

operations. These operations depend on timing of crop treatment to successfully bring crops to harvest. Construction workers may be required to work in other locations during pesticide application periods if the farmer is unable to apply pesticide outside of normal construction hours.

(i) *Wild Goose Proposed Changes Mitigation Measure 3.2-3:* This mitigation measure should be revised to require that the construction manager coordinate closely with the farmers and property owners to ensure that construction crews have sufficient advance notice of scheduled pesticide spraying days.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.2-3.* As currently drafted, the mitigation measure appears to require WGSII to coordinate with the two counties to ensure that the farmers are in compliance with agricultural pesticide application requirements. WGSII has no authority or expertise to serve in such a role. The changes to the measure proposed by WGSII will serve the intended purpose of making sure that WGSII's construction activity does not interfere with necessary pesticide sprayings.

- b. **DEIR Proposed Mitigation Measure 3.2-5 (page 3.2-13):** Topsoil and subsoil removed during construction activities shall be separated and stockpiled in appropriate locations along the edge of ROW. All soil shall be replaced during backfilling and recontouring at the end of construction, with topsoil being replaced last. On-site monitoring shall be conducted to ensure that stockpiling does occur, that topsoil and subsoil are stockpiled separately, that stockpiling is done so that there are no resulting adverse impacts to other farming activities (particularly in orchard areas) and that both subsoil and the topsoil is properly replaced. All construction trench and bore pit spoils shall be replaced outside the driplines of all orchard trees and other trees.

(i) *Wild Goose Proposed Changes Mitigation Measure 3.2-5:* The last sentence of the proposed mitigation measure should be modified to read "All construction trench and bore spoils temporarily placed within the driplines of all orchard trees and other trees shall be removed within 72 hours of placement."

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.2-5:* The last sentence of the mitigation measure as currently drafted requires that all spoils be placed outside the driplines of trees. Since the trench will be backfilled within 72 hours of excavation, the short duration that trench spoils may be stockpiled within the driplines should result in no adverse effects.

- c. **DEIR Proposed Mitigation Measure 3.2-6 (page 3.2-13):** Impacts from the Remote Facility expansion shall be reduced by positioning block valves at

P4-11

the perimeter of cropland areas so that interference with planting, tillage and harvesting is minimized.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.2-6:* This mitigation measure should be deleted.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.2-6.:* The proposed mitigation measure is duplicative as WGSI's project plans provide that all valves at the Remote Facility Site will be within the fenced operations area.

P4-12

2. **IMPACT 3.2-3: Indirect Conversion of Farmland to Non Agricultural Use**

a. **DEIR Propose Mitigation Measure 3.2-8 (page 3.2-16):** Silt fencing and /or straw bale barriers shall be placed along the edge of ROW to prevent silt-laden run-off and wet soil sloughing from occurring outside the ROW area.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.2-8:* This measure should be revised to require implementation only where needed.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.2-8.:* It is not WGSI's intent to install silt fencing or hay bales along the entire combined 30-mile length of the pipeline ROWs. In actual practice, it is expected that the spoils will be readily contained on both sides of the ROW. In rice fields, the alignment runs along the edge of the field, which is typically 12 to 18 inches below the adjacent farm roads or irrigation ditch banks, providing a built-in natural containment. The topsoil from along the trench line will be placed to form the isolation dike which provides containment on that side of the ROW. In row crop or wetland areas, the topsoil pile will be placed and wind-rowed to provide containment along the side of the ROW where the trench spoils will be placed. (Measures will be taken to ensure the topsoil and subsoils are not commingled). In the rare instance where the pipeline ROW cannot be set up in this manner and containment may actually be needed, WGSI will install the referenced hay bales, silt fences or other suitable barriers to contain the spoils on the ROW.

P4-13

b. **DEIR Proposed Mitigation Measure 3.2-12 (page 3.2-17):**³ To mitigate significant adverse effects on cattle grazing, WGSI shall provide two cattle water troughs, one north and another south of the ROW from west of the Glenn Colusa Canal to the Delevan Compressor Station.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.2-12:* Wild Goose recommends that this mitigation measure be changed to read " To

P4-14

³ It appears that this mitigation measure was misnumbered. It should be 3.2-11.

mitigate significant adverse effects on cattle grazing west of the Glenn Colusa Canal, WGSII shall locate or relocate cattle water troughs if requested by the rancher."

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.2-12.:* As drafted in the DEIR, this measure requires installation of two cattle water troughs in the grazing lands at the Delevan Interconnect Facility. Since it is not even clear whether cattle will be grazing in the area during construction, this measure may very well be unnecessary. WGSII's proposed changes to the measure will avoid unnecessary mitigation, but ensure it occurs if necessary.

CHAPTER 3.3: AIR QUALITY

A. Comments on Text / Tables

1. Page 3.3-10, 3rd ¶: Reference is made to the Butte County Air Quality Management District Indirect Source Review Guidelines as the appropriate governing regulations. WGSII does not agree that the use of these Guidelines is appropriate for its proposed storage expansion project. The Guidelines are intended to evaluate the longer term effects on the county's air quality resulting from traffic generated by proposed projects and proposed land uses in the county's General Plan and specific projects. Section VI, MITIGATION MEASURES, of the Guidelines (page 11) states that the mitigation measures in the Guidelines are transportation and land use measure controls intended to reduce the dependency on the automobile for mobility as a means of mitigating the air quality impacts of new development. For the proposed expansion there will be short-term minor increases in construction traffic and only a few additional vehicle trips generated by four new operations staff. As such, the use of the Guidelines and the Action Thresholds is not appropriate for evaluating the significance of the emissions associated with the proposed expansion.

2. Page 3.3-12, 3rd ¶: This paragraph quantifies the construction emissions associated with the proposed expansion and states that the PM₁₀ emissions alone would constitute a significant effect on air quality. WGSII's estimate for PM₁₀ emissions from construction activities is extremely conservative, and was reported on an *unmitigated* basis. Construction dust, primarily from the Line 400 Connection Pipeline construction, contributes 1.54 of the 1.67 tons per day of PM₁₀ emissions. This estimate is based on an unmitigated 10 pounds per acre of grading activity per day and is applied to the entire construction ROW area. The unmitigated emission factor was obtained from the user's guide for the CARB URBEMIS7G computer program for Emissions Estimates for Land Use Development Projects and assumes that 25% of the total area is subject to active grading at any time. URBEMIS7G provides effectiveness of 37%, 68% and 75% for applying water during grading, depending on degree and frequency of watering, and up to 85% for haul roads.

P4-15

P4-16

Assuming that on a worst case day, active earthwork may be occurring on a portion of the ROW (probably much less than even 25%), and limited vehicle traffic on the remainder, the 68% factor is selected as representative of the dust control mitigation based on WGSi's proposed mitigation of applying water as needed to control dust. This would reduce the PM₁₀ emissions by 1.05 tons per day, leaving 0.62 tons per day total worst case PM₁₀ emissions. The project schedule provided in the PEA shows the duration of pipeline construction, the prime contributor to fugitive dust, to be 32 weeks. Since the background levels shown for comparison are annual averages, 0.62 tons per day for 32 weeks of the year would equate to 0.38 tons per day annual average. This is approximately 0.7% of the combined background level for the two-county area of 52 tons per day. For comparison, farming operations alone contribute 12.6 tons per day annual average. WGSi does not believe that a 0.7% increase over existing PM₁₀ background emissions constitutes a significant impact and, accordingly, several of the CPUC proposed mitigation measures intended to mitigate this impact, as noted below, should be revised or deleted.

3. Page 3.3-15, 2nd ¶: The first sentence states that proposed expansion would include three additional compressor units. This is incorrect. WGSi is proposing to install three or four compressor units. The actual number of units will depend on the horsepower, manufacturer and emissions technology utilized.

This same paragraph states that the maximum possible NOx increase from the expansion project would be 5 tons above existing levels. The 5 ton value was derived from data sent by WGSi to the CPUC's consultants on September 19, 2001. These values were intended only to be estimates of emissions and not the maximum emissions from the expansion. As the design of the Remote Facility Site has progressed, line heaters have now been added to heat gas being withdrawn from storage, representing another emissions source. WGSi now estimates the NOx increase will be approximately 10 tons above existing levels, which is still below the 25-ton per year threshold as dictated by the existing Permit to Operate (No. WGS-98-01).

4. Page 3.3-18, WGSi Measure 3.3-1: WGSi is proposing a change to this mitigation measure such that it reads:

"Workers, excluding welders and construction supervisors, will be bussed from staging areas to the daily pipeline work sites to minimize emissions from workers' vehicles."

While normal pipeline construction practice is to bus the workers from the parking/staging areas to the ROW, it is also normal practice that welders and construction supervisors will drive their own vehicles onto the ROW. Welders have their welding equipment on the back of their trucks, and supervisors need to be mobile to check construction along the entire length of the ROW.

P4-17

P4-18

P4-19

B. Comments on Mitigation Measures

1. IMPACT 3.3-2: Potential to Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation

- a. DEIR Proposed Mitigation Measure 3.3-4 (page 3.3-18): WGSJ shall construct an area to wash all heavy equipment vehicle tires before entering paved roadways

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.3-4:* This mitigation measure should be revised to require only stabilized gravel access, and to delete the requirement for wash areas as this is not practical.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-4.:* The proposed DEIR mitigation measure appears to be a Best Management Practice (ESC24 in the Construction Activity BMP Handbook) for reducing erosion and controlling dust. In order to prevent the wash area from becoming a big mud hole, implementation of the ESC 24 specifies that "When wash areas are provided, washing is done on a reinforced concrete pad (if significant washing is necessary) or in an area stabilized with crushed stone which drains to a properly constructed sediment trap or basin." The establishment of wash areas as proposed will require additional trucking of water, additional personnel assigned to each area, and the associated problems of cleanup and disposal of the water collected in the sediment trap or basin. While this stabilized entrance with a wash area approach may be very effective and feasible for developments at a specific site with only one or two access points, its use is not practical along the 25.6-mile Line 400 Connection Pipeline where there will be dozens of locations where the ROW is accessed from paved roads. WGSJ's experience has been that stabilized construction access points with 6 inches of gravel are very effective at getting the mud to drop off construction equipment, and, when combined with the daily removal of any residual mud deposited on the paved road, is the most practicable means of minimizing dust at these locations.

P4-20

- b. DEIR Proposed Mitigation Measure 3.3-6 (page 3.3-18): Land clearing, grading, earth moving or excavation activities shall be suspended when winds exceed 20 miles per hour within the project area.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.3-6:* Wild Goose recommends deletion of this proposed mitigation measure as infeasible to implement during construction of a 25.6 mile linear pipeline.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-6.:* The proposed DEIR mitigation measure,

P4-21

drawn from the Butte County AQMD list of standard mitigation measures (measure II. d.), specifies that all earth-disturbing activities be suspended when winds exceed 20 mph within the project area. Implementation of this measure would be virtually impossible. Who will measure the wind speed and how and where will it be measured? If a gust briefly spikes the wind speed over 20 mph, would activities be suspended? If the wind speed at the Delevan Interconnect Facility exceeds 20 mph, would work be suspended at the Remote Facility Site 25 miles away, but still within the "project area"? WGSII feels complete suspension of these activities is unwarranted, inasmuch as, regardless of the wind speed, soil stabilizers will be applied as per Mitigation Measure 3.3-5 and dust will be controlled by water conscientiously and liberally applied as needed consistent with WGSII Mitigation Measures 3.3-4 and 3.3-1.

- c. **DEIR Proposed Mitigation Measure 3.3-8 (page 3.3-18):** WGSII shall cover all inactive storage piles during construction and operation of the proposed project.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.3-8:* WGSII recommends that this mitigation measure be deleted.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-8:* The DEIR proposed mitigation measure, also drawn from the Butte County source (measure II. g.), requires covering inactive spoil piles and is effectively already addressed by Mitigation Measure 3.3-5. Application of a chemical soil stabilizer will provide the necessary dust control.

- d. **DEIR Proposed Mitigation Measure 3.3-9:** WGSII shall post a publicly visible sign with the telephone number and person to contract regarding dust complaints at all major construction and operation areas. This person shall respond and take corrective action within 24 hours. The telephone number of the AQMD shall also be visible to ensure compliance with BCAQMD Rule 202 & 207 (Nuisance and Fugitive Dust Emissions).

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.3-9:* The requirement to post signs at "operation areas" should be deleted from this mitigation measure. In addition, the last sentence should incorporate the Colusa County Air Quality Management District.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-9:* Since fugitive dust is associated with construction, it is not necessary to include operations areas in this mitigation measure. The reference to the Colusa County Air District recognizes that project construction will occur in that county.

P4-22

P4-23

- e. **DEIR Proposed Mitigation Measure 3.3-10 (page 3.3-19):** Prior to final occupancy, the applicant shall demonstrate that all ground surfaces have been covered or treated sufficiently to minimize fugitive dust emissions.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.3-10: Wild Goose recommends that this DEIR mitigation measure be deleted.

(ii) Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-10: This proposed DEIR mitigation measure was also drawn from the Butte County source. WGSi is unsure what constitutes "prior to final occupancy" as it relates to the proposed expansion project. As the wording of this measure indicates, the Butte County AQMD mitigation measure list is really intended for site-specific projects, not linear projects such as the proposed expansion. Moreover, the intent of this measure is already addressed by WGSi Mitigation Measure 3.3-8 (Restoration and Monitoring Plan) which includes specific restoration treatment and measures for all affected ground surfaces.

P4-24

- f. **DEIR Proposed Mitigation Measure 3.3-12 (page 3.3-19) :** WGSi shall use non-toxic binders on exposed areas after cut and fill operations and on hydroseed areas.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.3-12: Wild Goose recommends that this DEIR mitigation measure be deleted.

(ii) Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.3-12: Since both this measure and Mitigation Measure 3.3-5 require use of chemical soil stabilizers, WGSi recommends Mitigation Measure 3.3-5 be revised to specify "non-toxic chemical soil stabilizers" and this measure be deleted.

P4-25

CHAPTER 3.4: BIOLOGICAL RESOURCES

A. Comments on Text / Tables

1. **Page 3.4-21, 6th ¶:** This paragraph (following DEIR proposed mitigation measure 3.4-2(c)) states that a "nursery familiar with propagation of native plants shall do the plant propagation." Since The Wild Goose Club Manager Gary Kerhoulas will likely be propagating these plants for the project, and several restoration specialists and contractors may do their own propagation, WGSi recommends this sentence be changed to read: "A nursery or qualified individuals familiar with propagation of native plants shall do the plant propagation."

P4-26

2. **Page 3.4-32, 3rd ¶:** The first sentence notes that "All other water crossings – irrigation ditches, canals, creeks, sloughs, or other natural water bodies" would be bored. To be consistent with the description provided under the heading Bores on DEIR page 2-33, this statement should be revised to continue "unless an irrigation flow culvert has

P4-27

been installed during ROW isolation or if the crossing can be dried out at least 14 days prior to construction.”

3. Page 3.4-43, 5th ¶: The third sentence of this paragraph should be revised to read “All waterways would be bored *or culverted*, with the exception of flooded rice fields” to be consistent with the construction methodology described on DEIR page 2-33. The last sentence in this paragraph incorrectly states the dormant window for giant garter snake and should be corrected to state that the active window is May through September, and the dormant period is October through April.

P4-28

4. Page 3.4-35, 2nd ¶: This paragraph which is the second bullet point under DEIR Proposed Mitigation Measure 3.4-7, requires WGSII to establish a downstream monitoring program regarding the withdrawal of hydrostatic test water. WGSII would appreciate additional detail on what such a program should encompass.

P4-29

5. Page 3.4-45, 2nd ¶: The word “set back” should be inserted after the word “construction” in the second sentence of the paragraph.

P4-30

B. Comments on Mitigation Measures

1. IMPACT 3.4-3: Potential for Temporary Disturbance of Riparian Habitat

- a. DEIR Proposed Mitigation Measure 3.4-3(b) (page 3.4-23): Soil compaction and excavation within the root zone (root zone = 15 feet beyond the drip line of the canopy or tree crown) shall be minimized and protected by appropriate buffers.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.4-3 (b)*: The root zone should be changed to 5 feet beyond the drip line. Moreover, the explanatory paragraph following the mitigation measure requires certain determinations by an arborist. Wild Goose recommends that this be changed to “biologist or arborist.”

P4-31

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.4-3(b)*: The usual standard for tree root protection is the drip line, or up to 5 feet beyond the drip line as a buffer. Fifteen feet beyond the drip line is excessive. Moreover, exclusion zones for trees and other sensitive resources are usually established prior to construction by the project’s biologist. WGSII does not anticipate having an arborist on staff.

- b. DEIR Proposed Mitigation Measure 3.4-3(c) (page 3.4-2)3: If tree roots must be severed or exposed, protective treatment to prevent root drying will be implemented.

P4-32

- Two inch diameter roots and larger shall be pruned back to the nearest lateral with a clean cut free of rips and tears whenever possible.

- Excavation exposing roots, which would not be backfilled within 72 hours, shall be covered with burlap or dense jute netting. This material shall be kept moist until backfill operations are complete.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.4-3(c)*: The first bullet point should be modified to delete the phrase "to the nearest lateral". The second bullet point should be modified to apply only to significant trees (e.g., oaks, sycamores, or ornamental trees near residences of approximately 24 inch dbh).

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.4-3(c)*: The first proposed change is necessary as the manner in which it is currently drafted could add significant ground disturbance by trying to track the root back to that designated point. The second proposed change places some parameters on the mitigation measure which, as currently drafted, could be interpreted to include all roots.

2. **Impact 3.4-5: Potential to convert freshwater marsh and wet meadow wetlands to other wetland types**

a. **DEIR Proposed Mitigation Measure 3.4-5 (page 3.4-31)**: WGSJ shall compensate for the conversion of 23 acres of wetlands by wetlands creation, restoration, or securing mitigation at an appropriate mitigation bank.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.4-5*: The mitigation measure should specify that WGSJ will compensate for wetlands impacts in accordance with the requirements of the Corps of Engineers permit conditions.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.4-5*: As described in the paragraph following this DEIR proposed mitigation measure, WGSJ has applied for an Individual Permit from the US Army Corps of Engineers for the proposed expansion. As part of the permitting process, the Corps will determine, with input from EPA and the US Fish and Wildlife Service, the appropriate compensation for any wetland habitat type conversion resulting from project activities. At the Giant Garter Snake Habitat Enhancement Site, only 9 of the 23 acres will actually be modified such that a conversion may result. The modifications may result in the conversion of some wetland types to other wetland types, and the conversion of wetland to other special aquatic sites. It is anticipated that off-site wetland mitigation will be conducted and that, as noted in the next-to-last paragraph on this page, "Compensatory ratios would be determined in consultation with the ACOE, USFWS and CDFG." As such, WGSJ feels it is inappropriate to include this mitigation measure which specifically states a mitigation

P4-33

acreage, when the actual impact acreage and compensation ratio are yet to be determined.

- b. **DEIR Proposed Mitigation Measure 3.4-6(a) (page 3.4-33):** Drilling of channel crossing bores would be scheduled to avoid the spawning periods of special status fish.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.4-6(a):* This measure should be revised to state "Drilling of channel crossing bores would be scheduled as directed by the responsible state and federal resource agencies."

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.4-6(a):* WGSII has consulted with both the National Marine Fisheries Service and the California Department of Fish and Game regarding the schedule for the horizontal directional drilled crossings of both waterways where special status fish may occur. Because of the conflicting authorized construction windows for the Swainson's hawk and the fish, the two agencies have agreed that the Sacramento River and Butte Creek may be bored in August.

P4-34

CHAPTER 3.5: CULTURAL RESOURCES

A. Comments on Text/ Tables

1. **General Comment:** On pages 5 and 15 of the Notice of Preparation (DEIR Appendix B) under the Cultural Resources heading it states that the CPUC will review project construction and operations to assess the potential for adverse impacts to paleontologic resources. While WGSII provided in its PEA a discussion of existing paleontologic resources, potential impacts to those resources from project construction and mitigation measures to reduce those potential impacts to a less than significant level, there does not appear to be any discussion of this topic in the DEIR. WGSII recommends that its PEA discussion of paleontology be incorporated into the Final EIR and final Mitigation Monitoring and Reporting Program.

P4-35

2. **Page 3.5-6, 4th ¶:** The sixth sentence of this paragraph incorrectly states that the pipeline was noted within both reports as *within* the Gray Lodge Wildlife Management Area. The pipeline is noted in those reports as being *adjacent* to that area.

P4-36

B. Comments on Mitigation Measures

1. **IMPACT 3.5-1: Potential for Loss of Integrity and or Alteration of Identified Resources Potentially Eligible for NRHP and CRHP**

- a. **DEIR Proposed Mitigation Measure 3.5-1 (page 3.5-13):** The contractor shall observe reclamation district requirement that a minimum distance of 15 feet be maintained between the toes of any canal/levee and the construction

P4-37

right-of-way to or 10 foot distance indicated in Section 7.1, Resource Protection of the HPMP (whichever is applicable) to ensure protection of resources .

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.5-1:* The measure should be revised to require a 10 foot set back from the landward side of the levee toe or canal for any excavation activity.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.5-1:* Both the local districts and the State Reclamation Board require a 10-foot setback from the landward side of the levee toe or canal for any excavation activity, not from the edge of the construction ROW.

- b. **DEIR Proposed Mitigation Measure 3.5-3 (page 3.5-14):** Prior to the initiation of construction or ground disturbing activities, all construction personnel shall be alerted to the possibility of buried cultural remains, including prehistoric and or historic resources. Personnel shall be instructed that upon discovery of buried cultural materials, work in the immediate area of the find shall be immediately halted and the WGSi project manager shall be notified. Once a qualified archaeologist has identified the find, then the archaeologist, in conjunction with the WGSi project manager, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impact consistent with Section 7.3, Discoveries During Construction of HPMP. If the resource is found to be eligible for the NRHP or CRHP, then Mitigation Measures 3.5-1 through 3.5-5 would apply.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.5-3:* The last sentence of the mitigation measure should be deleted.

(ii) *Reason for and Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.5-1:* There is no mitigation measure 3.5-5 as referenced in the last sentence and eligible resources are also covered by HPMP Section 7.3.

P4-38

CHAPTER 3.6: GEOLOGY, SOILS AND MINERAL RESOURCES

A. Comments on Text / Tables

None

B. Comments on Mitigation Measures

1. IMPACT 3.6-1.1: Potential for Effects from Faulting or Uplift.

- a. **DEIR Proposed Mitigation Measure 3.6-1 (page 3.6-22):** The Applicant shall assess the pipeline response to surface faulting using a detailed nonlinear pipe-soil interaction analysis model for a case specific evaluation of the Willows fault crossing. The model shall consider different possible fault offsets (or local uplifts) and slip vectors, different fault crossing geometries, different wall thickness and different steel grades for the selected pipeline diameter. The analysis shall consider both the fault offset required to reach the failure (loss of pressure integrity) limit state and to reach the damage limit states (i.e., incipient wrinkling) as a measure of the fault crossing design performance. A detailed plan for the analysis shall be prepared for review by the CPUC (or its designated consultants) and the analysis methodology shall be approved by the CPUC prior to the applicant preparing the analysis. Results of the analysis shall be used in the design of the pipeline sections within a reasonable distance (to be reviewed by the CPUC or its designated consultants) of the projected location of the Willows Faults and the mapped anticlinal feature adjacent to the Sacramento River.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.6-1: The mitigation measure should be revised to read: The Applicant shall assess the pipeline response to surface faulting or uplift using a detailed nonlinear pipe-soil interaction and fault propagation analysis models for a case specific evaluation of the Willows Fault crossing. The pipeline shall be designed within the area of influence of the Willows Fault to withstand a discrete displacement of 1.1m along dip (reverse, East Side up) with 50% strike slip component, or 0.55m, at a depth of 1600 feet below ground surface. The analysis shall be performed in accordance with the Seismic Hazard Analysis Workplan in Appendix __. The pipeline shall be designed to mitigate stresses due to faulting or uplift such that these stresses remain at or below the following acceptance criteria: longitudinal pipeline strain in tension of 4%, longitudinal pipeline strain in compression for 30-inch pipeline of 2.6%, ovality of 15%. In addition, if a seismic event exceeds the criteria established in the Post Seismic Pipeline Inspection Plan (Appendix __) the appropriate actions will be initiated.

(ii) Reason for and Sufficiency of Wild Goose Proposed Mitigation Measure 3.6-1: The proposed mitigation measure contained in the DEIR requires, *subsequent to the certification of the EIR*, the performance of an analysis of pipeline response to surface faulting and, subsequent to the approval of the CPUC, the incorporation of the results of the analysis into the design of the pipeline. The deficiency with the mitigation measure, as currently drafted, is its susceptibility to being challenged on legal grounds

P4-39

– namely that it calls for the project applicant to develop and implement concrete mitigation measures *after* project approval. The deferral of environmental assessment until after project approval has been determined to violate CEQA's policy that impacts must be identified before project momentum reduces the agency's ability to change its course of action. *See Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988). While the Courts have also ruled that the development and implementation of mitigation measures after project approval is acceptable if there is meaningful information justifying an expectation of success, DEIR proposed mitigation measure 3.6-1 appears to lack sufficient guidelines against which to assess the efficacy of the proposed mitigation. WGS's proposed changed mitigation measure 3.6-1 rectifies such deficiency. Both the Seismic Hazard Analysis Workplan and the Post Seismic Pipeline Inspection Plan are attached to these comments.

2. **IMPACT 3.6-1.2: Potential for Effects from Strong Ground Shaking**

a. **DEIR Proposed Mitigation Measure 3.6-2 (page 3.6-24):** The Applicant shall provide the CPUC with a plan to analyze pipeline response to ground shaking and traveling wave effects based on the unique geological conditions along the pipeline routes (Line 400/401 Connection and Storage Loop Pipeline) and the conservative levels of groundshaking determined by Kleinfelder. The CPUC shall review and approve a final analysis plan prior to final design.

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.6-2:* The mitigation measure should be revised to read: The applicant shall analyze the pipeline response to seismic strong ground shaking and resulting travelling wave effects. Analysis shall be performed in accordance with the Seismic Hazard Analysis Workplan and will be based on the unique geologic conditions along the pipeline route (Line 400/401 Connection and the Storage Loop Pipeline) and the conservative levels of ground shaking previously determined by Kleinfelder (Kleinfelder 2001e, pp. 20-23). The pipeline shall be designed to mitigate stresses due to strong ground motion and resulting travelling wave effects such that these stresses remain at or below the following acceptance criteria: longitudinal pipeline strain in tension of 4%, longitudinal pipeline strain in compression for 30-inch pipeline of 2.6%, ovality of 15%. In addition, if a seismic event exceeds the criteria established in the Post Seismic Pipeline Inspection Plan the appropriate actions will be initiated.

(ii) *Reason for Sufficiency of Wild Goose Proposed Changes to Mitigation Measure 3.6-2:* The proposed mitigation measure requires, *subsequent to the certification of the EIR*, the design and implementation of a plan to analyze pipeline response to ground shaking and traveling wave effects. Such proposed mitigation could face legal challenges similar

P4-40

to DEIR Proposed Mitigation Measure 3.6-1 (above). WGSI's proposed changed mitigation measure 3.6-2 rectifies such deficiency. Both the Seismic Hazard Analysis Workplan and the Post Seismic Pipeline Inspection Plan are attached to these comments.

3. **IMPACT 3.6-1.3: Potential to Expose People or Structures to Effects from Liquefaction and Dynamic Compaction .**

- a. **DEIR Proposed Mitigation Measure 3.6-3 (page 3.6-25):** The Applicant shall drill new borings at the final Sacramento River crossing site using the drilling and sampling techniques recommended by Martin and Lew (1999). These borings shall be performed at the location with possibly the thickest liquefiable soil deposits, to confirm the SPT blow counts measured (with or without sample rings and considering gravel) and the estimates of liquefaction induced settlements and lateral deformations. It is possible that the additional field investigation scope may be reduced if a parametric /sensitivity analysis can be performed to investigate the effects of possible lower blow counts and thicker liquefiable soil layers on the liquefaction induced hazards discussed in Appendix A (Kleinfielder 2001E). A detailed plan for the drilling, sampling and analysis shall be prepared for review by the CPUC (or its designated consultants) and the analysis methodology shall be approved by the CPUC prior to the Applicant preparing the analysis. Results of the analysis shall be used in the design of the pipeline section within a reasonable distance (to be reviewed or approved by the CPUC or its designated consultant) of the Sacramento River crossing.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.6-3: The mitigation measure should be revised to read: At the Sacramento River crossing, the applicant shall perform a sensitivity analysis to investigate the effects of possible lower blow counts and thicker liquefiable soil layers on permanent ground deformation and resulting pipe stresses. Analysis shall be performed in accordance with the Seismic Hazard Analysis Workplan and will incorporate conservative estimates of liquefiable layer depth and blow count correction factors. The pipeline shall be designed to mitigate stresses due to permanent ground deformation associated with liquefaction and dynamic compaction such that these stresses remain at or below the following acceptance criteria: longitudinal pipeline strain in tension of 4%, compression strain for 30-inch pipeline of 2.6%, ovality of 15%. In addition, if a seismic event exceeds the criteria established in the Post Seismic Inspection Plan the appropriate actions will be initiated.

(ii) Reason for and Sufficiency of Wild Goose Changes to Mitigation Measure 3.6-3: The proposed mitigation measure requires, *subsequent to the certification of the EIR*, the design and implementation of a plan to analyze pipeline response to ground deformation. Such proposed mitigation could face legal challenges similar to DEIR Proposed

P4-41

Mitigation Measures 3.6-1 and 3.6-2 (above) WGSI's proposed changed mitigation measure 3.6-3 rectifies such deficiency.

- b. **DEIR Proposed Mitigation Measure 3.6-4 (page 3.6-25):** The Applicant shall compile data in City, State, or County files, and to obtain new data on shallow water levels and the density of shallow geologic materials so that a broad area assessment of areas with potential for liquefaction along the pipeline can be made. Results of the analysis shall be used in the design of the pipeline section crossing identified potentially liquefaction prone areas (to be reviewed and approved by the CPUC or its designated consultants.)

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.6-4:* The mitigation measure should be revised to read: For the entire pipeline, the Applicant shall obtain data in terms of shallow geologic materials from published California Geological Survey, CGS (formerly California Division of Mines and Geology, CDMG), geologic maps along the pipeline alignment. In addition, the Applicant shall obtain data for the approximate shallow groundwater levels from the State or County files along the pipeline alignment, or assume near surface soils are saturated. The combination of shallow groundwater, shallow Holocene geologic materials, and the conservative levels of ground shaking previously determined by Kleinfelder (Kleinfelder 2001e, pp. 20-23) shall be combined to indicate areas of liquefaction susceptibility. The Applicant shall employ the same techniques as used by CGS in assessing the areas of low, moderate and high liquefaction susceptibility. The pipeline shall be designed to mitigate stresses due to permanent ground deformation associated with liquefaction such that these stresses remain at or below the following acceptance criteria: longitudinal pipeline strain in tension of 4%, longitudinal pipeline strain in compression for a 30-inch pipeline of 2.6%, ovality of 15%. In addition, if a seismic event exceeds the criteria established in the Post Seismic Pipeline Inspection Plan the appropriate actions will be initiated.

(ii). *Reason for and Sufficiency of Wild Goose Changes to Mitigation Measure 3.6-4:* The proposed mitigation measure requires, *subsequent to the certification of the EIR*, the design and implementation of a plan to analyze pipeline response to liquefaction prone areas. Such proposed mitigation could face legal challenges similar to DEIR Proposed Mitigation Measures 3.6-1 through 3.6-3 (above). WGSI's proposed changed mitigation measure 3.6-4 rectifies such deficiency. The Post Seismic Pipeline Inspection Plan is attached to these comments.

4. **IMPACT 3.6-1.4: Potential to Expose People or Structures to Adverse Effects From Liquefaction and Cause Lateral Spread Landslides**

- a. **DEIR Proposed Mitigation Measure 3.6-5 (page 3.6-26):** The Applicant shall complete Mitigation Measure 3.6-3 above, including drilling new

P4-42

borings in areas adjacent to the final Sacramento River Crossing site, where lateral spreading landslides are most likely to occur based on topography.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.6-5: The mitigation measure should be revised to read: After performing the liquefaction analysis in Mitigation Measure 3.6-3, the Applicant shall evaluate lateral spreading due to liquefaction at the Sacramento River crossing. Initially, the potential for lateral spreading and landslides shall be evaluated using semi-empirical calculation methods by Youd and Garris (1995). If lateral spreading is predicted to occur and the pipeline is within the zone of lateral spreading, then the pipeline will be evaluated using a detailed nonlinear pipe-soil interaction analysis model in accordance with the Seismic Hazard Analysis Work Plan in Appendix _____. The pipeline shall be designed to mitigate stresses due to lateral spreading such that these stresses remain at or below the following acceptance criteria: longitudinal pipeline strain in tension of 4%, longitudinal pipeline strain in compression for 30-inch pipeline of 2.6%, ovality of 15%. In addition, if a seismic event exceeds the criteria established in the Post Seismic Pipeline Inspection Plan, the appropriate actions will be initiated.

P4-43

(ii) Reason for and Sufficiency of Wild Goose Changes to Mitigation Measure 3.6-5: The proposed mitigation measure requires, *subsequent to the certification of the EIR*, the design and implementation of a plan to analyze pipeline response to liquefaction prone areas. Such proposed mitigation could face legal challenges similar to DEIR Proposed Mitigation Measures 3.6-1 through 3.6-4 (above). WGSII's proposed changed mitigation measure 3.6-5 rectifies such deficiency. The Post Seismic Pipeline Inspection Plan is attached to these comments.

5. **IMPACT 3.6-5: Potential for Effects to Extraction of Mineral Resources**

a. **DEIR Proposed Mitigation Measure 3.6-6 (page 3.6-30):** The Application shall undertake and complete a modeling study to define possible in-stream mining and floodplain mining scenarios and the potential impacts of the scenarios on the pipeline at the preferred depths. Based on the modeling study the final depth burial below the river bottom shall be determined. A plan for the modeling study shall be prepared for review by the CPUC. The analysis methodology shall be approved by the CPUC prior to the Applicant preparing the analysis. Results of the analysis shall be used in the design for the pipeline section crossing the Sacramento River (to be reviewed and approved by the CPUC).

P4-44

(i) Wild Goose Proposed Changes to Mitigation Measure 3.6-6: This mitigation measure should be deleted.

(ii) Reason for and Sufficiency of Wild Goose Changes to Mitigation Measure 3.6-6: Substantial overlap exists between Impacts 3.6-5 and

3.6-6. The impact discussion for Impact 3.6-6 accurately concludes that "The potential for some in-stream or floodplain sand and gravel mining within certain distances (and to certain depths) of the Line 400/401 Connection Pipeline crossing to be cancelled or modified is not considered significant due to the abundance of mineable deposits in other areas of the valley." However, in the narrative under Impact 3.6-5 on Page 3.6-29, it states "If mining in the active Sacramento River channel were to take place in proximity to the Line 400/401 Connection Pipeline crossing location, the potential exists for the river bottom incision upstream or downstream of the mine." In this context, Proposed DEIR Mitigation Measure 3.6-6 requires WGSII to prepare a modeling study of river mining scenarios that may impact the pipeline. This conclusion (under Impact 3.6-5) and required mitigation (measure 3.6-6) is inconsistent with the conclusion of the discussion for Impact 3.6-6. Moreover, Impact 3.6-5 is not an impact of the proposed project, but rather a potential impact on the proposed project from future activities by others.

In addition, it should be noted that WGSII contacted Ms. Lorna Burks at the State Lands Commission (SLC) regarding WGSII's rights under the lease that will be issued by the SLC for the pipeline crossing of the Sacramento River. Ms. Burks confirmed that the SLC would not authorize any activity in the Sacramento River which would be inconsistent or incompatible with WGSII's use for the pipeline crossing.

Finally, Mitigation Measure 3.6-6 requires, subsequent to the certification of the EIR, the preparation and implementation of a modeling study to analyze appropriate pipeline depth. Such proposed mitigation could face legal challenges similar to DEIR Proposed Mitigation Measures 3.6-1 through 3.6-5 (above). WGSII's proposed deletion of Mitigation Measure 3.6.6 rectifies such problem.

CHAPTER 3.7: HAZARDS AND HAZARDOUS MATERIALS

A. Comments on Text / Tables

1. Page 3.7-2, Last ¶: This paragraph incorrectly states the normal injection pressures for the storage reservoir. Given this error, WGSII recommends replacement of this paragraph with the following revised wording:

"Original field pressure for the zones under evaluation for use as storage reservoirs ranged from 1,210 to 1,328 pounds per square inch (psi) measured relative to atmospheric pressure, denoted as psia. Planned normal injection pressures would range from 1,350 to 1,500 psia, less than 15 percent higher than original field pressures. Extreme conditions of consistent maximum injection rates would raise the pressures from 1,600 to 1,700 psia, about 30 percent higher than original field pressures. Initial injection pressures would range from 1,700 to 1,800 psia, approximately 35 to 40 percent higher

P4-45

P4-46

than original field pressures. These high pressures are required to displace water from the reservoir zones. More detailed information, related to proposed operating pressures, is presented in Appendix K.”

2. Page 3.7-13, 6th ¶: This paragraph inaccurately states the injection pressures for the storage reservoir. Given this error, WGSII recommends replacement of this paragraph with the following wording:

“Proposed injection and operating pressures are higher than the original field pressure. They are based on technical information collected by the DOGGR for the Sacramento Valley region, and on specific technical data collected by WGSII for the proposed storage field project. Original field pressure for the zones under evaluation ranged from 1,210 to 1,328 pounds per square inch (psi) measured relative to atmospheric pressure, denoted as psia. Initial injection pressures would range from 1,700 to 1,800 psia to displace water from the reservoir zones. Planned normal injection pressures would range from 1,350 to 1,500 psia. Technical data on field pressures are provided in Appendix K.”

3. Page 3.7-24, 4th ¶: This paragraph begins with a discussion of field leveling and then concludes that a significant impact may result from deep ripping contact with the pipeline absent specific design considerations. However, no mitigation is proposed. The analysis fails to recognize that deep ripping and field leveling are two totally separate practices performed for different crops. Field leveling in the project area is typically limited to rice fields where the creation of relatively flat, uniform rectangular rice checks improves irrigability and facilitates harvest. The only rice field along the pipeline route that is presently not leveled is a one-half mile segment located between Gridley Road and River Road owned by Aileen Womble. The balance of the rice fields along the route are leveled, including the fields on either side of Ms. Womble, which would allow only very minor grade changes, on the order of several inches, to conform to the ditch water and drainage elevations already established in the immediate area. Deep ripping, or ‘slip plowing’, to a depth of approximately six feet is typically only associated with preparing the land for orchards. The only area along the pipeline routes suitable for orchards is near the Sacramento River where the soils are sufficiently deep. WGSII has already, as part of its ongoing negotiations with owners near the Sacramento River, made pipeline depth or alignment adjustments on properties where there are specific plans for deep ripping for orchard planting. In addition to these accommodations, a supplemental payment may be offered to the property owner to compensate them for not deep ripping and/or planting in the 30-foot easement strip. Based on this additional information, WGSII recommends this discussion be revised to conclude that the potential impact of deep ripping contact with the pipeline is less than significant.

P4-47

P4-48

B. Comments on Mitigation Measures

1. IMPACT 3.7-2: 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

- a. **DEIR Proposed Mitigation Measure 3.7-1 (page 3.7-14):** WGSi will submit core sample analysis protocol to the CPUC technical team for review and approval prior to conduction test on new core samples. Test data on new core samples will be submitted to the CPUC technical team for review. If new data indicates that cap rock strength is different (substantially lower) than indicated by previous tests, operating and injection pressures would be reduced to maintain an appropriate level of safety consistent with DOGGR safety guidelines.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-1: This mitigation measure should be revised to read: WGSi will implement the following protocols for the coring process, preservation, handling and testing:

Core Preservation and Transport

- o Cores should be cut into five foot lengths or shorter in PVC core tubes upon extrusion from the core barrel at the wellsite. Avoid bending long, unsupported core lengths during handling.
- o The individual core lengths should be capped with plastic end caps and sealed with ample duct tape or equivalent.
- o Freezing: Not recommended for argillaceous rocks; optional for poorly cemented, unconsolidated sandstones (injection gel is also an option for weak sandstones).
- o Transport the core lengths in their PVC tubes, packed and bound securely into core boxes or special racks such that they cannot move or rotate. Minimize time elapsed from rig floor to testing laboratory.

Core Handling and Logging at the Testing Laboratory

- o Commence core logging, sampling and preservation as soon as possible upon arrival at the testing laboratory.
- o X-ray the cores to assess quality and identify defects.
- o Run a core gamma log.
- o Unwrap ends, split core tube by making two cuts at 180°.
- o Conduct geological analyses (e.g. lithology, fractures, other potentially weak discontinuities) and core photography as quickly as possible; minimize

P4-49

the number of tubes cut open at any given time; select samples to be used for future testing promptly so they can be preserved.

- If possible, do not slab core samples to be used for mechanical properties testing and caprock analysis.
- Wrap the samples selected for preservation in plastic wrap and several layers of aluminum foil; seal the samples by immersing in hot wax.
- Select smaller grab samples from each tube and store in plastic zip-lock bags for possible future testing such as X-ray diffraction.

Core Sampling

- Drill plugs from preserved cores as required for the testing program; optional - use frozen nitrogen for weak sandstone samples.
- Apply the minimum axial force possible and use slow rotation speeds when drilling plugs from weak core samples.
- Take several core plugs for paleomagnetic analysis to orient selected segments of the core. Core orientation is required to obtain strike data for features such as natural fractures, bedding or other discontinuities identified in the core.

Core Testing

- For tests to be conducted at stressed conditions, calculate a confining stress representative of in-situ conditions. For example, at a depth of 2900 ft (approximate L1 unit caprock depth), the mean effective in-situ stress is estimated to be 1220 psi. This estimate is based on an overburden stress gradient of 0.89 psi/ft, maximum and minimum horizontal stress gradients of 0.89 and 0.80 psi/ft, respectively, and a formation pressure gradient of 0.44 psi/ft.
- X-ray Diffraction – to determine clay mineralogy
 - Use small grab samples
- Triaxial Compression – to determine static elastic and rock strength properties
 - Conduct a minimum of four compression tests at different confining stresses (from very low values up to the mean effective in-situ stress)
 - Use full-diameter samples if possible (2:1 length to diameter ratio)
 - Additional properties can also be measured if required (e.g., stressed sonic velocities, dynamic elastic moduli, residual strength properties).
- Caprock Analysis – to determine nitrogen gas threshold pressures

- At a confining stress representative of in-situ conditions
- Use full-diameter samples if possible
- Mercury Injection Capillary Pressure – for displacement pressures and pore size data
- Pulse Decay Permeability – to determine gas permeability at in-situ conditions for very low permeability rocks
 - At a confining stress representative of in-situ conditions
 - Use preserved core plugs
 - Test at native saturation state
- Routine Core Analyses– to determine porosity, saturations and particle size distributions.

WGSJ will submit all test results on new core samples for the L1, U1 and U2 intervals to the DOGGR immediately following the tests. If new data indicates that the cap rock quality is different (substantially lower) than indicated by previous tests, operating and injection pressures would be reduced to maintain an appropriate level of safety consistent with DOGGR safety guidelines.

(ii) Reasons for and Sufficiency of WGSJ Proposed Changes to Mitigation Measure 3.7-1: The proposed mitigation measure requires, *subsequent to the certification of the EIR*, the submission of core sample analysis protocol to the CPUC for approval. Such proposed mitigation could face legal challenges similar to DEIR Proposed Mitigation Measure 3.6-1 (above). The revised mitigation measure set forth above establishes the defined protocol which WGSJ will follow, thus fulfilling the intended purpose of the DEIR proposed mitigation measure.

- b. **DEIR Proposed Mitigation Measure 3.7-2 (page 3.7-14):** WGSJ will conduct in situ stress tests of the project relevant cap rock intervals in at least one well when drilled. If in-situ stress tests results are not consistent with core sample test results, re-evaluation of operating pressures may be necessary. If in-situ stress tests indicate that cap rock strength is substantially less than currently believed, operating and injection pressures would be reduces to maintain an appropriate level of safety consistent with DOGGR guidelines.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-2: This mitigation measure should be deleted.

(ii) Reasons for and Sufficiency of WGSJ Proposed Changes to Mitigation Measure 3.7-2: This measure requires WGSJ to conduct in-situ caprock tests of

the three zones proposed for storage. WGSi concurs with the DOGGR's April 11, 2002 comments and rationale that this mitigation measure is excessive given the DOGGR's permit requirements for maximum allowable injection pressures.

- c. **DEIR Proposed Mitigation Measure 3.7-3 (page 3.7-16):** The Brady #1-20 shall be inspected and tested immediately to ascertain its conditions. This well shall be located and soil surrounding it excavated to expose the well casing. An attempt should be made to tap drill a small hole the plate welded onto the casing, and test for gas. If gas were present, a sample would be extracted and collected for further analysis. Depending on gas origin, if present, appropriate remedial action (re-abandonment would be implemented). Routine inspection, monitoring and testing of this well would continue for the duration of the gas storage operation. WGSi shall prepare a report of investigation and remedial action taken. This report shall be submitted to the CPUC and DOGGR prior to initiating gas storage activities in additional storage zones. Annual inspection of the abandoned well would be included as part of the WGSi inspection program. Annual reports would be submitted to CPUC and DOGGR upon inspection completion. With these immediate (inspection, testing and remediation) and on-going (annual inspection) mitigation measures, potential impacts associated with leaks from the Brady #1-20 would be less than significant.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-3: This mitigation measure should be revised to read: The Brady #1-20 will be inspected and tested during summer 2002 to ascertain its condition. This well will be located and soil surrounding it excavated to expose the well casing. An attempt will be made to tap (drill a small hole) the plate welded onto the casing, and, if gas is present, a sample will be collected for further analysis. Depending on gas origin, if present, appropriate remedial actions (re-abandonment) will be implemented. Re-abandonment will be consistent with DOGGR procedures outlined in California Code of Regulations §1723 et. seq. 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. Routine surface gas monitoring of this well will continue for the duration of the gas storage operation with immediate notification of the DOGGR in the unlikely event of a leak. WGSi shall prepare a report of investigation and remedial actions taken. This report shall be submitted to the DOGGR prior to initiating gas storage activities in additional storage zones. With the immediate (inspection, testing and remediation) and on-going (routine gas detection) mitigation measures, potential impacts associated with leaks from the Brady #1-20 are less than significant.

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.7-3 : The proposed DEIR mitigation measure specifies that the Brady #1-20 well should be excavated to expose the well casing. As indicated in DOGGR's April 11th Comments, this well was abandoned in accord with DOGGR standards. Given this fact, accessing the casing as required in the DEIR proposed mitigation measure could necessitate excavation of a very big hole in a

P4-51

managed wetland. As such, WGSJ proposed changes to the measure include a reference to the wetland mitigation language provided in Chapter 3.4. Additional changes made to the mitigation measure are in conformance with the DOGGR comments, with which WGSJ concurs.

- d. **DEIR Proposed Mitigation Measure 3.7-4 (page 3.7-17):** Prior to initiating new gas storage operations, WGSJ shall conduct a soil gas survey in the vicinity around each abandoned well within the storage zone boundaries to define current shallow subsurface gas conditions and document that the storage gas is not currently leaking. If soil gas is detected, samples should be collected for laboratory analysis. Samples would be analyzed to determine if any natural gas collected is of biogenic, thermogenic or storage zone origin. All testing and sampling plans would be submitted to CPUC for review and approval by a qualified member of the technical team (Registered Geologist with appropriate background evaluating soil gas). If wells are found to be leaking, the leaking well would be remediated in consultation with CPUC and DOGGR.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-4: This mitigation measure should be deleted.

(ii) Reasons for and Sufficiency of WGSJ Proposed Changes to Mitigation Measure 3.7-4 : This measure requires WGSJ to conduct soil-gas surveys in the vicinity of each abandoned well. WGSJ concurs with DOGGR's April 11th comments and rationale that this mitigation measure is unnecessary.

- e. **DEIR Proposed Mitigation Measure 3.7-5 (page 3.7-17):** At the end of each injection cycle, WGSJ shall conduct well inspections, testing and leak surveys for each abandoned well in the field. If gas is detected, samples should be collected and analyzed to determine its source or origin. Necessary remedial action would be implemented to address the leak. All testing and sampling plans would be submitted to CPUC and DOGGR for review and approval by a qualified member of the technical team (Registered Geologist with appropriate background evaluating soil gas).

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-5: The mitigation measure should be revised to read: At the end of each annual injection cycle, WGSJ shall conduct routine 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 be conducted consistent with the wetland impact minimization and mitigation measures specified under Impact 3.4-4 on page 3.4-27.

P4-52

P4-53

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.7-5 : As currently drafted, the proposed DEIR mitigation measure could be read to require WGSi to conduct testing and inspection every time a customer completed an injection cycle. The proposed changed mitigation measure clarifies that such testing will occur annually. In addition, more clarity is added to the mitigation measure by setting forth the standards pursuant to which any necessary remedial action will be taken. Finally, the changes recognize the jurisdiction of the DOGGR.

- f. **DEIR Proposed Mitigation Measure 3.7-6 (page 3.7-17):** In addition to regularly scheduled well tests, WGSi shall test any well if other indicators of leaks are present (gas bubbles, distressed vegetation) in the immediate well vicinity. WGSi should submit all well tests and repair records to DOGGR, CPUC and Butte County. Any well leaks detected would be reported immediately to these agencies. With DOGGR oversight, WGSi would implement appropriate remedial action to repair detected leaks.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-6: This mitigation measure should be revised to read: If routine surface gas monitoring indicates that a well may be leaking (gas bubbles, distressed vegetation), WGSi shall report it immediately to the DOGGR and Butte County and implement the appropriate remedial actions consistent with DOGGR procedures outlined in California Code of Regulations §1723 et. seq. in consultation with the DOGGR. WGSi shall submit all well remediation and repair records to DOGGR and Butte County. 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.

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.7-6 : The proposed changes adds more clarity by setting forth the standards pursuant to which any necessary remedial action will be taken. In addition, the changes recognize the jurisdiction of the DOGGR.

- g. **DEIR Proposed Mitigation Measure 3.7-7 (page 3.7-18):**⁴ WGSi shall locate each abandoned well within the field and immediate vicinity and place permanent markers over each one. WGSi would accurately survey and record these locations, submitting plans and maps to DOGGR, CPUC and Butte County. All markers would be maintained so they are clearly visible at all times during the duration of storage field activities and upon final field decommissioning

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-7: The mitigation measure should be revised to read: WGSi shall locate each abandoned well within the field and immediate vicinity, and place permanent markers over each one, subject to landowner approvals. WGSi will accurately survey and record these locations and submit plans and maps to the DOGGR. All markers will be

⁴ This Mitigation Measure was omitted from Chapter 6, Mitigation, Monitoring and Reporting Program. It should be included in that chapter.

maintained so that they can be located during the duration of storage field activities and upon final field decommissioning.

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.7-7 : The proposed changed mitigation measure recognizes that WGSi needs landowner permission prior to placing permanent markers on their land. In addition, the changes recognize the jurisdiction of the DOGGR.

2. **IMPACT 3.7-6: Potential to Expose People or Structures to a Significant Risk of Fire or Explosion**

a. **DEIR Proposed Mitigation Measure 3.7-8 (page 3.7-20):** During periodic well testing and leak survey, evaluate the area overlying the documented faults along the southern field boundary. This will require installation of at least three permanent gas probes. Each probe would be monitored during routine leak surveys. If gas were detected in these probes, samples would be collected and analyzed to determine gas origin. All testing and sampling plans, along with probe designated installation procedures, will be submitted to a qualified member of the CPUC .

(i) Wild Goose Proposed Changes to Mitigation Measure 3.7-8: The mitigation measure should be deleted.

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.7-8 : This measure requires WGSi to install at least three permanent soil gas probes along the area overlying the documented fault along the southern field boundary. WGSi concurs with the DOGGR's April 11, 2002 comment and rationale that this mitigation measure is unnecessary and recommends the measure be deleted.

b. **DEIR Proposed Mitigation Measures 3.7-10 through 14 (page 3.7-24):** These measures require WGSi to include various seismic analyses in the design of the pipeline, and to submit to the CPUC for review and approval the analysis methodology. All of the requested analyses are included in the Seismic Hazard Analysis Workplan, Appendix __. Accordingly, WGSi requests that these DEIR Proposed Mitigation measures be deleted.

CHAPTER 3.8: HYDROLOGY

A. Comments on Text / Tables

1. **Page 3.8-5, 5th ¶:** The last sentence indicates the that the most severe flooding is along the west side of the Butte Sink in the area of the Well Pad Site. This statement is incorrect. The Well Pad Site is on the east side of the Butte Sink, not the west side.

P4-56

P4-57

P4-58

2. Page 3.8-25, 2nd ¶: The phrasing of WGSi Mitigation Measure 3.8.1 is not consistent with WGSi's proposed mitigation measures or its Horizontal Directional Drill Frac-out Contingency Plan. Visual observation is conducted "frequently" or "regularly," but not necessarily continuously during drilling operation. This measure should be revised to delete the term "continuous".

B. Comments on Mitigation Measures

1. IMPACT 3.8-1: Potential to Substantially Degrade Surface and Groundwater Quality

a. DEIR Proposed Mitigation Measure 3.8-2 (page 3.8-25): No hazardous or potentially hazardous materials shall be stored on-site at the Well Pad Site.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.8-2: Delete the mitigation measure

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.8-2 : Hazardous or potentially hazardous materials may be temporarily stored at the Well Pad Site during well drilling, facility maintenance or well workover activities. A strict interpretation of this measure would preclude the temporary storage of these materials for these activities. In addition, the control building at the Well Pad Site was constructed above the flood levels so storage of these types of materials in that building would not constitute a potential impact. The use and storage of hazardous materials during construction is addressed in both the Storm Water Pollution Prevention Plan and construction Hazardous Materials Release Response Plan, and during operations by the operations Hazardous Materials Release Response Plan.

P4-59

2. IMPACT 3.8-2: Potential to Substantially Deplete Groundwater Supply

a. DEIR Proposed Mitigation Measure 3.8-5 (page 3.8-26): Locate all water supply wells in the project vicinity After identifying the approved pipeline route and developing initial pipeline construction design plans, and prior to initiating construction, delineate wells in the immediate vicinity of the selected route, conduct a hydro-geological investigation to determine de-water effects on the nearby area wells. Based on result of the hydro-geological investigation, modify construction plans or de-watering methods, if necessary, to protect local ground water supplies. The hydro-geological investigation shall be conducted by a California Certified Hydro-geologist or Certified Engineering Geologist with an appropriate background in evaluating impacts to water wells associated with surface de-watering activities. The revised plans or de-watering methods must be reviewed and approved by the CPUC prior to implementing those operations.

(i) Wild Goose Proposed Changes to Mitigation Measure 3.8-5: Delete the mitigation measure

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.8-5 : The scope of proposed trench dewatering

P4-60

activities does not warrant the proposed study. WGSi's construction methodology will be to minimize the need to dewater by stringing the pipe and welding the segments together prior to excavating the ditch. In this manner, the pipe can be lowered into the ditch and backfilled almost immediately after excavation, leaving little time for water to seep into the trench. Trench dewatering will only occur at locations where two sections of pipeline need to be connected or at either side of the directionally drilled or bored crossings where the trenched pipe will be tied into the crossing pipe. Trench pipeline tie-ins will normally require dewatering only approximately 200 feet of the trench, directionally drilled crossing tie-ins will require dewatering approximately 60 feet of trench on each side, and bored crossing tie-ins will require dewatering approximately 200 feet of the trench at both the bore pit and the receiving pit sides. Dewatering the entire trench is not proposed, but infrequently trench segments longer than 200 feet may need to be dewatered where the pipeline was not completely lowered into the trench and backfilled by the end of construction the previous work day. Discharges will primarily be into adjacent canals and ditches. Because of the limited scope of dewatering activities, there will be little, if any, potential to affect local wells.

Further, the proposed DEIR mitigation measure requires, subsequent to the certification of the EIR, the performance of a hydro-geologic investigation to determine potential effects of nearby wells. Such proposed mitigation could face legal challenges similar to DEIR Proposed Mitigation Measure 3.6-1(above). WGSi's proposed deletion of Mitigation Measure 3.85 rectifies such deficiency.

3. IMPACT 3.8-3: Potential for Flooding or to Place Structures within a 100 year Flood Hazard Area

a. DEIR Proposed Mitigation Measure 3.8-6 (page 3.8-27): The berm around the Well Pad Site shall be designed to withstand exposure to flood water anticipated during a 100 year and 500 year event. Berm height shall be sufficiently high to exceed water surge. Berm design shall include measures to protect exposed surfaces from erosion and to minimize water seepage through the berm (internal erosion called piping).

(i) Wild Goose Proposed Changes to Mitigation Measure 3.8-6: The mitigation measure should be deleted.

(ii) Reasons for and Sufficiency of WGSi Proposed Changes to Mitigation Measure 3.8-6 : The description of the potential impacts which spawned this mitigation measure are inaccurate. The Well Pad Site, the wells, and all related equipment are designed to be periodically flooded by water. Moreover, as noted above, the Well Pad Site is on the *east* side of

P4-61

the Butte Sink, not on the *west* side where the most severe flooding occurs. Further, the CPUC in its Mitigated Negative Declaration for the initial project development specifically identified the location of the Well Pad Site in the flood zone as a potential impact (Impact WA1), but determined that with the implementation of the same mitigation measures proposed for the expansion, the impact of periodic inundation was less than significant. Lastly, application has been made to the State Reclamation Board for a floodway encroachment permit for the expanded Well Pad Site, and WGSi will comply with the requirements of that permit in the construction and operation of the site. The purpose of the berm is merely for visual screening and garter snake habitat, consistent with WGSi Measure 3.8.3.

CHAPTER 3.10: NOISE

A. Comments on Text / Tables

1. Page 3.10-2, 2nd ¶: WGSi Measure 3.10-2 was not included Chapter 6, Mitigation Monitoring and Reporting Program.

P4-62

2. Page 3.10-14, last ¶: With respect to WGSi Measure 3.10-5, the intent of this measure was to minimize noise impacts associated with trenched pipeline construction and was not intended to apply to horizontal directional drilling activities along the pipeline which, similar to gas well drilling, may necessitate continuous drilling activity until the crossing is completed. WGSi recommends this measure be clarified by revising it to read "Limiting construction activities (excluding horizontal directional drilling) to daylight hours, except....."

P4-63

B. Comments on Mitigation Measures

None

CHAPTER 3.12: PUBLIC SERVICES AND SOCIOECONOMICS

A. Comments on Text / Tables

1. Page 3.12-6, last ¶: In the impact description, there is a statement which reads, "If it can be shown that the proposed project would significantly diminish property values of the lands crossed by the proposed project, this would be considered a significant impact." WGSi disagrees with this statement and recommends that it be deleted from the EIR.

P4-64

First, purely economic impacts which do not result from a physical change in the environment are not to be considered significant effects on the environment, and thus with the scope of CEQA review. See *Citizen Action To Serve All Students v. Thornley*,

222 Cal. App. 3d 748 in which the closure of a high school and the conversion of the site to a community center was found not to have cultural or economic impacts cognizable under CEQA. In addition, the CEQA guidelines provide that "an economic or social change by itself shall not be considered a significant effect on the environment." CEQA Guidelines §15382. As the *Thornley* case indicates, such economic change "is only to be considered to determine if a physical change (either the cause or the effect of the economic and social changes) is a significant impact." In the case of the proposed Wild Goose project there is evidence in the record to substantiate that there is neither a significant economic impact nor an economic impact sufficient to conclude that the project itself has a significant impact on the environment. Wild Goose must acquire its rights of way, easements, and licenses from landowners on whose lands its facilities are located. These interests are usually freely negotiated, with the parties agreeing on fair and reasonable compensation under the particular circumstances. In such cases, equivalent value is provided to the landowners for the use made of the land, and no economic detriment can be asserted. In those few cases where negotiations are not productive, Wild Goose must use its eminent domain authority under §613 of the Public Utilities Code to condemn the property needed for the project. Under the law of eminent domain, which will be administered by the Superior Courts of Butte and Colusa Counties, if needed, the condemning utility must compensate the landowner with the fair market value of the property taken by condemnation. Code of Civil Procedure §1263.310. Thus, even in cases of involuntary condemnation, there will be a fair recompense for the use of the land, including diminution in property values, if any.

In addition, the majority of the land to be impacted by the Wild Goose expansion project will be along the Line 400/401 Connection Pipeline right of way. The surface of these properties will be restored to pre-construction condition, and landowners, particularly agricultural interests, will be able to resume cultivating and harvesting their crops. All of these facts mitigate against a conclusion of any significant economic impact sufficient to cause the overall project to have a significant impact on the environment. Wild Goose's position is that there will be no significant diminution of property values as a result of the construction and operation of its proposed project.

Finally, the inclusion of such speculative comments about economic impacts having a significant environmental impact could have a negative impact on the costs of other regulated utility projects where the CPUC acts as lead agency. The CPUC CEQA process is not meant to be a substitute for landowner negotiations or eminent domain proceedings, and should not be a means by which parties seek recompense as a mitigation measure in lieu of fair market value in condemnation proceeding.

Given the facts set forth above, and in the absence of substantial evidence of a diminution in property value that will not be compensated by voluntary agreement or by eminent domain procedures, the referenced statement on Page 3.12-6 should be deleted from the EIR.

B. Comments on Mitigation Measures

None

CHAPTER 3.14: TRANSPORTATION

A. Comments on Text / Figures

None

B. Comments on Mitigation Measures

1. IMPACT 3.14-4: Potential for Increase in Traffic During Project Operation

a. **DEIR Proposed Mitigation Measure 3.14-1:** WGSII shall prepare and implement a Road Maintenance Plan for use during operation and maintenance activities. The plan objectives are to minimize impacts due to project operation, and to establish a procedure to maintain existing access roads to specified conditions. The Plan will outline performance requirements for the road conditions, prescribe responsibilities and coordination with adjacent property owners / tenants, identify a road maintenance schedule, and determine types of repairs necessary on an ongoing basis

(i) *Wild Goose Proposed Changes to Mitigation Measure 3.14-1:* Delete the mitigation measure.

ii) *Reasons for and Sufficiency of WGSII Proposed Changes to Mitigation Measure 3.14-1:* The discussion of this impact only quantifies the commute traffic associated with project operations and then concludes the increase in commute traffic is insignificant. The balance of this discussion focuses on possible access road maintenance procedures that WGSII may implement on an as-needed basis in cooperation with the property owner, but does not identify the actual vehicle usage associated with operations and maintenance activities. The discussion concludes, without any basis, that impacts to roads from operational and maintenance activities will be significant since those roads will sustain periodic damage that would require repair. WGSII strongly disagrees with this unsubstantiated assertion. Traffic associated with operations and maintenance activities will consist of light truck (pickup) access to the pipeline routes between 6 and 12 times per year for inspections and maintenance, with access limited by the hunting season and poor road condition in the winter. Access to the Well Pad Site occurs approximately three times per week for inspections and maintenance. Because of the regular and more frequent access needs to the Well Pad Site, WGSII presently has an informal arrangement with the Wild Goose Club to

P4-65

participate in road maintenance both within the Club, as well as for the road segment between the end of North Butte Road and the Club gate. This arrangement has served all parties very well for the last 4 years. WGSi feels that with the few inspection trips along the pipeline routes and the established arrangement for maintenance of the access road to the Well Pad Site, the potential road impacts from operations and maintenance activities are less than significant.

CHAPTER 3.15: UTILITIES AND SERVICE SYSTEMS

A. Comments on Text / Figures

1. Page 3.15-14, Mitigation Measure 3.15-1: This measure was not included in Chapter 6, Mitigation Monitoring and Reporting Program.

P4-66

CHAPTER 4: CUMULATIVE AND GROWTH INDUCING IMPACTS

A. Comments on Text / Figures

1. Page 4-2, 1st ¶: The Phase 1 hearings on the project **did not** establish that an expansion of the PG&E backbone system would be necessary. Such an expansion **may** be necessary depending on PG&E's willingness to consider options to maximize the operational capabilities and capacity of the existing system.

P4-67

CHAPTER 6: MITIGATION, MONITORING AND REPORTING PROGRAM

Note: Comments on this chapter are limited to issues not already discussed in the text comments above.

1. Page 6-2, Bulleted list: The project must file a Hazardous Materials Release Response Plan with the Butte County of Environmental Health and the Colusa Office of Emergency Services. These two agencies should be included on the list.

P4-68

2. Page 6-6, Impact 3.2-1 (direct conversion of farmland to non-agricultural use) : The statement of 'Significant and unavoidable' associated with WGSi Measure 3.2-1 is inconsistent with the discussion of Impact 3.2-1 on page 3.2-8 of the DEIR. It should be changed to 'Less than significant'.

P4-69

3. Page 6-41, Impact 3.12-2: The mitigation measure for this potential impact on emergency service providers incorrectly refers to Mitigation Measure 3.15-1, which addresses the potential capacity of wastewater treatment facilities. Instead, WGSi recommends this column be changed to read 'None required' consistent with the text.

P4-70

4. Page 6-45, Impact 3.15-5: The mitigation measure column states 'None required', but should state Mitigation Measure 3.15-1 as described on Page 3.15-14.

P4-71

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