

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



May 11, 2011

Mr. Jim Kiefer  
Director Project Development  
Central Valley Gas Storage, LLC  
3333 Warrenville Road, Suite 130  
Lisle, Illinois 60532

**Subject: Central Valley Natural Gas Storage Project – Request for Notice to Proceed to conduct geotechnical bores at 16 sites along the Natural Gas Pipeline Route (Application No. 09.08.008).**

Dear Mr. Kiefer:

Central Valley Natural Gas Storage has requested authorization from the California Public Utilities Commission (CPUC) to conduct geotechnical bores at 16 sites along the Natural Gas Pipeline Route.

The Central Valley Natural Gas Storage project was evaluated in accordance with the California Environmental Quality Act and a Certification of Public Convenience and Necessity (CPCN) was granted by the CPUC on October 14, 2010 (Decision 10-10-001). **NTP #9A is granted by CPUC for the proposed construction activities based on the following factors:**

- The Mitigated Negative Declaration prepared for the Central Valley Gas Storage project defined required mitigation measures to be implemented prior to project construction. The relevant mitigation measures for conducting geotechnical bores at 16 locations are summarized in *Attachment A*. Central Valley's compliance with the pre-construction component for each measure is noted in the status table.
- All construction personnel working on the Central Valley Gas Storage project have received environmental training and will be briefed on specific measures to be implemented during construction.
- All construction activities will be conducted within areas identified and included in the Final Initial Study/Mitigated Negative Declaration for the CVGS project site, or within the areas approved under Variance Request #1.

Robert M. Brown  
May 11, 2011

- The biological monitor shall be present during all ground-disturbing activities occurring west of the Glenn-Colusa Canal to ensure that vernal pool fairy shrimp and vernal pool tadpole shrimp habitat is avoided, consistent with APM BIO-14.

The conditions noted below shall be met by Central Valley Gas Storage and its contractors:

- Boring activity west of the Glenn-Colusa canal (which includes proposed boreholes #15 and #16) shall not proceed until documentation for APM BIO-7 is submitted to the CPUC. APM BIO-7 identifies that Central Valley will retain a qualified biologist to conduct preconstruction surveys for active burrowing owl burrows according to CDFG guidelines.
- Copies of all relevant permits, compliance plans (i.e., MMCRP, SWPPP, etc.), and this Notice to Proceed shall be available on-site for the duration of construction activities. Copies of permits shall be provided to the CPUC upon request.
- All crew personnel shall be appropriately trained on environmental issues, including requirements of the MMCRP, prior to starting work. A log shall be maintained on-site with the names of all crew personnel trained and submitted to the CPUC.
- Central Valley shall comply with all applicable mitigation measures while conducting construction activities within the approved work limits associated with this Notice to Proceed.

Sincerely,



Eric Chiang  
CPUC Environmental Project Manager

cc: D. Hochart, Dudek  
S. Eckardt, Dudek  
S. Bushnell-Bergfalk, ICF  
J. Kiefer, Central Valley Gas Storage, LLC  
N. McIntire, Flour Inc.  
H. Salvage, Flour Inc.

Att: Attachment A – Mitigation Measures

**ATTACHMENT A**  
*Mitigation Measures*



**MITIGATION MONITORING, COMPLIANCE  
AND REPORTING PROGRAM**

**Central Valley Gas Storage Project**

**Attachment A – Mitigation Measures**

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Short-term and long-term visual impacts.	—	AES-1	The following measures would be implemented as part of the proposed project to minimize visual impacts of the project and to be consistent with Colusa County General Plan policies: <ul style="list-style-type: none"> <li>Construction disturbances will be minimized to help reduce contact between exposed soil and naturally vegetated areas, and clearing of vegetation and trees at facility sites will be minimized.</li> <li>Disturbed agricultural land will be replanted following pipeline construction, if requested by the landowner.</li> <li>All above ground structures will be painted with non-glare, earth-tone colors to blend with the surrounding vegetation/landscape.</li> <li>Shielded, non-glare lighting will be used at facilities.</li> </ul>	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	CPUC to verify proposed building materials and replanting of agricultural lands along the disturbed areas through review of preconstruction plans and samples. CPUC to verify consultation with Colusa County through meeting notes, and review of project implementation in the field. Effectiveness Criteria – materials are non-reflective and are considered consistent with General Plan policies by Colusa County.	Prior to and during construction.	All	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Nighttime lighting during 24/7 drilling activities and well pad and pull-back activities at HDD sites.	AES-1	—	Night lighting for construction at the well pad and horizontal directional drilling (HDD) drilling sites, if required, shall be fully shielded and directed away from residential areas. Lights shall be turned off in areas where they are no longer needed.	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contract specifications. CPUC to inspect periodically to ensure correct placement of lighting to prevent night lighting impacts to residential areas.	Prior to and during construction.	Remote Well Pad Site Observation Wells Natural Gas Connecting Pipeline – Segment A and B	Pre-Construction Component Complete CPUC verified on March 2, 2011 that commitments have been incorporated into the construction contract specifications.
Nighttime lighting during 24/7 drilling activities	AES-2	—	The applicants' drilling plan shall specify that lights shall be fully shielded and directed inward on the work area.	Central Valley to prepare and implement drilling plan and shall include light specification. Drilling plan to be submitted to the CPUC and Colusa County at least 2 weeks prior to construction of the applicable phase(s).	CPUC to ensure that commitments have been incorporated into construction contract specifications. CPUC to inspect periodically to ensure correct placement of lighting to prevent night lighting spillover effects.	Prior to and during construction.	Remote Well Pad Site Natural Gas Connecting Pipelines Observation Wells Saltwater Disposal Well and Tank	Pre-Construction Component Complete CPUC verified on March 2, 2011 that commitments have been incorporated into the construction contract specifications.
Potential for short-term and long-term loss of use of land, crops, and agricultural structures.	—	AGRI-1	As a public utility, Central Valley is required to offer appropriate compensation for land held in private ownership as part of the acquisitions of utility easements. Central Valley would compensate landowners for any permanent	Central Valley would compensate landowners as part of the acquisition of utility easements.	Central Valley to document compensation and provide verification of compliance with measure to CPUC at least 2 weeks prior to construction of	Prior to, during, and post construction.	All	Pre-Construction Component Complete CPUC verified on March 18, 2011 that Central

Attachment A –Mitigation Measures

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria phase(s) (see Mitigation Measure AG-1).	Timing	Project Component	Status
Temporary loss of use of land for agricultural purposes or damage to agricultural structures.	—	AGRI-2	Following construction, agricultural fields will be surveyed and regraded to their original elevation where needed, and all rice field dikes and check boxes will be repaired or replaced. Although the trench backfill in agricultural areas will be compacted to minimize settling, follow-up elevation surveys would be provided, if necessary, to ensure that field grading and irrigation flaws are not adversely affected. Fences and irrigation facilities will be replaced or repaired to their original condition following construction.	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley to document existing elevations in construction plans and provide a copy to CPUC. Within 30-days of completion of construction, Central Valley will complete follow-up elevations and replace repair fences and irrigation facilities to original condition. Following completion, a final report will be submitted to the CPUC within 4 weeks of completing measures as defined for verification.	Prior to and post construction.	Metering Station Observation Well Conversions Saltwater Disposal Well and Tank Natural Gas Connecting Pipelines – Segments A & B	Valley has provided compensation  This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential for short-term and long-term loss of use of land, crops, and agricultural structures.	AG-1	—	In areas where right-of-way (ROW) is to be acquired by fee or easement, Central Valley shall compensate the property owner at "fair market value" in compliance with federal and state regulations. The determination of "fair market value" shall be determined by a professional land appraiser retained by Central Valley. Central Valley shall provide qualifications of the professional land appraiser and a copy of appraisals to the California Public Utilities Commission (CPUC). In areas where temporary impacts would occur due to construction, Central Valley shall replace or compensate property owners for compensable private facilities and crops that were removed for construction. Replacement of facilities and crops shall occur to the extent they are not detrimental to future pipeline or natural gas operations. Compensation shall be determined by the professional land appraiser.	Central Valley will compensate landowners through use of a professional land appraiser. Central Valley will replace crops and facilities, as compensable.	Central Valley to document compensation and provide verification of compliance with measure to CPUC. CPUC to coordinate with Central Valley to confirm land appraiser meets requirements, and landowners are appropriately compensated.	Prior to and post construction.	All	Pre-Construction Component Complete  CPUC verified on March 18, 2011 that Central Valley has provided compensation.
Potential for limited access to agricultural fields during construction.	AG-2	—	Central Valley shall coordinate, prior to construction, with owners of land adjacent to the pipeline route regarding temporary blockage of access to the owner's parcel due to pipeline construction. Alternative access routes shall be provided, or farmers shall be provided breaks in spoil piles, trenches, or pipe strings to accommodate their need for field access during construction.	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley to provide documentation of coordination with affected parties and confirmation with all required conditions to ensure access would be maintained. Central Valley to provide documentation to CPUC that affected parties were notified at least 2 weeks prior to construction of the applicable phase(s). CPUC to inspect to ensure access is being maintained	Prior to and during construction for all areas where access restrictions are expected during construction of the project.	Natural Gas Contracting Pipeline – Segment A and B	Pre-Construction Component Complete  CPUC verified on April 18, 2011 that Central Valley has coordinate with affected parties.

Attachment A –Mitigation Measures

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria during construction.	Timing	Project Component	Status
Potential for tree roots to grow toward pipeline.	AG-3	—	Should the final designed pipeline occur within 15 feet of tree canopy drip lines (the outermost extent of the tree canopy), Central Valley, in coordination with affected landowners, shall implement methods to protect the pipeline from tree roots, such as the following: 1. An herbicide-embedded fabric (such as Biobarrier) could be placed in the trench above the pipeline and on the side adjacent to the trees 2. Wrap the pipeline with a non-chemical root barrier fabric "sock" before placing into trench 3. Compact soil around pipeline to minimize/prevent root growth upon backfilling the trench.	Following final design, Central Valley to coordinate with land owner if pipeline within 15 feet of canopy drip line to determine method of protecting pipeline from roots as defined in measure. Central Valley to incorporate measure into construction contracts.	Central Valley to document compliance with measure through providing a report to CPUC within 30 days following construction of the applicable phase(s) identifying measures that were completed in areas where the pipeline was located within 15 feet of the tree canopy drip lines. CPUC to inspect to ensure measures are being implemented.	During and post construction.	Natural Gas Connecting Pipelines – Segment A & B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential loss of orchard trees.	AG-4	—	If final design of the 14.7-mile connecting pipeline would result in a loss of trees in the orchard along the alignment, Central Valley will compensate the landowner for permanent crop loss.	Central Valley will compensate landowners as defined by measure and will incorporate measure into construction contracts.	Central Valley to document verification of compliance with measure to CPUC at least 2 weeks prior to construction.	Prior to construction.	Natural Gas Connecting Pipeline – Segment A and B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential for dust (PM10) to be generated by construction activities.	—	AIR-1	The following measures would be implemented as part of the proposed project to minimize dust emissions and reduce short-term construction impacts to a less-than-significant level: • Water all active construction areas (subject to vehicle travel) at least twice (as necessary) daily. • Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Water (as necessary) unpaved access roads, parking areas, and staging areas at construction sites that receive regular vehicle travel. • Sweep daily with water sweepers all paved public roads where the pipeline right-of-way (ROW) intersects the road. • Sweep paved streets daily with water sweepers if visible soil material is carried onto adjacent public streets. • Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (e.g., dirt and sand). • Limit traffic speeds on unpaved roads to 15 miles per hour. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways.	Central Valley to implement measures as defined and incorporate commitments into construction contracts.  Central Valley will notify the CPUC that the CCAPCD has issued an "Authority to Construct" air permit before beginning construction of the compressor facility.	CPUC to inspect periodically for dust control within and outside the work area in order to ensure that fugitive dust has been controlled.  Central Valley to provide CPUC written verification from CCAPCD to document permit compliance prior to construction of the compressor facility.	Prior to and during construction.	All	Pre-Construction Component Complete.  CPUC verified on March 2, 2011 that the Colusa County Air Pollution Control District (CCAPCD) has issued an "Authority to Construct" air permit.

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential for NOx and greenhouse gas (GHG) emissions from all diesel powered construction equipment, including support equipment.	—	AIR-2	<ul style="list-style-type: none"> <li>Replant vegetation in disturbed areas as quickly as possible, where determined appropriate and in consultation with the landowner.</li> <li>Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.</li> <li>Limit the area subject to excavation, grading, and other construction activity at one time.</li> </ul> <p>Central Valley will notify the California Public Utilities Commission (CPUC) that the Colusa County Air Pollution Control District (CCAPCD) has issued an "Authority to Construct" air permit before beginning construction of the compression facility.</p> <p>Central Valley would implement the following measures to reduce NOx and GHG emissions from all diesel powered construction equipment and vehicles:</p> <ul style="list-style-type: none"> <li>To the extent feasible, all construction diesel engines rated at 100 hp or more shall meet, at minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines as specified in Title 13 California Code of Regulations Section 2423 (b)(1), unless such engine is not available for a particular type of equipment. In the event a Tier 2 engine is unavailable, that engine shall meet the Tier 1 standards. In the event that a Tier 1 engine is unavailable for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by the engine manufacturer that the use of such devices are not practical for specific engine types. For purposes of this measure, the use of such devices is considered not practical if any of the following conditions apply:             <ol style="list-style-type: none"> <li>There is no available soot filter that has been verified by either the California Air Resources Board of the U.S. Environmental Protection Agency (EPA) for the engine in question.</li> <li>The construction equipment is intended to be on site for 10 days or less.</li> <li>The use of a soot filter may be terminated immediately if one of the following conditions apply:                 <ol style="list-style-type: none"> <li>The use of a soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance and/or reduced power output due to an excessive increase</li> </ol> </li> </ol> </li> </ul>	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley shall document compliance with this measure. The construction plans shall define how and where records of project-vehicle fleet, equipment tuning, and maintenance will be kept for CPUC review during construction. Central Valley shall ensure that all construction workers are aware of the vehicle idling restriction by including explanation of this requirement in the Worker Training Program. CPUC to ensure that commitments have been made in contracts specifying equipment. CPUC to inspect periodically for equipment idling. Central Valley to provide verification of carpool program to the CPUC at least 30 days prior to construction of the applicable phase(s).	At least 30 days prior to construction; during construction; after receipt of the CCAPCD Authority to Construct.	All	<p>Pre-Construction Component Complete.</p> <p>CPUC verified commitments have been included in contract documents specifying all construction diesel engines rated at 100 hp or more shall meet, at minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines as specified in Title 13 California Code of Regulations Section 2423 (b)(1), unless such engine is not available for a particular type of equipment. CPUC verified commitments have been included as part of the contract documents on March 2, 2011.</p> <p>Carpooling requirement is not applicable for this phase of the project.</p> <p>Central Valley provided documentation that environmental awareness training will include an overview of idling restrictions. CPUC verified pre-construction component has been completed by Central Valley on March 2, 2011.</p>



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Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential for NOx emissions.	—	AIR-3	<p>a. The soot filter is causing or is reasonably expected to cause significant engine damage.</p> <p>b. The soot filter is causing or is reasonably expected to cause a significant risk to the workers or the public.</p> <p>c. Any other seriously detrimental cause that has the approval of the CPUC prior to the termination being implemented.</p> <p>d. All heavy earthmoving equipment and heavy-duty construction-related trucks with engines shall be properly maintained and the engines tuned to the engine manufacturer's specifications.</p> <p>e. To the extent feasible, unnecessary construction equipment and vehicle idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequences of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The proposed project will apply a "common sense" approach to vehicle use: if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of preconstruction conferences. Those briefings will include discussion of a common sense approach to vehicle use.</p> <p>f. Central Valley will institute a carpooling program to transport workers from staging areas to the work site.</p>	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley to provide verification to the CPUC that the mitigation credits have been leased at least 30 days prior to any construction.	The NOx mitigation credits shall be leased prior to any construction.	All	Pre-Construction Component Complete.  CPUC verified on January 26, 2011 that the mitigation credits have been leased.
Develop and implement a worker environmental	—	BIO-1	Before any work occurs in the project area, including grading, Central Valley would	Central Valley to implement measure as defined and	Central Valley to provide a copy of the worker training	Prior to and during construction.	All	Pre-Construction Component Complete.

Attachment A –Mitigation Measures

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
awareness program.			<p>conduct mandatory contractor/worker environmental awareness training for construction, monitoring, supervisory, and engineering/inspection personnel. The awareness training would be provided to all construction personnel to discuss sensitive environmental resources known or having the potential to occur in the project region, best management plans, and permit conditions. If new construction personnel are added to the project, Central Valley would ensure that the personnel receive the mandatory training before starting work.</p>	<p>Incorporate commitments into construction contracts.</p>	<p>Central Valley to provide approval at least 30 days prior to start of construction. Central Valley to provide verification to CPUC of implementation of worker training program and compliance with measure as defined through providing sign-in sheets on a weekly basis. All construction personnel that have been trained shall receive a sticker for their hard hat indicating they have completed environmental awareness training.</p>			<p>Central Valley provided an outline of the content of the environmental awareness training program that will be provided to all construction personnel. CPUC verified the pre-construction component has been completed by Central Valley on March 2, 2011.</p>
Obtain and comply with state, federal, and local permits.	---	BIO-2	<p>Before any construction activities are initiated and engineering plans and specifications have been finalized, Central Valley would obtain the permits listed below:</p> <ul style="list-style-type: none"> <li>• Clean Water Act (CWA) Section 404 nationwide permit from the U.S. Army Corps of Engineers (ACOE)</li> <li>• CWA Section 401 water quality certification from the Central Valley Water Board (all Section 404 permits require a Section 401 water quality certification from the Regional Water Quality Control Board (RWQCB))</li> <li>• CWA Section 402/National Pollutant Discharge Elimination System (NPDES) permit from the State Water Board (requiring preparation of a Stormwater Pollution Prevention Plan (SWPPP))</li> <li>• Section 1602 Streambed Alteration Agreement and 2081 Agreement from the Department of Fish and Game (DFG)</li> <li>• Biological Opinion from the U.S. Fish and Wildlife Service (USFWS).</li> </ul> <p>Central Valley is responsible for obtaining all required permits and authorizations from local, state, and federal agencies. If a conflict arises between the provisions of any of the permits, Central Valley would comply with the provision that offers the greatest protection to water quality, species of special concern, and/or critical habitat. Copies of the permits will be provided to the contractor with the construction specifications.</p>	<p>Central Valley to implement measure as defined and incorporate commitments into the permits will be provided to the CPUC and contractor at least 2 weeks prior to the applicable phase(s).</p>	<p>CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify RWQCB review and approval and that copies of all requisite permits be provided prior to construction.</p>	<p>Prior to construction.</p>	<p>Compressor Station Remote Well Pad Site  Observation Well Conversions  Saltwater Disposal Well  Natural Gas Connecting Pipelines</p>	<p>Central Valley provided CPUC with the following permits.</p> <ul style="list-style-type: none"> <li>• CWA Section 401 water quality certification from the Central Valley Water Board.</li> <li>• Clean Water Act (CWA) Section 404 nationwide permit from the U.S. Army Corps of Engineers (ACOE).</li> <li>• CWA Section 402/National Pollutant Discharge Elimination System (NPDES) permit from the State Water Board.</li> <li>• Biological Opinion from the U.S. Fish and Wildlife Service (USFWS).</li> <li>• 2081 Agreement from the Department of Fish and Game (DFG)</li> </ul> <p>Section 1602 Streambed Alteration Agreement is not for activities associated with NTP 9A (no streams subject to CDFG Code 1602 occur in the NTP 9A work area).</p>
Install temporary construction barrier fencing to protect sensitive biological resources adjacent to the construction zone.	---	BIO-3	<p>The construction specifications would require that a qualified biologist identify sensitive biological habitat on site and identify areas to avoid during construction. Sensitive communities in the area that would generally be required for construction, including staging and access, will be fenced off to avoid</p>	<p>Central Valley to implement measure as defined and incorporate commitments into construction contracts.</p>	<p>Central Valley to provide survey documentation report to CPUC at least 30 days prior to construction regarding sensitive biological habitat. CPUC to inspect periodically</p>	<p>Prior to and during construction.</p>	All	<p>Pre-Construction Component Complete.  CVGS provide survey documentation on April 13, 2011.</p>

Attachment A –Mitigation Measures

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential for long-term loss of woody riparian vegetation.	—	BIO-4	disturbance in these areas. The contractor would install construction barrier fencing to identify environmentally sensitive areas. Sensitive resources that occur in and adjacent to the construction area include woody riparian vegetation, wetlands (including suitable habitat for federally listed invertebrates), giant garter snake aquatic and upland habitat, western pond turtle aquatic habitat, elderberry shrubs that provide potential habitat for the valley elderberry longhorn beetle (VELB), and trees that support nests of sensitive bird species. Before construction, the contractor will work with the project engineer and a resource specialist to identify the locations that require barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. In some areas, staking and flagging may be appropriate and would be determined by the environmental compliance monitor. The protected area would be designated an environmentally sensitive area and clearly identified on the construction specifications. The fencing would be installed before construction activities are initiated and would be maintained throughout the construction period.	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley to provide verification to CPUC of measure including submittal of construction contract. CPUC to inspect periodically during construction in order to ensure measures are being implemented as defined.	Prior to and during construction.	Natural Gas Connecting Pipelines – Segment A	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential for long-term loss of woody riparian vegetation.	—	BIO-5	Central Valley would compensate for the removal or loss of woody riparian vegetation (trees and shrubs) a minimum ratio of 2:1 (2 acres for every 1 acre removed). Central Valley would purchase mitigation bank credits at a locally approved bank or contribute funds to the National Fish and Wildlife Foundation in lieu fee program. Central Valley would provide written evidence to CPUC and other appropriate resource agencies (e.g., CDFG) that compensation has been established through the purchase of mitigation credits. The amount to be paid would be the fee that is in effect at the time the fee is paid.	Central Valley to implement measure as defined and incorporate commitments into construction contracts. Central Valley would provide written evidence to CPUC and other appropriate resource agencies (e.g., CDFG) that compensation has been established through the purchase of mitigation credits.	CPUC to review and verify written evidence of compensation.	Prior to and during construction.	Natural Gas Connecting Pipelines – Segment A	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential for disturbance of waters of the United States, including	—	BIO-6	To the extent possible, Central Valley would avoid and minimize impacts on waters of the United States, including wetlands, by	Central Valley to implement measure as defined and incorporate commitments into	Central Valley to provide verification to CPUC of measure including submittal of	Prior to and during construction.	Natural Gas Connecting Pipelines – Segments A & B	This measure is not applicable to the proposed construction

Impact	MIM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
wetlands.			<p>Implementing the following measures. These measures would be incorporated into contract specifications and implemented by the construction contractor:</p> <ul style="list-style-type: none"> <li>The project will be designed, to the extent possible, to avoid direct and indirect impacts on waters of the United States, including wetlands.</li> <li>Construction activities will be avoided in saturated or ponded natural wetlands and drainages during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, will be employed.</li> <li>Exposed drainage banks and levees above drainages will be stabilized immediately upon completion of construction activities. Other waters of the United States will be restored in a manner that encourages vegetation to re-establish to its pre-project condition and reduces the effects of erosion on the drainage system.</li> <li>Any trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of streams will be removed in a manner that minimizes disturbance of the drainage bed and bank.</li> <li>To the extent possible, in-stream construction within the OHWM of natural drainages crossed by a pipeline alignment will be restricted to the low-flow period (generally April through October).</li> <li>All activities will be completed promptly to minimize their duration and resultant impacts.</li> </ul>	construction contracts.	construction contract.			activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Potential for disturbing burrowing owl burrows during construction activities.	—	BIO-7	<p>If wildlife surveys indicate that the annual grasslands west of the Glenn-Colusa Canal support potential burrows, Central Valley will retain a qualified biologist to conduct preconstruction surveys for active burrows according to CDFG guidelines. CDFG recommends that preconstruction surveys be conducted at all construction sites (except paved areas) and within a 250-foot-wide buffer zone around the construction site to locate active burrowing owl burrows.</p> <p>If no burrowing owls are detected, then no further actions will be taken. If active burrowing owls are detected, the following measures will be implemented by Central Valley:</p> <ul style="list-style-type: none"> <li>When destruction of occupied burrows is unavoidable outside the nesting season (September 1–January 31), unsuitable</li> </ul>	<p>Central Valley to implement measure as defined and incorporate commitments into construction contracts.</p> <p>Central Valley to retain CDFG-approved qualified biologist to perform surveys.</p>	<p>Central Valley to provide survey report documentation and verification to CPUC of compliance with measure as defined.</p>	<p>Prior to and during construction for all areas identified as suitable burrowing owl habitat.</p>	<p>Metering Station &amp; Natural Gas Connecting Pipeline Segment A on west side of Glenn-Colusa Canal</p>	<p>The pre-construction survey results shall be submitted to CPUC prior to boring in areas west of the Glenn-Colusa canal, per the conditions included in NTP 9A.</p>

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Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential for impact to elderberry shrubs.	—	BIO-9	<p>burrows will be enhanced (enlarged or cleared of debris) or new burrows created (installing artificial burrows) at a ratio of 2:1 on protected lands approved by CDFG. Newly created burrows will follow guidelines established by CDFG.</p> <ul style="list-style-type: none"> <li>If owls must be moved away from the project construction area, passive relocation techniques (e.g., installing one-way doors at burrow entrances) will be used instead of trapping. At least 1 week will be necessary to accomplish passive relocation and allow owls to acclimate to alternate burrows.</li> <li>If active burrowing owl burrows are found and the owls must be relocated, Central Valley will offset the loss of foraging and burrow habitat in the project construction area by acquiring and permanently protecting foraging habitat (the acreage would be determined through consultation with CDFG).</li> <li>If avoidance is the preferred method of dealing with potential impacts, no ground disturbing construction activities will occur within 160 feet of occupied burrows during the non-breeding season (September 1–January 31) or within 250 feet during the breeding season (extends from March through August, peaking in April and May).</li> </ul> <p>Before any ground-disturbing activity, Central Valley will ensure that a minimum 4-foot-tall temporary, plastic mesh-type construction fence is installed at least 20 feet from the driplines of elderberry shrubs that are within 100 feet of the construction area. The fencing will be installed in a way that prevents equipment from enlarging the work area beyond the delineated work area. The fencing will be checked and maintained weekly until all construction is completed.</p> <p>No construction activity, including grading, will be allowed until this condition is satisfied. No grading, clearing, storage of equipment or machinery, or other disturbance or activity may occur until the CPUC environmental compliance monitor has inspected and approved all temporary construction fencing. The fencing and a note reflecting this condition will be shown on the construction plans.</p>	Central Valley to implement measure as defined and incorporate commitments into construction contracts.	Central Valley to provide verification to CPUC of measure including submittal of construction contract.  CPUC to inspect periodically during construction in order to ensure measures are being implemented as defined.	Prior to and during construction.	Natural Gas Connecting Pipeline-Segment A	Pre-Construction Component Complete.  CVGS provide survey documentation on April 13, 2011 verifying that elderberry shrubs located along access roads would be fenced prior to construction.
Potential to impact western pond turtles.	—	BIO-11	To avoid construction-related impacts on western pond turtles, Central Valley will retain a wildlife biologist to conduct a preconstruction survey for western pond turtles no more than 48 hours before the start of construction activities associated with the 14.7-mile gas pipeline component. The wildlife biologist will	Central Valley to implement measure as defined and incorporate commitments into construction contracts.  Central Valley to retain qualified biologist to perform	Central Valley to provide survey report documentation to CPUC and to provide verification to CPUC of compliance with measure as defined.	Prior to and during construction for all areas identified as suitable western pond turtle habitat.	Natural Gas Connecting Pipeline – Segment A and B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied

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Potential to impact giant garter snake habitat.	—	BIO-12	<p>look for adult pond turtles. If a western pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site outside the construction area.</p> <p>Because of the nature and scale of anticipated adverse effects on giant garter snakes and their habitat, mitigation and compensation measures presented in this measure were derived primarily from the USFWS's Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat. Mitigation measures also are based on the guidance provided in the Programmatic Formal Consultation for ACOE 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, and Yolo counties, California (USFWS 1997).</p> <p>Mitigation measures to avoid and minimize effects on the giant garter snake are as follows:</p> <ul style="list-style-type: none"> <li>• At such time when construction plans are finalized, a biologist will conduct a preconstruction survey for giant garter snake and its habitat at each site where construction activities will occur. This survey will identify and document the specific locations of suitable habitat within or adjacent to proposed construction areas. The biologist will be responsible for submitting survey maps and immediately reporting the presence of the species, if found, to the USFWS in order to determine appropriate actions.</li> </ul> <p>If giant garter snake habitat is identified during the preconstruction survey identified above, Central Valley will:</p> <ul style="list-style-type: none"> <li>• Avoid construction activities within 200 feet from the banks of giant garter snake aquatic habitat and confine movement of heavy equipment to existing roadways to minimize habitat disturbance to the maximum extent feasible.</li> <li>• Time construction activities within habitat so that they occur between May 1 and October 1. This is the active period for giant garter snakes and direct mortality is lessened because snakes are expected to actively move and avoid danger.</li> <li>• Inform construction personnel to recognize giant garter snakes and their habitat. Construction personnel should receive worker environmental awareness training</li> </ul>	<p>Central Valley to implement measure as defined and incorporate commitments into construction contracts.</p> <p>Central Valley to retain USFWS-approved qualified biologist to perform surveys.</p>	<p>Central Valley to provide verification to CPUC of compliance with measure as defined.</p> <p>Central Valley to provide CPUC and USFWS copies of survey maps and documentation prior to construction of the applicable phase(s).</p>	<p>Prior to and during construction for all areas identified as suitable giant garter snake habitat.</p>	<p>Compressor Station Remote Well Pad Site</p> <p>Observation Well Conversions</p> <p>Saltwater Disposal Well and Tank</p> <p>Natural Gas Connecting Pipelines</p>	<p>by CVGS prior to issuance of the NTP associated with construction of the pipeline.</p> <p>To be completed throughout construction.</p> <p>On-going, daily preconstruction surveys will be conducted by a USFWS-approved biological monitor during construction.</p>

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Potential to impact giant garter snake habitat.		BIO-13	<p>prior to undertaking work at construction sites.</p> <ul style="list-style-type: none"> <li>Survey the project area for giant garter snakes 24 hours prior to initiating construction activities. After construction has been initiated, a biologist will be available thereafter. If a snake is encountered during construction, the biologist will have the authority to stop all construction activity until appropriate corrective measures can be completed or it has been determined that the snake will not be harmed. A survey of the project area should be repeated if a lapse in construction activity of 2 weeks or greater has occurred. Sightings and acknowledgement of incidental take will be reported to the USFWS immediately.</li> <li>Confine clearing to the minimum area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the project area as an environmentally sensitive area. This area should be avoided by all construction personnel.</li> <li>Ensure any dewatered habitat remains dry for at least 15 consecutive days after April 15 and prior to excavating or filling the dewatered habitat.</li> <li>Remove temporary fill and construction debris and, wherever feasible, restore disturbed areas to pre-project conditions after construction activities. Restoration work may include such activities such as replanting species removed from banks or replanting emergent vegetation in the active channel.</li> </ul>	<p>Central Valley to implement measure as defined and incorporate commitments into construction contracts. Central Valley to provide a copy of the final Biological Opinion to the CPUC prior to construction of the applicable phase(s).</p>	<p>Central Valley to provide verification to CPUC of compliance with measure as defined.</p>	<p>Prior to construction for all areas identified as suitable giant garter snake habitat.</p>	<p>Compressor Station Remote Well Pad Site  Observation Well Conversions  Saltwater Disposal Well and Tank  Natural Gas Connecting Pipelines – Segments A &amp; B</p>	<p>Pre-Construction Component Complete.  Central Valley has purchased GGS credits from Wildlands' Ridge Cut Mitigation Bank. CPUC verified a copy of the sales agreement was provided by Central Valley on March 2, 2011.</p>

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential to impact vernal pool fairy shrimp and vernal pool tadpole shrimp habitat.	—	BIO-14	<p>The Biological Opinion will be provided to the CPUC to support their issuance of a notice to proceed for project components that support suitable giant garter snake upland and aquatic habitat.</p> <p>Central Valley will avoid potential direct and indirect disturbance of vernal pool fairy shrimp and vernal pool tadpole shrimp habitat by implementing the following measures:</p> <ul style="list-style-type: none"> <li>The on-site biological monitor will be present during ground disturbance activities occurring west of the Glenn-Colusa Canal to ensure that habitat is avoided and will have the authority to stop all construction activities that may result in the destruction of habitat.</li> <li>Central Valley will prohibit all activities within 250 feet of suitable seasonal wetland habitat (unless there is a physical barrier such as a road or berm that eliminates a hydrologic connection and potential for indirect impacts to habitat during the winter months). This would include alteration of topography, dumping, burning, burying of garbage or fill materials, construction of access roads, placement of stormwater drains, and the use of pesticides or other toxic chemicals.</li> </ul>	<p>Central Valley to implement measure as defined and incorporate commitments into construction contracts.</p> <p>Central Valley to retain qualified biologist to perform monitoring.</p>	<p>Central Valley to provide verification to CPUC of compliance with measure as defined.</p>	<p>Prior to and during construction for all areas identified as suitable vernal pool fairy shrimp and vernal pool tadpole shrimp habitat.</p>	<p>Metering Station</p> <p>Natural Gas Connecting Pipeline Segment A on west side of Glenn-Colusa Canal</p>	<p>The on-site biological monitor shall be present during drilling activities occurring west of the Glenn-Colusa Canal to ensure that vernal pool fairy shrimp and vernal pool tadpole shrimp habitat is avoided. The biological monitor will have the authority to stop all construction activities that may result in the destruction of habitat.</p>
Potential to impact giant garter snake habitat.	BIO-1	—	<p>Central Valley will implement all conditions and measures stipulated within the Biological Opinion to be issued by the U.S. Fish and Wildlife Service (USFWS) at the conclusion of the Section 7 consultation with the U.S. Army Corps of Engineers (ACOE) to minimize and/or avoid take and direct and indirect impacts on giant garter snake. A copy of the final Biological Opinion shall be submitted to the CPUC prior to any construction that would impact giant garter snakes or habitat potentially supporting this species, as evidence of the commitment by Central Valley to implement all conditions and measures contained therein.</p>	<p>Central Valley to implement this measure as defined and incorporate commitments into construction contracts. Central Valley to provide a copy of the final Biological Opinion to the CPUC prior to construction of the applicable phase(s).</p>	<p>Central Valley to provide verification of compliance with measure as defined. CPUC to review final Biological Opinion.</p>	<p>Prior to construction.</p>	<p>Compressor Station Remote Well Pad Site</p> <p>Observation Well Conversions</p> <p>Saltwater Disposal Well and Tank</p> <p>Natural Gas Connecting Pipelines</p>	<p>Pre-Construction Component Complete.</p> <p>Central Valley provided USFWS Biological Opinion and commitments have been incorporated into the construction documents. CPUC verified pre-construction component was completed on March 2, 2011.</p>
Potential to impact the valley elderberry longhorn beetle.	BIO-2	—	<p>Central Valley will implement all conditions and measures stipulated within the Biological Opinion to be issued by the USFWS at the conclusion of the Section 7 consultation with the ACOE to minimize and/or avoid take and indirect impacts on valley elderberry longhorn beetle (VELB). A copy of the final Biological Opinion shall be submitted to the CPUC prior to any construction that would impact VELB or habitat potentially supporting this species as evidence of the commitment by Central Valley to implement all conditions and measures contained therein.</p>	<p>Central Valley to implement mitigation measure as defined and incorporate commitments into construction contracts. Copies of the final Biological Opinion will be provided to the CPUC prior to construction of the applicable phase(s).</p>	<p>Central Valley to provide verification to the CPUC of compliance with measure as defined. CPUC to review the final Biological Opinion.</p>	<p>Prior to construction.</p>	<p>Natural Gas Connecting Pipeline – Segment A</p>	<p>Pre-Construction Component Complete.</p> <p>CVGS provide survey documentation on April 13, 2011 verifying that elderberry shrubs located along access roads would be fenced prior to construction.</p>



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Potential for impacts to wetlands.	BIO-3	—	Central Valley shall submit documentation of Section 404 wetland fill authorization to the CPUC prior to the start of construction. All conditions, stipulations, and measures to avoid, minimize, and/or mitigate for impacts to wetlands and other waters of the U.S. described and contained within the authorized permit shall be implemented by Central Valley, as approved by the CPUC. Documentation verifying the approved ACOE fill permit and associated conditions shall be presented to the CPUC prior to any project construction that would impact wetlands and other waters of the U.S. as evidence of the commitment by Central Valley to implement all conditions and measures contained therein.	Central Valley to implement mitigation measure as defined into construction contracts. Copies of the Section 404 authorization will be provided to the CPUC prior to construction of the applicable phase(s).	Central Valley to provide verification of compliance with measure as defined. CPUC to review the Section 404 authorization.	Prior to construction.	Natural Gas Connecting Pipelines – Segments A and B  Remote Well Pad Site	Pre-Construction Component Complete.  Central Valley provided Section 404 Permit and commitments have been incorporated into the construction documents. CPUC verified pre-construction component was completed on March 2, 2011.
Potential for wildlife to be trapped in ditches due to trenching activities during construction.	BIO-4	—	In order to prevent potential impacts to wildlife that may fall into open construction trenches associated with the connecting pipelines, the trenches shall be either covered with plywood, tarps, metal plates, or some other similar material, with the edges covered by soil, on a daily basis or will be backfilled on a daily basis. If the trenches are to be left open, escape ramps will be constructed at no more than 1,000-foot intervals along the sidewalls of the trench with at least one ramp placed at either end of the trench. The escape ramps must be at a 2:1 slope or less and may be constructed of any material (e.g., soil, wooden boards) so long as the ramps are placed immediately adjacent to a sidewalk. Escape ramps shall also be placed within any bore pits that will remain open during construction activities. The spacing and design of the ramps shall consider the location and dimension of the bore pits and shall be at the discretion of the monitoring biologist. In addition to installing escape ramps, the full-time biological monitor that will be on site during all construction activities will conduct regular surveys of all open pits and trenches, beginning in the morning prior to construction activities and throughout the day, in search of any wildlife that may have fallen into the bore pits or open trenches. Any animals observed in the bore pits or trenches will be guided up available escape ramps or will be captured and moved out of the construction area. This survey effort will be documented by the biologist in the daily log and reported to the CPUC at the end of the week. If a state-listed or federally listed species (such as giant garter snake) requires removal from the bore pit or trench, this handling effort will be subject to the conditions of the Biological Opinion.	Central Valley to implement mitigation measure as defined into construction contracts.	Central Valley to provide verification to CPUC of measure including submittal of construction contract. Survey efforts will be documented by the biologist in the daily log and reported to the CPUC at the end of each week.	Prior to and during construction.	Natural Gas Connecting Pipelines – Segments A & B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Construction of the	—	CR-1	Prior to construction, Central Valley will retain	Central Valley to retain a	The qualifications of the	During ground-	Non-surveyed	Pre-Construction

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proposed project could affect undiscovered cultural resources.			the services of a professional archaeologist to conduct on-site pedestrian inspections of those portions of the project area that are not flooded and that are considered by the archaeologist to have the potential to have archaeological deposits, and which have not already been subjected to archaeological inspection. Any identified cultural resources will be recorded on standard Department of Parks and Recreation site record forms. The archaeologist will consult with Central Valley to determine methods of avoiding impacts (such as boring under the resource or routing around the resource) on any potentially significant cultural resources that are identified as a result of these additional investigations. If any potentially significant cultural resources cannot be avoided, then additional documentation and data recovery efforts will be implemented by a qualified archaeologist in consultation with CPUC, ACOE, and the State Historic Preservation Officer. Additional documentation will include preparation of formal National Register of Historic Places (NHP) and California Register of Historical Resources (CRHR) evaluations of recorded resources.	Archaeologist to provide completed site forms to Central Valley and CPUC.  Central Valley to provide additional documentation, as necessary, to CPUC, ACOE, and the State Historical Preservation Office (SHPO).	qualified archaeologist shall be provided to the CPUC at least 2 weeks prior to construction. CPUC to review completed site forms.	breaking activities in all construction areas.	portions of the project area.	Component Complete.  Central Valley provided qualifications of the qualified archeologist on April 18, 2011. The completed site forms will be provided to CPUC throughout construction.
Construction of the proposed project could affect undiscovered cultural resources.	—	CR-2	Central Valley and its construction contractor will take the steps specified below during project construction. A qualified archaeological monitor will inspect all ground-disturbing activities associated with pipeline construction preparation. Construction preparation will include removal of topsoil in agricultural areas, formation of berms to restrict flooding, and grading of staging areas. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are discovered inadvertently during ground-disturbing activities, work will stop in the area of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with CPUC, the State Historic Preservation Officer, and other appropriate agencies. In the event that human remains are encountered, Applicant Proposed Measure CR-3 will be implemented.	Central Valley to retain a qualified archaeologist to perform construction monitoring.  Central Valley to contact county coroner if human remains are found.  Coroner to contact Native American Heritage Commission (NAHC) if appropriate.	The qualifications of the qualified archaeologist shall be submitted to the CPUC prior to construction.  CPUC and Central Valley monitor to ensure work is suspended upon discovery of all significant cultural resources.  If avoidance is not possible upon conclusion of excavations, data recovery research program exhausts potential of site to yield further important information.	During ground-breaking activities in all construction areas.	Natural Gas Connecting Pipelines – Segments A & B	Pre-Construction Component Complete.  Central Valley provided qualifications of the qualified archeologist on April 18, 2011.
Construction of the proposed project could affect undiscovered Native American human remains.	—	CR-3	If human remains of Native American origin are discovered during project construction, it will be necessary to comply with state laws relating to the disposition of Native American burials, which fall under the jurisdiction of the Native American Heritage Commission (NAHC) (Public Resources Code, Section 5097). If any human remains are discovered or recognized in any location other than a	Central Valley to contact county coroner if human remains are found.  Central Valley and coroner to contact NAHC.	CPUC and NAHC to review extraction plan if needed.  CPUC and Central Valley monitor to ensure work is suspended upon discovery of all significant cultural resources.	During ground-breaking activities in all construction areas.	All	Pre-Construction Component Complete.  Central Valley provided qualifications of the qualified archeologist on April 18, 2011 and measures have been

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Potential impact paleontological resources during construction.	—	CR-4	<p>dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains, until the following occurs:</p> <ul style="list-style-type: none"> <li>• The Colusa County Coroner has been informed and has determined that no investigation of the cause of death is required</li> <li>• If the remains are of Native American origin: <ul style="list-style-type: none"> <li>◦ The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code, Section 5097.98</li> <li>◦ NAHC is unable to identify a descendant or the descendant fails to make a recommendation within 24 hours after being notified by the NAHC.</li> </ul> </li> </ul> <p>Central Valley will implement the following measures to avoid potential impacts on buried or previously unidentified paleontological resources.</p> <p>Conduct paleontological resource training. As part of the preconstruction environmental training program, construction workers will be provided an overview of the paleontological resources that could occur in the project area. The training will be conducted to help construction workers to (1) identify potential paleontological resources encountered during excavation, and (2) review procedures in the event that a potential fossil is found. Specifically, the training may include a discussion of the following:</p> <ul style="list-style-type: none"> <li>• Fossil identification (the paleontologist may present example fossils to the workers)</li> <li>• The prohibition of collecting or intentionally disturbing fossils</li> <li>• Stopping all excavation and ground-disturbing work within 100 feet of the find</li> <li>• Procedures for notifying supervisors and site monitoring staff</li> <li>• A discussion of the paleontologist's authority to redirect or stop certain work operations</li> <li>• An overview of the actions that the paleontologist may take to identify the sensitivity of a fossil and to recover and curate a fossil.</li> </ul>	Central Valley to provide training as part of the Worker Training Program.	<p>If avoidance is not possible upon conclusion of evaluations, data recovery research program exhausts potential of site to yield further important information.</p> <p>The qualifications of the qualified archaeologist shall be provided to the CPUC.</p>	Prior to and during construction.	All	<p>Pre-Construction Component Complete.</p> <p>Environmental Awareness Training outline provided to CPUC. CPUC verified pre-construction component was completed on March 2, 2011.</p>

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<p>Construction of the proposed project could affect undiscovered cultural resources.</p>	<p>CUL-1</p>	<p>—</p>	<p>Stop work if paleontological resources are discovered during construction. If a vertebrate fossil is discovered during construction, the contractor will stop work immediately in the area of the find until a qualified professional vertebrate paleontologist can assess the nature and importance of the find and recommend a course of action in consultation with CPUC and other appropriate agencies. If the fossil is determined to be of scientific importance, the course of action will involve preparation, recovery, and museum curation of the fossil. The course of action may also include preparation of a report for publication describing the find. Central Valley will be responsible for ensuring that the recommendations of the paleontologist regarding treatment and reporting are implemented.</p>	<p>If necessary during monitoring, Central Valley's archaeologist will meet with and submit to CPUC for review within 2 weeks of discovery. Central Valley to implement data recovery as specified in ADRP.</p>	<p>CPUC and Central Valley monitor to ensure work is suspended upon discovery of all significant cultural resources. CPUC to review completed ADRP. If avoidance is not possible upon conclusion of evaluations, data recovery research program exhausts potential of site to yield further important information.</p>	<p>During ground-breaking activities in all construction areas.</p>	<p>All</p>	<p>Pre-Construction Component Complete. Central Valley provided qualifications of the qualified archaeologist on April 18, 2011 and measures have been included in the contract documents.</p>

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Exposure of people or structures to ground acceleration or shaking, which could damage project components.	—	GEO-1	<ul style="list-style-type: none"> <li>Re-design the project to avoid any adverse effect on the significant archaeological resource, or</li> <li>Implement an archaeological data recovery program (ADRP), unless the qualified archaeologist determines that the archaeological resource is of greater interpretive use than research significance, and that interpretive use of the resource is feasible. If the circumstances warrant an ADRP, such a program shall be conducted. The project archaeologist and the CPUC shall meet and consult to determine the scope of the ADRP. The archaeologist shall prepare a draft ADRP that shall be submitted to the CPUC for review and approval. The ADRP shall identify how the proposed ADRP would preserve the significant information the archaeological resource is expected to contain. That is, the ADRP shall identify the scientific/historical research questions that are applicable to the expected resource, the data classes the resource is expected to possess, and how the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical.</li> </ul>	Central Valley to implement measures as defined and provide copies of geotechnical evaluations to the CPUC prior to construction of the applicable phase(s).	CPUC to verify that design has incorporated specific conditions to remediate seismic stress impacts.	Prior to construction.	Natural Gas Connecting Pipeline - Segments A and B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Exposure of people or structures to ground acceleration or shaking, which could damage project components.	—	GEO-2	Central Valley will retain a qualified professional geologist or geotechnical engineer to perform a site-specific seismic analysis for the project. The analysis will develop estimated peak ground accelerations and response spectra for the pipeline crossing site. The analysis will use geologic and seismic parameters, including distances to faults, major historical earthquakes, regional seismicity, and subsurface conditions.	Central Valley to implement measure as defined and to retain expert. Central Valley to submit results and any recommendations to CPUC for review and approval prior to construction of the applicable phase(s).	CPUC to review results and verify that design has incorporated specific conditions to remediate seismic stress impacts.	Prior to construction.	Natural Gas Connecting Pipeline - Segment A and B	This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.
Exposure of people or	—	GEO-4	Central Valley will conduct site-specific	Central Valley to implement	CPUC to verify that design has	Prior to construction.	Compressor Station	Pre-Construction

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structures to seismic related ground-failure, including liquefaction, which could damage project components.			<p>geotechnical studies and implement special construction in liquefaction-prone and expansive soil areas. Where appropriate, the measures listed below will be incorporated into the final facilities design:</p> <ul style="list-style-type: none"> <li>Excavation and removal or recompaction of liquefiable soils</li> <li>In situ ground densification</li> <li>Ground modification and improvement</li> <li>Deep foundations</li> <li>Reinforced shallow foundations</li> <li>Reinforced structures to resist deformation during liquefaction.</li> </ul>	<p>measure as defined and submit site-specific geotechnical analysis to CPUC for review and approval prior to construction of the applicable phase(s).</p>	<p>incorporated specific conditions to remediate impacts caused by liquefaction-prone and expansive soils.</p>		<p>Metering Station Natural Gas Connecting Pipelines – Segments A &amp; B</p>	<p>Component Complete. CPUC verified compliance with pre-construction component on March 15, 2011.</p>
Potential for landslides or slumping at channel and canal pipeline crossings.	—	GEO-5	<p>Central Valley will ensure that the project is constructed in accordance with all applicable state and county building and construction codes and ordinances related to creek, drainage, and canal crossings. A qualified geologist and geotechnical engineer will be retained to evaluate the stability of the slopes or the pipeline design depth relative to existing slopes, or both, within these water drainages and canals.</p>	<p>Central Valley to implement measure as defined. Central Valley to submit final design to CPUC and California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) for their review and approval prior to construction of the applicable phase(s).</p>	<p>CPUC to verify that design has incorporated specific conditions as defined.</p>	<p>Prior to construction.</p>	<p>Natural Gas Connecting Pipelines – Segments A &amp; B</p>	<p>This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.</p>
Potential hazardous substance spills during construction.	—	HAZ-1	<p>The construction equipment used for the proposed project will require periodic maintenance and refueling. To reduce the potential for contamination by spills, no refueling, storage, servicing, or maintenance of equipment will be allowed within 100 feet of sensitive environmental resources. No refueling or servicing will be allowed without the placement of absorbent material or drip pans underneath the vehicle to contain spilled fuel. Any fluids drained from the machinery during servicing will be collected in leak-proof containers and taken to an appropriate disposal or recycling facility. If such activities result in spilling or accumulation of a product on the soil, the contaminated soil will be assessed and disposed of properly. Under no circumstances will contaminated soils be added to a spoils pile.</p> <p>Mobile refueling trucks likely will be used for on-site refueling of construction equipment. The refueling trucks will be independently licensed and regulated to haul and dispense fuels to ensure that the appropriate spill prevention techniques are implemented. All maintenance materials (oils, grease, lubricants, antifreeze, and similar materials) will be stored at off-site staging areas. If these materials are required during field operations, they will be placed in a designated area away from site activities and sensitive resources.</p>	<p>Central Valley to incorporate measure as defined and incorporate into construction contracts.</p>	<p>CPUC to ensure that commitments have been incorporated into construction contract specifications.  CPUC to inspect periodically to ensure measure is being implemented.</p>	<p>Prior to and during construction.</p>	<p>All</p>	<p>Pre-Construction Component Complete. CPUC verified on March 18, 2011 that commitments have been incorporated into construction contract specifications.</p>

Attachment A –Mitigation Measures

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing	Project Component	Status
Potential hazardous substance spills during construction.	—	HAZ-2	<p>During construction, vehicles and equipment not in use will be parked or stored at least 100 feet from water bodies, wetlands, known archaeological sites, and other sensitive resource areas. These areas will be identified on the construction drawings, as appropriate. All washdown activities will be conducted at least 100 feet from sensitive environmental resources.</p> <p>Central Valley will prepare a comprehensive Construction and Operation Safety and Emergency Response Plan that includes hazardous substance control, worker health and safety, incident response, and fire prevention and management. Each of these plan elements is briefly described below. The plan will be prepared prior to construction and will be submitted to the CPUC for review and approval.</p> <p>Release of Hazardous Substances and Emergency Response Element. This element of the plan will include measures that will be implemented if an accidental release occurs or if any subsurface hazardous materials are encountered during construction and during future operation of the facility. The provisions outlined in this plan will include telephone numbers of county and state agencies and primary, secondary, and final clean-up procedures.</p> <p>The plan will include the following measures to address hazardous materials generated from construction-related activities:</p> <ul style="list-style-type: none"> <li>• Diesel fuel and petroleum-based lubricants will be stored only at designated staging areas.</li> <li>• All hazardous material spills or threatened releases—including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled—must be reported immediately if the spill has entered or threatens to enter a water of the state, has caused injury to a person, or threatens injury to public health.</li> </ul> <p>Sudden Uncontrolled Release of Natural Gas and Emergency Response Element. This element of the plan will include measures that will be implemented if there was a failure or rupture of a pipeline or compressor station component during future operation of the facilities. The provisions outlined in this plan will include a callout procedure with telephone numbers of local fire and police responders, as well as county and state agencies. The plan will address public safety measures, emergency evacuation routes, and traffic control. Coordination and training with other</p>	<p>Central Valley to prepare a Construction and Operation Safety and Emergency Response Plan as defined.</p>	<p>Central Valley to provide CPUC copies of all plans developed in compliance with hazardous materials regulations at least 30 days prior to construction of the applicable phase(s).</p> <p>CPUC to review Construction and Operation Safety and Emergency Response Plan to ensure compliance with measure.</p>	<p>30 days prior to construction</p>	All	<p>Pre-Construction Component Complete.</p> <p>Central Valley provided a HSES Site Manual that includes a construction safety and emergency plan. CPUC verified HSES site manual and emergency plan was provided by Central Valley on March 2, 2011.</p>

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Potential for impact to the public or environment due to use of hazardous materials.	HAZ-1	—	<p>parties like PG&amp;E and the local fire and police departments will also be part of this plan. Worker Health and Safety Element. This element of the plan will include provisions that establish worker training. This portion of the plan will also establish security measures to prevent unauthorized entry to cleanup sites and to reduce hazards outside the investigation/cleanup area. It will also address gas leaks, methods of evacuation, and general protection measures.</p> <p>Fire Prevention and Management Element. To minimize the potential fire risks during summer construction activities, this element of the plan will identify fire management measures that will be implemented during construction and operation. The plan will include the notification procedures and emergency fire precautions listed below.</p> <ul style="list-style-type: none"> <li>All internal combustion engines, stationary and mobile, will meet applicable regulatory standards.</li> <li>Light trucks and cars with factory-installed (type) mufflers, in good condition, may be used on roads where the roadway is cleared of all vegetation.</li> <li>"No Smoking" signs and fire rules will be posted at the contractor field offices and areas visible to employees during the fire season.</li> <li>Equipment parking areas and small stationary engine sites will be cleared of all extraneous flammable materials.</li> <li>Fire extinguishers will be installed at the compressor station and metering station.</li> <li>Employee training in use of extinguishers and communication with the local fire departments will be provided to all personnel.</li> </ul> <p>Central Valley and/or the project contractor will contain drilling mud and cuttings from well drilling and HDD in portable tanks and will remove and dispose of these at approved facilities for this type of waste.</p>	<p>Central Valley to incorporate measure as defined and incorporate into construction contracts.</p>	<p>Central Valley to document compliance with this measure. CPUC to ensure that commitments have been incorporated into construction contract specifications. CPUC to inspect periodically to ensure measure is being implemented.</p>	<p>Prior to and during construction.</p>	<p>Natural Gas Connecting Pipeline – Segment A Remote Well Pad Site Observation Wells</p>	<p>This measure is not applicable to the proposed construction activities identified in NTP 9A. The pre-construction component will need to be satisfied by CVGS prior to issuance of the NTP associated with construction of the pipeline.</p>
Potential for impact to the public or environment due to release of hazardous materials into the	HAZ-3	—	<p>In the event that soils suspected of being contaminated, based on visual or olfactory evidence or from portable chemical monitoring devices, are removed during excavation</p>	<p>Central Valley to implement measure. Central Valley to retain a licensed professional geologist or engineer, as</p>	<p>CPUC to verify to ensure that potential exposure of workers, the public, or the environment to hazardous materials in</p>	<p>During construction.</p>	<p>Natural Gas Connecting Pipelines – Segments A &amp; B</p>	<p>This measure is not applicable to the proposed construction activities identified in NTP 9A. The</p>