

***Appendix A-1  
Revisions to the Final SEIR***

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## 2. Phase 3 Expansion Overview and Environmental Impacts

### 2.1 Phase 3 Expansion Overview

The Wild Goose Gas Storage Facility (Wild Goose Facility), located in Butte County, California, began commercial operations in April 1999, underwent a significant facility expansion in 2002, and currently has approximately 29 billion cubic feet (Bcf) of storage capacity. The facility is owned by Wild Goose Storage, LLC (Wild Goose, or the applicant), a subsidiary of Niska Gas Storage. The Wild Goose Facility is interconnected with Pacific Gas and Electric's (PG&E's) Transmission System Line 167, a local natural gas transmission system, as well as with PG&E's Transmission System Line 400, via the Wild Goose Connection Pipeline. The expansion of the facility in 2002 included construction of a 25.5-mile natural gas pipeline (Wild Goose Connection Pipeline) from the main facility site (Remote Facility Site, or RFS) to PG&E Line 400. This pipeline passes through the Delevan Interconnect Site just before it reaches PG&E Line 400. The Delevan Interconnect Site was installed for monitoring, metering, and controlling gas flow from the RFS to PG&E Line 400. It is owned by PG&E but includes easements for Wild Goose Facility interconnect components.

An 8.5-acre Well Pad Site (WPS), which includes 24 current or planned injection/withdrawal and observation wells, is located within the property of the Wild Goose Club (a private hunting and outdoor recreation club), approximately 4.5 miles to the west of the RFS. Two bi-directional natural gas pipelines, one 18 inches in diameter and one 24 inches in diameter, are routed between the WPS and the RFS, along with a 3-inch-diameter water pipeline that removes water from the gas stream ("produced water") during extraction of natural gas from the reservoir.

The Wild Goose Phase 3 Gas Storage Expansion (Phase 3 Expansion) would result in an increase in the physical footprint and current operations at the Wild Goose Facility, and would primarily consist of the construction, operation, and maintenance of an expansion to the RFS; modifications to the Delevan Site; PG&E's installation of up to three new hot tapped pipeline connections between the Wild Goose Interconnect Pipeline and PG&E Lines 400 and 401 to increase permitted storage and operational capacity; and PG&E's reconductoring of up to 6.1 miles (32,400 feet) of electrical distribution line. The Phase 3 Expansion would increase the current injection capacity of the facility from 450 to 650 million cubic feet per day (MMcfd), the withdrawal capacity from 700 to 1,200 MMcfd, and the working gas storage capacity from 29 to 50 Bcf. Components of the Phase 3 Expansion would be consistent with the 2002 facility improvements, and would extend facility operations in a similar way. The Phase 3 Expansion would include four main components, described below.

**Modifications to the RFS.** The RFS is currently the operation hub of the Wild Goose Facility. Modifications would include installation of four new natural gas compressors in a new building; installation of four 15-foot-high associated gas coolers; and installation of two new 30-foot-high gas contactors (dehydration units). A new 6,000-gallon glycol storage tank may also be installed on the site. Work at the site would require expansion of the existing site area from 12.2 acres to approximately 16.7 acres, and the resulting fill of approximately 4.5 acres of rice field agricultural wetlands.

**Modifications to the Delevan Site.** The Delevan Site is approximately 25 miles west of the RFS, in Colusa County. Modifications would include expansions of both Wild Goose and PG&E operations at the Delevan Interconnect Site, including installation of new meters, piping, valves, and associated

equipment, to accommodate the increase in withdrawal and injection volume. This work would not result in an expansion of the existing site area.

**Hot Tapped Pipeline Connections.** Up to four new subsurface pipeline connections, totaling approximately 200 feet in length, would be installed using a hot tap process. The pipelines would run from the Wild Goose Connection Pipeline to PG&E Lines 400 and 401. (The Wild Goose Connection Pipeline currently only connects to PG&E Line 400.) The new hot tapped pipeline connections would be installed largely within an existing 100-foot-wide easement held by PG&E. The total area temporarily disturbed during construction would be approximately 0.25 acres, approximately 0.1 acres of which would be outside of the PG&E easement.

**PG&E Distribution Line Reconductoring.** To accommodate the increase in use at the Wild Goose Facility as well as to increase reliability, PG&E would upgrade distribution lines in the vicinity of the RFS by reconductoring up to 6.1 miles (32,400 feet) of electrical line. An additional ground- or pole-mounted 1,500-kilovolt-ampere (kVA) transformer would also be required.

For further details on the Phase 3 Expansion, refer to Chapter 2, Description of Phase 3 Expansion, of the Draft Supplemental Environmental Impact Report (Draft SEIR).

## 2.3 Summary of Environmental Impacts

All impacts identified during the course of this environmental analysis are summarized in this section. This summary is intended as an overview, and should be used in conjunction with a thorough reading of the Final SEIR. The technical analyses in the Final SEIR provide justification for the conclusions made in the summary. Table 2-1 summarizes the impacts addressed in this Final SEIR, the level of significance for each impact, and the changes made for this Final SEIR. For the full Mitigation Monitoring and Reporting Program (MMRP) with amendments, see Chapter 5 of this document. The MMRP will be adopted by the CPUC concurrent with approval of the Final SEIR.

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
Aesthetics	<i>No new impacts or mitigation measures</i>		
Agriculture and Forestry Resources	Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non-agricultural use.	<p><b>PHASE 3 MM AG-1.</b> The applicant will purchase or obtain compensatory mitigation for the conversion of Prime Farmland and Farmland of Statewide Importance at a ratio of one unit of mitigation to one unit of agricultural land converted. Compensatory mitigation options for the conversion of FMMP designated farmland include one or more of the following:</p> <ol style="list-style-type: none"> <li>1. Purchase of mitigation credits from an agricultural mitigation bank located within Butte County;</li> <li>2. Placement of an easement or other restrictions to non-agricultural uses on existing agricultural land in Butte County; and/or</li> <li>3. Purchase of wetlands and/or endangered species habitat mitigation credits from an appropriate mitigation bank at a ratio of two units of mitigation to one unit of agricultural land converted.</li> </ol>	<u>Less Than Significant</u>
Air Quality and Greenhouse Gas Emissions	Potential to conflict with or obstruct implementation of the applicable air quality plan.	<p><b>PHASE 3 MM AIR-1:</b> The applicant will implement the following measures for Phase 3 Expansion construction equipment:</p> <ul style="list-style-type: none"> <li>• Maintain all construction equipment in proper tune according to manufacturer’s specifications.</li> <li>• Maximize the use of diesel construction equipment meeting the CARB’s 1996 or newer certification standard for off-road heavy-duty diesel engines.</li> </ul>	<u>Less Than Significant</u>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><b>PHASE 3 MM AIR-2:</b> The applicant will implement the following measures to prevent and control dust emissions:</p> <p><u>Land Clearing/Earth Moving</u></p> <ul style="list-style-type: none"> <li><u>Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.</u></li> <li><u>Haul vehicles transporting soil into or out of the property shall be covered.</u></li> <li><u>A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of two times per day or more as necessary.</u></li> <li><u>On-site vehicles will be limited to a speed which minimizes dust emissions on unpaved roads.</u></li> <li><u>The applicant will post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD shall also be visible to ensure compliance with District Rule 200 &amp; 205 (Nuisance and Fugitive Dust Emissions).</u></li> </ul> <p><u>Visibly Dry Disturbed Soil Surface Areas</u></p> <ul style="list-style-type: none"> <li><u>All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emission.</u></li> </ul> <p><u>Paved Road Track-Out</u></p> <ul style="list-style-type: none"> <li><u>Existing roads and streets adjacent to the Phase 3 Expansion area will be cleaned at least once per day unless conditions warrant a greater frequency.</u></li> </ul> <p><u>Visibly Dry Disturbed Unpaved Roads</u></p> <ul style="list-style-type: none"> <li><u>All visibly dry disturbed unpaved road surface areas shall</u></li> </ul>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>be watered to minimize dust emission.</u></p> <ul style="list-style-type: none"> <li>• <u>A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of two times per day or more as necessary.</u></li> <li>• <u>On-site vehicles will be limited to a speed which minimizes dust emissions on unpaved roads.</u></li> <li>• <u>Haul roads will be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.</u></li> </ul> <p><u>Vehicles Entering/Exiting Construction Area</u></p> <ul style="list-style-type: none"> <li>• <u>Vehicles entering or exiting the Phase 3 Expansion construction area shall travel at a speed which minimizes dust emissions.</u></li> </ul> <p><u>Employee Vehicles</u></p> <ul style="list-style-type: none"> <li>• <u>Construction workers shall park in designated parking areas(s) to help reduce dust emissions.</u></li> </ul> <p><u>Soil Piles</u></p> <ul style="list-style-type: none"> <li>• <u>Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material will be used to further reduce dust emissions.</u></li> </ul>	
		<p><b><u>PHASE 3 MM AIR-3:</u></b> <u>To address potentially significant construction emissions at the RFS and the PG&amp;E reconductoring component area, the applicant and PG&amp;E will apply appropriate BCAQMD Best Available Mitigation Measures (BAMMs) and/or offsite measures such as purchase of offsets for NO<sub>x</sub> and PM<sub>10</sub> emissions, as presented in the BCAQMD CEQA Air Quality Handbook (2008), in order to reduce construction emissions to a less than significant level. This measure will apply to emissions of NO<sub>x</sub> and PM<sub>10</sub> in the</u></p>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>years 2011 and 2012. The BCAQMD will identify the BAMMs and/or offsite measures such as purchase of offsets for NO<sub>x</sub> and PM<sub>10</sub> emissions, that will be implemented, and include them in a construction emissions reduction plan. The applicant will submit the construction emissions reduction plan to the CPUC and BCAQMD prior to the start of Phase 3 Expansion construction activities.</u></p>	
		<p><b><u>PHASE 3 MM AIR-4:</u></b> To address potentially significant construction emissions at the Delevan Site, and in coordination with the Colusa County Air Pollution Control District (CCAPCD), the applicant will purchase NO<sub>x</sub> offsets for exceedances over the CCAPCD threshold limit during the construction period. Based on calculations of NO<sub>x</sub> pounds per day emissions for the construction phase, total NO<sub>x</sub> emissions are anticipated to exceed the CCAPCD limit of 25 pounds per day. The applicant will be required to purchase NO<sub>x</sub> offset credits for daily NO<sub>x</sub> emissions in excess of 25 pounds and to provide documentation of the offsets purchase to the CPUC and the CCAPCD prior to the start of Phase 3 Expansion construction activities. If required by the CCAPCD, these offset credits will also be incorporated into the Authority to Construct permit conditions.</p>	<p><u>Less Than Significant</u></p>
		<p><b><u>PHASE 3 MM AIR-5:</u></b> To address potentially significant operations emissions at the RFS, the applicant will purchase offsets for NO<sub>x</sub> and ROG emissions, either from existing market-based offsets within Butte County, or from the BCAQMD community offset bank, as available. Based on the calculations of NO<sub>x</sub> and ROG pounds per day emissions for the operations phase, these emissions are anticipated to exceed the Level B BCAQMD 25 pounds per day limit. It is anticipated that the BCAQMD will include appropriate permit conditions in the Phase 3 Expansion Permit to Operate to ensure that offsets for NO<sub>x</sub> and ROG emissions are adequate and applied. If the applicant identifies contemporaneous emission reductions to existing equipment that would result in no net emission increase of NO<sub>x</sub> and ROG, the requirement for emission</p>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>offsets may be removed as long as these emission reductions are verified and approved by the BCAQMD and appropriate documentation is provided to the CPUC prior to the start of Phase 3 Expansion construction.</u></p>	
	<p>Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<p><b>PHASE 3 MM AIR-6:</b> <u>Prior to construction of the Phase 3 Expansion, the applicant will enter into an agreement with PG&amp;E to participate in PG&amp;E's Climate Smart™ Program, to provide 50 percent of the electricity used at the RFS annually (approximately 1,000 metric tons CO<sub>2</sub>e) from renewable energy sources. A copy of the agreement between the applicant and PG&amp;E will be provided to CPUC prior to the start of operation of the expanded RFS. Annual reports on the applicant's participation in the program will also be submitted by the applicant to CPUC.</u></p>	<p><u>Less Than Significant</u></p>
		<p><b>PHASE 3 MM AIR-7:</b> <u>Until the applicant is required to comply with an adopted, verifiable state-wide cap and trade program, the applicant will obtain and retire, by the end of each year of Phase 3 Expansion construction and operation, sufficient carbon credits to fully offset GHG emissions ("carbon offsets") in excess of 10,000 metric tons of CO<sub>2</sub>e. After that time, the applicant will comply with the requirements of the adopted state-wide cap and trade program. The total amount of offsets purchased will be based on actual GHG emissions, which may be lower than the worst-case GHG emissions estimated for each year of construction and operation. Renewable Energy Certificates (RECs) and TRECS (Tradable RECs) do not qualify as GHG offsets. Carbon offsets will apply to Phase 3 Expansion construction GHG emissions (amortized over 30 years) as well as direct operational GHG emissions. Prior to completion of project construction, the applicant will prepare a detailed written summary of the carbon offsets, including offset type, location, calculation methodology protocol employed, and registration status. In addition, prior to completion of project construction, the applicant will provide to CPUC an independent verification opinion</u></p>	<p><u>Less Than Significant</u></p>

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>statement(s) for the carbon offsets, from a verification body registered with the California Climate Action Registry, ANSI, or the CARB.</u></p> <p><u>Offsets purchased from a third party or developed by the applicant must meet at least one of the following requirements:</u></p> <ol style="list-style-type: none"> <li>1. <u>Offset project is located within California;</u></li> <li>2. <u>Offset project is located in jurisdictions that hold current, specific agreements with California (such as the Climate Action Reserve), or exist in the context of an ISO-compliant regional trading system like that being developed in the Western Climate Initiative or other regional program; and/or</u></li> <li>3. <u>Offset project is an internally developed reduction measure following a recognized protocol (such as the Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange). Some potential offset projects of this type include:</u> <ul style="list-style-type: none"> <li>• <u>Fuel switching in applicant-owned equipment;</u></li> <li>• <u>Energy efficiency upgrades beyond business as usual;</u></li> <li>• <u>Implementation of a quantifiable carpooling program above and beyond what is currently in place; and</u></li> <li>• <u>Sequestration and/or destruction of GHG conducted in accordance with any protocol available at the time of construction from the Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange.</u></li> </ul> </li> </ol> <p><u>Any carbon offset either purchased or developed by the applicant through another entity will either be registered in, or developed in accordance with a protocol for, an established Carbon Reduction/Sequestration Project. Established projects and protocols include those provided by recognized organizations, such as the</u></p>	

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange, that can provide a reasonable level of assurance that GHG reductions are real, additional, permanent, and verifiable. If the applicant were to develop a carbon offset project without registering it with one of the above-referenced registration bodies, the applicant will demonstrate to CPUC that the offset satisfies the four additionality tests as outlined in the UNFCC Additionality Tool, and will obtain an independent evaluation by a qualified third party confirming that the offset meets additionality testing requirements.</u></p> <p><u>Prior to the start of project operation, the applicant will submit a project design document describing baseline procedures and emissions levels as well as projected levels of emissions reductions/offsets to CPUC. The design document will include the requirement that the applicant submit a report annually to CPUC documenting the previous year's offset activities and purchases. The annual report will be independently verified by an ANSI-accredited GHG emissions reduction verification body.</u></p>	
<p><b>Biological Resources</b></p>	<p>Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, polices, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.</p>	<p><b>PHASE 3 MM BIO-1:</b> <u>The following general measures will reduce impacts to all sensitive wildlife species during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li><u>Preconstruction surveys will be conducted in suitable habitat in and adjacent to the Phase 3 Expansion areas at the RFS and the Delevan Site during the appropriate survey windows. Preconstruction surveys will be conducted in suitable habitat no more than 30 days in advance of construction. These surveys shall be conducted using standard approved methods, including the California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (1993), the Swainson's Hawk Technical Advisory Committee Methodology for Nesting Surveys in California's Central Valley (TAC 2000), and the USFWS Guidelines for Conducting and Reporting Botanical</u></li> </ol>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>Inventories for Federally Listed, Proposed and Candidate Species (1996).</u></p> <ol style="list-style-type: none"> <li>2. <u>Construction employees shall strictly limit activities, including movement of vehicles, equipment, and construction materials, to the Phase 3 Expansion footprint and designated staging areas and routes of travel within the Phase 3 Expansion footprint.</u></li> <li>3. <u>The applicant shall not stockpile brush, loose soils, excavation spoils, or other similar debris material within sensitive habitats.</u></li> <li>4. <u>Sensitive plant surveys will be conducted prior to construction within suitable habitat in and adjacent to Phase 3 Expansion work areas and during the appropriate survey window.</u></li> <li>5. <u>Where sensitive plants occur within the construction area, the work area will be adjusted in order to minimize impacts.</u></li> <li>6. <u>Exclusion fencing will be provided to protect sensitive plants that occur within 50 feet of construction work areas.</u></li> <li>7. <u>A qualified biologist will monitor construction to ensure that no sensitive wildlife species inadvertently enter the work area. Should a sensitive species be found, the appropriate resource agencies will be notified within 24 hours (USFWS and CDFG). Animals will be allowed to passively exit the work areas, and construction will be halted as needed to accomplish this.</u></li> </ol>	
		<p><b><u>PHASE 3 MM BIO-2:</u></b> <u>The following specific measures will reduce impacts to the wildlife species described below during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li>1. <u>Reptiles and Amphibians.</u> The following measures will be supplemented with measures prescribed in the Phase 2 Expansion USFWS Biological Opinion and CDFG Take Permit for the giant garter snake: <ul style="list-style-type: none"> <li>• <u>Preconstruction surveys for giant garter snake (RFS,</u></li> </ul> </li> </ol>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>reconductoring area, and Delevan Site), northwestern pond turtle (RFS and Delevan Site), and western spadefoot toad (RFS and Delevan Site) will be performed within 24 hours prior to construction. If a giant garter snake or any other sensitive species is found, it will be allowed to escape on its own, or will be removed by an authorized biologist and relocated to suitable habitat. USFWS and CDFG will be notified whenever a sensitive reptile or amphibian is handled by an authorized biologist.</u></p> <ul style="list-style-type: none"> <li>• <u>Onsite monitoring biologists will obtain authorization from the USFWS and CDFG to handle the giant garter snake for the purposes of removing individuals during construction and operation of the Phase 3 Expansion components.</u></li> <li>• <u>A qualified biologist will monitor construction to ensure that no sensitive reptile or amphibian species inadvertently enter the work area.</u></li> <li>• <u>Other than isolation dike construction and irrigation flow culvert installation, earthwork adjacent to flooded rice fields and other potential habitat will be confined to May through September unless otherwise authorized by the USFWS and CDFG.</u></li> </ul> <p>2. <u>Raptors and Other Sensitive Nesting Species. Preconstruction surveys will be conducted in suitable habitat at the RFS and Delevan Site to determine whether raptors or other sensitive bird species are nesting within or near the Phase 3 Expansion construction areas. The construction schedule or activities will be modified during nesting periods to preclude impacts. The general bird breeding season for this area is late February to early July. If it is not possible to adjust the schedule or construction activity, the following measures will be implemented:</u></p>	

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<ul style="list-style-type: none"> <li>• <u>Construction within 0.5 miles of active Swainson’s hawk nests will be avoided between April 15 and August 1, if feasible. If not feasible, nesting hawks within 0.5 miles will be monitored, construction activities will be halted if signs of disturbance (i.e., birds show signs of upset, repeatedly leaving the nest as a result of construction) are noted as determined by a qualified biologist, and CDFG will be consulted to determine possible options.</u></li> <li>• <u>A minimum 500-foot buffer will be maintained for other tree-nesting species such as white-tailed kites and the loggerhead shrike until after the young have fledged.</u></li> <li>• <u>A minimum 250-foot buffer will be maintained for ground-nesting or shrub-nesting species (northern harriers, tricolored blackbird, black tern, white-faced ibis, burrowing owl, and loggerhead shrikes) until after nesting is complete.</u></li> <li>• <u>Operations blowdowns and emergency shutdown valve blowdowns shall be routed into silencers.</u></li> <li>• <u>The applicant will reduce the gas/volume in the pipeline to a minimum prior to a planned maintenance blowdown.</u></li> </ul> <p>3. <u><i>Burrowing Owls.</i> Detailed preconstruction surveys will be conducted at the RFS and Delevan Site within 30 days prior to construction by a qualified biologist for burrowing owl within suitable habitat prior to the breeding season (February 1 through August 31). All areas within 250 feet of the Phase 3 Expansion areas at the RFS and Delevan Site, including road shoulders, will be surveyed. Where Phase 3 Expansion ground-disturbing activities will occur prior to the burrowing owl breeding season, all burrows, holes, crevices, or other cavities in suitable habitat in the Phase 3 Expansion areas at the RFS and Delevan Site, within the limits of proposed ground</u></p>	

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		<p><u>disturbance, will be thoroughly inspected by a qualified biologist before being collapsed. This will discourage owls from breeding on the construction site. Other species using burrows will be relocated prior to collapsing burrows.</u></p> <p><u>To the extent feasible, Phase 3 Expansion construction at the RFS and Delevan Site will avoid active burrows. If it is not possible to avoid burrowing owls, the following measures will be implemented:</u></p> <ul style="list-style-type: none"> <li><u>If burrowing owls occur within the proposed construction area, a 250-foot exclusion zone will be maintained around the burrows until relocation is complete or until chicks have fledged. Passive relocation will be used during the non-breeding season (September 1 through January 31) if it is determined that construction activities would disturb owls. Passive relocation will include installing one-way doors on the entrances of burrows located within the Phase 3 Expansion area.</u></li> <li><u>The occurrence and location of any burrowing owl will be documented by the authorized biologist, who will report all incidents of disturbance or harm to burrowing owls within 24 hours to the appropriate resource agencies (USFWS and CDFG).</u></li> <li><u>Under the supervision of a qualified biologist, burrows within the proposed construction area will be excavated using hand tools and then refilled to prevent reoccupation. If any owls are found during the excavation, the excavation will cease and the owls will be allowed to escape.</u></li> <li><u>For each burrow excavated, one natural or artificial burrow will be provided in the adjacent habitat outside the 250-foot buffer zone.</u></li> </ul>	

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><b>PHASE 3 MM BIO-3:</b> For the reconductoring component area, if any vegetation removal occurs during the typical avian nesting season (February 1 – August 31), a pre-disturbance survey for common and special-status bird species protected under the MBTA and California Fish and Game Codes will be conducted, using standard approved methods, including the California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (1993) and the Swainson’s Hawk Technical Advisory Committee Methodology for Nesting Surveys in California’s Central Valley (TAC 2000). The survey will be conducted by a qualified biologist no more than two weeks prior to the onset of vegetation removal. If active nests are found within or adjacent to proposed work areas during the avian nesting season, disturbance or removal of the nest will be avoided until the young have fledged and the nest is no longer active. The project biologist will determine the appropriate buffer distance between work areas and active nests in coordination with the CDFG and depending on the species, site conditions, and proposed work activities near the active nest.</p>	<p><u>Less Than Significant</u></p>
	<p>Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.</p>	<p><b>PHASE 3 MM BIO-4:</b> The following measures will reduce impacts related to wetland fill at the RFS during Phase 3 Expansion construction activities:</p> <ol style="list-style-type: none"> <li>1. <u>Erosion and sediment control measures (e.g., silt fencing, erosion control fabric or other measures) will be implemented at all locations where construction occurs within or directly adjacent to aquatic features.</u></li> <li>2. <u>Sediment stockpiling will be a minimum of 50 feet from wetland/drainage systems.</u></li> <li>3. <u>Loss of wetland habitat will be compensated at an appropriate ratio. This ratio will likely be 2:1, but will be determined by resource and permitting agencies (USACE, USFWS, and CDFG) during consultation.</u></li> </ol>	<p><u>Less Than Significant</u></p>

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		<p><b>PHASE 3 MM BIO-5:</b> For the reconductoring component area, work will take place from existing paved surfaces or other maintained areas that lack wetland habitats. For the wetland areas that have been identified in the reconductoring Biological Assessment (TRC 2010) along West Evans Reimer Road and Pennington Road, the following measures will be taken:</p> <ol style="list-style-type: none"> <li>1. <u>A wetlands biologist will delineate the edges of each wetland area using USACE delineation methodology (USACE, 1987). Once wetland boundaries have been accurately identified, a 100-foot buffer area will be established around each wetland area. Buffer areas will be demarcated with lath and flagging, and no construction materials, equipment or vehicles will be permitted in this area.</u></li> <li>2. <u>Erosion and sediment control measures described under MM BIO-4 will be implemented to protect wetland habitats.</u></li> </ol>	<p><u>Less Than Significant</u></p>
	<p>Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p>	<p><b>PHASE 3 MM BIO-6:</b> The following measures will reduce impacts to downstream fisheries and aquatic habitat at the RFS during Phase 3 Expansion construction activities:</p> <ol style="list-style-type: none"> <li>1. <u>The applicant will participate in ongoing consultations with CDFG (under Fish and Game Code 2081 and 1602) and USFWS (Section 7 consultation) to ensure water withdrawals and other activities at the RFS do not result in unacceptable impacts to downstream fisheries. To this end, the applicant will adhere to any stipulations required by CDFG and USFWS regarding the water withdrawal rate, volume, and timing established through the agency consultation process. The applicant will also submit any required documented evidence that the stipulated conditions of water withdrawal have been met to both CDFG and USFWS.</u></li> <li>2. <u>In coordination with CDFG and USFWS, the applicant shall conduct downstream monitoring required by CDFG and/or</u></li> </ol>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
Cultural Resources	Potential to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.	<p><u>USFWS to verify that withdrawal volume does not adversely impact fisheries or the aquatic life components that support special status aquatic species.</u></p> <p><b>PHASE 3 MM CULT-1:</b> <u>To avoid impacts to unknown historical resources in the area of the reconductoring component, PG&amp;E or its contractor will, prior to and during reconductoring activities:</u></p> <ol style="list-style-type: none"> <li>1. <u>Retain a qualified archeologist to conduct a cultural resources survey to identify all potentially eligible historic resources present on the surface of the reconductoring site. The survey will be conducted at 10 meter intervals and any cultural resources that are identified will be subsequently avoided during construction. All cultural resources identified will be recorded on Department of Parks and Recreation (DPR) 523 series forms and evaluated for their eligibility for inclusion in the NRHP and CRHR. The archaeologist will clearly mark the boundaries of any identified resources, including an additional 50-foot buffer area, around all identified sites, both on the ground and on construction maps. These boundaries will serve as construction exclusion zones where no reconductoring activities will be undertaken.</u></li> <li>2. <u>Retain an independent qualified archeologist for the duration of the reconductoring, to serve as a periodic site monitor during ground-disturbing and other activities that may affect historic resources at the site. The timing and frequency of monitoring will be at the discretion of the archeologist.</u></li> <li>3. <u>Notify construction supervisory personnel of the existence of all marked historical resources sites, and instruct supervisory personnel to keep personnel and equipment away from these areas.</u></li> </ol>	Less Than Significant
	Potential to cause a substantial adverse change in the significance of an	<b>PHASE 3 MM CULT-2:</b> <u>To avoid impacts to known and unknown archeological resources in the area of the reconductoring</u>	Less Than Significant

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
	archaeological resource pursuant to Section 15064.5.	<p><u>component, PG&amp;E or its contractor will, prior to and during reconductoring activities:</u></p> <ol style="list-style-type: none"> <li><u>1. Retain a qualified archeologist to conduct an archaeological resources survey to identify all potentially eligible archaeological resources present on the surface of the reconductoring site. The survey will be conducted at 10 meter intervals and any archaeological resources that are identified will be subsequently avoided during construction. All archaeological resources identified will be recorded on DPR 523 series forms and evaluated for their eligibility for inclusion in the NRHP and CRHR. The archeologist will clearly mark the boundaries of any identified resources, including an additional 50-foot buffer area, around all identified sites, both on the ground and on construction maps. These boundaries will serve as construction exclusion zones where no reconductoring activities will be undertaken.</u></li> <li><u>2. Retain an independent, qualified archeologist for the duration of the reconductoring, to serve as a periodic site monitor during ground-disturbing and other activities that may affect archaeological resources at the site. The timing and frequency of monitoring will be at the discretion of the archeologist.</u></li> <li><u>3. Notify construction supervisory personnel of the existence of all the identified and marked prehistoric site, as well as other marked archaeological sites, and instruct supervisory personnel to keep personnel and equipment away from these areas.</u></li> </ol>	
<b>Geology, Soils, and Mineral Resources</b>		<i>No new impacts or mitigation measures</i>	
<b>Hazards and Hazardous Materials</b>	Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release	<b>Mitigation Measure 3.7-3.</b> <u>At the end of each injection cycle in the fall of each year, WGSJ shall conduct surface gas monitoring and vegetation inspections at each abandoned well within the original productive area. If gas is detected, samples will be collected, if</u>	Less Than Significant

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
	of hazardous materials into the environment.	possible, and analyzed to determine its source or origin. If a leak is indicated by the data, the necessary remedial actions will be implemented consistent with DOGGR procedures outlined in California Code of Regulations § 1723 et. seq. All monitoring and sampling results will be submitted to the DOGGR. Any surface disturbance associated with implementing remedial actions shall be conducted consistent with the wetland impact minimization and mitigation measures specified under Impact 3.4- 4 on page 3.4-27.	
		<b>PHASE 3 MM HAZ-1:</b> Prior to Phase 3 Expansion construction activities, the applicant will ensure the Wild Goose Purging of Natural Gas Pipeline Systems Practice incorporates and includes measures for implementing all recommendations addressing pipeline purging procedures issued by the U.S. Chemical Safety and Hazard Investigation Board and adopted into the National Fuel Gas Code, and submit the revised practice to CPUC for review and confirmation.	<u>Less Than Significant</u>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><b>PHASE 3 MM HAZ-2:</b> PG&amp;E shall follow all applicable local, state, federal, and industry-specific regulations and procedures during hot tapped pipeline connection installation, and shall ensure that the following measures are taken:</p> <ol style="list-style-type: none"> <li>1. <u>Ensure that all appropriate local (Colusa County) permits and approvals have been obtained for welding and hot tapping;</u></li> <li>2. <u>Ensure that construction personnel working on the hot tapped pipeline connection installation are competent and have been properly trained and qualified in the use of the hot tap equipment;</u></li> <li>3. <u>Ensure that construction personnel working on the hot tapped pipeline connection installation review detailed, written, job-specific hot tapping procedures prior to starting construction activities;</u></li> <li>4. <u>Communicate safety procedures clearly to all construction personnel prior to hot tap activities, including fire protection, emergency response, and other appropriate procedures and instructions;</u></li> <li>5. <u>Ensure that at least one worker has been designated as a dedicated fire watch, trained for fire detection and prevention, equipped with a suitable fire extinguisher, and equipped with appropriate equipment to communicate with personnel working in the area;</u></li> <li>6. <u>Ensure equipment is in good working condition;</u></li> <li>7. <u>Install appropriate barricades and warning signs prior to hot tapping activities;</u></li> <li>8. <u>Establish procedures for isolation of the work area in the event of an emergency;</u></li> <li>9. <u>Ensure provisions are made for an easily accessible means of egress from the work area;</u></li> </ol>	<p><u>Less Than Significant</u></p>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		10. <u>Inspect the hot tapping location prior to hot tapping activities and confirm pipeline diameter, wall thickness, evidence of corrosion, and general soundness;</u> 11. <u>Use combustible gas and oxygen detectors during hot tapping procedures as necessary to ensure that hot tapping activities do not take place if vapor/air or vapor/oxygen mixtures in piping or equipment are near or within the flammable explosive range;</u> 12. <u>Follow manufacturer's instructions and directions for operating the hot tapping equipment; and</u> 13. <u>Ensure provisions are made to assure that adequate containment is available to control liquids and vapors trapped within the hot tapping equipment which could be released upon removal of the machine after work is completed.</u>	
Hydrology	Potential to place within a 100-year flood hazard area structures which would impede or redirect flood flows.	<b>PHASE 3 MM HYDRO-1:</b> Phase 3 Expansion components at the RFS, reconductoring component area, and Delevan Site would be engineered to withstand stresses associated with their proximity to waterways, and would be designed to withstand flooding associated with high ground water, agricultural activities, or overflow of canals during heavy rainstorms. Structures shall be constructed in compliance with the 2007 Uniform Building Code any other federal, state and local construction regulations.	<u>Less Than Significant</u>
	Potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	<u>See PHASE 3 MM HYDRO-1, above.</u>	<u>Less Than Significant</u>
<b>Land Use and Planning</b>	<i>No new impacts or mitigation measures</i>		
Noise	Potential to expose persons to or generate noise levels in excess of	<b>PHASE 3 MM NOI-1:</b> PG&E will employ the following noise reduction and control practices during reconductoring activities that	<u>Less Than Significant</u>

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
	standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	<p><u>could produce noise levels above 80 dBA L<sub>max</sub> near sensitive receptors (within 100 feet):</u></p> <ul style="list-style-type: none"> <li><u>Unnecessary engine idling from construction equipment will be limited during construction hours.</u></li> <li><u>Construction equipment specifically designed for low noise emissions (i.e., equipment that is powered by electric or natural gas engines as opposed to those powered by diesel or gasoline reciprocating engines) will be used as much as feasible.</u></li> <li><u>Temporary enclosures or noise barriers (i.e. noise blankets) will be used around loudest pieces of equipment, as feasible.</u></li> <li><u>Construction traffic will be routed away from residences and other sensitive receptors, as feasible.</u></li> <li><u>Noise from back-up alarms (alarms that signal vehicle travel in reverse) in construction vehicles and equipment will be reduced by providing a layout of construction sites that minimizes the need for back-up alarms and using flagmen to minimize time needed to back up vehicles. As feasible, and in compliance with the applicant's safety practices and public and worker safety provisions required in the Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926), the applicant may also use self-adjusting, manually adjustable, or broadband back-up alarms to reduce construction noise.</u></li> </ul>	
		<p><b><u>PHASE 3 MM NOI-2:</u></b> <u>After full buildout of the Phase 3 Expansion, the applicant will employ the following noise reduction and control practices during operations at the WPS that could produce noise levels above 55 dBA L<sub>max</sub> at a location 100 yards from the WPS berm:</u></p> <ul style="list-style-type: none"> <li><u>For the first year after full buildout of the Phase 3 Expansion, during periods when fewer than 20 wells are in operation at the WPS withdrawal gas flow rates at the WPS are greater than 700 MMcfd and injection flow rates are greater than 450</u></li> </ul>	Less Than Significant

Table 2-1 Summary of Impacts

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
		<p><u>MMcfd, the applicant will record sound pressure levels (SPLs, dBA, L<sub>eq</sub>) on a once-a-week basis for 15-minute minimum durations at a location 100 yards from the WPS berm- as follows:</u></p> <ol style="list-style-type: none"> <li>1. <u>At a minimum, measurements of SPLs will take place once a day (once within a 24-hour period);</u></li> <li>2. <u>If flow rate increases by more than 100 MMcfd or if the number of wells in operation changes during any given, 24-hour day of injection or withdrawal operations, SPLs will be measured after any such changes; and</u></li> <li>3. <u>The number of wells in operation and the gas flow rate will be recorded during each measurements of SPLs.</u></li> </ol> <ul style="list-style-type: none"> <li>• <u>If noise levels exceed 55 dBA at a location 100 yards from the WPS berm, the applicant shall implement measures at the WPS to reduce noise levels to 55 dBA at this distance. Measures could include:</u> <ol style="list-style-type: none"> <li>1. <u>Increasing the WPS berm in height by 2 feet (estimated total minimum noise reduction: 5 dBA);</u></li> <li>2. <u>Increasing the WPS berm in height by 4 feet (estimated total minimum noise reduction: 10 dBA);</u></li> <li>3. <u>Application of sound insulating lagging to well lines and valves (estimated total noise reduction: 12 to 24 dBA); or</u></li> <li>4. <u>Installation of a cinder block (or other noise-absorbing material) enclosure or wall around the WPS equipment array (estimated total minimum noise reduction: 25 dBA).</u></li> </ol> </li> </ul>	

**Table 2-1 Summary of Impacts**

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation
Population and Housing	<i>No new impacts or mitigation measures</i>		
Public Services and Socioeconomics	<i>No new impacts or mitigation measures</i>		
Recreation	<i>No new impacts or mitigation measures</i>		
Transportation and Traffic	<i>No new impacts or mitigation measures</i>		
Utilities and Services Systems	<i>No new impacts or mitigation measures</i>		

## 5. Revised Mitigation, Monitoring, and Reporting Program

### 5.1 Introduction

The purpose of this Mitigation, Monitoring, and Reporting Program (MMRP) is to summarize the mitigation, monitoring, and reporting process for the proposed Wild Goose Phase 3 Gas Storage Expansion (Phase 3 Expansion) and the role and responsibilities of the California Public Utilities Commission (CPUC) in ensuring effective implementation of mitigation for potential adverse effects and cumulatively considerable effects.

This MMRP is a draft program, and will be finalized if the CPUC approves the project. At that time, final mitigation measures will be incorporated into the program and the roles and responsibilities for their implementation will be refined.

### 5.2 Roles and Responsibilities

As the lead agency under the California Environmental Quality Act (CEQA), the CPUC is required to monitor the project to ensure that mitigation measures are undertaken and that they accomplish the required levels of mitigation or compensation.

Wild Goose Storage, LLC, (Wild Goose) will be responsible for initiating implementation of all mitigation measures. Oversight of implementation will be divided among a variety of agencies, including:

- CPUC
- Butte County Agricultural Commissioner
- California Department of Fish and Game (CDFG)
- U.S. Army Corps of Engineers (USACE)
- Central Valley Regional Water Quality Control Board (CVRWQCB)
- U.S. Fish and Wildlife Service (USFWS)
- California Division of Oil, Gas, and Geothermal Resources (DOGGR)
- Butte County Planning and Building Departments
- Colusa County Planning and Building Departments
- City of Gridley Planning and Building Departments
- Butte County Public Works Department
- Colusa County Public Works Department
- Butte County Air Quality Management District (BCAQMD)
- Colusa County Air Pollution Control District (CCAPCD)
- Local fire departments
- Local sheriff's departments

For overall coordination and responsibility, the CPUC and its representatives would coordinate with Wild Goose to ensure implementation and adequate monitoring of all mitigation measures through construction and operation.

### **5.3 Environmental Sectors and Mitigation**

Construction, operation, and maintenance of the proposed Phase 3 Expansion could result in potentially significant environmental impacts. Mitigation measures identified in this SEIR have been developed to reduce those potential impacts to a less than significant level. Mitigation measures addressing the Phase 2 Expansion have been amended and supplemented as necessary to address potential impacts from the Phase 3 Expansion.

The numbers of the mitigation measures summarized in Table 5-1 correspond with the numbers outlined in Chapter 3 of the Draft SEIR. Mitigation measures for resource areas discussed in Appendix A, Focusing Initial Study, of the Draft SEIR have been included in the table; discussion of impacts associated with these resource areas is included in Appendix A of the Draft SEIR.

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
<b>Aesthetics</b>				
<i>No new impacts or mitigation measures</i>				
<b>Agriculture and Forest Resources</b>	Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non-agricultural use.	<p><b>PHASE 3 MM AG-1.</b> The applicant will purchase or obtain compensatory mitigation for the conversion of Prime Farmland and Farmland of Statewide Importance at a ratio of one unit of mitigation to one unit of agricultural land converted. Compensatory mitigation options for the conversion of FMMP designated farmland include one or more of the following:</p> <ol style="list-style-type: none"> <li>1. <u>Purchase of mitigation credits from an agricultural mitigation bank located within Butte County;</u></li> <li>2. <u>Placement of an easement or other restrictions to non-agricultural uses on existing agricultural land in Butte County; and/or</u></li> <li>3. <u>Purchase of wetlands and/or endangered species habitat mitigation credits from an appropriate mitigation bank at a ratio of two units of mitigation to one unit of agricultural land converted.</u></li> </ol>	<u>Less Than Significant</u>	CPUC, Wild Goose, Butte County Planning Division, Butte County Agricultural Commissioner
<b>Air Quality and Greenhouse Gases</b>	Potential to conflict with or obstruct implementation of the applicable air quality plan.	<p><b>PHASE 3 MM AIR-1:</b> The applicant will implement the following measures for Phase 3 Expansion construction equipment:</p> <ul style="list-style-type: none"> <li>• <u>Maintain all construction equipment in proper tune according to manufacturer's specifications.</u></li> <li>• <u>Maximize the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.</u></li> </ul>	<u>Less Than Significant</u>	CPUC, Wild Goose, BCAQMD

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><b>PHASE 3 MM AIR-2:</b> The applicant will implement the following measures to prevent and control dust emissions:</p> <p><u>Land Clearing/Earth Moving</u></p> <ul style="list-style-type: none"> <li><u>Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.</u></li> <li><u>Haul vehicles transporting soil into or out of the property shall be covered.</u></li> <li><u>A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of two times per day or more as necessary.</u></li> <li><u>On-site vehicles will be limited to a speed which minimizes dust emissions on unpaved roads.</u></li> <li><u>The applicant will post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD shall also be visible to ensure compliance with District Rule 200 &amp; 205 (Nuisance and Fugitive Dust Emissions).</u></li> </ul> <p><u>Visibly Dry Disturbed Soil Surface Areas</u></p> <ul style="list-style-type: none"> <li><u>All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emission.</u></li> </ul> <p><u>Paved Road Track-Out</u></p> <ul style="list-style-type: none"> <li><u>Existing roads and streets adjacent to the Phase 3 Expansion area will be cleaned at least once per day unless conditions warrant a greater frequency.</u></li> </ul> <p><u>Visibly Dry Disturbed Unpaved Roads</u></p> <ul style="list-style-type: none"> <li><u>All visibly dry disturbed unpaved road surface areas shall be watered to minimize dust emission.</u></li> </ul>	Less Than Significant	CPUC, Wild Goose, BCAQMD

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<ul style="list-style-type: none"> <li>• <u>A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of two times per day or more as necessary.</u></li> <li>• <u>On-site vehicles will be limited to a speed which minimizes dust emissions on unpaved roads.</u></li> <li>• <u>Haul roads will be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.</u></li> </ul> <p><u>Vehicles Entering/Exiting Construction Area</u></p> <ul style="list-style-type: none"> <li>• <u>Vehicles entering or exiting the Phase 3 Expansion construction area shall travel at a speed which minimizes dust emissions.</u></li> </ul> <p><u>Employee Vehicles</u></p> <ul style="list-style-type: none"> <li>• <u>Construction workers shall park in designated parking areas(s) to help reduce dust emissions.</u></li> </ul> <p><u>Soil Piles</u></p> <ul style="list-style-type: none"> <li>• <u>Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material will be used to further reduce dust emissions.</u></li> </ul>		
		<p><b><u>PHASE 3 MM AIR-3:</u></b> <u>To address potentially significant construction emissions at the RFS and the PG&amp;E reconductoring component area, the applicant and PG&amp;E will apply appropriate BCAQMD Best Available Mitigation Measures (BAMMs) and/or offsite measures such as purchase of offsets for NO<sub>x</sub> and PM<sub>10</sub> emissions, as presented in the BCAQMD CEQA Air Quality Handbook (2008), in order to reduce construction emissions to a less than significant level. This measure will apply to emissions of NO<sub>x</sub> and PM<sub>10</sub> in the years 2011 and 2012. The BCAQMD will identify the BAMMs and/or offsite measures such as purchase of offsets for NO<sub>x</sub> and PM<sub>10</sub> emissions, that will be implemented, and include them in a construction emissions reduction plan. The applicant will submit the construction emissions reduction plan to the CPUC and BCAQMD</u></p>	Less Than Significant	CPUC, Wild Goose, BCAQMD

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<u>prior to the start of Phase 3 Expansion construction activities.</u>		
		<b><u>PHASE 3 MM AIR-4:</u></b> To address potentially significant construction emissions at the Delevan Site, and in coordination with the Colusa County Air Pollution Control District (CCAPCD), the applicant will purchase NO <sub>x</sub> offsets for exceedances over the CCAPCD threshold limit during the construction period. Based on calculations of NO <sub>x</sub> pounds per day emissions for the construction phase, total NO <sub>x</sub> emissions are anticipated to exceed the CCAPCD limit of 25 pounds per day. The applicant will be required to purchase NO <sub>x</sub> offset credits for daily NO <sub>x</sub> emissions in excess of 25 pounds and to provide documentation of the offsets purchase to the CPUC and the CCAPCD prior to the start of Phase 3 Expansion construction activities. If required by the CCAPCD, these offset credits will also be incorporated into the Authority to Construct permit conditions.	<u>Less Than Significant</u>	CPUC, Wild Goose, CCAPCD
		<b><u>PHASE 3 MM AIR-5:</u></b> To address potentially significant operations emissions at the RFS, the applicant will purchase offsets for NO <sub>x</sub> and ROG emissions, either from existing market-based offsets within Butte County, or from the BCAQMD community offset bank, as available. Based on the calculations of NO <sub>x</sub> and ROG pounds per day emissions for the operations phase, these emissions are anticipated to exceed the Level B BCAQMD 25 pounds per day limit. It is anticipated that the BCAQMD will include appropriate permit conditions in the Phase 3 Expansion Permit to Operate to ensure that offsets for NO <sub>x</sub> and ROG emissions are adequate and applied. If the applicant identifies contemporaneous emission reductions to existing equipment that would result in no net emission increase of NO <sub>x</sub> and ROG, the requirement for emission offsets may be removed as long as these emission reductions are verified and approved by the BCAQMD and appropriate documentation is provided to the CPUC prior to the start of Phase 3 Expansion construction.	<u>Less Than Significant</u>	CPUC, Wild Goose, BCAQMD

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
	Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	<b>PHASE 3 MM AIR-6:</b> Prior to construction of the Phase 3 Expansion, the applicant will enter into an agreement with PG&E to participate in PG&E's Climate Smart™ Program, to provide 50 percent of the electricity used at the RFS annually (approximately 1,000 metric tons CO <sub>2</sub> e) from renewable energy sources. A copy of the agreement between the applicant and PG&E will be provided to CPUC prior to the start of operation of the expanded RFS. Annual reports on the applicant's participation in the program will also be submitted by the applicant to CPUC.	Less Than Significant	CPUC, Wild Goose, PG&E
		<b>PHASE 3 MM AIR-7:</b> Until the applicant is required to comply with an adopted, verifiable state-wide cap and trade program, the applicant will obtain and retire, by the end of each year of Phase 3 Expansion construction and operation, sufficient carbon credits to fully offset GHG emissions ("carbon offsets") in excess of 10,000 metric tons of CO <sub>2</sub> e. After that time, the applicant will comply with the requirements of the adopted state-wide cap and trade program. The total amount of offsets purchased will be based on actual GHG emissions, which may be lower than the worst-case GHG emissions estimated for each year of construction and operation. Renewable Energy Certificates (RECs) and TRECS (Tradable RECs) do not qualify as GHG offsets. Carbon offsets will apply to Phase 3 Expansion construction GHG emissions (amortized over 30 years) as well as direct operational GHG emissions. Prior to completion of project construction, the applicant will prepare a detailed written summary of the carbon offsets, including offset type, location, calculation methodology protocol employed, and registration status. In addition, prior to completion of project construction, the applicant will provide to CPUC an independent verification opinion statement(s) for the carbon offsets, from a verification body registered with the California Climate Action Registry, ANSI, or the CARB.	Less Than Significant	CPUC, Wild Goose, Independent GHG Verification Body

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>Offsets purchased from a third party or developed by the applicant must meet at least one of the following requirements:</u></p> <ol style="list-style-type: none"> <li>1. <u>Offset project is located within California;</u></li> <li>2. <u>Offset project is located in jurisdictions that hold current, specific agreements with California (such as the Climate Action Reserve), or exist in the context of an ISO-compliant regional trading system like that being developed in the Western Climate Initiative or other regional program; and/or</u></li> <li>3. <u>Offset project is an internally developed reduction measure following a recognized protocol (such as the Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange).</u> <u>Some potential offset projects of this type include:</u> <ul style="list-style-type: none"> <li>• <u>Fuel switching in applicant-owned equipment;</u></li> <li>• <u>Energy efficiency upgrades beyond business as usual;</u></li> <li>• <u>Implementation of a quantifiable carpooling program above and beyond what is currently in place; and</u></li> <li>• <u>Sequestration and/or destruction of GHG conducted in accordance with any protocol available at the time of construction from the Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange.</u></li> </ul> </li> </ol> <p><u>Any carbon offset either purchased or developed by the applicant through another entity will either be registered in, or developed in accordance with a protocol for, an established Carbon Reduction/Sequestration Project. Established projects and protocols include those provided by recognized organizations, such as the Climate Action Reserve, the Voluntary Carbon Standard, or the Chicago Climate Exchange, that can provide a reasonable level of assurance that GHG reductions are real, additional, permanent, and verifiable. If the applicant were to develop a carbon offset project without registering it with one of the above-referenced registration bodies, the applicant will demonstrate to CPUC that the offset satisfies the four additionality tests as outlined in the UNFCC Additionality Tool, and</u></p>		

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>will obtain an independent evaluation by a qualified third party confirming that the offset meets additionality testing requirements.</u></p> <p><u>Prior to the start of project operation, the applicant will submit a project design document describing baseline procedures and emissions levels as well as projected levels of emissions reductions/offsets to CPUC. The design document will include the requirement that the applicant submit a report annually to CPUC documenting the previous year's offset activities and purchases. The annual report will be independently verified by an ANSI-accredited GHG emissions reduction verification body.</u></p>		
<p><b>Biological Resources</b></p>	<p>Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.</p>	<p><b>PHASE 3 MM BIO-1:</b> <u>The following general measures will reduce impacts to all sensitive wildlife species during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li>1. <u>Preconstruction surveys will be conducted in suitable habitat in and adjacent to the Phase 3 Expansion areas at the RFS and the Delevan Site during the appropriate survey windows. Preconstruction surveys will be conducted in suitable habitat no more than 30 days in advance of construction. These surveys shall be conducted using standard approved methods, including the California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (1993), the Swainson's Hawk Technical Advisory Committee Methodology for Nesting Surveys in California's Central Valley (TAC 2000), and the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (1996).</u></li> <li>2. <u>Construction employees shall strictly limit activities, including movement of vehicles, equipment, and construction materials, to the Phase 3 Expansion footprint and designated staging areas and routes of travel within the Phase 3 Expansion footprint.</u></li> <li>3. <u>The applicant shall not stockpile brush, loose soils, excavation spoils, or other similar debris material within sensitive habitats.</u></li> <li>4. <u>Sensitive plant surveys will be conducted prior to construction within suitable habitat in and adjacent to Phase 3 Expansion work areas</u></li> </ol>	<p><u>Less Than Significant</u></p>	<p>CPUC, Wild Goose, USFWS, CDFG</p>

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>and during the appropriate survey window.</u></p> <ol style="list-style-type: none"> <li>5. <u>Where sensitive plants occur within the construction area, the work area will be adjusted in order to minimize impacts.</u></li> <li>6. <u>Exclusion fencing will be provided to protect sensitive plants that occur within 50 feet of construction work areas.</u></li> <li>7. <u>A qualified biologist will monitor construction to ensure that no sensitive wildlife species inadvertently enter the work area. Should a sensitive species be found, the appropriate resource agencies will be notified within 24 hours (USFWS and CDFG). Animals will be allowed to passively exit the work areas, and construction will be halted as needed to accomplish this.</u></li> </ol>		
		<p><b><u>PHASE 3 MM BIO-2:</u></b> <u>The following specific measures will reduce impacts to the wildlife species described below during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li>1. <u>Reptiles and Amphibians.</u> <u>The following measures will be supplemented with measures prescribed in the Phase 2 Expansion USFWS Biological Opinion and CDFG Take Permit for the giant garter snake:</u> <ul style="list-style-type: none"> <li>• <u>Preconstruction surveys for giant garter snake (RFS, reconductoring area, and Delevan Site), northwestern pond turtle (RFS and Delevan Site), and western spadefoot toad (RFS and Delevan Site) will be performed within 24 hours prior to construction. If a giant garter snake or any other sensitive species is found, it will be allowed to escape on its own, or will be removed by an authorized biologist and relocated to suitable habitat. USFWS and CDFG will be notified whenever a sensitive reptile or amphibian is handled by an authorized biologist.</u></li> <li>• <u>Onsite monitoring biologists will obtain authorization from the USFWS and CDFG to handle the giant garter snake for the purposes of removing individuals during construction and operation of the Phase 3 Expansion components.</u></li> </ul> </li> </ol>	<p><u>Less Than Significant</u></p>	<p>CPUC, Wild Goose, USFWS, CDFG</p>

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<ul style="list-style-type: none"> <li>• <u>A qualified biologist will monitor construction to ensure that no sensitive reptile or amphibian species inadvertently enter the work area.</u></li> <li>• <u>Other than isolation dike construction and irrigation flow culvert installation, earthwork adjacent to flooded rice fields and other potential habitat will be confined to May through September unless otherwise authorized by the USFWS and CDFG.</u></li> </ul> <p>2. <u>Raptors and Other Sensitive Nesting Species.</u> Preconstruction surveys will be conducted in suitable habitat at the RFS and Delevan Site to determine whether raptors or other sensitive bird species are nesting within or near the Phase 3 Expansion construction areas. <u>The construction schedule or activities will be modified during nesting periods to preclude impacts. The general bird breeding season for this area is late February to early July. If it is not possible to adjust the schedule or construction activity, the following measures will be implemented:</u></p> <ul style="list-style-type: none"> <li>• <u>Construction within 0.5 miles of active Swainson's hawk nests will be avoided between April 15 and August 1, if feasible. If not feasible, nesting hawks within 0.5 miles will be monitored, construction activities will be halted if signs of disturbance (i.e., birds show signs of upset, repeatedly leaving the nest as a result of construction) are noted as determined by a qualified biologist, and CDFG will be consulted to determine possible options.</u></li> <li>• <u>A minimum 500-foot buffer will be maintained for other tree-nesting species such as white-tailed kites and the loggerhead shrike until after the young have fledged.</u></li> <li>• <u>A minimum 250-foot buffer will be maintained for ground-nesting or shrub-nesting species (northern harriers, tricolored blackbird, black tern, white-faced ibis, burrowing owl, and loggerhead shrikes) until after nesting is complete.</u></li> </ul>		

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		<ul style="list-style-type: none"> <li>• <u>Operations blowdowns and emergency shutdown valve blowdowns shall be routed into silencers.</u></li> <li>• <u>The applicant will reduce the gas/volume in the pipeline to a minimum prior to a planned maintenance blowdown.</u></li> </ul> <p>3. <u>Burrowing Owls. Detailed preconstruction surveys will be conducted at the RFS and Delevan Site within 30 days prior to construction by a qualified biologist for burrowing owl within suitable habitat prior to the breeding season (February 1 through August 31). All areas within 250 feet of the Phase 3 Expansion areas at the RFS and Delevan Site, including road shoulders, will be surveyed. Where Phase 3 Expansion ground-disturbing activities will occur prior to the burrowing owl breeding season, all burrows, holes, crevices, or other cavities in suitable habitat in the Phase 3 Expansion areas at the RFS and Delevan Site, within the limits of proposed ground disturbance, will be thoroughly inspected by a qualified biologist before being collapsed. This will discourage owls from breeding on the construction site. Other species using burrows will be relocated prior to collapsing burrows.</u></p> <p><u>To the extent feasible, Phase 3 Expansion construction at the RFS and Delevan Site will avoid active burrows. If it is not possible to avoid burrowing owls, the following measures will be implemented:</u></p> <ul style="list-style-type: none"> <li>• <u>If burrowing owls occur within the proposed construction area, a 250-foot exclusion zone will be maintained around the burrows until relocation is complete or until chicks have fledged. Passive relocation will be used during the non-breeding season (September 1 through January 31) if it is determined that construction activities would disturb owls. Passive relocation will include installing one-way doors on the entrances of burrows located within the Phase 3 Expansion area.</u></li> <li>• <u>The occurrence and location of any burrowing owl will be</u></li> </ul>		

Table 5-1 Draft Mitigation, Monitoring, and Reporting Program

Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>documented by the authorized biologist, who will report all incidents of disturbance or harm to burrowing owls within 24 hours to the appropriate resource agencies (USFWS and CDFG).</u></p> <ul style="list-style-type: none"> <li><u>Under the supervision of a qualified biologist, burrows within the proposed construction area will be excavated using hand tools and then refilled to prevent reoccupation. If any owls are found during the excavation, the excavation will cease and the owls will be allowed to escape.</u></li> <li><u>For each burrow excavated, one natural or artificial burrow will be provided in the adjacent habitat outside the 250-foot buffer zone.</u></li> </ul>		
		<p><b>PHASE 3 MM BIO-3:</b> <u>For the reconductoring component area, if any vegetation removal occurs during the typical avian nesting season (February 1 – August 31), a pre-disturbance survey for common and special-status bird species protected under the MBTA and California Fish and Game Codes will be conducted, using standard approved methods, including the California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (1993) and the Swainson’s Hawk Technical Advisory Committee Methodology for Nesting Surveys in California’s Central Valley (TAC 2000). The survey will be conducted by a qualified biologist no more than two weeks prior to the onset of vegetation removal. If active nests are found within or adjacent to proposed work areas during the avian nesting season, disturbance or removal of the next will be avoided until the young have fledged and the nest is no longer active. The project biologist will determine the appropriate buffer distance between work areas and active nests in coordination with the CDFG and depending on the species, site conditions, and proposed work activities near the active nest.</u></p>	<p><u>Less Than Significant</u></p>	<p>CPUC, Wild Goose, USFWS, CDFG</p>
	<p>Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but</p>	<p><b>PHASE 3 MM BIO-4:</b> <u>The following measures will reduce impacts related to wetland fill during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li><u>Erosion and sediment control measures (e.g., silt fencing, erosion control fabric or other measures) will be implemented at all locations</u></li> </ol>	<p><u>Less Than Significant</u></p>	<p>CPUC, Wild Goose, USACE, USFWS, CVRWQCB</p>

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
	not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	<p><u>where construction occurs within or directly adjacent to aquatic features.</u></p> <ol style="list-style-type: none"> <li><u>Sediment stockpiling will be a minimum of 50 feet from wetland/drainage systems.</u></li> <li><u>Loss of wetland habitat will be compensated at an appropriate ratio. This ratio will likely be 2:1, but will be determined by resource and permitting agencies (USACE, USFWS, and CDFG) during consultation.</u></li> </ol>		
		<p><b>PHASE 3 MM BIO-5:</b> <u>For the reconductoring component area, work will take place from existing paved surfaces or other maintained areas that lack wetland habitats. For the wetland areas that have been identified in the reconductoring Biological Assessment (TRC 2010) along West Evans Reimer Road and Pennington Road, the following measures will be taken:</u></p> <ol style="list-style-type: none"> <li><u>A wetlands biologist will delineate the edges of each wetland area using USACE delineation methodology (USACE, 1987). Once wetland boundaries have been accurately identified, a 100-foot buffer area will be established around each wetland area. Buffer areas will be demarcated with lath and flagging, and no construction materials, equipment or vehicles will be permitted in this area.</u></li> <li><u>Erosion and sediment control measures described under MM BIO-4 will be implemented to protect wetland habitats.</u></li> </ol>	Less Than Significant	CPUC, Wild Goose, USACE, USFWS, CVRWQCB
	Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	<p><b>PHASE 3 MM BIO-6:</b> <u>The following measures will reduce impacts to downstream fisheries and aquatic habitat at the RFS during Phase 3 Expansion construction activities:</u></p> <ol style="list-style-type: none"> <li><u>The applicant will participate in ongoing consultations with CDFG (under Fish and Game Code 2081 and 1602) and USFWS (Section 7 consultation) to ensure water withdrawals and other activities at the RFS do not result in unacceptable impacts to downstream fisheries. To this end, the applicant will adhere to any stipulations required by CDFG and USFWS regarding the water withdrawal rate, volume, and timing established through the agency consultation process. The applicant will also submit any required documented evidence that the</u></li> </ol>	Less Than Significant	CPUC, Wild Goose, USACE, USFWS, CVRWQCB

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>stipulated conditions of water withdrawal have been met to both CDFG and USFWS.</u></p> <p>2. <u>In coordination with CDFG and USFWS, the applicant shall conduct downstream monitoring required by CDFG and/or USFWS to verify that withdrawal volume does not adversely impact fisheries or the aquatic life components that support special status aquatic species.</u></p>		
<b>Cultural Resources</b>	Potential to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.	<p><b>PHASE 3 MM CULT-1:</b> <u>To avoid impacts to unknown historical resources in the area of the reconductoring component, PG&amp;E or its contractor will, prior to and during reconductoring activities:</u></p> <p>1. <u>Retain a qualified archeologist to conduct a cultural resources survey to identify all potentially eligible historic resources present on the surface of the reconductoring site. The survey will be conducted at 10 meter intervals and any cultural resources that are identified will be subsequently avoided during construction. All cultural resources identified will be recorded on Department of Parks and Recreation (DPR) 523 series forms and evaluated for their eligibility for inclusion in the NRHP and CRHR. The archaeologist will clearly mark the boundaries of any identified resources, including an additional 50-foot buffer area, around all identified sites, both on the ground and on construction maps. These boundaries will serve as construction exclusion zones where no reconductoring activities will be undertaken.</u></p> <p>2. <u>Retain an independent qualified archeologist for the duration of the reconductoring, to serve as a periodic site monitor during ground-disturbing and other activities that may affect historic resources at the site. The timing and frequency of monitoring will be at the discretion of the archeologist.</u></p> <p>3. <u>Notify construction supervisory personnel of the existence of all marked historical resources sites, and instruct supervisory personnel to keep personnel and equipment away from these areas.</u></p>	<u>Less Than Significant</u>	CPUC, Wild Goose, USACE
	Potential to cause a substantial adverse change in the significance of	<b>PHASE 3 MM CULT-2:</b> <u>To avoid impacts to known and unknown archeological resources in the area of the reconductoring component,</u>	<u>Less Than Significant</u>	CPUC, Wild Goose, USACE

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
	<p>an archaeological resource pursuant to Section 15064.5.</p>	<p><u>PG&amp;E or its contractor will, prior to and during reconductoring activities:</u></p> <ol style="list-style-type: none"> <li>1. <u>Retain a qualified archeologist to conduct an archaeological resources survey to identify all potentially eligible archaeological resources present on the surface of the reconductoring site. The survey will be conducted at 10 meter intervals and any archaeological resources that are identified will be subsequently avoided during construction. All archaeological resources identified will be recorded on DPR 523 series forms and evaluated for their eligibility for inclusion in the NRHP and CRHR. The archeologist will clearly mark the boundaries of any identified resources, including an additional 50-foot buffer area, around all identified sites, both on the ground and on construction maps. These boundaries will serve as construction exclusion zones where no reconductoring activities will be undertaken.</u></li> <li>2. <u>Retain an independent, qualified archeologist for the duration of the reconductoring, to serve as a periodic site monitor during ground-disturbing and other activities that may affect archaeological resources at the site. The timing and frequency of monitoring will be at the discretion of the archeologist.</u></li> <li>3. <u>Notify construction supervisory personnel of the existence of all the identified and marked prehistoric site, as well as other marked archaeological sites, and instruct supervisory personnel to keep personnel and equipment away from these areas.</u></li> </ol>		
<b>Geology, Soils, and Mineral Resources</b>		<i>No new impacts or mitigation measures</i>		
<b>Hazards and Hazardous Materials</b>	<p>Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.</p>	<p><b>Mitigation Measure 3.7-3.</b> <del>At the end of each injection cycle</del> <u>In the fall of each year,</u> WGSJ shall conduct surface gas monitoring and vegetation inspections at each abandoned well within the original productive area. If gas is detected, samples will be collected, if possible, and analyzed to determine its source or origin. If a leak is indicated by the data, the necessary remedial actions will be implemented consistent with DOGGR procedures outlined in California Code of Regulations § 1723 et. seq. All monitoring and sampling results will be submitted to the DOGGR. Any surface disturbance associated with implementing remedial actions shall</p>	Less Than Significant	CPUC, Wild Goose, DOGGR

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		be conducted consistent with the wetland impact minimization and mitigation measures specified under Impact 3.4- 4 on page 3.4-27.		
		<b>PHASE 3 MM HAZ-1:</b> Prior to Phase 3 Expansion construction activities, the applicant will ensure the Wild Goose Purging of Natural Gas Pipeline Systems Practice incorporates and includes measures for implementing all recommendations addressing pipeline purging procedures issued by the U.S. Chemical Safety and Hazard Investigation Board and adopted into the National Fuel Gas Code, and submit the revised practice to CPUC for review and confirmation.	Less Than Significant	CPUC, Wild Goose
		<p><b>PHASE 3 MM HAZ-2:</b> PG&amp;E shall follow all applicable local, state, federal, and industry-specific regulations and procedures during hot tapped pipeline connection installation, and shall ensure that the following measures are taken:</p> <ol style="list-style-type: none"> <li>1. <u>Ensure that all appropriate local (Colusa County) permits and approvals have been obtained for welding and hot tapping;</u></li> <li>2. <u>Ensure that construction personnel working on the hot tapped pipeline connection installation are competent and have been properly trained and qualified in the use of the hot tap equipment;</u></li> <li>3. <u>Ensure that construction personnel working on the hot tapped pipeline connection installation review detailed, written, job-specific hot tapping procedures prior to starting construction activities;</u></li> <li>4. <u>Communicate safety procedures clearly to all construction personnel prior to hot tap activities, including fire protection, emergency response, and other appropriate procedures and instructions;</u></li> <li>5. <u>Ensure that at least one worker has been designated as a dedicated fire watch, trained for fire detection and prevention, equipped with a suitable fire extinguisher, and equipped with appropriate equipment to communicate with personnel working in the area;</u></li> <li>6. <u>Ensure equipment is in good working condition;</u></li> <li>7. <u>Install appropriate barricades and warning signs prior to hot tapping activities;</u></li> </ol>	Less Than Significant	CPUC, Wild Goose, Colusa County Planning Department

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		8. <u>Establish procedures for isolation of the work area in the event of an emergency;</u> 9. <u>Ensure provisions are made for an easily accessible means of egress from the work area;</u> 10. <u>Inspect the hot tapping location prior to hot tapping activities and confirm pipeline diameter, wall thickness, evidence of corrosion, and general soundness;</u> 11. <u>Use combustible gas and oxygen detectors during hot tapping procedures as necessary to ensure that hot tapping activities do not take place if vapor/air or vapor/oxygen mixtures in piping or equipment are near or within the flammable explosive range;</u> 12. <u>Follow manufacturer's instructions and directions for operating the hot tapping equipment; and</u> 13. <u>Ensure provisions are made to assure that adequate containment is available to control liquids and vapors trapped within the hot tapping equipment which could be released upon removal of the machine after work is completed.</u>		
<b>Hydrology and Water Quality</b>	Potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<u><b>PHASE 3 MM HYDRO-1:</b> Phase 3 Expansion components at the RFS, reconductoring component area, and Delevan Site would be engineered to withstand stresses associated with their proximity to waterways, and would be designed to withstand flooding associated with high ground water, agricultural activities, or overflow of canals during heavy rainstorms. Structures shall be constructed in compliance with the 2007 Uniform Building Code any other federal, state and local construction regulations.</u>	<u>Less Than Significant</u>	CPUC, Wild Goose, Butte County Planning and Building Departments, Colusa County Planning and Building Departments

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
Land Use and Planning		<i>No new impacts or mitigation measures</i>		
Noise	Potential to expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	<p><b>PHASE 3 MM NOI-1:</b> PG&amp;E will employ the following noise reduction and control practices during reconductoring activities that could produce noise levels above 80 dBA L<sub>max</sub> near sensitive receptors (within 100 feet):</p> <ul style="list-style-type: none"> <li>• <u>Unnecessary engine idling from construction equipment will be limited during construction hours.</u></li> <li>• <u>Construction equipment specifically designed for low noise emissions (i.e., equipment that is powered by electric or natural gas engines as opposed to those powered by diesel or gasoline reciprocating engines) will be used as much as feasible.</u></li> <li>• <u>Temporary enclosures or noise barriers (i.e. noise blankets) will be used around loudest pieces of equipment, as feasible.</u></li> <li>• <u>Construction traffic will be routed away from residences and other sensitive receptors, as feasible.</u></li> <li>• <u>Noise from back-up alarms (alarms that signal vehicle travel in reverse) in construction vehicles and equipment will be reduced by providing a layout of construction sites that minimizes the need for back-up alarms and using flagmen to minimize time needed to back up vehicles. As feasible, and in compliance with the applicant's safety practices and public and worker safety provisions required in the Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926), the applicant may also use self-adjusting, manually adjustable, or broadband back-up alarms to reduce construction noise.</u></li> </ul>	<u>Less Than Significant</u>	CPUC, Wild Goose, Butte County Planning and Building Departments, Colusa County Planning and Building Departments, City of Gridley Planning and Building Departments
		<p><b>PHASE 3 MM NOI-2:</b> After full buildout of the Phase 3 Expansion, the applicant will employ the following noise reduction and control practices during operations at the WPS that could produce noise levels above 55 dBA L<sub>max</sub> at a location 100 yards from the WPS berm:</p> <ul style="list-style-type: none"> <li>• <u>For the first year after full buildout of the Phase 3 Expansion, during periods when fewer than 20 wells are in operation at the WPS withdrawal gas flow rates at the WPS are greater than 700 MMcfd</u></li> </ul>	<u>Less Than Significant</u>	CPUC, Wild Goose

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
		<p><u>and injection flow rates are greater than 450 MMcfd, the applicant will record sound pressure levels (SPLs, dBA, L<sub>eq</sub>) on a once-a-week basis for 15-minute minimum durations at a location 100 yards from the WPS berm- as follows:</u></p> <ol style="list-style-type: none"> <li>1. <u>At a minimum, measurements of SPLs will take place once a day (once within a 24-hour period);</u></li> <li>2. <u>If flow rate increases by more than 100 MMcfd or if the number of wells in operation changes during any given, 24-hour day of injection or withdrawal operations, SPLs will be measured after any such changes; and</u></li> <li>3. <u>The number of wells in operation and the gas flow rate will be recorded during each measurements of SPLs.</u></li> </ol> <ul style="list-style-type: none"> <li>• <u>If noise levels exceed 55 dBA at a location 100 yards from the WPS berm, the applicant shall implement measures at the WPS to reduce noise levels to 55 dBA at this distance. Measures could include:</u> <ol style="list-style-type: none"> <li>1. <u>Increasing the WPS berm in height by 2 feet (estimated total minimum noise reduction: 5 dBA);</u></li> <li>2. <u>Increasing the WPS berm in height by 4 feet (estimated total minimum noise reduction: 10 dBA);</u></li> <li>3. <u>Application of sound insulating lagging to well lines and valves (estimated total noise reduction: 12 to 24 dBA); or</u></li> <li>4. <u>Installation of a cinder block (or other noise-absorbing material) enclosure or wall around the WPS equipment array (estimated total minimum noise reduction: 25 dBA).</u></li> </ol> </li> </ul>		

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Topic Area	Impact	Mitigation Measure	Level of Significance w/Mitigation	Responsible Party
Population and Housing		<i>No new impacts or mitigation measures</i>		
Public Services		<i>No new impacts or mitigation measures</i>		
Recreation		<i>No new impacts or mitigation measures</i>		
Transportation and Traffic		<i>No new impacts or mitigation measures</i>		
Utilities and Services Systems		<i>No new impacts or mitigation measures</i>		

**PHASE 3 MM NOI-2:** After full buildout of the Phase 3 Expansion, the applicant will employ the following noise reduction and control practices during operations at the WPS that could produce noise levels above 55 dBA  $L_{max}$  at a location 100 yards from the WPS berm:

- For the first year after full buildout of the Phase 3 Expansion, during periods when fewer than 20 wells are in operation at the WPS withdrawal gas flow rates at the WPS are greater than 700 MMcfd and injection flow rates are greater than 450 MMcfd, the applicant will record sound pressure levels (SPLs, dBA,  $L_{eq}$ ) on a once-a-week basis for 15-minute minimum durations at a location 100 yards from the WPS berm, as follows:
  1. At a minimum, measurements of SPLs will take place once a day (once within a 24-hour period);
  2. If flow rate increases by more than 100 MMcfd or if the number of wells in operation changes during any given, 24-hour day of injection or withdrawal operations, SPLs will be measured after any such changes; and
  3. The number of wells in operation and the gas flow rate will be recorded during each measurements of SPLs.
- If noise levels exceed 55 dBA at a location 100 yards from the WPS berm, the applicant shall implement measures at the WPS to reduce noise levels to 55 dBA at this distance. Measures could include:
  1. Increasing the WPS berm in height by 2 feet (estimated total minimum noise reduction: 5 dBA);
  2. Increasing the WPS berm in height by 4 feet (estimated total minimum noise reduction: 10 dBA);
  3. Application of sound insulating lagging to well lines and valves (estimated total noise reduction: 12 to 24 dBA); or
  4. Installation of a cinder block (or other noise-absorbing material) enclosure or wall around the WPS equipment array (estimated total minimum noise reduction: 25 dBA).

Compliance with the noise policies of Butte and Colusa counties, implementation of the APMs listed above, and implementation of MM NOI-1 and Phase 3 MM NOI-2 would reduce potential impacts during operation of the Phase 3 Expansion components to a less than significant level.

***b. Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?***

*LESS THAN SIGNIFICANT.* Construction vibration would occur mainly from the use of heavy-duty construction equipment, e.g., trucks, backhoes, excavators, loaders, and cranes. Groundborne vibration and groundborne noise generated from operation would primarily be generated by the compression equipment and maintenance vehicles. Groundborne vibration and noise from construction activities would be intermittent or continuous with a short duration and would occur during daytime hours.

Ground vibration from construction equipment, such as the tamping of ground surfaces, the passing of heavy trucks on uneven surfaces, and the excavation of trenches, could create perceptible vibration in the immediate vicinity (within approximately 100 feet) of the activity. As described in the 2002 EIR, groundborne vibration related to the processes and equipment at the RFS and the Delevan Site occurs within the same, approximately 100-foot vicinity of the site. No sensitive receptors are located within this