

## Work Variance Request Form

Groundwater Remedy Phase 1 Construction, PG&E Topock Compressor Station, Needles, California

### PG&E TOPOCK GROUNDWATER REMEDIATION PROJECT

#### Work Variance Request #8 – Proposed changes to the alignment of Pipeline C Segment C6

Request Prepared By: PG&E

Request Approval From: DTSC and DOI

Date Submitted: September 10, 2019

Date Approval Required: TBD

Variance Request No.: 8

Map Area: N/A

Location: The eastern slope of the MW-20 Bench, just south of the stairway from floodplain to the bench top

Land Manager: BLM Land Owner Parcel No: 650-161-09

Current Vegetative Cover/Land Use: Several palo verde/mesquite trees along with creosote bushes

Existing Sensitive Resource? ☐ No ☒ Yes, Specify: Ethnobotanical plants

Variance From: ☐ Mitigation Measure ☐ Work Plan/Procedure ☐ Response to Comments  
☒ Drawing ☐ Permit Condition ☐ Other

#### Detailed Description of Variance and Justification (Attach additional information if necessary):

Attachments: ☐ Photo ☒ Construction Drawing ☐ Aerial Photo Mark-Up ☐ Correspondence ☐ Other

##### Potential Impacts of Variance:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Air Quality                     | <input type="checkbox"/> Hazardous Materials         | <input type="checkbox"/> Aesthetic (see visualizations) |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Noise                       | <input type="checkbox"/> Water Resources                |
| <input checked="" type="checkbox"/> Soils                | <input type="checkbox"/> Paleo Resources             |   |
| <input type="checkbox"/> Cultural Resources              | <input type="checkbox"/> Hydrology and Water Quality |   |

##### Description and Justification:

This Work Variance Request (WVR) addresses proposed changes to the alignment of Pipeline C Segment C6 to reduce the amount of soil disturbance, reduce the number of plants to be removed, reduce the safety risks associated with construction atop the MW-20 bench, and reduce the hazards associated with operation at the MW-20 bench during construction. The specifics are described below and included in the attached drawings.

- a) Reduce amount of soil disturbance.** The original alignment in the 100% design would generate approximately 1430 cubic yards (CY) of excavated soil, mostly (1040 CY) from atop the MW-20 bench. The original alignment requires excavation to about 7.5 feet below ground surface (bgs) for the entire segment C6 extent atop the Bench to allow undercrossing and installation alongside the existing IM-3 utilities. Some of the bench top excavation volume is due to sidewall benching for excavation protection.
- PG&E proposes to shift the alignment south where the pipeline can be dug to a depth of about 3.5 feet bgs, leaving deeper excavation limited only to crossing small-diameter IRZ lateral pipes and conduits under the existing IM-3 utilities. This shift reduces the amount of soil disturbance by 57% to 610 CY.
- b) Reduce number of plants to be removed.** The original alignment would require the removal of about three palo verde trees and four creosote bushes. The proposed alignment would save those plants, but would require the removal of two mesquite trees and one creosote bush. Every effort will be made to swing the alignment as far north as possible to further reduce the number of plants to be removed.
- c) Reduce safety risks associated with deep excavation and working under energized utilities.** The original alignment would require exposure of 110 feet of active IM-3 utilities to allow for crossing of the Segment C6. The IM-3 facilities would remain energized during construction, posing a significant health and safety risk for workers that would have to work directly underneath the exposed and energized utilities. Energized utilities include power and IM-3 process water/waste. In addition, deep excavation to about 7.5 feet bgs would occur, and construction access would ....

## Work Variance Request Form (Continued)

Groundwater Remedy Phase 1 Construction, PG&E Topock Compressor Station, Needles, California

### PG&E TOPOCK GROUNDWATER REMEDIATION PROJECT





#### Work Variance Request #8 – Proposed changes to the alignment of Pipeline C Segment C6

##### Description and Justification: (Continued)

- c) **Reduce safety risks associated with deep excavation and working under energized utilities (continued).** .... Require benching or sloping to allow worker access to the excavation. In addition, there is greater slope stability risk/hazard at the intersection of the bench top and the slope as the trench would have to go down to 7.5' bgs immediately at the top of the slope, since the IM3 utilities are located on the bench near the top of slope. The proposed alignment avoids these safety risks.
- d) **Reduce operational hazards at the MW-20 Bench.** Construction of the original alignment would render the entire northern extent of the bench, from the northern entrance to the brine tank area, inaccessible. All other activities at the bench would have to operate from the southern access point, which creates traffic control and crowding hazards.

In sum, the proposed changes in this WVR reduce the amount of soil disturbance by approximately 823 cubic yards (from the final design), the number of plants to be removed, and the safety risks/hazards associated with construction atop the bench. Besides the two mesquite trees and one creosote bush to be removed, there are no additional impacts to biological, historical, and cultural resources not already evaluated.

##### Approval Signatures:

|   |         |  |       |            |
|---|---------|--|-------|------------|
|  | 9/12/19 |  | DTSC, | 10/4/2019  |
| PG&E Operations Manager   | Date    | Approving Agency   | Date  |            |
|  | 9/12/19 |  | DOI   | 10/08/2019 |
| PG&E QA Manager   | Date    | Approving Agency   | Date  |            |



- IRZ-19 well vault footprint (in black)
- 8' work zone radius in all directions (in red)

Current Max  
Construction  
Footprint

- This turn will be field fit based on:
- site conditions
  - ability to reduce fittings as needed
  - minimum requirements for installation of piping to match existing slope contour.

WVR #8 - Proposed  
Revision to C6  
Pipeline Alignment

100% Design - C6  
Pipeline Alignment

Mesquite tree  
not touched  
or trimmed (1)

Save palo verde  
trees (3) and  
creosote bushes  
(4) w/ revised  
alignment

IM3 Utility  
Corridor

Remove 1-2  
mesquite trees  
and one  
creosote bush



100% DESIGN - C6 ALIGNMENT

UTILITY POTHOLING RESULTS:  
IM3 lines size: various. see depths  
material: PVC & HDPE

- (8) 2" PVC conduits at 26" bgs  
- (1) 8" HDPE pipe at 33" bgs  
- (1) 8" HDPE pipe at 33" bgs  
- (1) 4" HDPE pipe at 39" bgs  
- (1) 3" HDPE pipe at 39" bgs

UTILITY POTHOLING RESULTS:  
M3 lines size: various. see depths  
material: PVC & HDPE

- (5) 2" PVC conduits at 28" bgs  
- (3) 2" PVC conduits at 28" bgs  
- (1) 8" HDPE pipe at 40" bgs  
- (1) 8" HDPE pipe at 42" bgs  
- (1) 4" HDPE pipe at 45" bgs  
- (1) 3" HDPE pipe at 43" bgs

PIPELINE "C" - PLAN

(SCALE: 1" = 20')

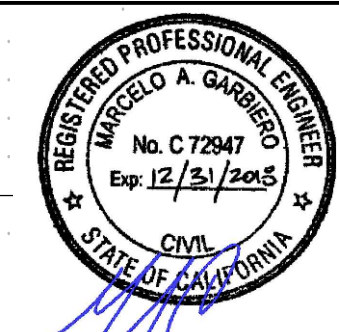
PIPELINE "C" - PROFILE

(SCALE: 1" = 20' H; 1" = 10' V)



| REVISIONS |      |             |         |     |      |      |         |     |          | REVISIONS                     |         |     |      |      |         |     |      |             |         |
|-----------|------|-------------|---------|-----|------|------|---------|-----|----------|-------------------------------|---------|-----|------|------|---------|-----|------|-------------|---------|
| NO.       | DATE | DESCRIPTION | GM/SPEC | DWN | CHKD | SUPV | APVD BY | NO. | DATE     | DESCRIPTION                   | GM/SPEC | DWN | CHKD | SUPV | APVD BY | NO. | DATE | DESCRIPTION | GM/SPEC |
|           |      |             |         |     |      |      |         | 5   | 11/16/18 | ISSUED FOR CONSTRUCTION       |         |     |      |      |         |     |      |             |         |
|           |      |             |         |     |      |      |         | 4   | 11/02/18 | CALTRANS ENCROACHMENT PACKAGE |         |     |      |      |         |     |      |             |         |
|           |      |             |         |     |      |      |         | 3   | 06/16/17 | ISSUED FOR BID                |         |     |      |      |         |     |      |             |         |
|           |      |             |         |     |      |      |         | 2   | 11/18/15 | FINAL DESIGN                  |         |     |      |      |         |     |      |             |         |
|           |      |             |         |     |      |      |         | 1   | 09/08/14 | PRE-FINAL (90%) DESIGN        |         |     |      |      |         |     |      |             |         |
|           |      |             |         |     |      |      |         | 0   | 04/05/13 | INTERMEDIATE (60%) DESIGN     |         |     |      |      |         |     |      |             |         |

TOPOCK GROUNDWATER REMEDIATION PROJECT  
PIPELINE "C3" "C4" & "C6"  
PIPELINE "C3" "C4" & "C6"  
STA 19+60 TO STA 25+79  
GAS TRANSMISSION & DISTRIBUTION  
PACIFIC GAS AND ELECTRIC COMPANY  
SAN FRANCISCO, CALIFORNIA



|              |           |
|--------------|-----------|
| MICROFILM    |           |
| BILL OF MATL |           |
| DWG LIST     |           |
| SUPSDS       |           |
| SUPSD BY     |           |
| SHEET NO.    | of SHEETS |
| C-07-41      | REV 5     |



**WVR #8 - PROPOSED REVISED C6 ALIGNMENT**

**PIPELINE "C" - PLAN**  
(SCALE: 1" = 20')

**PIPELINE "C" - PROFILE**  
(SCALE: 1" = 20' H; 1" = 10' V)

**NOTES:**

1. VAULT DETAILS SHOWN IN AREA 4 OF THE MECHANICAL AND STRUCTURAL DRAWINGS.
2. SEE CONDUIT AND CABLE SCHEDULES AND SINGLE LINE DIAGRAMS ON SHEETS E-00-12 THRU E-00-20.
3. CLEANOUT LOCATIONS PROVIDE CLEANOUT PIPING FOR ALL INJECTION, EXTRACTION, BACKWASH, AND REMEDY-PRODUCED WATER LINES AT INDICATED LOCATIONS (SEE DETAIL C-00-08).
4. FOR LATERALS TO REMEDIATION WELLS, SEE DETAIL 3 ON SHEET C-07-141.
5. FOR COORDINATES TO STRUCTURES ALONG PIPELINE OR RADIUS POINT INFORMATION, SEE SHEETS C-07-91 AND C-07-92.

**REVISIONS**

| NO. | DATE     | DESCRIPTION    | GM/SPEC | DWN | CHKD | SUPV | APVD BY |
|-----|----------|----------------|---------|-----|------|------|---------|
| 6   | 08/20/19 | C6 REALIGNMENT |         | VJM | JPB  | BLP  | RAO     |

**REVISIONS**

| NO. | DATE     | DESCRIPTION                   | GM/SPEC | DWN | CHKD | SUPV | APVD BY |
|-----|----------|-------------------------------|---------|-----|------|------|---------|
| 5   | 12/07/18 | ISSUED FOR CONSTRUCTION       |         |     |      |      |         |
| 4   | 11/02/18 | CALTRANS ENCROACHMENT PACKAGE |         |     |      |      |         |
| 3   | 06/16/17 | ISSUED FOR BID                |         |     |      |      |         |
| 2   | 11/18/15 | FINAL DESIGN                  |         |     |      |      |         |
| 1   | 09/08/14 | PRE-FINAL (90%) DESIGN        |         |     |      |      |         |
| 0   | 04/05/13 | INTERMEDIATE (60%) DESIGN     |         |     |      |      |         |

**APPROVED BY**

| SO    | DATE | SCALE |
|-------|------|-------|
| SUPV  |      |       |
| DSGN  |      |       |
| DWN   |      |       |
| CHKD  |      |       |
| OK    |      |       |
| DATE  |      |       |
| SCALE |      |       |

**TOPOCK GROUNDWATER REMEDIATION PROJECT**  
**PIPELINE - PLAN AND PROFILE**  
**PIPELINE "C3", "C4", & "C6"**  
**STA 19+60 TO STA 25+79**  
GAS TRANSMISSION & DISTRIBUTION  
PACIFIC GAS AND ELECTRIC COMPANY  
SAN FRANCISCO, CALIFORNIA

**BILL OF MATL**

| DWG LIST | SUPSDS | SUPSD BY | SHEET NO. | of | SHEET |
|----------|--------|----------|-----------|----|-------|
|          |        |          | C-07-41   |    | 6     |

NOTES:

1. VAULT DETAILS SHOWN IN AREA 4 OF THE MECHANICAL AND STRUCTURAL DRAWINGS.
2. SEE CONDUIT AND CABLE SCHEDULES AND SINGLE LINE DIAGRAMS ON SHEETS E-00-12 THRU E-00-20.
3. CLEANOUT LOCATIONS PROVIDE CLEANOUT PIPING FOR ALL INJECTION, EXTRACTION, BACKWASH, AND REMEDY-PRODUCED WATER LINES AT INDICATED LOCATIONS (SEE DETAIL C-00-08).
4. FOR LATERALS TO REMEDIATION WELLS, SEE DETAIL 3 ON SHEET C-07-141.
5. FOR COORDINATES TO STRUCTURES ALONG PIPELINE OR RADIUS POINT INFORMATION, SEE SHEETS C-07-91 AND C-07-92.

### PIPELINE "C" - PLAN

(SCALE: 1" = 20')

### PIPELINE "C" - PROFILE

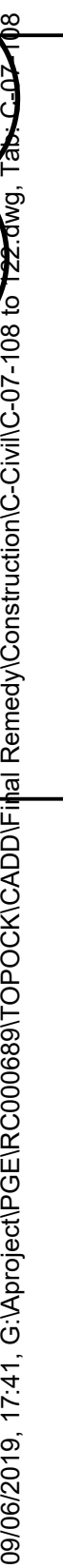
(SCALE: 1" = 20' H; 1" = 10' V)

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TOPOCK GROUNDWATER REMEDIATION PROJECT  
PIPELINE - PLAN AND PROFILE  
PIPELINE "C3", "C4", & "C6"  
STA 19+60 TO STA 25+79  
GAS TRANSMISSION & DISTRIBUTION  
PACIFIC GAS AND ELECTRIC COMPANY  
SAN FRANCISCO, CALIFORNIA

|              |    |          |
|--------------|----|----------|
| MICROFILM    |    |          |
| BILL OF MATL |    |          |
| DWG LIST     |    |          |
| SUPSDS       |    |          |
| SUPSD BY     |    |          |
| SHEET NO.    | of | SHEETS   |
| C-07-41      |    | REV<br>6 |





TOPOCK GROUNDWATER REMEDIATION PROJECT

**TRENCH SECTIONS**

**GAS TRANSMISSION & DISTRIBUTION**  
**PACIFIC GAS AND ELECTRIC COMPANY**  
**SAN FRANCISCO, CALIFORNIA**

|              |    |          |
|--------------|----|----------|
| MICROFILM    |    |          |
| BILL OF MATL |    |          |
| DWG LIST     |    |          |
| SUPSPDS      |    |          |
| SUPSPD BY    |    |          |
| SHEET NO.    | of | SHEETS   |
| C-07-108     |    | REV<br>6 |

## Future Activity Allowance Determination Matrix for Work Variance Request (WVR)

Work Variance Request No. 8

Date: 10/4/19

Future Activity Allowance is an activity that is not considered in the remedy design but necessary to support the project objectives. Future Activity Allowance is a Material Deviation which is defined in the final groundwater remedy design as: Material Deviation means a change or correction required to prevent a condition that would (1) render the approved design non-compliant with codes, regulations, and /or engineering standard of practices, (2) render planned well locations and/or constructions fail to meet the project objectives, (3) cause significant schedule delay, and/or (4) cause a significant increase in costs. (CH2M Hill, 2015)

According to the SEIR Project Description, "The inclusion of the Future Activity Allowance is not intended to account for minor adjustments (work variances) of the remedy design during construction resulting from field conditions. DTSC's objective for the inclusion of the Future Activity Allowance is to consider the potential impacts of needing to take additional but previously unforeseen activities that were not contemplated as part of the Final Remedy Design but are activities that would improve the performance of the remedy, or are necessary to gather additional information on the remedy performance, and/or aid in the transition of the active remedy to monitored natural attenuation." (ESA, 2017)

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1. Are all components of the WVR in the approved final design as reviewed in the SEIR?

☒ Yes ☐ No

2. Are all components of the WVR staying within an infrastructure alignment in the approved final design?

☐ Yes ☒ No

If answers to both 1 and 2 are Yes, STOP – action is not Future Activity Allowance

3. For components not in approved final design, will the WVR require new access not identified for use in the final design and create new ground disturbance beyond those anticipated in final design?

☐ Yes ☒ No

If answer is No, STOP – action is not Future Activity Allowance. If Yes, proceed...

4. For components not in approved final design and require new access or new ground disturbance, will the ground disturbing activity be outside the 2018 SEIR project boundary?

☐ Yes ☐ No

If answer is Yes, STOP – action is subject to additional CEQA evaluation. WVR approval will be considered after DTSC completes CEQA determination.

5. For WVR requiring new access and/or new ground disturbance, but project components are in approved final design and within the 2018 SEIR project boundary, is the variance necessitated by field conditions which are outside the control of the operator (e.g. refusal during drilling, unstable ground, existing design jeopardizes health and safety, modification to avoid archaeological resource, existing design does not conform to engineering standards, etc.)?

☐ Yes ☐ No

If answer is No or otherwise explained in Section 7 below, action is Future Activity Allowance, follow Communication Protocol for Future Activities Allowance, Exhibit 3 to the Statement of Decision and Resolution of Approval. If the answer is Yes, action is Future Activity Allowance, and DTSC will work with

Future Activity Allowance Determination Matrix

WVR No. 4

Page 2 of 2

Tribes to meet the time sensitivity of the WVR. Regardless of response, because of new access and/or new ground disturbance, WVR action may be subject to Federal Consultation. Inquire with BLM to determine whether there is a need to follow Consultation during Construction protocol.

6. Does the addition of WVR cause an exceedance from infrastructure limits specified in the 2018 certified Final SEIR (Table 3-1 for well boreholes; Table 3-2 for pipeline trenches, electrical/communication conduit, roadway improvements, or sizes of buildings and structures; Table 3-4 for volume of soil disturbance and Table 3-5 for water usage)?

☐ Yes ☐ No

If answer is Yes, STOP – action is subject to additional CEQA evaluation. WVR approval will be considered after DTSC completes a CEQA checklist to determine if there are new or substantially more significant environmental impacts than disclosed in the 2018 SEIR.

7. Other extenuating circumstances or information for FAA considerations: ☐ No

☐ Yes – provide information and/or justification

Conclusion: WVR No. 8

☒ is not a FAA ☐ is a FAA

Signature of DTSC reviewer: \_\_\_\_\_



Date: 10/04/2019