWS) resources are adequate to administer this right-of-way and allow its construction to extend onto Refuge property. Construction and any needed vegetation management post-construction would be funded and conducted by PG&E. Administration and monitoring of the project would be the responsibility of PG&E.

### **Anticipated Impacts of the Use**

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Visual impact and marine mammals will not be more than negligibly impacted by the action and have been dismissed from further analyses.

The activities in the proposed use have been analyzed in the *Final Environmental Assessment for the Pacific Gas & Electric Company Bay Area Operations and Maintenance Habitat Conservation Plan* (USFWS 2017) and would bring no significant

effect on the human environment. Conservation measures would be implemented to avoid, minimize, and mitigate take of federally-listed species.

The use would have temporary and relatively minor impacts related to work in waters of the United States and State of California, in wetlands, and in habitats important for certain endangered and other types of special-status species. This construction work would cause brief periods of noise, turbidity in water, air quality emissions, and exclusion from habitats. However, the work is being carefully timed and sequenced to avoid periods of nesting, migration, or other life stages during which these species are sensitive or likely to be present in the work areas. The potential effects could include disturbance rising to the level of take of California Ridgway's rail and salt marsh harvest mouse from direct injury or mortality, disturbance, and permanent habitat loss or temporary exclusion. The project would also include small areas of permanent fill and habitat loss in wetlands, waters, and other habitats.

## Short-term impacts

### Air Quality

Temporary emission will occur via use of helicopter and project vehicles but all emissions will be short term (only during construction) and due to the linear nature of the project will have less-than-significant impacts on sensitive receptors

### Biological Resources

In the short-term, minor and temporary loss of pickleweed and other tidal marsh plant species cover is expected due to the placement of mats to provide heavy equipment access to the towers to be replaced. Soil stability will be unaffected by the construction matting or barges that will be used as a working platform.

The project will have temporary and localized impacts to open water waterfowl and shorebirds, and resident fish in shallow flooded ponds associated with the Cullinan Ranch restoration project. Birds may be flushed from the area during the daytime. Impacts to nesting birds will be mitigated by conducting work outside the nesting season. Impacts would be similar for fish. Impacts to fish and essential fish habitat will be mitigated by implementation of NMFS programmatic biological opinion CRO-2021-02887. Rare or endangered plants are absent from the work area as per USFWS programmatic biological opinion 08FBDT00-2020-F-0197. At no point will PG&E staff or contractors engage in hunting, capturing, collecting or killing native wildlife which is a violation of PG&E's professional conduct standards. Impacts to threatened and endangered species such as Ridgway's rail, salt marsh harvest mouse, and others, will only occur under the provisions of PG&E's Bay Area Habitat Conservation Plan (Take Permit #: TE56826C-0).

### Cultural Resources and Geology/Soils

There are no anticipated effects to indigenous cultural resources as the area is

underlain entirely by Middle-to-Late Holocene (<7,000 years) bay mud deposits (Qhbm) with soils of the Reyes Series formed at their surface (Jacobs Engineering Group, Inc 2025). These materials are estimated to have low sensitivity for buried archaeological deposits and moderate sensitivity for submerged deposits. In addition, a PG&E request on June 4, 2024 to the Native American Heritage Commission to search the Sacred Lands File were negative for Native American cultural resources in the project vicinity.

### Hydrology and Water Quality

The potential impacts on water quality due to project activities may consist of an increase in turbidity and pH down gradient from work locations. These impacts will be mitigated through implementing site specific erosion and sediment control BMPs such as silt fencing, staking and trenching in fiber roll, gravel bag berms and proper concrete containment. No change to streams or other body of water is expected.

### Noise and Vibration

Some noise will occur during construction, mainly that from a handful of heavy equipment vehicles and a helicopter, but all noise impacts will be temporary and not occur after 5 PM and before 7 AM.

### Public Health and Environmental Hazards

As the immediate vicinity is a wildlife refuge, there are no communities immediately adjacent to the project site therefore no public health hazards are expected from this project.

Hazardous materials will be limited to construction equipment and vehicles. While fuel trucks will be used on site, refueling will occur on paved areas or within secondary containment facilities. Crews will always keep spill kits at each work area per PG&E standard best management practices.

### Visual Resources

On average the tower heights will increase approximately 40 percent. Due to the lack on visual receptors (only one house in the area) and that the towers are adjacent to much large/taller towers the visual impact will be less than significant.

### Visitor Use and Experience

Hunting occurs in the area but would be negligibly impacted by the activities. Signage would be placed to inform the public of the activity, but visitor uses should be able to

continue as normal.

## Long-term impacts

### Air Quality

Once construction is complete, there should be no notable long-term increases in emissions or impacts to air quality with the replaced towers and boardwalks.

### Biological Resources

Vegetation flattened by mats and heavy equipment is expected to recover once construction is completed. Vegetation typically recovers within 1-2 years. Upland areas such as levees will be reseeded at the completion of work.

If old tower footprint is not removed, there will be a small additional loss of wetland and open water habitat due to the placement of the new towers adjacent to the existing towers. The allotted amount of lost wetland has already been accounted for in the USFWS 2017 document.

Once the towers are in place and the boardwalks replaced, no long-term, impacts to wildlife or fish are expected. It is possible that the additional tower height might encourage a small amount of additional perching by raptors that could prey upon wildlife in the wetland.

### Cultural Resources and Geology/Soils

Once the construction is complete, no long-term impacts to cultural resources and soils/geology, hydrology, water quality, noise, vibration, public health environmental hazards are expected.

### Visitor Use and Experience

Once construction is complete, no long-term impacts to visitor use and experience are expected.

## **Public Review and Comment**

The draft compatibility determination will be available for public review and comment for 14 calendar days. A hard copy of this document will be posted at the Refuge Headquarters. It will be made available electronically on the refuge [website](#). Concerns expressed during the public comment period will be addressed in the final.

## **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

1. To prevent the spread of invasive weeds through seed, all equipment (e.g., excavators, graders, boats, barges, etc.) shall be carefully cleaned before arriving on site to prevent spread of these and other invasive plants.
2. Encounters with listed species would be reported to the refuge and PG&E Project Biologist within 24 hours.
3. Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.
4. Locate off-road access routes and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).
5. Minimize potential for species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a special-status species is suspected or discovered.
6. Vehicle speeds on unpaved roads would not exceed 15 miles per hour.
7. Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.
8. Reduce activity footprint wherever possible and minimize the amount of time spent at a work location to reduce the potential for take of species.
9. Utilize standard erosion and sediment control BMPs (pursuant to the most current version of Permittee's Stormwater Field Manual for Construction Best Management Practices) to prevent construction site runoff into waterways.
10. Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.
11. Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews would search open trenches or steep-walled holes the following morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife is found, a qualified biologist would be notified and would relocate the species to adjacent habitat or the species would be allowed to naturally disperse, as

determined by a biologist.

12. Nests with eggs and/or chicks would be avoided: contact a biologist, land planner or the Avian Protection Program manager for further guidance.
13. When working in areas near waterways or wetlands, the duration of in-water activity would be limited to the minimum amount of time necessary to conduct activities.
14. In-water activities that include impact hammer use and/or cofferdam construction are considered “high-impact activities.” High-impact activities within the San Francisco, San Pablo, Suisun, and Grizzly bays would be planned and scheduled to occur between June 1 and November 30. No impact pile driving would be initiated if it cannot reasonably be completed by November 30. If unforeseen circumstances prevent the completion of pile driving by November 30, PG&E would request an extension on a case-by-case basis to complete the pile driving that has already been initiated.
15. Prolonged, soft-start procedures would be implemented when impact pile driving is required for piles greater than 20 inches in diameter in waters that provide habitat for federally listed anadromous fish species. Soft-starts would include pile driving at 40- to 60-percent reduced energy for at least 15 seconds, followed by a 1-minute waiting period. This procedure would be repeated at least two times before commencing full-energy impact pile driving.
16. PG&E would prioritize using a vibratory hammer to install in-water piles, but when an impact hammer is necessary, only one hammer would be used at a time with no more than 2,000 strikes per day on piles within an individual work area. PG&E would also utilize sound attenuation devices during pile-driving (e.g., hammer cushions, bubble curtains, dewatered cofferdams, dewatered isolation casings, etc.). Air bubble curtains should be utilized, whenever possible<sup>1</sup>, for impact driving of piles larger than 12 inches in diameter unless the work site is dewatered by a cofferdam. In instances when impact driving is limited to periods of low tide when water depths are less than 4 inches for the entire duration of the pile driving, air bubble curtains are not required. In addition, pile-driving activities that require multiple days at the same location would occur at least 12 hours apart to avoid impacts to federally listed fish species.
17. In-water pile removal would occur using either a vibratory hammer or direct pull method of extraction. A vibratory hammer/extraction must be attempted first unless it presents a greater risk of disturbance to sediments. The direct pull method would be utilized if it is more appropriate for the substrate type, pile length, and structural integrity of the piling.
18. For activities that would result in ground disturbance in tidal marsh or coastal wetland habitat, including the removal of marsh vegetation, a biologist would flag access routes for crews when working in pickleweed (*Salicornia*) or smooth

cordgrass (*Spartina alterniflora*) dominated habitats in order to minimize impacts on these species. Crews would hand-carry equipment and use protection mats (landing pads, pallets) to minimize ground disturbance when working within pickleweed or smooth cordgrass. Small areas of healthy vegetation would be cleared by hand prior to placement of protective mats. To avoid take of salt marsh harvest mouse, the biologist would assess the site to determine if: vegetation protection mats are appropriate, use of helicopters is needed, vegetation removal by hand is needed, and an onsite biological monitor is needed. Prior to placement of mats or removal of vegetation, the vegetation would be disturbed (i.e., flushed) to force movement of salt marsh harvest mouse into adjacent tidal marsh areas. Immediately following flushing, the field crew would place a mat or manually remove vegetation with nonmotorized tools (e.g., hoe, rake, trowel, or shovel) to the bare ground.

19. Conduct work within 700 feet of wetlands suitable for the Ridgway's rail September 1–January 15.

### **Justification**

The stipulations outlined above would help ensure that the use is compatible at San Pablo Bay National Wildlife Refuge. This right-of-way use, as outlined in this compatibility determination, would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the Refuge. Based on available science and best professional judgement, the Service has determined that this right-of-way at San Pablo Bay National Wildlife Refuge, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Refuge.

## **Signature of Determination**

Refuge Manager Signature and Date

## **Signature of Concurrence**

Assistant Regional Director Signature and Date

## **Mandatory Reevaluation Date**

2035

## **Literature Cited/References**

Jacobs Engineering Group, Inc. 2025. Ignacio-Mare Island 115 KV Tower Replacement Project, Phase IV, Vallejo, Solano County, CA, Cultural Resources Assessment. For Pacific Gas and Electric Company, Order Number 74048065.

Figure 1. Project Overview Map

