

LA2-122
(cont'd)

Response:

The soil compaction issue discussed on pages 4-27 through 4-28 resulting is diminished revegetation is compounded by Transwestern's unilateral plan to not reseed. FERC notes that Transwestern failed to address all concerns expressed by BLM and FS. (SEE, page 4-29, paragraph 9) This information is necessary for Buckeye to make and informed and meaningful comment.

LA2-123

Sec. 4.2.2, page 4-30 of the Draft EIS states:

Because the current draft of the Restoration Plan does not adequately address the concerns of the BLM and the FS, the FERC staff recommends that:

- *Transwestern shall continue to coordinate with the BLM and the FS and revise its Restoration Plan to address the concerns of these agencies regarding restoration of the areas disturbed by construction. The revised Restoration Plan shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS.*

Response:

The comment period will soon expire and Buckeye has not been provided with an opportunity to review the Restoration Plan and provide comment thereon. Absent this information no meaningful analysis of any kind by any interested party can take place.

LA2-124

Sec. 4.2.2, page 4-30, third paragraph of the Draft EIS states:

Although revegetation of the disturbed areas in native desert habitats would be slow due to the arid environment, with the implementation of Transwestern's UECRM Plan and the revised Restoration Plan as recommended above, the project would not result in significantly increased erosion rates, a reduction of soil productivity by compaction, or soil mixing to a level that would prevent successful rehabilitation and eventual re-establishment of vegetative cover to the recommended or preconstruction composition and density. Further, if the mitigation measures in Transwestern's UECRM Plan that pertain to agricultural areas are implemented, the project would not result in a significant reduction in agricultural productivity for longer than 3 years as a result of soil mixing, structural damage, or compaction.

Response:

On what basis does FERC make the conclusions stated above? What portions of the Transwestern UECRM Plan leads FERC to those conclusions? The EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-125

Sec. 4.2.3, third paragraph of the Draft EIS states:

However, recovery of the biological crusts would be enhanced by Transwestern's implementation of topsoil segregation, which would preserve soil crust propagules.

Local Agencies

LA2-123 See the response to comment LA2-122.

LA2-124 As discussed in section 2.3, Transwestern's UECRM Plan is based on the mitigation measures contained in the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (FERC Plan). The FERC Plan contains construction and mitigation measures that were developed in collaboration with other federal and state agencies and the natural gas pipeline industry to minimize the potential environmental impacts of the construction of pipeline projects in general. The FERC Plan can be viewed on the FERC Internet website at <http://www.ferc.gov/industries/gas/enviro/uplndctl.pdf>.

LA2-125 Section 4.2.3 has been revised to include additional information regarding potential impacts on soil crusts. Although little is known about the durability of disturbed biological soil crusts, segregating the top 3 inches of the seedbank is expected to preserve the biological components of the crust and prevent deeper burial and compressional disturbances known to be detrimental to soil crusts. This treatment has been recommended by land management personnel from the BLM, the U.S. Geological Survey, and the California State Lands Commission on various projects to reduce impacts on biological soil crusts.

LA2-125 (cont'd) **Response:**
 FERC provided no factual basis for this conclusory statement, therefore, Buckeye cannot provide meaningful comment. The EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-126 Sec. 4.2.3, fourth paragraph of the Draft EIS states:
Furthermore, the frost line in the vicinity of the Phoenix Lateral ranges from 6 to 16 inches, depending on ground surface elevation. The pipeline would be buried to a depth of approximately 3 feet below the soil surface, well below the frost line. Therefore, the freeze-thaw cycles would have no effect on the pipeline.
Response:
 Is it FERC's position that a freeze-thaw scenario is not possible? If it is possible, the EIS does not address the impact to the pipeline resulting from a freeze-thaw situations. Will the pipeline weaken, will it rupture? How will this scenario be mitigated?

LA2-127 Sec. 4.2.3, fifth paragraph of the Draft EIS states:
These impacts would be temporary and no permanent impacts on prime or unique farmland or farmland of statewide or local importance would occur in association with the pipeline facilities.
Response:
 FERC provided no factual basis for this conclusory statement, therefore, Buckeye cannot provide meaningful comment. The EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-128 Sec. 4.2.3, seventh paragraph of the Draft EIS states:
The Arizona NRCS has requested that alternative sites be considered to avoid the permanent conversion of soils classified as prime farmland. As discussed in section 3.7, the locations of the proposed aboveground facility sites were primarily determined by the location of agreed-upon customer delivery points and DOT safety regulations and the sites would be either adjacent to the permanent right-of-way or adjacent to or within existing customer facilities. Therefore, no alternative sites were considered.
Response:
 Why wasn't the public allowed to participate in this determination. Would FERC consider alternate locations at this time? Consideration of alternatives is the heart of the EIS. 40 CFR § 1502.14. To satisfy the requirement that alternatives be considered, FERC must present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. It has not do so here.

Local Agencies

LA2-126 The pipeline would be located below the frost line and thus would not be affected by freeze thaw cycles.

LA2-127 Because Transwestern would implement its UECRM Plan to minimize and mitigate impacts on agricultural soils, including measures to protect topsoil, prevent erosion, alleviate compaction, monitor crop yields, and continue revegetation efforts until successful, prime or unique farmland or farmland of statewide or local importance would not be permanently affected by the pipeline facilities.

LA2-128 The public has participated in the EIS process since the proposed project was noticed by the FERC on February 6, 2006. See section 1.3 for a thorough discussion of the public participation process. Project alternatives, including alternative aboveground facility sites, are discussed in section 3.0.

LA2-129 Sec. 4.2.3, eighth paragraph of the Draft EIS states:
If after 2 years it is determined that cropland crossed by the pipeline has not been restored successfully, Transwestern would implement additional restoration measures.

Response:
Who will make the "restored successfully" determination? What will be the basis/criteria for that determination?

LA2-130 Sec. 4.2.3, ninth paragraph of the Draft EIS states:
In accordance with its Forest Service Access Management Plan, Transwestern would develop and implement a post-construction schedule of maintenance for access roads on Forest System lands. In section 4.7.4.1, we have recommended that Transwestern prepare and file a similar access management plan for BLM-managed lands.

Response:
This plan should have been provided in the Draft EIS. Buckeye is unable to provide meaningful comment on a plan it has no ability to review.

LA2-131 Sec. 4.2.4, of the Draft EIS, No Action Alternative –

Response:
Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

LA2-132 Sec. 4.3.1.1, ninth paragraph of the Draft EIS states:
Except for the one perennial waterbody that would be crossed by Loop A (the San Juan River), most of the route for the loops is expected to occur in areas where groundwater is at least 50 feet below the ground surface. In areas of alluvium, groundwater would tend to be closer to the surface.

Response:
FERC provides no data allowing Buckeye to analyze what impact the pipeline will have on groundwater. FERC provides no surveys of groundwater levels along the proposed route. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-133 Sec. 4.3.1.1, Arizona Facilities –

Response:
FERC provides no data allowing Buckeye to analyze what impact the pipeline will have on groundwater. FERC provides no surveys of groundwater levels along the proposed route nor along the proposed route. This is especially critical for Arizona as the state is in a drought and has been for several years. The preferred pipeline route will cross three Active Management Areas - Prescott AMA, Phoenix AMA, and the Pinal AMA.

Local Agencies

LA2-129 Transwestern would contract with an Environmental Inspector (EI) or agronomist to monitor crop yields following construction. Revegetation would be considered successful if crop yields are similar to adjacent undisturbed portions of the same field.

LA2-130 See the response to comment PM3-2.

LA2-131 See the response to comment LA2-119.

LA2-132 Section 4.3.1.1 contains sufficient detail regarding groundwater resources in the project area to draw the referenced conclusions and enable the reader to understand and consider the issues raised by the proposed project.

LA2-133 See the response to comment LA2-132 regarding groundwater conditions in the project area.

LA2-134 Sec. 4.3.1.2 of the Draft EIS states:
Therefore, no sole-source aquifers would be affected by the project. However, Arizona has designated all aquifers in the state to be drinking water aquifers, thus all aquifers, in their entirety are protected by drinking water standards (ADEQ, 1997).

. . . Loop A would be within the source water protection areas of several public drinking water systems in the Farmington area that use surface water from the San Juan and Animas Rivers. No wellhead protection areas would be crossed by Loop A. No source water protection areas would be crossed by the portions of Loop B that are within the jurisdiction of the New Mexico Environmental Department (LAMED) (Padilla, 2006).

Like New Mexico's Source Water Assessment and Protection Program, the Arizona Source Water Assessment Program incorporates both wellhead protection areas and surface water protection areas. Arizona's Source Water Assessment Program is administered by the ADEQ. The Phoenix Lateral would cross a group of six overlapping source water protection areas between MPs 88.0 and 90.0 (ADEQ, 2006).

Response:
FERC provides no analysis of the impact of the pipeline crossing "source water protection areas," without such an analysis, Buckeye cannot provide meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-135 Sec. 4.3.1.3 of the Draft EIS states:
Neither the well field nor the well structures would be affected by the Phoenix Lateral or customer laterals. . .

Forty private wells have been documented within 150 feet of the construction work area, including 1 well for Loop A in New Mexico and 39 wells for the Phoenix Lateral in Arizona. These wells are listed in table 4.3.1-1 by location, distance and direction from the pipeline centerline and construction work area, and groundwater basin. No wells have been documented within 150 feet of the construction work area for Loop B or the customer laterals. No springs have been identified within 150 feet of the construction work area for the project.

Response:
FERC provides no analysis to support its position that the public well fields and structures would not be affected by the pipeline. Nor does FERC provide any analysis of the impact to private wells. Buckeye, therefore, cannot provide any meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

Local Agencies

LA2-134 Section 4.3.1.2 contains sufficient detail regarding surface water resources in the project area to draw the referenced conclusions and enable the reader to understand and consider the issues raised by the proposed project.

LA2-135 Section 4.3.1.3 contains sufficient detail regarding public and private water supply wells in the project area to draw the referenced conclusions and enable the reader to understand and consider the issues raised by the proposed project.

LA2-136 Sec. 4.3.1.4, Mitigation of Groundwater Impact –

Response:

FERC relies on Transwestern's UECRM Plan for the protection of groundwater resources. The UECRM Plan, however, contains no mitigation measures for the protection of those precious resources. FERC also relies on Transwestern's spill prevention plan. The details for spill prevention, however, are the responsibility of Transwestern's subcontractors. Full compliance with NEPA requires a detailed discussion describing those mitigation measures to be utilized to ensure groundwater resources will be fully protected.

LA2-137 Sec. 4.3.2.1 and Sec. 4.3.2.2, Impact and Mitigation to Surface Water Resources-

Response:

Numerous perennial, intermittent and ephemeral waterbodies will be crossed and affected during the construction of this pipeline. Many of these water bodies are protected not only locally but also federally. *"The greatest potential impacts of pipeline construction on surface waters would result from an increase in the sediment loading to the surface waters and an increase in internal sediment loading due to channel/floodplain instability as a result of a change in erosion/deposition patterns. The level of impact of the proposed project on surface waters would depend on precipitation events, sediment loads, stream area/velocity, channel integrity, and bed material."* (See, paragraph 3 of Sec. 4.3.2.2) While many water bodies are expected to be crossed during the construction of this project, the proposed mitigation measures are but general statements, such as, *"limiting the size of extra workspaces to the minimum needed to construct the waterbody crossing."* What facts are considered to determine what the "minimum needed" is for construction? The specifics of the mitigations measure are necessary so that Buckeye can provide meaningful comment.

LA2-138 Sec. 4.3.2.3, Major and Sensitive Waterbodies –

Response:

Many sensitive waterbodies will be crossed during the construction of this proposed pipeline. Transwestern plans to cross these waterbodies using the HDD method. Transwestern has experienced failure using this method during the installation of the existing San Juan Lateral. (See, 6 of this section) FERC has already determined that Transwestern's HDD plan is deficient and has requested supplementation during the draft EIS comment period. Supplementation during this period does not allow Buckeye an opportunity to review the revised plan and to provide meaningful comment.

Paragraph 11 of this section – FERC is requiring Transwestern to supplement, during the draft comment period, its HDD specifically for the San Juan crossing. Supplementation during this period does not allow Buckeye an opportunity to review the revised plan and to provide meaningful comment.

Paragraph 13 of this section – FERC is requiring Transwestern to obtain approval from the Director of the Office of Energy Projects before conducting a wet open-cut.

Local Agencies

LA2-136 Section 4.3.1.4 describes potential project impacts on groundwater resources that include, among other things, construction-related impacts that would be reduced by implementing the measures contained in the UECRM Plan.

LA2-137 See the response to comment PM3-2.

LA2-138 See the response to comment PM3-2.

LA2-138 (cont'd) Buckeye will never have an opportunity to comment on the necessity for an open-cut since such notification will occur sometime well after the project is under construction.

Paragraph 17 of this section - FERC is requiring Transwestern, during the draft EIS comment period, to consult with FS and prepare a site-specific crossing and restoration plan for the Verde River. Supplementation during this period does not allow Buckeye an opportunity to review the revised plan and to provide meaningful comment.

Paragraph 18 of this section - Transwestern plans to file its proposed burial depth at the Gila River and Vekol Wash with the Secretary before construction, thereby, depriving Buckeye an opportunity to provide meaningful comment.

LA2-139 Sec. 4.3.3.1 of the Draft EIS states:
The potential impacts resulting from the discharge of hydrostatic test water include soil erosion and stream scour and subsequent degradation of water quality. Hydrostatic test water discharges would be conducted in accordance with the requirements of the applicable New Mexico, Navajo Nation, and Arizona NPDES permits. Generally, discharge locations would be in upland areas adjacent to the pipeline right-of-way and may include discharge into ephemeral washes where appropriate and where allowed under the terms of the permits. The sites would be selected to avoid steep slopes or any other land type or feature that might be easily eroded. Transwestern does not anticipate that hydrostatic test water would be discharged on top of slopes. If discharge is necessary on top of a slope, additional erosion control devices would be installed along the slope as necessary to prevent scour and erosion. No hydrostatic test water would be discharged onto known cultural resources sites.

The discharge rate would be regulated, and water would be discharged through an energy dissipation device and sediment barriers, as necessary, to prevent erosion or excessive flow. The energy dissipation device would consist of a large diameter pipe diffuser located at the terminus of the discharge pipe that would be located within the confines of a silt fence/hay bale erosion control structure.

Response:
The conclusions stated in these paragraphs contain no supporting factual analysis on which Buckeye can provide meaningful comment. Additionally, Transwestern plans to discharge water used during hydrostatic test without input from the Arizona Department of Environmental Quality, an agency with which it is required by CEQ regulations to consult. 40 CFR § 1503.1. (See, paragraph 3 of this section)

LA2-140 Sec. 4.3.3.2, Dust Control -
Response:
FERC recognized that Transwestern failed to discuss the amount of water required for dust control. FERC is requiring Transwestern to revise its Dust Control Plan before construction. Buckeye is giving no opportunity to comment on the required revised plan.

Local Agencies

LA2-139 See the response to comment PM3-2. Transwestern would be responsible for obtaining all permits and approvals required to implement the proposed project.

LA2-140 See the response to comment PM3-2.

- LA2-141 | Sec. 4.3.3.3, Fire Prevention –
Response:
FERC simply makes an assumption that the same source of water will be used for both dust suppression and fire prevention, and that the amount would be negligible. No attempt is even made to provide the NEPA required analysis that is needed to allow Buckeye to provide meaningful comment.
- LA2-142 | Sec. 4.3.4.2 of the Draft EIS states:
In general, wetland impacts would be minimized by avoidance and mitigation of impacts in accordance with federal, state, and local regulations. Transwestern would avoid impacts on wetlands by routing its pipelines to avoid crossing wetlands to the extent possible. Transwestern would mitigate construction-related impacts by implementing its WWCM Procedures, and by complying with the COE's section 404 conditions and the section 401 permit conditions required by the ADEQ. The COE would determine whether the Phoenix Expansion Project would qualify for a nationwide permit or an individual under the COE's section 404 permit program.
Response:
FERC does not provide any analysis of what federal, state, or local regulations would be followed, or how Transwestern would avoid impacting wetlands. It does not appear that Transwestern has made any effort to file applications for 404 permits. The failure to provide any analysis, especially on the need for a 404 permit, prevents Buckeye from providing meaningful comment.
- LA2-143 | Sec. 4.3.5, of the Draft EIS, No Action Alternative –
Response:
Until the Draft EIS is drafted to meet all NEPA requirements, FERC's only option is to grant the "no action alternative."
- LA2-144 | Sec. 4.4, Vegetation –
Response:
The proposed pipeline will cross numerous vegetation types in both Arizona and New Mexico. The sensitivity of each of the vegetation types is not discussed, therefore, the impact from the pipeline cannot not be fully explored.
- LA2-145 | Sec. 4.4.2 of the Draft EIS states:
To reduce impacts on vegetation within the construction and permanent rights-of-way and to improve revegetation potential, Transwestern would overlap its construction right-of-way by 25 feet onto its own previously disturbed right-of-way along the San Juan Lateral Loops and between 15 and 100 feet over other previously disturbed rights-of-way adjacent to the Phoenix Lateral. This overlap would occur over 62 percent of the proposed pipeline facilities.
Response:
With Transwestern's plan to overlap its construction right-of-ways, FERC must include in its analysis a discussion of the cumulative affect to the environment resulting

Local Agencies

- LA2-141 | See the response to comment PM3-2.
- LA2-142 | Section 4.3.4.2 describes the general mitigation criteria that Transwestern's permit applications would need to meet when applying for permits under the U.S. Army Corps of Engineers (COE) section 404 and the ADEQ section 401 programs; however, because Transwestern has not yet received permits from these agencies, the Agency Staffs cannot describe the specific conditions that may be required. Transwestern would be required to obtain these permits before construction activities in any of the four wetlands identified.
- LA2-143 | See the response to comment LA2-119.
- LA2-144 | The vegetation types described in section 4.4.1 are generally not considered sensitive due to their relative abundance in the region. Vegetation types identified as of special concern or value but that are not provided federal or state protection are discussed in section 4.4.3. Vegetation species that are provided federal or state protection or are noted as sensitive or of special concern by the FWS the BLM, the Navajo Nation Department of Fish and Wildlife, the NMDGF, and the AGFD are discussed in section 4.6.
- LA2-145 | See the response to comment PM3-2.

LA2-145 (cont'd) from such a construction plan. 40 C.F.R. § 1508.7 requires FERC to undertake an analysis of "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." The EIS must include a "useful analysis of the cumulative impacts of past, present, and future projects" in sufficient detail to be "useful to the decision maker in deciding whether, or how, to alter the program to lessen cumulative impacts." *Natural Res. Def. Council v. U.S. Forest Service*, 421 F.3d 797, 814 (9th Cir. 2005). "At a minimum," EIS must provide a catalog of relevant past projects in the area and a discussion of how those projects have "harmed" the environment. *Id.* at 814-815. The analysis of cumulative impacts should include an assessment of "collective" or "total" direct impacts caused by activities authorized by the proposed agency action, as well as indirect, or secondary, impacts in the area, i.e., foreseeable future activities in the same geographic area that are not authorized by the proposed action. *Wyoming Outdoor Council v. U.S. Army Corps of Engineers*, 351 F.Supp.2d 1232, 1241 n.1 (D. Wyo. 2005); *Taxpayers of Michigan v. Norton*, 433 F.3d 852, 864 (D.C. Cir. 2006); *Natural Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 815-816 (9th Cir. 2005).

LA2-146 Sec. 4.4.2, paragraph 5 of the Draft EIS –
 Response:
 The mitigation measures discussed in this section do not provide sufficient facts to allow Buckeye to provide meaningful comment. For instance, who and how will it be decided where to re-seed? (Sec, bullet 9 of this section) In order to comply with CEQ regulations, mitigation analysis must include: (a) Avoiding the impact altogether by not taking a certain action or parts of an action, (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment, (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, (e) Compensating for the impact by replacing or providing substitute resources or environments. 40 CFR § 1508.20.

LA2-147 Sec. 4.4.2, paragraphs 7 and 8 of the Draft EIS state:
The removal of desert vegetation would have a long-term impact. The arid environment characteristic of these habitats is not conducive to plant growth and would slow the regeneration of vegetation following construction. Natural regeneration of these areas would take several years and in some cases could take over 50 years. Additionally, Transwestern's UECRM Plan allows for maintenance activities, including annual vegetation clearing over a 10-foot-wide area centered over the pipeline and vegetation clearing over its 50-foot-wide permanent easement (in non-riparian areas) every 3 years, which would result in permanent impacts on non-herbaceous vegetation communities.
Construction of the pipeline facilities would result in long-term impacts on about 3,582.6 acres of native desert vegetation (i.e., desert shrub, scrub-shrub grassland, juniper woodland/grassland, chaparral, desert scrub, and desert grassland). Transwestern's plan to avoid areas of desert vegetation by overlapping its construction right-of-way onto previously disturbed rights-of-way and adjust the limits of clearing to avoid certain patches of undisturbed

Local Agencies

LA2-146 The locations where seeding is proposed are included in Transwestern's Restoration Plan that was developed in consultation with the BLM and the FS. See also the response to comment LA2-122. As discussed in section 4.4.2, Transwestern would avoid impacts by overlapping its right-of-way onto previously disturbed rights-of-way and would minimize impacts by implementing its UECRM Plan. Implementation of its Restoration Plan would rectify and reduce the impact over time and replace the affected vegetation resources.

LA2-147 The effects on animal species dependent on the native desert vegetation that would endure long-term impacts from clearing are discussed in sections 4.5.1 and 4.6.

LA2-147 (cont'd) sensitive vegetation (e.g., large specimen ironwood trees and saguaro cacti) would reduce the amount of native desert vegetation that would be cleared. Further, adjusting the clearing limits and leaving patches of existing vegetation extending into the construction right-of-way would help aid in revegetation of the right-of-way by providing a living seed source and some shade to immediately adjacent areas. Preserving the cleared vegetation and the top 3 inches of topsoil for later redistribution over the restored right-of-way would promote recovery of native areas by preserving the native seedbank, and any macro- and microbiota that may be present within the soil crusts or topsoils where present, as well as organic matter, which is extremely slow to develop in arid habitats.

Response:

Though they earlier acknowledged the need to account for affects on the flora and fauna of the natural environment, FERC provides no discussion of long term impact of desert vegetation clearing on species dependent on this vegetation.

LA2-148 Sec. 4.4.2, paragraph 10 of the Draft EIS –

Response:

FERC is requiring Transwestern to file a revised UECRM Plan during the Draft EIS comment period. Buckeye is given no opportunity to review and comment on the revised plan before submitting its comments to the Draft EIS.

LA2-149 Sec. 4.4.2, paragraph 12 of the Draft EIS –

Response:

FERC is requiring Transwestern to consult with FS regarding additional clearing on FS land and report that discussion during the Draft EIS comment period. Buckeye is given no opportunity to review and comment on those determinations before submitting its comments to the draft EIS.

LA2-150 Sec. 4.4.2, pages 4-69 through 4-71 of the Draft EIS –

Response:

FERC identifies many acres and various species of vegetation that will, in some cases, be impacted permanently by the installation of permanent above ground facilities, roads, and construction yards. FERC, however, provides no details describing, for instance, how it determined the number of acres affect either temporarily or permanently. FERC also does not provide an analysis on what the affect will be on wildlife dependent on vegetation for sustenance and habitat. Without this critical analysis, Buckeye cannot provide meaningful comment.

LA2-151 Sec. 4.4.2, page 4-71 of the Draft EIS –

Response:

FERC is requiring Transwestern to revise and file during the comment period to the Draft EIS its WWC Procedures to incorporate its proposed vegetation maintenance

Local Agencies

LA2-148 See the response to comment PM3-2.

LA2-149 Sections 4.4.2, 4.5.1.2, and 4.6.7 have been revised to remove the discussion regarding the FS' request for additional clearing of junipers on Forest System lands.

LA2-150 The information was provided by Transwestern in its application to the FERC and was analyzed by the FERC staff to verify its accuracy. To determine acres of impacts, vegetation types in the project area were mapped using existing geographic information system data layers where available and field surveys. A footprint of the proposed project facilities was overlain onto the vegetation maps so that acres of vegetation could be calculated. See also the response to LA2-147.

LA2-151 See the response to comment PM3-2.

LA2-151 practice in riparian areas. Without an opportunity to review the revised WWCM, (cont'd) Buckeye has no opportunity to provide meaningful comment.

LA2-152 Sec. 4.4.2, page 4-72 of the Draft EIS –

Response:

FERC acknowledges that Transwestern’s Restoration Plan does not adequately address a number of concerns including, potential loss of willow trees, oversight of the removal and documentation of the removal of cottonwoods and willow trees, etc., and is, therefore, requiring Transwestern to work with BLM and the FS to revise the Restoration Plan. Without an opportunity to review the revised Restoration Plan, Buckeye has no opportunity to provide meaningful comment.

LA2-153 Sec. 4.4.4 of the Draft EIS states:

Transwestern shall develop a comprehensive Noxious Weed Management Plan that includes the specific species and locations of noxious weeds identified throughout the entire project area; a description of all control measures that would be implemented during and after construction, including the specific locations along the construction right-of-way where weed wash stations would be located; and a definition of the level of infestation that would require treatment. The Noxious Weed Management Plan shall also address all weed-related concerns expressed by the land management agencies.

Response:

Without an opportunity to review the Noxious Weed Management Plan, Buckeye has no opportunity to provide meaningful comment.

LA2-154 Sec. 4.4.5 of the Draft EIS, No Action Alternative –

Response:

Until the Draft EIS meets all NEPA requirements, FERC’s only option is to grant the “no action alternative.”

LA2-155 Sec. 4.5.1.1 of the Draft EIS states:

New Mexico and Arizona have a rich biological diversity of wildlife and wildlife habitats. Specifically, New Mexico ranks fourth and Arizona ranks third in the United States in overall species diversity with over 4,500 native species occurring within each state (Stein, 2002).

Response:

FERC acknowledges the uniqueness of Arizona’s and New Mexico’s wildlife. FERC also recognizes that the proposed pipeline will impact the vegetation communities necessary to provide nesting, cover, and foraging habitat for the wildlife; and that the impacts will vary depending on the requirements of each species. (See, section 4.5.1.2) The Draft EIS is, however, without sufficient factual analysis required by NEPA to allow Buckeye to provide meaningful comment on the anticipated impacts. The EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved

Local Agencies

LA2-152 See the response to comment PM3-2.

LA2-153 See the response to comment PM3-2.

LA2-154 See the response to comment LA2-119.

LA2-155 See the response to comment PM3-2.

LA2-155 (cont'd)	including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.
LA2-156	<p>Sec. 4.5.1.3 of the Draft EIS states: <i>The AGFD recommended that Transwestern conduct surveys to determine when bird species may be utilizing the project area and develop a plan to avoid disturbance during the breeding season. Transwestern is currently working with the FWS to develop appropriate procedures for minimizing impacts on migratory birds but has not yet provided the results of this consultation. Therefore, the FERC staff recommends that:</i></p> <p><i>Transwestern shall continue to consult with the FWS and prepare a plan to protect migratory bird species during construction that includes specific details of the measures that would be implemented to protect nesting migratory birds. The plan and documentation of FWS concurrence with the plan shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS.</i></p> <p>Response: Without an opportunity to review the plan designed to protect migratory birds, Buckeye has no opportunity to provide meaningful comment.</p>
LA2-157	<p>Sec. 4.5.2.1 of the Draft EIS states: <i>In Arizona, the Verde River (MP 23.8) does not support a commercial or sport fishery in the vicinity of the proposed crossing.</i></p> <p>Response: How does FERC define “sport fishery” and what is the basis for its determination that the Verde River does not support “sport fishery?”</p>
LA2-158	<p>Sec. 4.5.2.2 of the Draft EIS states: <i>In Arizona, the Verde River would be crossed using the flume method, which would minimize potential impacts on aquatic resources. To protect fishery resources in the river, the Prescott National Forest has requested that construction be completed across the river before the end of January.</i></p> <p>Response: There is no indication in the Draft EIS as to whether Transwestern intends to comply or whether it can comply with Prescott National Forest’s request to complete construction as requested. The Draft EIS must contain an analysis of the impacts should Transwestern not be able to comply Prescott National Forest’s request. Without this analysis Buckeye is unable to provide meaningful comment.</p>
LA2-159	<p>Sec. 4.5.2.2, Streambank Erosion - <i>Clearing of vegetation at the other perennial waterbodies that would be crossed including the unnamed tributaries to the San Juan River and the Verde River could temporarily increase susceptibility of streambanks to erosion. However, adherence to Transwestern’s UECRM Plan and WWCM Procedures (see section 2.3 and Appendices F and G, respectively),</i></p>

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LA2-156 See the response to comment PM3-2.

LA2-157 For the purposes of this analysis, “sport fishery” was defined as those waterbodies supporting regular fishing activity at or near the crossing location. Based on visits to the proposed crossing location as well as consultation with the AGFD, the FERC staff determined that the Verde River does not meet the definition at or near the proposed crossing location.

LA2-158 Section 4.3.2.3 has been revised to state that Transwestern would attempt to complete construction across the river before the end of January as requested by the Prescott National Forest depending on the receipt of the necessary permits. Section 4.6.3.7, which was section 4.6.3.8 of the draft EIS, addresses the impacts of the project on the Verde River and includes the FERC’s determinations of effect for the spikedace and its designated critical habitat. Transwestern’s proposed construction schedule was addressed in section 4.6.3.7 but was not a factor considered in the determinations of effect; consequently, should the schedule change, the determinations of effect would remain the same. In a letter dated June 7, 2007 (see comment letter FA6), the FWS concurred with the FERC’s determinations of effect. See also the response to comment PM3-2.

LA2-159 See the response to comment PM3-2.

LA2-159 (cont'd) and its Restoration Plan would facilitate revegetation of the banks following construction such that no long-term impacts would be expected.

Response:
FERC is requiring Transwestern to revise both the UECRM Plan and the WWCM Procedures. These revisions are required to be filed sometime during the Draft EIS comment period. Buckeye cannot provide meaningful comment without having an opportunity to review these documents.

LA2-160 Sec. 4.5.2.2, Fuel and Chemical Spills –
Although some individual fish or invertebrates could be harmed by a spill of hazardous materials into a waterbody, these impacts would not change the numbers of a local population or cause a substantial deterioration of existing fish habitat.

Response:
On what factual analysis does FERC base its conclusion? Without an opportunity to review supporting factual data, Buckeye is unable to provide meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-161 Sec. 4.5.2.2, second paragraph, Hydrostatic Testing and Dust Control Water Withdrawals –
In accordance with its WWCM Procedures, Transwestern would obtain approval from the appropriate federal and state agencies to use the San Juan River as a water source because it supports three federally and/or state-listed endangered species, the Colorado pikeminnow, the razorback sucker, and the roundtail chub (see sections 4.6.3.6, 4.6.3.7, and 4.6.4.3, respectively).

Response:
FERC is requiring Transwestern to revise the WWCM Procedures. Reliances on the WWCM Procedures cannot be valid and Buckeye cannot comment on water withdrawals until it reviews the revised WWCM Procedures.

LA2-162 Sec. 4.5.2.2, third and fourth paragraphs, Hydrostatic Testing and Dust Control Water Withdrawals –
Water withdrawals from existing wells, canals, and the wastewater treatment facility would not affect current flow levels in waterbodies containing fishery resources, and fish and fish egg entrainment would be minimized during water withdrawals by screening. Approvals obtained from appropriate agencies for water withdrawals from the San Juan River are expected to include specific measures, as necessary, to avoid or minimize impacts on fishery resources in that waterbody.

Hydrostatic test water would not be discharged directly into waterbodies or wetlands. Dust control water would be sprayed directly on the ground surface. Therefore, changes in water quality would not be expected from hydrostatic testing or dust control activities.

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LA2-160 The WWCM Procedures includes, among other things, stipulations for minimizing work activities in waterbodies such that the potential for a chemical or fuel spill is very low. These measures include stipulations regarding setbacks for workspaces and reduced crossing widths in those areas. Additional stipulations are typically required by other state and federal agencies for those waterbodies including sensitive or recreational or commercially important fish populations. Because stipulations beyond the best management practices found in the WWCM Procedures were not required by other agencies for waterbodies along the proposed route, the FERC staff was able to determine that the likelihood of population-level adverse effects on fish within those waterbodies is low.

LA2-161 See the response to comment PM3-2.

LA2-162 See the response to comment PM3-2.

LA2-162
(cont'd)

Response:

How can FERC make a determination without a full disclosure of the measures to be taken to avoid impacts on fishery resources? And, on what factual basis does FERC make its determination that water quality will not be affected. Without an opportunity to review the anticipated measures to protect fishery resources or the location, duration and amount of discharge of withdrawal waters, Buckeye cannot provide meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-163

Sec. 4.5.2.2, Timing of Construction –

Response:

Without full disclosure of the conservation measures to be imposed by FWS, Buckeye is unable to provide meaningful comment.

LA2-164

Sec. 4.5.2.3 of the Draft EIS states:

Transwestern's HDD Plan only describes measures to contain and clean up frac-outs that occur on land and does not describe the corrective action and cleanup procedures that would be followed and the specific agencies that would be notified if a frac-out occurs in the water. Therefore, in section 4.3.2.3, we have recommended that Transwestern revise its HDD Plan to include this information. Minimizing the effects of a frac-out in accordance with Transwestern's revised HDD Plan would prevent direct impacts on fish present in the river and prevent the substantial deterioration of existing fish habitat.

As discussed in section 4.3.2.3, due to the presence of the federally listed Colorado pikeminnow and razorback sucker and the uncertainty over whether the San Juan River can be successfully crossed using the HDD method, the FERC staff is initiating formal consultation with the FWS regarding the impact of the project on these species should a wet open-cut crossing be necessary.

Response:

Until the revised HDD Plan and the results of FERC's discussions with FWS are fully disclosed to the public, Buckeye cannot provide meaningful comment.

LA2-165

Sec. 4.5.2.3, Access Roads –

Response:

No discussion of road locations is discussed in this section, therefore, Buckeye is unable to provide meaningful comment.

LA2-166

Sec. 4.5.3, No Action Alternative-

Response:

Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

Local Agencies

LA2-163 See the response to comment PM3-2.

LA2-164 See the response to comment PM3-2.

LA2-165 See the response to comment PM3-2.

LA2-166 See the response to comment LA2-119.

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LA2-167 Sec. 4.6.1 of the Draft EIS states:
In compliance with section 7 of the ESA, the FERC is submitting a BA to the FWS under separate cover.

Response:
Without having an opportunity to review the BA or FWS's Biological Opinion, Buckeye is unable to provide meaningful comment.

LA2-168 Sec. 4.6.1 of the Draft EIS states:
A total of 102 special status species were initially identified as potentially occurring within the proposed project area (see table 4.6.1-1). Following focused habitat evaluations and species-specific surveys in 2006, 56 of the 102 species were eliminated from consideration due to lack of habitat or absence during field surveys (see table 4.6.1-1).

Response:
Buckeye cannot comment on the conclusions reached by FERC without first reviewing the habitat evaluations and species-specific surveys. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-169 Sec. 4.6.2, General Impact and Mitigation –

Response:
FERC provides no mitigation discussion, therefore, Buckeye cannot provide meaningful comment.

LA2-170 Sec. 4.6.3 through 4.6.5 –

Response:
Each of these sections describes numerous threatened and endangered species that will be impacted by the construction of the proposed pipeline. Species from the Bald Eagle to the Desert Tortoise will be impacted. Rather than provide the detailed analysis of the impact to these national treasures, sections 4.6.3 through 4.6.5 simply contain platitudes, such as: *Alterations to habitat potentially used by the species would be temporary, returning to preconstruction condition during the season following construction (See, section 4.6.3.3); However, none of the locations where these species are present provide the stature and density of vegetation required for suitable nesting or essential foraging habitat (See, section 4.6.3.4); . . . alternative wet open-cut crossing method would require handling of individual pikeminnows, if present in the area during construction, the proposed project may affect, and is likely to adversely affect the Colorado pikeminnow. Given the potential for adverse impacts on the species, the FERC staff is initiating formal consultation with the FWS with the submittal of the BA (See, section 4.6.3.6); Construction activities could destroy nests and kill young birds. However, construction would most likely occur outside of the nesting season, so*

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LA2-167 See the responses to comments PM3-2 and PM3-34.

LA2-168 See the response to comment PM3-2.

LA2-169 See the response to comment PM3-2.

LA2-170 See the response to comment PM3-2.

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LA2-170
(cont'd)

no direct impacts on nesting birds would occur. Additionally, the temporary loss of perches and foraging habitat would not be expected to result in population-level impacts on the species (See, section 4.6.5, page 4-107); Both agencies agreed that these stations should be surveyed for the species for 1 year (the year construction is expected at the calling station sites). Transwestern proposes to conduct these surveys throughout 2007. Transwestern would also survey for cactus ferruginous pygmy owls at Little Squaw Creek and in a dense wooded, unnamed wash near Mobil, Arizona. If the species is found, Transwestern would work with the appropriate state and federal agencies to develop conservation measures to minimize effects on the ferruginous pygmy owl. As such, the proposed project is unlikely to affect the species (See, section 4.6.5, page 4-108); The AGFD has requested that surveys for the lowland leopard frog be conducted according to the established protocol at any permanent/semi-permanent water crossing north of Lake Pleasant (approximate MP 105.0) between April and September. Transwestern has agreed to complete the requested surveys and would provide the survey report to the AGFD (See, section 4.6.5, page 4-111); The AGFD has requested that surveys for the Mexican garter snake be conducted according to the established protocol at the Verde River to assist the AGFD in continued tracking and monitoring efforts for this species. Transwestern has agreed to complete the requested surveys at the Verde River before construction and would provide the survey report to the AGFD (See, section 4.6.5, page 4-111); and the list goes on. NEPA requires FERC to provide the public with a factual analysis of the information FERC relies upon to reach a conclusion regarding the ultimate construction of this pipeline project, 40 CFR § 1502.16; 40 CFR § 1502.24; without that information, Buckeye cannot provide any meaningful comment.

Additionally, FERC is requiring Transwestern to conduct a survey for active raptor nests before initiating construction and a consultation with FWS if nests are located within 0.5 mile of the construction site (See, section 4.6.4.1). Buckeye has not had an opportunity to review the survey and, therefore, cannot provide meaningful comment.

LA2-171

Sec. 4.6.6 of the Draft EIS states:
To ensure that potential impacts on special status species would be avoided or mitigated, as well as to comply with the ESA, the FERC staff recommends that:

Transwestern shall not begin construction activities until:

- a. Transwestern completes any outstanding species-specific surveys and the FERC receives comments from the FWS regarding the preconstruction survey reports;*
- b. the FERC completes formal consultation with the FWS; and*
- c. Transwestern receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin.*

Response:
 Buckeye cannot provide meaningful comment on the outstanding surveys, the results of the FERC's consultation with FWS, or on OEP's basis for allowing construction or the implementation of conservation measures since none of that information has been provided to Buckeye for review.

LA2-171 See the response to comment PM3-2.

LA2-172	<p>Sec. 4.6.7 of the Draft EIS –</p> <p>Response: This section identifies seven management indicator species selected as gauges for forest health in the Kaibab and Prescott National Forests. FERC concludes that the pipeline project will have little impact on these species, and will, in some cases, benefit these species. Yet, aside making conclusory remarks, FERC provides no analysis of how the pipeline construction will impact these seven management indicator species. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts, alternatives and mitigation efforts with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24. Without the required analysis, Buckeye cannot provide meaningful comment.</p>
LA2-173	<p>Sec. 4.6.8, No Action Alternative –</p> <p>Response: Until the Draft EIS meets all NEPA requirements, FERC’s only option is to grant the “no action alternative.”</p>
LA2-174	<p>Sec. 4.7.1, sixth paragraph of the Draft EIS states: <i>The remaining land uses that would be affected consist of 1,372.1 acres (25 percent) of developed land, 348.1 acres (6 percent) of agricultural land, and 37.2 acres (1 percent) of residential land.</i></p> <p>Response: It is unclear if the 1,372.1 acres of identified developed land includes the Buckeye planned development.</p>
LA2-175	<p>Sec. 4.7.1, tenth paragraph of the Draft EIS states: <i>The effects of construction on rangeland are expected to be minor and short term. Preconstruction herbaceous and shrub communities are anticipated to reestablish within one or two growing seasons after construction. Transwestern would implement the measures described in its UECRM Plan and Restoration Plan before, during, and after construction to facilitate reclamation and revegetation of land disturbed by construction.</i></p> <p>Response: On what does FERC base its conclusion that rangeland impacts are expected to be minor and short term? FERC is relying on UECRM Plan and Restoration Plan as a basis for its conclusion, yet Transwestern is required by FERC to revise these documents. Buckeye has not been given an opportunity to review these documents and, therefore, cannot provide meaningful comment.</p>
LA2-176	<p>Sec. 4.7.1, eleventh paragraph of the Draft EIS states: <i>Transwestern would minimize the impacts of the open trench on wildlife by implementing the Trenching and Wildlife Guidelines (see Appendix K).</i></p>

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LA2-172	See the response to comment PM3-2.
LA2-173	See the response to comment LA2-119.
LA2-174	Developed land associated with the Phoenix Expansion Project is defined as consisting of power or utility stations, manufacturing or industrial plants, mines, commercial facilities, and roads. These are all existing features. Future, planned developments do not characterize the existing conditions of the pipeline route and, therefore, are not considered in the land use impacts.
LA2-175	See the response to comment PM3-2.
LA2-176	In its comment letter (see comment letter SA7), the NMDGF concurred with the trenching best practice guidelines, which were developed in part based on recommendations from the NMDGF. See also the response to comment PM3-2.

LA2-176 (cont'd) **Response:**
Appendix K is a one page general statement that provides no more detailed analysis than the body of the Draft EIS.

LA2-177 Sec. 4.7.1, page 4-123, fourth paragraph Agricultural Land –
Transwestern would bury the pipelines at a depth that would be sufficient to allow for current and anticipated agricultural activities. Additionally, Transwestern would minimize impacts on agricultural land by segregating and conserving topsoil in all actively cultivated and rotated cropland and improved pasture (see section 4.2.2).
Response:
FERC provides no analysis as to how deep the pipeline must be buried to accommodate future agricultural activities, nor how or to what extent Transwestern will minimize impacts by segregating and conserving topsoil. Without this analysis, Buckeye cannot provide meaningful comment.

LA2-178 Sec. 4.7.1, page 4-123, fifth paragraph Agricultural Land –
. . . and implementing the appropriate requirements of Transwestern's UECRM Plan during construction and restoration, . . .
Response:
FERC is requiring Transwestern to revise its UECRM Plan. Buckeye has had no opportunity to review the revised UECRM Plan and, therefore, cannot provide meaningful comment.

LA2-179 Sec. 4.7.1, pages 4-124 through 4-125 Developed Land –
Response:
FERC acknowledges that the construction of the pipeline will impact developed land by introducing dust, construction noise, traffic congestion, and the prohibition of the construction of new commercial and residential structures. Transwestern in the Draft EIS addresses mitigation measures generally, but fails to meet the requirements of 40 CFR § 1508.20. FERC, however, does not provide the required NEPA analysis that would allow Buckeye to provide meaningful comment.

LA2-180 Sec. 4.7.1, pages 4-125 through 4-129 Aboveground Facilities –
Response:
FERC acknowledges that the permanent conversion of land will be needed to accommodate aboveground facilities, yet the Draft EIS provides no analysis of the affect of that permanent conversion on the environment; for instance, there is no discussion of the affect on wildlife habitat. Nor is there a discussion of future impact to the environment necessitated by the need to maintain these permanent aboveground facilities. Without this information, Buckeye cannot provide meaningful comment.

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LA2-177 Details regarding topsoil segregation are provided in sections 4.2.2 and 4.4.2 and in Transwestern's UECRM Plan in Appendix F.

LA2-178 See the response to comment PM3-2.

LA2-179 See the response to comment PM3-2.

LA2-180 Section 4.5.1.2 addresses the impacts on wildlife and habitat as a result of permanent aboveground facilities. While it would be permanent, the impact of the aboveground facilities on vegetation communities (see section 4.4.2) would result in minimal impact on wildlife because only 19.7 acres of habitat would be permanently affected.

Transwestern has not announced any plans to develop the aboveground facilities beyond what is described in its application. Therefore, the impacts on the environment as a result of maintaining the permanent aboveground facilities would be the same as the operational impacts described in the EIS.

LA2-181 Sec. 4.7.1, pages 4-129 through 4-130 Pipe Storage and Contractor Yards and Borrow/Disposal Areas of the Draft EIS states:
These yards would temporarily affect about 310.2 acres of land, consisting of about 91.6 acres of developed land and 218.6 acres of rangeland (see table 2.2.3-1).

Response:

FERC does not provided the analysis on how and to what degree these 310.2 acres of land will be temporarily affected; Buckeye, therefore, cannot provide meaningful comment.

LA2-182 Sec. 4.7.1, page 4-130, Access Roads –

Response:

From the information provided, it is not possible to identify the location of planned roads or the location of existing roads that will require modification. Table E-2 of Appendix E gives meaningless information, for instance the Table gives a road identification number and an approximate milepost location, no map is provided. FERC provides no analysis of the impact to the environment by the construction of these roads, nor does it analyze the long-term effects resulting from road use and maintenance. Without this information, Buckeye cannot provide meaningful comment.

The referenced Forest Service Access Management Plan (See, Appendix O of the Draft EIS) is but a general protocol for road construction and maintenance. For instance, section 3.5 of Appendix O states, *When grading the roads for operations maintenance purposes every effort will be made to maintain the road prism.* NEPA required that the specific of such a plan should be spelled out so that any member of the public can read the information and make an informed decision. When documents like Appendix O lack the required detail, Buckeye cannot provide meaningful comment.

BLM has also expressed concerns about road construction and maintenance; as a result FERC is requiring Transwestern to produce an access management plan to address those concerns. Without an opportunity to review that management plan, Buckeye cannot provide meaningful comment.

The Kaibab National Forest expressed concern about the ability of roads to handle commercial fuel wood-hauling trucks. FERC response is simply that it [the road construction] *is anticipated to be adequate to accommodate commercial fuel wood loads.* (See, last paragraph of section 4.7.1 of the Draft EIS) FERC provides no analysis on the number of commercial fuel wood-hauling trucks or frequency of these trucks cross the road of concern. There is also no discussion about the effects of weather conditions on roads used for commercial fuel wood-hauling. Without this type of analysis, Buckeye cannot provide meaningful comment.

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LA2-181 Construction of the Phoenix Expansion Project would require pipe storage and contractor yards to store pipe and materials needed for construction, and borrow/disposal areas to borrow rock from and/or dispose of surplus rock that cannot be reused during pipeline installation or restoration of the construction work areas.

Three of the eight proposed pipe storage and contractor yards have been previously disturbed for industrial/commercial activities, two of which are paved. At the remaining yards, temporary impacts would occur within the entire pipe storage and contractor yard area described in the EIS. In general, temporary impacts would include minor grading activities and surfacing, which involve removing large obstacles such as trees, rocks, and logs, and creating a level work surface.

All of the borrow/disposal areas have been previously disturbed for industrial/commercial activities. Transwestern would limit all rock disposal to previously disturbed areas within each rock disposal site. The rocks would be spread out within the site so they do not extend higher than the disposal area rim and covered with soil from within the previously disturbed area of the site.

LA2-182 See the response to comment PM3-2.

- LA2-183 Sec. 4.7.2, pages 4-130 through 4-131, Land Ownership and Easement Requirements –
- Response:**
 FERC indicates that a large portion of the pipeline will cross private land, 112.6 miles, which is close to half the length of the entire pipeline. FERC also indicates that Transwestern will have to negotiate easements or condemn property to secure its necessary easements. There is no discussion explaining the negotiation process, how fair market value is determined, the length of time needed to negotiate all the easements, what the condemnation process entails, the length of that process, what happens to the project if it is tied up in condemnation litigation, or what effect the cost of litigation and/or condemnation payments may affect the cost of the project or the reasonableness of the alternatives it is required to consider. Without this information, Buckeye cannot provide meaningful comment.
- LA2-184 Sec. 4.7.3.1 of the Draft EIS states:
However, since the establishment of these existing rights-of-way, residential development has occurred adjacent to, and in some cases within, the existing rights-of-way. Based on civil surveys conducted in 2006 and 2007, Transwestern has identified 52 existing residences that would be located within 50 feet of the proposed construction work area (i.e., construction right-of-way and temporary extra workspaces) (see table 4.7.31). Of the 52 residences, 3 are located along the San Juan Lateral Loop A and 49 are located along the Phoenix Lateral. An additional 48 structures (e.g., buildings, sheds) are located within 50 feet of the proposed construction work area along the San Juan Lateral Loops A and B and the Phoenix Lateral. No residences or structures would be located within 50 feet of the construction work area along the customer laterals. Due to the rapid rate of development in some areas along the proposed route, Transwestern has committed to providing the FERC with quarterly updates of residences and structures within 50 feet of the construction work area.
- Response:**
 Encouraging Transwestern to use existing rights-of-way that will cross some homes and come within feet of others without considering viable route alternatives simply violates the mandate of NEPA. Consideration of alternatives is the heart of the EIS. 40 CFR § 1502.14. To satisfy the requirement that alternatives be considered, FERC must present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. FERC provides no details in the Draft EIS regarding expected environmental impacts such as increase in traffic, noise, and dust; nor does the Draft EIS discuss the direct human impact resulting from loss of property values. Without this detailed analysis, Buckeye cannot provide meaningful comment.
- LA2-185 Sec. 4.7.3.1, first paragraph, page 4-136 of the Draft EIS states:
Transwestern would also implement a Landowner Complaint Resolution Procedure to address problems that may arise during construction.

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- LA2-183 Section 4.8.5 describes the easement acquisition process and property values. The easement acquisition process is designed to provide fair compensation to the landowner for the right to use the property for pipeline construction and operation. Appraisal methods used to value land are based on objective characteristics of the property and any improvements. The impact a pipeline may have on the value of a tract of land depends on many factors, including the size of the tract, the values of adjacent properties, the presence of other utilities, the current value of the land, and the current land use. Subjective valuation is generally not considered in appraisals. This is not to say that the pipeline would not affect resale values. A potential purchaser of property may make a decision to purchase land based on his or her planned use, such as agricultural, future subdivision, or second home on the property in question. If the presence of a pipeline renders the planned use unfeasible, it is possible that a potential purchaser would decide not to purchase the property. However, each potential purchaser has different criteria and differing capabilities to purchase land.
- Factors such as the negotiation process, length of time to negotiate easements, specifics regarding the condemnation process, and costs associated with litigation and/or condemnation payments cannot be accurately predicted and would be speculative because this process varies depending on the level of federal or state involvement, different processes by state, the amount of backlog in the court system, etc. Section 4.7.2 has been revised to note that the condemnation process differs for each project and by state.
- LA2-184 The commentor is referred to section 3.0 of the EIS that describes the eight route alternatives and six route variations that were considered, as well as the No Action or Postponed Action Alternatives, energy and energy conservation alternatives, and system alternatives to the proposed project. See specifically the Buckeye Alternatives analysis discussed in section 3.4.2.5. As stated in the section, not all alternatives warrant the same degree of analysis to determine whether they are or are not preferable to the proposed project.
- Section 4.8.4 discusses traffic and transportation impacts; section 4.8.5 discusses property values; sections 4.7.1, 4.10.1.2, and 4.10.1.3 discuss impacts resulting from fugitive dust; and section 4.10.2 discusses noise impacts associated with the proposed project.
- LA2-185 Section 4.7.3.1 has been revised to include additional details regarding Transwestern's Landowner Complaint Resolution Procedure.

LA2-185 (cont'd) **Response:**
A copy of the Landowner Complaint Resolution Procedure has not been made available to the public, therefore, Buckeye cannot provide meaningful comment.

LA2-186 Sec. 4.7.3.1, second paragraph, page 4-136 of the Draft EIS states:
In addition to the measures identified above, Transwestern would follow site-specific residential and structural implementation plans to minimize disruption and to maintain access to the residences, businesses, and structures within 50 feet of the construction work area associated with the pipelines. To date, Transwestern has provided site-specific plans for some of the residences, businesses, and structures currently identified within 50 feet of the construction work area.
Response:
Buckeye has not been provided a copy of these plans and, therefore, cannot not comment on the adequacy of the plans.

LA2-187 Sec. 4.7.3.1, second paragraph, page 4-136 of the Draft EIS states:
Transwestern shall prepare an updated table listing all residences, businesses, and structures within 50 feet of the construction work area and site-specific residential and structural implementation plans for these residences, businesses, and structures. The site-specific residential and structural implementation plans shall show the area that would be disturbed during construction and the safety measures that would be implemented, such as construction fencing, access provisions, and use of steel plates. The plans shall also show landscaping that would be removed during construction activities within 50 feet of residences, businesses, and structures. The updated table and site-specific residential and structural implementation plans shall be filed with the Secretary for the review and written approval of the Director of OEP before construction.
Response:
Requiring the filing of the updated table at the time of construction gives no one an opportunity to review and provide comment on the adequacy of the proposal.

LA2-188 Sec. 4.7.3.1, third paragraph, page 4-136 of the Draft EIS states:
The pipeline and aboveground facilities associated with the project would be designed, operated, and maintained in accordance with DOT standards (see section 4.11). In general, these standards ensure public safety by specifying pipeline materials, corrosion protection, monitoring, and scheduled maintenance procedures. As discussed in section 4.11.1, the regulations become more stringent as the human population density in the vicinity of a pipeline increases. The pipeline safety data presented in section 4.11.2 indicate that, while the operation of the nation's 300,000-mile-long pipeline system is not risk free, the risk is relatively low when compared to other human activities. Therefore, by designing and operating the proposed project in accordance with the applicable standards, the project would not result in a significant increased public safety risk.

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LA2-186 See the response to comment PM3-2.

LA2-187 See the response to comment PM3-2.

LA2-188 FERC is aware of the level of development currently planned for the Town of Buckeye. Transwestern would be required to monitor development progress in proximity to the pipeline and implement measures to remain in compliance with DOT regulations as development occurs near the pipeline.

LA2-188
(cont'd)

Response:

FERC provides no risk analysis; it simply makes conclusions that because the pipeline will be constructed in accordance with DOT standards, risk will be low. FERC ignores the site-specific analysis that must be undertaken in light of numerous developments and thousands of homes, businesses, schools and other facilities to which the pipeline will be in close proximity and for which the pipeline will be exposed to nearly constant construction activity for at least the next decade. Further, given the population density that will surround the pipeline, normal risk analysis is inadequate. In order to appropriately evaluate the pipeline, one must distinguish a high consequence, low probability event from a low consequence, high-probability event. In other words one must evaluate the impact of an event given the characteristics of the surrounding environment, not merely the probability of that event. Here, if the pipeline is placed in close proximity to thousands of homes, the effect of an event will lead to extremely high consequences. FERC's conclusory statements provide no basis on which informed safety determinations can be made.

LA2-189

Sec. 4.7.3.2, second paragraph of the Draft EIS states:

In Arizona, the Phoenix Expansion Project would be located within 0.25 mile of 48 approved or proposed developments located in Yavapai County (2 developments), Maricopa County (15 developments), and Pinal County (31 developments). Of these, the proposed project would either cross or about 7 developments that are under construction, 13 approved developments, and 16 proposed developments.

Response:

After reviewing the last two paragraphs of this section, it raises doubt as to whether the information contained in paragraph two is accurate regarding the number of approved and proposed developments that will be affected by the pipeline. In the 27.8 miles of the pipeline proposed to be sited through the Buckeye alone, thirty approved master-planned communities will be affected.

LA2-190

Sec. 4.7.3.2, third paragraph of the Draft EIS states:

Depending on the number and location of affected lots, the developer could choose to redesign the affected portion of the development. Depending on the stage of the development, this redesign could require additional review and approval by local permitting officials, which could delay the development. Alternatively, the developer could sell the affected lots to the pipeline company or negotiate agreeable easement terms on the affected lots.

Response:

A third option not discussed in this paragraph is that an alternative route for the pipeline could be selected to minimize the impact on approved and planned development. In fact, Buckeye has proposed an alternative route that will avoid approved developments. FERC, in violation of the clear NEPA mandates to evaluate all alternatives (consideration of alternatives is the heart of the EIS. 40 CFR § 1502.14), choose not to analyze alternative routes.

Local Agencies

LA2-189

The number of approved or proposed developments within 0.25 mile of the proposed route in the Buckeye area is based on information provided by Transwestern; information contained in other filings; information provided to the FERC staff by Buckeye stakeholders during the December 14, 2006 technical conference held in Buckeye; and on information independently obtained by the FERC staff.

LA2-190

Reasonable alternatives to the proposed project were analyzed in section 3.0 of the draft EIS.

- LA2-191 Sec. 4.7.3.2, fourth paragraph of the Draft EIS states:
Furthermore, in response to comments, the FERC staff evaluated route alternatives and route variations in an effort to avoid or reduce impacts on approved and proposed developments (see sections 3.4.2.5, 3.4.2.6, and 3.5.2.5) and has recommended that Transwestern develop variations that would avoid direct impact on four specific developments.
- Response:**
Buckeye cannot provide meaningful comment of the recommended variations as it has not been provided a copy.
- LA2-192 Sec. 4.7.3.2, sixth paragraph of the Draft EIS states:
... developments greater than 0.25 mile from the project are not included in table 4.7.3-2.
- Response:**
Why are developments greater than 0.25 miles from the project not included? If FERC believes the pipeline will not affect developments greater than 0.25 miles from the project, it must identify the reasons for those conclusions.
- LA2-193 Sec. 4.7.3.2, 7th paragraph of the Draft EIS states:
... we have recommended that Transwestern prepare and file site-specific residential and structural implementation plans for all residences, businesses, and structures within 50 feet of the project construction work area at the time of construction.
- Response:**
Buckeye cannot provide meaningful comment because copies of these plans have not been made available.
- LA2-194 Sec. 4.7.4.1, page 4-142 –
- Response:**
Recognizing that all off highway vehicles cannot be kept from using permanent right-of-ways along the pipeline, FERC should have included a risk analysis associated with such use. Without that analysis, Buckeye cannot provide meaningful comment.
- Reliance on the Forest Service Access Management Plan is not useful because it does not contain the details required under NEPA to allow Buckeye to provide meaningful comment.**
- LA2-195 Sec. 4.7.4.1, page 4-143 of the Draft EIS states:
Transwestern would develop and implement a post-construction schedule of maintenance for access roads on Forest System lands. The plan does not, however, include stipulations for restricting vehicle access during construction, which may be required by the FS.
- Response:**
This plan has not been provided to Buckeye, therefore, Buckeye cannot provide meaningful comment.

Local Agencies

- LA2-191 See the response to comment PM3-2.
- LA2-192 The EIS does not identify developments greater than 0.25 mile away because, in general, as the distance from the construction work area increases, the impacts (e.g., noise, dust) on residences decrease. At 0.25 mile, it is expected that these impacts would be minimal to nonexistent.
- LA2-193 See the response to comment PM3-2.
- LA2-194 See the response to comment PM3-2.
- LA2-195 See the response to comment PM3-2.

- LA2-196 Sec. 4.7.4.1, page 4-143 of the Draft EIS states:
Transwestern shall consult with the BLM and prepare an access management plan that conforms to agency standards. The BLM access management plan shall include maps that show how roads on BLM-managed lands would be improved and maintained during and after construction and the transportation crossings and any necessary deterrents to prevent increased OHV use. The plan shall also include a commitment to develop and implement a post-construction schedule of maintenance for access roads on BLM-managed lands. In addition, Transwestern shall update its Forest Service Access Management Plan to include maps similar to those to be included in the BLM access management plan and stipulations for restricting vehicle access during construction if determined necessary by the FS. The plans shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS.
- Response:**
Because this plan has not been developed, or at least not provided for public review, Buckeye cannot provide meaningful comment.
- LA2-197 Sec. 4.7.4.2, fourth paragraph of the Draft EIS states:
Following construction, however, maintenance of the permanent pipeline right-of-way would require periodic clearing adjacent to Little Hell Canyon Reservoir, resulting in a pipeline corridor that is visible to fishermen at this site.
- Response:**
FERC provides no analysis on the long term affects of the required maintenance to either the environment or the public that may want to enjoy recreation in Little Hell Canyon Reservoir. Without this analysis, Buckeye cannot provide meaningful comment.
- LA2-198 Sec. 4.7.4.3, Prescott National Forest –
- Response:**
Buckeye has not been privy to any discussions between Transwestern and the Forest Service to identify and avoid impacts on cultural resources at the Verde River crossing; Buckeye cannot, therefore, provide meaningful comment.
- Buckeye has not been provided with a copy of a site-specific crossing and restoration plan for the Verde River, and, therefore, cannot provide meaningful comment.**
- Buckeye has seen no analysis by FERC of Arizona Wilderness Coalition's Wild and Scenic River proposal for the Verde River, and, therefore, cannot provide meaningful comment.**
- LA2-199 Sec. 4.7.5, second paragraph, page 4-146 of the Draft EIS states:
Transwestern has stated that it would reroute uses of the existing trail around the active construction work area.

Local Agencies

LA2-196 See the response to comment PM3-2.

LA2-197 The land use at Little Hell Canyon Reservoir is defined as rangeland and Transwestern intends to install its pipeline adjacent to the existing EPNG right-of-way at this location. Transwestern has not announced any plans to develop its project facilities beyond what is described in its application. Therefore, once the pipeline is installed, the impacts would be limited to the operational right-of-way, which would be approximately 35 feet wide at this location, and be similar in appearance to the existing EPNG right-of-way.

As discussed in section 4.7.1, the effects of construction on rangeland are expected to be minor and short term because the herbaceous and shrub communities would be allowed to re-establish within one or two growing seasons after construction. Also, because the pipeline would be installed underground, visual impacts would be limited to the time required to re-establish the existing vegetation. Until the vegetation is re-established, the pipeline corridor would be obvious and visible to users of the area. Specific restoration measures that would be implemented at Little Hell Canyon Reservoir are discussed in section 4.7.7 and included in the Draft Visual Resource Technical Study Report (see Appendix T). Therefore, no long-term impacts are expected and, following construction, recreational use and enjoyment at the Little Hell Canyon Reservoir would be allowed to continue indefinitely.

LA2-198 See the response to comment PM3-2.

LA2-199 See the response to comment PM3-2.

LA2-199 (cont'd)	<p>Response: FERC provides no analysis of the environmental impact of the proposed rerouting of trails. Without this required analysis, Buckeye cannot provide meaningful comment.</p>
LA2-200	<p>Sec. 4.7.5, second paragraph, page 4-146 of the Draft EIS states: <i>No impacts on the trail or its users are expected during operation of the pipeline.</i></p> <p>Response: It would be reasonably anticipated that users of the trail would be impacted by dust, noise, congestion, and construction debris; on what basis does FERC claim there would be no impact?</p>
LA2-201	<p>Sec. 4.7.5, last paragraph, page 4-147 of the Draft EIS states: <i>The addition of the Phoenix Lateral right-of-way is not expected to significantly change the character of the environment along the trail or impact the recreational experience of future users of the trail. Further, construction and operation of the Phoenix Lateral is not expected to affect the trail's potential eligibility for inclusion into the National Recreation Trail System.</i></p> <p>Response: On what does FERC base its statement that the character of the environment along the trail will not significantly change?</p>
LA2-202	<p>Sec. 4.7.5, pages 4-147 through 4-148, Landfill Properties –</p> <p>Response: Buckeye is unable to provide comment on the affect of the pipeline route through the landfill owned by WMA, in part because FERC has required Transwestern to file detailed information regarding route variation and justification for the proposed alignment. That information has not been made available to Buckeye.</p> <p>FERC provides no analysis of the impact of the proposed route on the second identified landfill, therefore, Buckeye cannot provide meaningful comment.</p>
LA2-203	<p>Sec. 4.7.5, pages 4-148, Nurseries and Orchards –</p> <p>Response: FERC provides no details of those mitigation measures Transwestern intends to employ to minimize impacts on agricultural land. Without this analysis, Buckeye cannot provide meaningful comment.</p>
LA2-204	<p>Sec. 4.7.5, pages 4-148, Golf Course –</p> <p>Response: FERC provides no details of those mitigation measures Transwestern intends to employ to minimize impacts on golf courses. Without this analysis, Buckeye cannot provide meaningful comment.</p>

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LA2-200	Section 4.7.5 addresses the disruption to the Black Canyon Trail during construction, which would be addressed by Transwestern's proposal to reroute users of the existing trail around the active construction work area. The text noted by the commentor states that no impacts on the trails or its users are expected during <u>operation</u> of the pipeline. Since the pipeline would be installed belowground and the work area restored to preconstruction conditions after construction, it is reasonable to expect that no impacts on the trail or its users would occur during operation.
LA2-201	The land use at the Black Canyon Trail is defined as rangeland and Transwestern intends to install its pipeline adjacent to the existing EPNG right-of-way at this location. As discussed in section 4.7.1, the effects of construction on rangeland are expected to be minor and short term because the herbaceous and shrub communities would be allowed to re-establish within one or two growing seasons after construction. Therefore, because Transwestern would allow the operational right-of-way to re-establish to preconstruction conditions and it would be adjacent to an existing pipeline right-of-way, the proposed pipeline would not alter the existing character of the environment along the trail.
LA2-202	Section 3.5.2.4 has been revised to include additional information regarding the Waste Management Arizona Variation.
LA2-203	See the response to comment PM3-2.
LA2-204	See the response to comment PM3-2.

LA2-205	<p>Sec. 4.7.5, pages 4-148, Nature Reserve –</p> <p>Response: It appears that FERC is content with Transwestern’s refusal to address impacts to nature reserves in Casa Grande.</p>
LA2-206	<p>Sec. 4.7.6 of the Draft EIS:</p> <p>Response: What is the date that the database search was conducted? Will this research be updated?</p> <p>FERC states that “. . . contaminated soils would generally not pose a hazard to the integrity of the pipeline . . .”. Under what circumstances would contaminated soils be a risk to the integrity of the pipeline?</p>
LA2-207	<p>Sec. 4.7.6, page 4-149 of the Draft EIS states: <i>Transwestern has stated that it would comply with all applicable environmental laws and regulations in connection with the storage and disposal of regulated PCB-containing pipeline . . .</i></p> <p>Response: What are the applicable laws and regulations governing the storage and disposal of regulated PCB-containing pipeline? If FERC is not going to discuss those regulations, at least a reference list should be provided to allow the public to review the types of laws regulating Transwestern.</p>
LA2-208	<p>Sec. 4.7.6, page 4-150 of the Draft EIS states: <i>The removal of pipeline liquids at the Ash Fork Facility coupled with Transwestern’s commitment to comply with applicable PCB regulations would result in the appropriate control and management of potentially regulated PCB-containing pipeline liquids.</i></p> <p>Response: It is commendable that Transwestern is “committed” to complying with PCB regulations, but Transwestern is, in fact, legally obligated to do so.</p>
LA2-209	<p>Sec. 4.7.7 of the Draft EIS states: <i>The impact would be greater in forest land and desert shrub, which would take many years to regenerate mature trees and plants. The greatest potential visual impact would result from the removal of large specimen trees, which would take longer than other vegetation types to regenerate and would be prevented from re-establishing on the permanent right-of-way. The project would impact relatively few trees. Where not precluded by safety or other environmental concerns, Transwestern would evaluate locations along the right-of-way where the right-of-way could be shifted or narrowed to avoid removing larger trees such as the Utah juniper (greater than 15 feet in height) observed north of Crossover Canyon (MP 80.5) on Loop B. Transwestern</i></p>

Local Agencies

LA2-205	<p>Transwestern only recently obtained landowner approval to conduct surveys for threatened and endangered species, wetlands, and cultural resources along the North Santa Cruz Wash (The Wash) alignment, and would file the results of these surveys with the FERC for review and approval before the start of construction. Transwestern would be required to obtain approval from the FWS, the COE, and other appropriate agencies and implement mitigation if threatened or endangered species, wetlands, or cultural resources that could be impacted by the project are identified in The Wash. Transwestern would also implement standard construction techniques that would minimize environmental impacts on vegetation, soils, and other resources in the reserve. As stated in section 3.4.2.6, Transwestern has agreed to provide other compensation for project-related impacts on municipal facilities in The Wash.</p>
LA2-206	<p>The referenced regulatory database reviews were conducted during compilation of the draft EIS and were not updated for the final EIS.</p>
LA2-207	<p>Section 4.7.6 includes a reference to Title 40 CFR Part 761, which governs the handling, transportation, and disposal of waste from polychlorinated biphenyls (PCBs).</p>
LA2-208	<p>The Town of Buckeye’s comment pertaining to Transwestern’s obligation to comply with PCB regulations is noted.</p>
LA2-209	<p>As discussed in section 4.4.1, the Phoenix Lateral is the only project facility that would affect trees. Approximately 8 percent of the proposed route would cross chaparral and about 8 percent of the route would cross juniper woodland/grassland communities. The remaining 84 percent of the route would affect non-forested vegetative communities. Transwestern, the FERC, and the affected land management agencies have worked together to develop measures to minimize the visual impacts of the proposed project. These measures include installing the pipeline parallel to existing rights-of-way where possible where trees are already precluded from growing within the operational right-of-way. Also, Transwestern would shift or narrow the right-of-way to avoid removing larger trees, and would conduct grading activities in a manner that minimizes erosion and conforms to the natural terrain.</p>

LA2-209 (cont'd)	<p>would conduct grading activities in a manner that minimizes erosion and conforms to the natural terrain.</p> <p>Response: What specific action will Transwestern take to mitigate visual impacts? See 40 CFR § 1508.20. What basis does FERC rely on when it states that “relatively few trees” would be impacted? See 40 CFR § 1502.16; 40 CFR § 1502.24. NEPA requires a detailed analysis so that the public can be in an informed position to provide comment. Without that type of analysis, Buckeye cannot provide meaningful comment.</p> <p>What are the “other measures” Transwestern will rely on to mitigate visual impacts? (See, paragraph 6 of section 4.7.7)</p>
LA2-210	<p>Sec. 4.7.7, pages 4-152, 4-153, and 4-155-</p> <p>Response: Buckeye cannot comment on the required visual resource studies and mitigation measures because copies have not been publicly provided.</p>
LA2-211	<p>Sec. 4.7.7, page 4-155, Aboveground Facilities –</p> <p>Response: FERC acknowledges that construction of the aboveground facilities will impact visual resources, but its solution is to paint the facilities to blend in with the landscape. Were alternatives considered? Did FERC consider alternative locations, perhaps planting trees and other landscape to hide these facilities?</p>
LA2-212	<p>Sec. 4.7.7, page 4-155, Access Roads –</p> <p>Response: FERC provides no discussion on the exact location of the proposed roads, therefore, Buckeye cannot comment on the visual impact resulting from the construction of these roads. How many trees will be removed, what type of animal habitat will be affected?</p>
LA2-213	<p>Sec. 4.7.8, No Action Alternative –</p> <p>Response: Until the Draft EIS meets all NEPA requirements, FERC’s only option is to grant the “no action alternative.”</p>
LA2-214	<p>Sec. 4.8.1.1, fourth paragraph of the Draft EIS states: <i>It is estimated that up to 40 percent of the workforce for pipeline construction would be local hires and up to 60 percent of the workforce would be non-local hires. Therefore, the temporary non-local workforce would be approximately 1,332 workers, 408 for the New Mexico facilities and 924 for the Arizona facilities. Because the pipeline facilities would be spread over six counties in two states, any associated population increases would also likely be spread across the project area, which would reduce the impact in any particular community.</i></p>

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LA2-210 See the response to comment PM3-2.

LA2-211 Alternatives to the proposed aboveground facilities are discussed in section 3.7. All compressor station piping modifications would be located within Transwestern’s existing, developed compressor station sites. Therefore, no alternative sites were evaluated for the compressor station modifications. The locations of the proposed meter stations were primarily determined by customer delivery points; the meter stations would be located either adjacent to the permanent right-of-way for the Phoenix Lateral or adjacent to or within existing customer facilities. Other aboveground facilities including valves, pig launchers/receivers, and taps would generally be located within the permanent right-of-way of the Phoenix Lateral. The location of many of these aboveground facilities are determined, in large part, by customer delivery points and DOT safety regulations (such as for the placement of valves). Therefore, no environmentally preferable or practical alternatives were identified for the location of the proposed aboveground facilities.

Based on other pipeline facilities in the area, painting the aboveground facilities would reduce the visual impacts associated with each one. The land use at the majority of the aboveground facility sites is rangeland and agricultural land with little to no trees. Based on the relatively sparse vegetative landscape of these areas, planting trees would be contrary to the existing visual landscape.

LA2-212 Table E-2 in Appendix E provided by milepost the location, length, impact (acres), status (existing or new), and modifications required at each road. While the exact location of the road improvements is unknown at this time, Transwestern does not intend to remove any large trees to create new or modify existing roads; rangeland would be the primarily land use affected. Other impacts (e.g., on wildlife) resulting from access roads are discussed in the applicable sections of the EIS.

LA2-213 See the response to comment LA2-119.

LA2-214 The Town of Buckeye’s comments regarding the construction schedule and workforce are noted.

LA2-214 (cont'd)	<p>Response: Until a construction schedule is provided, Buckeye is unable to comment on workforce impact. No information is provided describing what percentage of the workforce will be in one location at any given time during the construction of the project.</p>
LA2-215	<p>Sec. 4.8.1.2, Employment and Economy –</p> <p>Response: FERC has made numerous assumptions regarding the number of workers required, the percentage of local hires, payroll costs, local purchases, etc. and their effect on the local economy, however, no supporting data is provided to allow Buckeye to make its own analysis and provide meaningful comment.</p>
LA2-216	<p>Sec. 4.8.2, Housing –</p> <p>Response: FERC's analysis is based on assumptions; without the underlying data for review, Buckeye cannot provide meaningful comment on the impact to local housing.</p>
LA2-217	<p>Sec. 4.8.3, Public Services –</p> <p>Response: FERC's analysis is based on assumptions; without the underlying data for review, Buckeye cannot provide meaningful comment on the impact to local schools, medical facilities, or police and fire services.</p> <p>Transwestern is required to provide an emergency plan that includes procedure to minimize the hazards in a natural gas pipeline emergency. A copy of this plan has not been given to Buckeye, therefore, Buckeye cannot provide meaningful comment.</p>
LA2-218	<p>Sec. 4.8.4, second paragraph of the Draft EIS states: <i>Paved roads and railroads would generally be crossed by boring beneath the crossing. Boring typically requires temporary extra workspace on both sides of the crossing for excavating bore pits to the depth of the pipeline. There would be little or no disruption of traffic at road or railroad crossings that are bored. Most smaller, unpaved roads and driveways would be open cut where permitted by local authorities or landowners. The open-cut method would require temporary closure of the road to traffic and the establishment of detours. If no reasonable detour is feasible, at least one lane of the road being crossed would be kept open to traffic, except for brief periods when it is essential to close the road to install the pipeline. Most open-cut crossings would be completed and the road resurfaced in 1 or 2 days.</i></p> <p>Response: FERC should describe which roads and railroads will be crossed so that the public and Buckeye can analyze specific impacts. What are the detour routes? What is the impact on traffic congestion, businesses, and neighborhoods, etc. for the detours? What is</p>

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LA2-215 The information presented in section 4.8.1.2 regarding the number of workers, the percentage of local hires, payroll costs, local purchases, etc. was provided by Transwestern and has not been assumed by the FERC. The discussion of impacts resulting from construction is based on previous pipeline experience. The FERC has analyzed thousands of similar pipeline projects.

LA2-216 The information presented in section 4.8.2 regarding housing was obtained from U.S. Census Bureau statistics and information provided by Transwestern and has not been assumed by the FERC. The discussion of impacts resulting from construction is based on previous pipeline experience. The FERC has analyzed thousands of similar pipeline projects.

LA2-217 The information presented in section 4.8.3 regarding public services was obtained from U.S. Census Bureau statistics and information provided by Transwestern and has not been assumed by the FERC. The discussion of impacts resulting from construction is based on previous pipeline experience. The FERC has analyzed thousands of similar pipeline projects.

The Town of Buckeye's comments regarding the emergency management plan are noted. The DOT requirements in Title 49 CFR Part 192 require Transwestern to establish a written plan governing the operation and maintenance of pipeline facilities. Also, under section 192.615, each pipeline operator must establish an emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency. This emergency management plan would be completed before placing the pipeline facilities in service.

LA2-218 Road and railroad crossings are listed in table E-1 of Appendix E. Transwestern is in the process of consulting with local authorities and landowners to determine if the open-cut method can be used with their approval.

If no reasonable detour is feasible, road closure signs would be posted sufficiently far from the construction site to allow traffic to select alternate means around the work site.

Impacts from an open-cut crossing would be short term because construction of the crossing and restoration of the road would be completed as quickly as possible, typically in 1 day. Given the relatively rural nature of the project, and the anticipated limited time to conduct these crossings, impacts resulting from detours and/or lane closures would be short term and would have an insignificant impact on local traffic.

LA2-218 (cont'd) | the impact to one lane closure? What is the impact to full road closure? What is the impact from open-cut crossing that take more than 1 or 2 days?

LA2-219 | Sec. 4.8.4, third paragraph of the Draft EIS states:
The movement of construction equipment, materials, and workers would result in a short-term impact on the transportation network. Impacts on local traffic levels are not expected to be significant because construction would move sequentially along the pipeline route and only one or two crews would need to be in a particular area at a particular time. Additionally, the relatively rural location of the project and the fact that the pipeline work day typically starts before and ends after the average work day would minimize traffic-related impacts.
Response:
FERC's conclusory statements do not provide the answers raised in the comment above.

LA2-220 | Sec. 4.8.4, fourth paragraph of the Draft EIS states:
On Forest System lands, Transwestern would implement its Forest Service Access Management Plan (see Appendix O).
Response:
The Forest Service Access Management Plan is inadequate and does not provide the details and analysis required by NEPA to allow Buckeye to provide meaningful comment.

LA2-221 | Sec. 4.8.5, Property Values –
Response:
Diminution of property values is a critical consideration for the landowners and developers in the Buckeye corridor, yet FERC devotes one page to the issue and simply concludes that “. . . neither the size of the pipeline (diameter) nor the product carried by a pipeline has a significant impact on sale price.” The sole support for FERC's conclusion is a 2001 INGAA study. It seems logical that the impact directly to a residence in the path of the pipeline is significantly greater than the impact to a piece of property out in the desert that has no planned development, but FERC provides no such analysis. Instead, FERC is proposing the each landowner make his/her best deal with the pipeline company and then live with the consequences including resulting property tax issues. What are the landowners' options? Work out a deal with the pipeline company or face legal expenses incurred in litigating a condemnation case! FERC's discussion lacks any factual support and fails to comply with NEPA by discussing appropriate alternatives.

LA2-222 | Sec. 4.8.6, Tax Revenues –
Response:
What is the underlying data considered by FERC to generate the tax revenue estimates? Without this information, Buckeye cannot provide meaningful comment.

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LA2-219 | The Town of Buckeye's comments regarding the construction schedule and workforce are noted.

LA2-220 | The draft Forest Service Access Management Plan has been reviewed by the FS. However, Transwestern has requested additional time to complete its access management plans. The BLM has committed to providing Transwestern with an example plan that will be used as a template for the access management plans, including a revised Forest Service Access Management Plan. Section 4.7.4.1 has been revised to include the FERC staff's recommendation that Transwestern prepare an access management plan for BLM-managed lands that conforms to agency standards and update its Forest Service Access Management Plan to include additional information (see also mitigation measure number 22 in section 5.3). Transwestern would file the plans with the Secretary for the review and written approval of the Director of OEP before construction.

The FS is ultimately responsible for approving actions on and the uses of lands under its jurisdiction.

LA2-221 | The Town of Buckeye's comments regarding property values are noted. See also the response to comment PM3-2.

LA2-222 | The information presented in section 4.8.1.6 regarding tax revenues was provided by Transwestern and has not been assumed by the FERC. The discussion of impacts resulting from construction is based on previous pipeline experience. The FERC has analyzed thousands of similar pipeline projects.

LA2-223 | Sec. 4.8.7, Environmental Justice –

Response:

Where and how did FERC address “*whether disproportionately high and adverse health or environmental effects on minority populations and low-income populations would result from authorization of the proposed project*” as required by Executive Order 12898? FERC’s entire response consists of four paragraphs that conclude, “*no disproportionately high and adverse human health or environmental effects on minority and/or low-income communities have been identified*. No reasonable analysis or useful comments can be provided when FERC fails to provide the type of details and analysis anticipated when NEPA is fully complied with. Among the information missing from the Draft EIS are:

1. There is no assessment of the potential for environmental harm to minority communities.
2. There is no determination whether populations having lower levels of education may encounter difficulties in the ability to understand technically complex documents or in the ability to sufficiently identify and interpret risk and other potentially adverse or beneficial impacts of the proposed project.
3. There is no assessment as to whether proposed influx of temporary construction activity and personnel could affect local services and infrastructure serving minority and low-income populations.
4. There is no assessment as to whether proposed construction may physically affect infrastructure serving low income and minority populations through utility relocation, service interruptions, or changes to levels of service.
5. There is no analysis of whether adverse temporary or permanent impacts caused by the proposed construction and operation of the Phoenix project will affect populations who depend upon subsistence living from hunting, gathering, farming, fishing or on the consumption of other natural resources.
6. There is no determination of whether populations who rely on natural resources for economic base (tourism, crops, use of natural resources to create saleable items, fisheries etc.) will be affected.
7. There is no analysis of the indirect effects of the proposed project that low income and minority populations will not be able to avoid including vehicle pollution, existence of polluted sites secondary to construction activity, degradation of local air quality due to construction, and other effects.

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LA2-223 See the response to comment PM3-30.

- LA2-224 | Sec. 4.8.8, No Action Alternative –
Response:
Until the Draft EIS meets all NEPA requirements, FERC’s only option is to grant the “no action alternative.”
- LA2-225 | Sec. 4.9.1 of the Draft EIS states:
Transwestern completed cultural resources investigations of most areas affected by its proposed project in 2003 and 2006.
Response:
What is FERC doing to ensure that those areas not investigated for cultural resources are protected?
- LA2-226 | Sec. 4.9.1, 2nd paragraph of the Draft EIS states:
This report was provided to the BLM and the BLM commented on the report on January 10, 2007. Transwestern has stated that it is preparing an addendum report documenting additional surveys on allotted land in New Mexico for submittal to the New Mexico SHPO and the Navajo Nation.
Response:
What are BLM’s comments? When will the addendum be made public? Without this information, Buckeye cannot provide meaningful comment.
- LA2-227 | Sec. 4.9.1, third paragraph of the Draft EIS states:
In general, Transwestern has indicated that the 26 sites that are recommended as eligible for listing or are unevaluated can possibly be avoided by construction activities. If avoidance is not feasible, testing and/or archival research should be conducted to determine the potential project impacts and the extent of subsurface deposits.
Response:
What are the construction criteria that Transwestern will use to avoid the sites that are eligible for listing or that have not been evaluated? What testing and/or archival research will be conducted to determine the potential impacts? When will this information be gathered and when will it be made available to the public for review? Without this information, Buckeye cannot provide meaningful comment.
- LA2-228 | Sec. 4.9.1, fourth paragraph of the Draft EIS states:
Transwestern has stated that cultural resources surveys at the San Juan River crossing have recently been completed and the results will be provided in its New Mexico addendum report. Transwestern has also stated that additional testing and completion of outstanding cultural resources surveys would begin in spring 2007.
Response:
Copies of the cultural resources surveys at the San Juan River crossing have not been provided to Buckeye, nor have the results of cultural resources surveys not previously

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- LA2-224 | See the response to comment LA2-119.
- LA2-225 | The FERC staff has recommended in section 4.9.4 that Transwestern defer implementation of any treatment plans/mitigation measures (including archaeological data recovery), construction of facilities, and use of all staging, storage, or temporary work areas and new or to-be-improved access roads until: Transwestern prepares and files with the Secretary, and submits to the consulting parties, as appropriate, any outstanding cultural resources reports and necessary treatment plans; files with the Secretary the comments of the consulting parties on all cultural resources reports and plans submitted for review; and the Director of OEP reviews and approves all cultural resources reports and plans, and notifies Transwestern in writing that treatment plans/mitigation measures may be implemented or construction may proceed (see also mitigation measure number 23 in section 5.3). This recommendation would be included as a condition of any approval that the FERC might provide for construction and operation of the proposed project.
- LA2-226 | Transwestern filed a revised version of its cultural resources survey report documenting new survey that was completed on BLM-managed land to incorporate comments received from the BLM (see revised section 4.9.1). The regulations in 16 USC 470h-2(k) require that cultural resources survey reports are not made available to the public because they contain specific information regarding the location, character, and ownership information about cultural resources.
- LA2-227 | The sites that would be avoided by construction activities are typically outside the construction right-of-way. Therefore, these cultural resources would not be affected by project activities. Testing and archival research refers to additional excavations at a site or literature research at local museums, historical societies, libraries, etc. See also the response to comment LA2-226.
- LA2-228 | See the response to comment LA2-226.

LA2-228 (cont'd) conducted. This information is required by CEQ regulations. 40 CFR § 1502.16. Without this information, Buckeye cannot provide meaningful comment.

LA2-229 Sec. 4.9.1, sixth paragraph of the Draft EIS states:
In September 2006, Transwestern submitted a revised Arizona cultural resources survey report that incorporated the Arizona SHPO's, the BLM's and the FS' comments to the same agencies that received the draft report. All of these agencies provided comments between October and December 2006. In April 2007, Transwestern submitted a second revised report to the Arizona SHPO, the BLM, the FS (Kaibab and Prescott National Forests), the Arizona State Land Office, and Native American tribes. Transwestern also prepared an addendum report documenting survey of extra workspaces entitled Addendum 1 to the Cultural Resource Survey for the Proposed Transwestern Pipeline Phoenix Expansion Project in Yavapai, Coconino, Maricopa, and Pinal Counties, Arizona (Howell and Minjares, 2007). Transwestern provided this report to the Arizona SHPO, the BLM, the FS (Kaibab and Prescott National Forests), the Arizona State Land Office, and Native American tribes. To date, no comments have been received on the addendum report.

Response:

It is unclear whether the Arizona State Land Office ever provided comments. Yet, it is obvious that Transwestern's survey report is inadequate because Transwestern was required by Arizona SHPO, the BLM and the FS to review the report on two occasions and also required Transwestern to provide an addendum. The second revision and addendum were not submitted to Arizona SHPO, the BLM or the FS until April of this year, 2007. Buckeye has not seen a copy of the report nor any of its revisions, and, therefore, cannot provide meaningful comment.

LA2-230 Sec. 4.9.1, seventh paragraph of the Draft EIS states:
Transwestern has indicated that 58 of the 60 sites that are recommended as eligible for listing or are unevaluated can possibly be avoided by construction activities. If avoidance is not feasible, testing and/or archival research should be conducted to determine the potential project impacts and the extent of subsurface deposits.

Response:

What are the construction criteria that Transwestern will use to avoid the sites that are eligible for listing or that have not been evaluated? What testing and/or archival research will be conducted to determine the potential impacts? When will this information be gathered and when will it be made available to the public for review? Without this information, Buckeye cannot provide meaningful comment.

LA2-231 Sec. 4.9.1, seventh paragraph of the Draft EIS states:
At the request of the Prescott National Forest heritage personnel, Transwestern has recommended additional archival research at one site (a historic road) that is recommended not eligible for listing on the NRHP. Additional archival research at one other site that is recommended not eligible for listing on the NRHP (a powerline) is recommended to better understand the site in relation to rural electrification of the area. The remaining site that is

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LA2-229 The preparation of several drafts of a cultural resources survey report for agency review is a standard procedure and does not indicate that a report was inadequate. Addendum reports are prepared to present the results of additional cultural resources surveys that were completed subsequent to the preparation of the initial survey report, not to address deficiencies in a previous report. Section 4.9.1 has been updated to reflect the current status of agency comments on Transwestern's cultural resources survey reports. See also the response to comment LA2-226.

LA2-230 See the response to comment LA2-227.

LA2-231 Transwestern began conducting additional cultural resources surveys and archival research in spring 2007 and the work is ongoing. Once Transwestern's additional cultural resources work is complete, it would provide reports documenting the results of these surveys to the FERC and applicable agencies (e.g., Arizona or New Mexico State Historic Preservation Offices, BLM, FS, Navajo Nation) for review. As discussed in section 4.9.4, Transwestern would complete a treatment plan to minimize effects on historic properties that would be reviewed by the consulting parties to the PA. In addition, as discussed in the response to comment LA2-225, Transwestern would be required to complete its cultural resources surveys before construction. See also the response to comment LA2-226.

LA2-231 (cont'd) recommended not eligible for listing on the NRHP includes a possible pet burial. Transwestern recommends monitoring at this site during ground disturbing activities.

Response:

When will the additional archival research be conducted and the results made available to the public? What is Transwestern's construction plan in the event it encounters pet burial sites? Without this analysis, Buckeye cannot provide meaningful comment.

LA2-232 Sec. 4.9.1, page 4-170, Access Roads, Pipe Storage and Contractor Yards, and Borrow/Disposal Areas –

Response:

Buckeye incorporates its responses to Sec. 4.9.1, paragraphs 2, 3, 4, 6, and 7. Additionally, how will Transwestern avoid sites that are recommended as eligible for listing on the NRHP or for those site that remain unevaluated? When will FERC make this information available to the public for review and comment?

If avoidance of these sites is not feasible, when will FERC make available the results of testing and/or archival research need to determine the potential project impacts? Without this information, Buckeye cannot provide meaningful comment.

Has the cultural resources survey for the pipe storage yard near MP 16.5 been completed? When will the results be made available to the public? Without this information, Buckeye cannot provide meaningful comment.

LA2-233 Sec. 4.9.2 of the Draft EIS states:

Transwestern provided its Unanticipated Discovery Plan to be used in the event that cultural resources or human remains are discovered during construction . . . In the event that the discovery is determined to be of NRHP significance, a treatment plan (such as avoidance, monitoring, and/or scientific data recovery) would be developed and implemented in consultation with the appropriate parties. In addition, a treatment plan would be created for the unanticipated discovery of Native American human remains and funerary objects.

Response:

Buckeye has not been provided with a copy of the *Unanticipated Discovery Plan* and, therefore, cannot provide meaningful comment on the adequacy of the plan. Likewise, because the treatment plans for the discovery of human remains, cultural resources, or funerary objects have not been developed as required by 40 CFR § 1502.16, Buckeye cannot provide meaningful comment.

LA2-234 Sec. 4.9.3, Native American Consultation –

Response:

FERC points out that numerous tribes have expressed concern about the project, but the details of those concerns are not set forth in the Draft EIS as required by 40 CFR §

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LA2-232 See the responses to comments LA2-226, LA2-227, and LA2-231.

LA2-233 Transwestern's Unanticipated Discovery Plans are included as an attachment of the PA, which has been reviewed by the appropriate consulting parties with jurisdictional responsibilities regarding cultural resources.

LA2-234 Title 40 CFR Part 1503.1 specifically refers to inviting comments after preparation of a draft EIS. Details of Native American concerns regarding the proposed project are included in table P-1 in Appendix P. The Agency Staffs believe that Transwestern's continued cooperation with these tribes, in addition to our recommendations and continuing consultations, would address tribal issues associated with the proposed project.

LA2-234 (cont'd) 1503.1. More importantly, FERC does not state how Transwestern is addressing tribal concerns. Without this information, Buckeye cannot provide meaningful comment.

LA2-235 Sec. 4.9.3.1, Ethnographic Studies and Traditional Cultural Properties –
Response:
Transwestern has allegedly prepared ethnographic reviews and reports, however, Buckeye has not been provided a copy of the report. Without this information, Buckeye cannot provide meaningful comment.

LA2-236 Sec. 4.9.4, General Impact and Mitigation of the Draft EIS states:
the FERC has determined that the project would have an effect on historic properties. Therefore, a PA has been prepared for the project and provided to the consulting parties (i.e., the Arizona SHPO, the New Mexico SHPO, the NNHPD, the BIA, the ASLD, Arizona State Museum, the FS, the BLM, Transwestern, Ak-Chin Indian Community Council, Fort McDowell Yavapai Indian Community, Gila River Indian Community, Hopi Tribe, Hualapai Tribe, Pueblo of Zuni, Salt River Pima-Maricopa Indian Community, and Yavapai-Prescott Indian Tribe) for their signatures in order that it be executed pursuant to Title 36 CFR Part 800.6(b)(iv). The PA provides for developing and implementing treatment plans to minimize effects on historic properties, and completing studies to identify and to evaluate these effects.

To ensure that the FERC's responsibilities under the NBPA and its implementing regulations are met, the FERC staff recommends that:

• *Transwestern shall defer implementation of any treatment plans/mitigation measures (including archaeological data recovery), construction of facilities, and use of all staging, storage, or temporary work areas and new or to-be-improved access roads until:*

a. Transwestern prepares and files with the Secretary, and submits to the consulting parties, as appropriate, any outstanding cultural resources reports and necessary treatment plans;

b. Transwestern files with the Secretary the comments of the consulting parties on all cultural resources reports and plans submitted for review; and

c. the Director of OEP reviews and approves all cultural resources reports and plans, and notifies Transwestern in writing that treatment plans/mitigation measures may be implemented or construction may proceed.

Response:
Has the PA been prepared and has Transwestern complied with FERC's recommendations to ensure FERC's responsibilities under NBPA are met?

LA2-237 Sec. 4.9.5, No Action Alternative –
Response:
Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

Local Agencies

LA2-235 See the response to comment LA2-226.

LA2-236 Sections 4.9.2 and 4.9.4 have been updated regarding the status of the PA. See also the response to comment LA2-225.

LA2-237 See the response to comment LA2-119.

LA2-238 Sec. 4.10.1, pages 4-176 through 4-187, Air Quality –

Response:

The complexity of the federal, state and local air quality regulations cannot be overstated. Yet, it appears that numerous legal assumptions form the basis for FERC’s position stated in this portion of the Draft EIS. Many regulatory issues face the state of Arizona and Maricopa County that have significant implications for the state. Aside from nonattainment and maintenance area issues, Maricopa County is under federal scrutiny for particulate pollution. Additionally, Arizona’s air quality division has undertaken many regulatory changes that may or may not affect the construction of this pipeline; it does not appear that Transwestern has consider the impact, if any, of those regulatory changes. Buckeye would recommend that FERC and Transwestern hold public facility meetings with the relevant regulatory agencies where Transwestern provides full and detailed disclosure of the type of equipment that will be used throughout this project, the types and quantities chemicals that will be used or generated during the life of this project, the proposed locations where equipment will be situated, etc. and allow the regulatory agencies to make permitting recommendations. Until full disclosure through the permitting process is made, one cannot begin to comprehend the type of impact this project will have on our air quality.

FERC at page 4-184 recommends that Transwestern revise its Dust Control Plan and submit the revised Plan before construction begins. The timing of the submittal of the revised Plan does not allow the public or Buckeye an opportunity to provide meaningful comment.

FERC at page 4-185 states that the lead federal agency must conduct a conformity analysis; has this been completed? When will a copy be made available to the public and Buckeye for review? Without this information, Buckeye cannot provide meaningful comment.

FERC at page 4-186 requests additional information from Transwestern needed to allow FERC to complete its analysis and submit its Final General Conformity Determination. Has Transwestern submitted all the requested information? When will that information be made available to the public? Without this information, Buckeye cannot provide meaningful comment.

LA2-239 Sec. 4.10.2 through 4.10.2.2, pages 4-187 through 4-188, Noise –

Response:

FERC states that the project would occur primarily in rural rangeland; this statement simply overlooks the fact that the pipeline is designed to cut straight through the town of Buckeye. FERC goes on to state that, “The majority of the pipeline and aboveground facilities would be located in areas with little to no human population and few NSAs.” FERC does not address the impact to those NSA particularly the Buckeye corridor. How can Buckeye comment on the impact to its community when FERC fails to address the noise issue in this Draft EIS?

Local Agencies

LA2-238 The regional setting and air quality impacts and mitigation are discussed in section 4.10.1. The project would be in conformance with all applicable federal, state, and local air quality regulations, including the federal General Conformity requirements. The FERC’s Final General Conformity Determination (see Appendix Q) was prepared in consultation with the MAG; the ADEQ; and the EPA, Region IX. See also the responses to comments PM3-2 and FA4-11.

LA2-239 Section 4.10.2 provides a general overview of the regional setting of the proposed Phoenix Expansion Project. Table 4.10.2-1 lists local noise ordinances that would apply to the project, as well as specific measures to which Transwestern has committed. Transwestern would be required to comply with these local noise ordinances. See also the response to comment SA1-2.

LA2-239 (cont'd) FERC states that, "Transwestern has committed to specific measures to ensure compliance with these ordinances." What are the measures that Transwestern is committed to following? Without this information, Buckeye cannot provide meaningful comment.

LA2-240 Sec. 4.10.2.3, pages 4-188 through 4-190, Noise Level Impacts and Mitigation –
Response:
FERC recommends that Transwestern provide an analysis of existing background noise levels for NSAs near HDD entry locations and to provide that analysis during the draft EIS comment period. Has that analysis been completed, when will the information be provided to the public? Without this information, Buckeye cannot provide meaningful comment.
Has Transwestern requested a noise variance? If so, what is the status of that request and in what location is the variance requested for?
What, if any, studies has Transwestern conducted to determine the impact of increased noise levels during the operation of pipeline? If conducted, when the results of the studies be released to the public?

LA2-241 Sec. 4.10.3, No Action Alternative –
Response:
Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

LA2-242 Sec. 4.11.1, page 4-193, Table 4.11.1-1 –
Response:
This table without an accompanying map is useless. No one can determine their properties class designation.

LA2-243 Sec. 4.11.1, page 4-195 –
Response:
Did Transwestern measure the resistivity of the existing soils and identify other existing metallic structures subject to corrosion? Did Transwestern design a cathodic protection system to minimize the effects on any structures identified? When will this information be released to the public for review and comment?
Did Transwestern conduct field studies and gather powerline operating and design data to model the amount of EMF to which the pipeline facilities could be subjected? If so, when will this information be released to the public for review and comment?
What is Transwestern's maintain plan for its pipeline markers?

Local Agencies

LA2-240 The FERC's request to Transwestern regarding HDD entry and exit locations refers specifically to the San Juan River crossing. These HDD activities would be located in San Juan County, New Mexico and would not create a noise impact on the Buckeye area. See also the response to comment SA1-2.

Transwestern has not filed information with the FERC to suggest that a variance from the noise ordinances listed in table 4.10.2-1 would be required.

Transwestern is not proposing to increase compression at existing compressor stations; therefore, noise levels at existing continuous noise sources would not change. Section 4.10.2.3 addresses temporary noise associated with blowdown events and the small amount of noise associated with the operation of the proposed meter and regulator facilities.

LA2-241 See the response to comment LA2-119.

LA2-242 Facility location maps with MPs indicated are provided in Appendix B.

LA2-243 The testing required to determine if Transwestern's proposed cathodic protection system would affect nearby metallic structures or if stray electrical currents would affect the pipeline would occur after pipeline construction is completed in the fall of 2008. These test results would not be available for public review. Pipeline markers would be checked during Transwestern's road crossing and pedestrian inspections.

- LA2-244 | Sec. 4.11.1, page 4-196 –
Response:
Did Transwestern prepare a written integrity management program as required by the Pipeline Safety and Improvement Act of 2002? When will that management plan be released to the public?
- LA2-245 | Sec. 4.11.1, page 4-197 –
Response:
Did Transwestern prepare the emergency plan as required by the Pipeline Safety and Improvement Act of 2002? When will that emergency plan be released to the public?

What are DOT's surveillance and leak detection requirements?
- LA2-246 | Sec. 4.11.2, page 4-198 of the Draft EIS states:
A pipeline break could result in soil and debris being thrown from the area of the break, destruction of nearby vegetation, and, in the case of ignition, explosion, or fire causing injury or property damage.
Response:
Isn't death a potential result of a pipeline break? Death is a risk that FERC should also be addressing. In fact, given that 27.8 miles of the proposed route passes directly through Buckeye and its prime development corridor and will be as close as 15 feet to thousands of homes, commercial developments, schools and other sensitive land uses, the risk of death is not insignificant.
- LA2-247 | Sec. 4.11.2, page 4-199 and 4-200 of the Draft EIS states:
During the 14.5-year period, 5,862 service incidents were reported over the more than 300,000 total miles of natural gas transmission and gathering systems nationwide. Service incidents, defined as failures that occur during pipeline operation, have remained fairly constant over this period with no clear upward or downward trend in annual totals. In addition, 2,013 test failures were reported. . . .

The dominant incident cause is outside forces, constituting 53.8 percent of all service incidents between 1970 and 1984 and 38.5 percent between 1986 and 2005. Outside forces incidents result from the encroachment of mechanical equipment such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geologic hazards; weather effects such as winds, storms, and thermal strains; and willful damage.
Response:
Buckeye has consistently sought FERC's attention on this very issue. FERC is fully aware that the proposed pipeline route is set to traverse 27.8 miles through the Town of Buckeye, including Buckeye's major planned development corridor. Over the next several years it is expected that intense residential and commercial construction will occur along the same route as the pipeline. In fact, there are numerous planned utility and other

Local Agencies

- LA2-244 | The PHMSA/OPS would require that Transwestern incorporate its proposed facilities into its existing integrity management plan within 1 year following the completion of construction. This plan would not be available for public review.
- LA2-245 | The PHMSA/OPS would require that Transwestern develop an emergency management plan following construction.
- LA2-246 | Section 4.11.3 includes a discussion of the potential for fatalities associated with natural gas transmission lines.
- LA2-247 | Consideration was given in section 3.4.2.5 of the draft EIS to existing and future utility and street crossings of the proposed Phoenix Lateral in Buckeye. Additional discussion regarding the number and location of future utility crossings has been added to this section in the final EIS. As discussed in section 3.4.2.5, Transwestern would participate in the construction of future crossings of the Phoenix Lateral by accurately locating the pipeline, discussing appropriate safety measures to be implemented by the utility installation contractors, and observing the construction activities to ensure compliance with required safety measures.

The statistic referenced by the commentor does not indicate that the potential for a service incident is great, but rather that human error in equipment operation was responsible for approximately 75 percent of the service incidents caused by outside forces.

LA2-247 (cont'd) crossings along the proposed pipeline route through Buckeye. The likelihood of an "incident" occurring is great by FERC's own stated percentages; ". . . human error in equipment usage was responsible for approximately 75 percent of the incidents." Given that Transwestern itself was skittish about constructing its own pipeline near another high-pressure natural gas pipeline ("Transwestern investigated further overlap of the EPNG right-of-way and determined that safety concerns associated with operating equipment close to an existing pressurized natural gas pipeline would be too significant.") its failure to consider the safety of the residents of Buckeye is fatal.

LA2-248 Sec. 4.11.2, pages 4-200 through 4-201 of the Draft EIS states:
We concluded in section 3.4.2.5 that the public along the proposed route in the Buckeye area would not face a significant increased safety risk and that neither of the Buckeye alternatives represent an environmentally preferable or economically viable alternative to the proposed route.

Response:

Very little analysis was provided by FERC in its discussion resulting in the rejection of the proposed route alternative. What clearly comes across, as the major factor for rejecting the alternative, is the alleged cost associated with the few extra miles required to bypass Buckeye. The risk to public health must not play second fiddle to cost savings for Transwestern. Buckeye again urges FERC to consider the proposed alternative route.

Brown and Caldwell have been retained by Buckeye to prepare a detailed risk analysis for the proposed project where it passes through the Town. Due to the lack of response time provided by FERC to respond to this EIS, FERC's denial of Buckeye's request for the withdrawal of the Draft EIS or additional time in which to respond to it, and the failure to properly include Buckeye in the public process at the beginning of the FERC's review of the proposed project, Buckeye was unable to hire its consultant in sufficient time for a complete risk analysis to be completed by the deadline for commenting on the Draft EIS. A review of the draft Brown and Caldwell report clearly indicates that while the probability of a catastrophic event is low, the results of such an event are so cataclysmic that there can be no justifiable reason for locating this project in an urban area such as the Town of Buckeye when a viable alternative is available, such as has been suggested for this project. While the proposed construction and monitoring may be within allowable parameters for a typical pipeline project, there is effectively nothing Transwestern can do to make this particular project safe in the proposed location through the Town of Buckeye. We will supplement the record with a final report from Brown and Caldwell upon receipt.

LA2-249 Sec. 4.11.3, pages 4-201 through 4-202 of the Draft EIS states:
Nevertheless, the average 2.6 public fatalities per year is relatively small considering the more than 300,000 miles of transmission and gathering lines in service nationwide. Furthermore, the fatality rate is approximately two orders of magnitude (100 times) lower than the fatalities from natural hazards such as lightning, tornados, floods, and earthquakes.

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LA2-248 See the responses to comments PM3-16 and LA2-8.

LA2-249 The comparison in section 4.11.3 of deaths associated with gas transmission lines with deaths associated with natural disasters was made because, as shown in table 4.11.3-2, natural disasters are the next most likely cause of death. Including fatality statistics from natural disasters also helps the public place the risk of death from human activities in perspective. The table also includes deaths associated with human controlled activities (e.g., suffocation, fires and burns, poisoning, drowning, falls, motor vehicles), which are much more likely than deaths associated with a natural disaster or with a gas transmission line.

LA2-249
(cont'd)

Response:

It is disingenuous to compare a manmade risk with natural hazards such as lightning, earthquakes, etc. for which man has absolutely no control over. Simply spending a few more dollars can eliminate the manmade public risk associated with the installation of the pipeline through Buckeye's major residential and commercial corridor. Once again FERC ignores the important difference between high probability, low impact events and low probability, high impact events. As described in the Brown and Caldwell draft report, given the proximity of residences and other sensitive land uses, an incident in Buckeye would be catastrophic.

LA2-250

Sec. 4.11.3, page 4-202 through 4-203 of the Draft EIS states:

Part 192 requires that each operator must establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials . . .

. . . inform the officials on how they may be able to assist Transwestern during an emergency; acquaint the officials with how Transwestern would respond to an emergency on its pipeline system; notify the officials of the types of pipeline emergencies for which they would be contacted; and inform them how Transwestern would cooperate in mutually assisting their departments in the protection of life or property during an emergency.

Response:

FERC provides no analysis of the financial impact to local fire, police, and emergency response teams resulting from the installation of the proposed pipeline. Buckeye expects that with the approval of the proposed route, Buckeye will have to increase its public safety budgets to accommodate pipeline security measures. This financial impact must be considered by FERC when balancing public need, safety, and economics against the alleged added cost of choosing an alternative route to by pass Buckeye.

What protocol will Transwestern devise to ensure that customers, the public, government officials and those engaged in excavation activities will make use of Transwestern's "continuing education programs"?

LA2-251

Sec. 4.11.4, page 4-203, of the Draft EIS states:

. . . have directed the pipeline operators to develop and implement security plans consistent with the security guidelines and practices developed by the INGAA following the September 11, 2001 terrorist attacks. Transwestern has done this for its existing facilities and has reviewed its plan, training, and implementation with both the PHMSA and Transportation Security Administration. Transwestern would utilize this plan for the Phoenix Expansion Project.

Local Agencies

LA2-250

Section 4.8.3 includes an analysis of the project's potential impact on public services and concludes the impact would be negligible. See also the response to comment PM3-23.

As discussed in section 4.11.3, Transwestern would conduct periodic fire fighting demonstrations in each district. In addition, periodic visits with municipal safety officials would occur to inform them of the nature and pressure of Transwestern's facilities and to coordinate emergency response in the event of an accident, informational meetings and training would be conducted at the request of municipalities, and literature would be periodically distributed listing emergency telephone numbers and other pertinent data. Police and fire departments and public officials would be given maps showing the project facilities within the boundaries of their towns. Transwestern would also maintain a liaison with gas distribution companies that have franchises in areas where the Phoenix Expansion Project would be located to afford the distributors ready contact in the event that they identify a potential or actual emergency on a Transwestern facility.

LA2-251

As a matter of public safety, Transwestern's security plans would not be available for public review.

LA2-251 (cont'd) **Response:**
When will FERC make available for public review Transwestern's security plans? Without an opportunity to review Transwestern's security plans, Buckeye cannot provide meaningful comment.

LA2-252 Sec. 4.11.4, page 4-204, of the Draft EIS states:
Moreover, the unpredictable possibility of such acts does not support a finding that this particular project should not be constructed.

Response:
The unpredictable threat of terrorism should not be the determining point of whether a pipeline should be constructed. However, the threat of terrorism should be a strong consideration when deciding the location of the pipeline. Obviously, locating a pipeline in a high density residential and commercial location is significantly more attractive to a terrorist than locating a pipeline out in the middle of the desert. This is another reason why Buckeye implores FERC to take a hard look at the proposed alternative route.

LA2-253 Sec. 4.11.5, No Action Alternative –

Response:
Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

LA2-254 Sec. 4.12.1, Cumulative Impacts to Geology and Soils –

Response:
Reliance on Transwestern's UECRM Plan to reduce cumulative impacts is unfounded at this point because FERC directed Transwestern to revise this inadequate plan. Until Transwestern presents the revised UECRM Plan, Buckeye cannot provide meaningful comment.

LA2-255 Sec. 4.12.2 of the Draft EIS states:
. . . Runoff from construction activities near waterbodies could also result in cumulative impacts, although this effect would be relatively minor . . .

. . . Additionally, the potential for erosion and sedimentation resulting from the disturbance of areas adjacent to waterbodies in the project area is low given the arid climate of the project area . . .

. . . Although there is the potential that cumulative impacts could result if the Phoenix Expansion Project were constructed in addition to other projects listed in table 4.12-1, the geographic extent and duration of disturbances caused by construction of the Phoenix Expansion Project would be minimal . . .

Local Agencies

LA2-252 See the response to comment PM3-19.

LA2-253 See the response to comment LA2-119.

LA2-254 Section 4.2.2 has been revised to acknowledge that Transwestern has revised it UECRM Plan. The revised UECRM Plan is located in Appendix F.

LA2-255 Potential cumulative impacts on wildlife habitat are discussed in section 4.12.3. Section 4.12.9 concludes that there would be cumulative impacts on wildlife habitat. The draft EIS was prepared in accordance with NEPA, CEQ guidelines, and other applicable requirements. See also the response to comment PM3-2.

LA2-255
(cont'd)

. . . Wetlands affected by the Phoenix Expansion Project would be restored following construction and would likely revegetate within 2 to 3 years.

Response:

FERC provides no analysis to support the conclusory statements that cumulative impacts are considered low or minimal. FERC also does not address the cumulative impact to wildlife species dependant on the disrupted vegetation for sustenance and habitat. The Draft EIS does not comply with the relevant statutes, regulations and case law. See e.g. 40 CFR § 1508.7. Buckeye is, therefore, unable to provide meaningful comment.

LA2-256

Sec. 4.12.3, first paragraph, page 4-209 of the Draft EIS states:
. . . Phoenix Expansion Project, if constructed along with the other projects listed in table 4.12-1, would result in cumulative impacts on vegetation and wildlife habitats. Transwestern's proposal to overlap its right-of-way onto existing previously disturbed rights-of-way and to adjust its clearing limits to avoid certain types of vegetation would minimize the areas of previously undisturbed vegetation that would be affected and thereby reduce potential additional cumulative impacts on vegetation communities and wildlife habitats. Implementation of Transwestern's UECRM Plan and Restoration Plan would promote revegetation of the right-of-way following construction. Additionally, the amount of vegetation/habitat affected would be small compared to that which is regionally available, and the majority of the right-of-way would be allowed to return to preconstruction conditions.

Response:

FERC continues to rely on Transwestern's UECRM Plan as support for its position that the pipeline will have little or no impact, yet, FERC is requiring Transwestern to revise the same plan. Without an opportunity to review the plan, Buckeye cannot provide meaningful comment. The last statement in the above quoted paragraph is interesting, is FERC suggesting that it is acceptable to destroy native vegetation, wildlife and wildlife habitat because the pipeline impact represents a small impact percentage to our state's resources?

LA2-257

Sec. 4.12.3, second paragraph, page 4-209 of the Draft EIS states:
. . . have the greatest potential to fragment wildlife habitat; however, this effect would be minimal . . .
. . . The potential for habitat fragmentation resulting from the proposed Phoenix Expansion Project would be reduced . . .

Response:

FERC does not provide any adequate analysis for the above stated conclusions. Without such analysis, Buckeye cannot provide meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts and alternatives with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

Local Agencies

LA2-256 See the response to comment LA2-254. As discussed in section 5.2, the Agency Staffs have concluded that overall the proposed project would result in limited adverse environmental impacts, the majority of which would be minimized and compensated for by Transwestern's mitigation plans and our additional mitigation measures. For these reasons, the irreversible and irretrievable resource commitments are considered acceptable.

LA2-257 See the response to comment PM3-2.

LA2-258 Sec. 4.12.3, third paragraph, page 4-209 of the Draft EIS states:
These agencies would require measures to mitigate impacts on aquatic resources associated with these other projects.

Response:

FERC does not provide any details regarding the measures Transwestern would be required to implement. Without an ability to review those measures, Buckeye cannot provide meaningful comment.

LA2-259 Sec. 4.12.3, fourth paragraph, page 4-209 of the Draft EIS states:
If the San Juan River is successfully crossed using the HDD method, impacts would not be expected to occur.

Response:

FERC has freely expressed its lack of faith in the viability of the HDD method through water crossings. With that in mind, FERC is obligated to analyze the anticipated cumulative impact resulting from wet cut crossings. Without such an analysis, Buckeye is unable to provide meaningful comment.

LA2-260 Sec. 4.12.3, fifth paragraph, page 4-210 of the Draft EIS states:

Response:

No one disputes that threatened and endangered species will be impacted, not even FERC. But that is as far as FERC goes in its discussion; it simply acknowledges that threatened and endangered species will be impacted. NEPA requires significantly more than a simple acknowledgement of the impact. Where is the hard look analysis? Without this analysis, Buckeye cannot provide meaningful comment.

LA2-261 Sec. 4.12.4, page 4-210, 2nd paragraph of the Draft EIS states:
However, because the Phoenix Expansion Project would be constructed primarily within or adjacent to existing rights-of-way and would not substantially affect the current land uses, most project-related impacts would be short term, often lasting only for the duration of construction through that area, after which the area would be restored to its preconstruction condition.

Response:

On what facts does FERC base its conclusion that current land uses would not be substantially affected? Without this analysis, Buckeye cannot provide meaningful comment. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts and alternatives with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

LA2-262 Sec. 4.12.4, page 4-211, third paragraph of the Draft EIS states:
Because Transwestern is coordinating with the BLM and FS to develop visual studies and site-specific visual mitigation measures for the respective areas, it is expected that visual impacts

Local Agencies

LA2-258 See the response to comment PM3-2.

LA2-259 Section 4.12.3 has been revised to consider the potential impacts associated with a wet open-cut crossing of the San Juan River.

LA2-260 A detailed analysis of potential impact on threatened and endangered species is included in section 4.6.

LA2-261 The conclusion that the proposed project would not substantially affect current land uses is based on the fact that the majority of the land uses impacted by the project would not change following pipeline construction.

LA2-262 Section 4.7.7 has been revised to include details of Transwestern's Draft Visual Resource Study Technical Report, which is included in Appendix T.

LA2-262 (cont'd) would be adequately mitigated and not result in cumulative impacts on visual resources (see section 4.7.7).

Response:
Without an opportunity to review the studies developed by Transwestern and the BLM and FS, Buckeye cannot provide meaningful comment.

LA2-263 Sec. 4.12.5, Socioeconomics –

Response:
On all areas of socioeconomic impact, FERC provides no analysis to support its conclusory statements. For instance, FERC gives no supporting data or analysis to base its conclusion that the project's demand for local workers may exceed supply or local communities will see an increase in tax revenues. The figures may look interesting, but until the underlying data supporting the conclusions is shared, meaningful comment cannot be provided by Buckeye. The Draft EIS is required, among other things, to contain scientific and analytic analysis of impacts and alternatives with reference to and explanation of the scientific methodologies involved including the sources relied upon for conclusions in the statement. 40 CFR § 1502.16; 40 CFR § 1502.24.

It is troubling that FERC does not recognize the long-term impact the pipeline will impose on local public services. Inserting a major natural gas pipeline directly through a planned residential and commercial development will force Buckeye to finance additional police, fire, and emergency response personnel. This is not a short-term impact. NEPA requires FERC to take a hard look at this impact.

With Buckeye's planned community development well underway, surely FERC recognizes the adverse cumulative affect on transportation and traffic resulting from the constructing a major pipeline along the same corridor, yet, FERC does not provide in the Draft EIS the required detailed analysis necessary for Buckeye to provide meaningful comment.

Nor does FERC provide any supporting detail for its conclusion that the project will have no disproportionately high or adverse human health or environmental effects on minority and/or low-income communities.

This Draft EIS must be withdrawn to allow FERC to fully analyze these issues and to supply the public with the information needed to make informed decisions.

LA2-264 Sec. 4.12.6, Cultural Resources –

Response:
What does FERC mean by, "the proposed project may incrementally add to the effects of the other projects. However, the incremental increase would not be significant"? From earlier discussions in this Draft EIS, it is clear that cultural resources will be impacted; such that numerous state, federal, and tribal governments expressed concern. Once again,

Local Agencies

LA2-263 The data used to support the conclusions regarding potential socioeconomic impacts (e.g., the demand for local workers may exceed supply and local communities may see an increase in tax revenue) are provided in sections 4.8.1.2 and 4.8.6. Potential impacts on public services and transportation and traffic are discussed in sections 4.8.3 and 4.8.4, respectively. See also the response to comment PM3-2.

LA2-264 A detailed analysis of the potential impacts the Phoenix Expansion Project may have on cultural resources and the mitigation measures that would be implemented to minimize those impacts are discussed in section 4.9.4.

LA2-264 (cont'd) however, FERC misses an opportunity to educate the public on the measures it considered when concluding that the impact would not be significant. NEPA requires FERC to provide that detailed analysis so that informed decisions and comments can be made.

LA2-265 Sec. 4.12.7, Air Quality and Noise –
Response:
 FERC is clearly understating, in fact, not addressing the cumulative impact on air quality from this project. It is undisputed that multiple projects will progress simultaneously, the pipeline, housing and commercial development, all of which will impact air quality. FERC, however, makes no attempt to truly analyze this impact. Air quality regulations are extremely complex and it is incumbent upon FERC to secure input from all levels of government, and to ensure that Transwestern is pursuing the appropriate permits needed to proceed with this project and protect our air quality. What permits, if any, has FERC made application for and what is the status of those applications?

LA2-266 Sec. 4.12.8, Reliability and Safety –
Response:
 How will Transwestern ensure compliance with DOT Minimum Federal Safety Standards? How will Transwestern ensure that its contractors comply with OSHA Safety and Health Regulations for Construction?

LA2-267 Sec. 4.12.10, No Action Alternative –
Response:
 Until the Draft EIS meets all NEPA requirements, FERC's only option is to grant the "no action alternative."

Sec. 5.0 Conclusions and Recommendations:

LA2-268 Sec. 5.1, page 5-1, Summary of the Agency Staffs' Environmental Analysis –
Response:
 Without conducting the type of analysis contemplated and expected under NEPA, FERC concludes that the pipeline project would result in, "limited adverse environmental impacts." It is inconceivable how FERC can, at this stage, reach such a conclusion when FERC itself is requesting that Transwestern supplement the Draft EIS with critical information that can impact the ultimate conclusions reached by the collaborative agencies overseeing this project.

FERC goes on to say, "The Agency Staffs have concluded that if the project is constructed and operated in accordance with applicable laws and regulations, Transwestern's proposed mitigation, and our additional mitigation measures, it would be an environmentally acceptable action." This statement too is premature considering all the information currently outstanding. Until Transwestern provides full disclosure of all environmental

Local Agencies

LA2-265 No stationary sources or regulated operational sources of air emissions are being proposed as part of the Phoenix Expansion Project; therefore, the air impacts associated with the project would be limited to construction-related emissions (e.g., on-road vehicle emissions, fugitive dust emission, etc.). In areas not designated as nonattainment for ambient air quality standards, these emissions could result in minor, temporary impacts on air quality in the vicinity of the pipeline construction.

In areas designated as nonattainment or maintenance for ambient air quality standards, federal actions are required to conform to the applicable SIP, if the total of the direct and indirect emissions from the action would create emissions exceeding de minimis thresholds. In the case of the Phoenix Expansion Project, NO_x emissions for 1 year of the project construction were estimated to exceed de minimis thresholds in the Phoenix Planning Area, which is classified as nonattainment for the federal 8-hour ozone standard. As such, a Draft General Conformity Determination was issued along with the draft EIS, and a Final General Conformity Determination has been included in the final EIS (see Appendix Q). The Draft General Conformity Determination and Final General Conformity Determination were prepared in consultation with the MAG; the ADEQ; and the EPA, Region IX. Section 4.10.1.4 has been revised to include a discussion of the Final General Conformity Determination, including details of the methods that were used to demonstrate that the project would be in conformance with the federal General Conformity requirements. The analysis demonstrates that the emissions from the Phoenix Expansion Project, when factored with the existing and projected future emissions in the area, would not result in a violation of ambient air quality standards.

Section 4.10.1.2 identifies fugitive dust control permits that would be applicable to the project. These permits would be obtained by Transwestern or Transwestern's contractor.

LA2-266 The PHMSA/OPS would conduct spot inspections during pipeline construction. After the pipeline is put into service, the PHMSA/OPS would conduct ongoing inspections, the frequency of which would depend on the risk ranking that would be conducted annually by each PHMSA Regional office.

LA2-267 See the response to comment LA2-119.

LA2-268 See the responses to comments PM3-2 and PM3-13.

LA2-268 (cont'd) impacts and impacts to human health and the economy as required in this Draft EIS and under NEPA, FERC cannot conclude that the proposed project is "environmentally acceptable."

LA2-269 Sec. 5.1.1, page 5-1 through Sec. 5.2, page 5-17 – Response: Sections 5.1.1 through 5.2 are FERC's attempt to summarize and justify its preordained conclusion that authorization for this pipeline project will be granted. As set forth in Comments to Sections 1, 2, 3, and 4, there is simply insufficient information for FERC to conclude at this time that the proposed pipeline and its route of choice is "environmentally acceptable." The Town of Buckeye strongly urges FERC to withdraw this Draft EIS and require Transwestern to prepare a complete and fully analyzed environmental impact statement as required by NEPA; a statement that gives full consideration to all viable alternatives and the impacts of those alternatives on human health and the environment; a statement that incorporates each recommendation and requirement presently requested by FERC in this Draft EIS, until this is done, FERC does not have the required NEPA basis to recommend this project.

LA2-270 Sec. 5.3, page 5-17, FERC Staff's Recommended Mitigation – Response: This section alone supports the need to withdraw this Draft EIS and requires Transwestern to conduct the study required by NEPA. Section 5.3 contains 34 paragraphs with numerous subparagraphs of recommended mitigation measures. The human and environmental impact of these mitigation measures should have been evaluated and reported in the Draft EIS. Without a NEPA analysis of all the mitigation measures, Buckeye and the public cannot provide meaningful input and comment. For instance, section 5.3, paragraph 4 states, ". . . before the start of construction, Transwestern shall file with the Secretary revised detailed survey alignment maps/sheets at a scale . . ." Is it possible that the alignment of the pipeline corridor will change once the surveys are completed? If so, how does that change affect human health or the environment? Obviously, this cannot be answered until those surveys are fully disclosed and their alignment is analyzed under NEPA. Another example is section 5.3, paragraph 6; Transwestern is required to file at least 60 days before start of construction its plan for the implementation of the mitigation measures. Why is that plan being withheld until start of construction? Before this Draft EIS is finalized, FERC should require Transwestern to disclose that plan and allow Buckeye and the public to comment on said plan. Section 5.3, paragraphs 10 through 15, 17, 19 through 23, 27 through 30, 33, and 34 all required Transwestern to do or provide additional information during the Draft EIS comment period. At the filing of these comments, that period has ended and neither Buckeye nor the public were given the opportunity to review this required information or to provide meaningful comment.

Local Agencies

LA2-269 See the responses to comments PM3-2, PM3-3, and PM3-12.

LA2-270 See the responses to comments PM3-2, PM3-3, and PM3-12.

LA2-270 (cont'd) The 34 mitigation paragraphs in section 5.3 alone are reason enough to withdraw this Draft EIS. Until full disclosure is made and all viable alternatives, including route alternatives, are analyzed according to NEPA, this Draft EIS is premature and must be withdrawn.

III. CONCLUSION

LA2-271 As set out above, FERC has completely and totally failed in its obligations to properly prepare an Environmental Impact Statement in compliance with NEPA, the regulations adopted pursuant thereto, and the case law decided thereunder. FERC has routinely violated the principles set out in *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170 (5th Cir.2000), where the court stated that an EIS must be prepared in sufficient detail to allow those who did not participate in its preparation to understand and consider the pertinent environmental influences involved.

An examination of the process to include the public in the preparation of this Draft EIS shows that the Buckeye was effectively kept out of the process for at least ten months longer than other effected parties, prejudicing its ability to investigate and comment on the proposal to build a high-pressure natural gas pipeline through the center of its development corridor. However, when Buckeye requested an additional 120 days within which to respond, that request was denied by FERC.

LA2-272 The Draft EIS is deficient due to FERC's failure to comply with the requirements of NEPA, which has further exacerbated the prejudice to Buckeye. Among the numerous deficiencies in the Draft EIS are:
 The failure to discuss meaningful alternatives, including the No Action Alternative. FERC assumed the need for the proposed project without investigation into the facts and consequences of the project and then devised a Draft EIS designed only to facilitate the objectives set out by

Local Agencies

LA2-271 See the responses to comments PM3-1, PM3-2, PM3-3, and PM3-12.

LA2-272 The draft EIS is not deficient and does not fail to comply with NEPA requirements. See the responses to comments PM3-2 and PM3-12 regarding the adequacy of the draft EIS and alternatives analysis, respectively.

The FERC did not fail to investigate the Buckeye Alternatives. The analysis in the draft EIS contains sufficient information to allow the Agency Staffs to conclude that neither the North nor South Buckeye Alternative represents an environmentally preferable or economically viable alternative to the proposed route through the Buckeye area.

FERC did not fail to investigate and analyze the potential risk to people that would be located in proximity to the project. See section 4.11 that discusses general pipeline safety and reliability and the responses to comments PM3-7, PM3-23, PM3-56, and LA2-83 for additional discussion of safety issues pertaining to the Buckeye area. The Buckeye Alternatives analysis was not based solely on cost as discussed in the response to comment PM3-28.

LA2-272
(cont'd)

Transwestern. Without a proper analysis of the need for the project, the objectives of the applicant are irrelevant.

- FERC failed to investigate suggested pipeline routing alternatives around Buckeye, acknowledging that, "*The BLM examined the North and South Buckeye Alternatives and concluded that the alternatives did not warrant detailed analysis...*" In reaching that determination, FERC and BLM admittedly examined only one of the five critical factors set out by FERC in the Draft EIS as the factors it is legally required to examine before determining whether an alternative is preferable to the proposal. Clearly, the "hard look" required by the courts did not take place.
- FERC failed to investigate and analyze the potential risk to people living and working in the area of the pipeline, focusing solely on costs in determining the appropriate route for the pipeline.

LA2-273

- FERC failed to examine the direct and indirect cumulative effects of the proposed project, ignoring pending projects by El Pas Natural Gas Company and others that could impact the environment and the feasibility of the proposed pipeline.

LA2-274

FERC further failed to adequately analyze the impacts on air quality in Maricopa County resulting from the construction and operation of the proposed project, the impacts of the proposed project on water demand and usage, impacts on endangered species, ability of Transwestern to satisfy the requirements of the Clean Water Act, impacts of the proposed project on historic and cultural resources, and other important considerations.

LA2-275

- FERC failed to require Transwestern to include factual information with sufficient detail to allow Buckeye and others to understand and evaluate the consequences of the proposed project by instructing Transwestern to provide additional information on at least 16 different and important components of the project during the Draft EIS comment period for analysis in the Final EIS. This is a clear violation of Mississippi River

Local Agencies

LA2-273 See the response to comment PM3-17.

LA2-274 The project would be in conformance with all applicable federal, state, and local air quality regulations, including the federal General Conformity requirements. The FERC's Final General Conformity Determination (see Appendix Q) was prepared in consultation with the MAG; the ADEQ; and the EPA, Region IX. See also the responses to comments PM3-2, PM3-12, PM3-34, PM5-5, FA4-11, and LA2-225.

LA2-275 See the responses to comments PM3-2 and PM3-13.

- LA2-275 (cont'd) Basin Alliance v. Westphal, supra, and rendered meaningful consultation with cooperating agencies impossible.
- LA2-276 FERC failed to make a serious effort to investigate and analyze the environmental justice consequences of the proposed pipeline as required by Executive Order 12898.
- LA2-277 FERC failed to adequately analyze the potential for terrorist attacks against the proposed pipeline, specifically ignoring its obligation to compare the pipeline at the proposed location versus the same information related to the alternative route proposed by the Town.
- LA2-278 FERC assumed the cost of the alternative route proposed by Buckeye would exceed the cost of the proposed route, without analyzing the differences in class of pipeline that would be required for the two routes, the costs of condemnation associated with each of the routes, and other relevant cost issues.
- LA2-279 FERC failed to investigate and analyze the impact of the project on the land use plans of the localities through which the proposed pipeline would be constructed.
- LA2-280 FERC failed to investigate and analyze the cost of the proposed project to the Buckeye.
- LA2-281 Because of the insufficient factual information developed by FERC during the Draft EIS process, FERC failed to provide adequate mitigation measures to protect Buckeye and its citizens.
- LA2-282 FERC's violation of NEPA in drafting the Draft EIS, and its disregard for Buckeye's interests in the location of the pipeline, evidence pre-determination by FERC to approve the proposed project, in violation of NEPA. FERC should withdraw the Draft EIS and not re-submit until it has complied with the requirements of NEPA.

Local Agencies

- LA2-276 See the response to comment PM3-20.
- LA2-277 See the response to comment PM3-19.
- LA2-278 See the response to comment PM3-15 regarding construction-related cost estimates and right-of-way acquisition costs.
- LA2-279 The Town of Buckeye's comments regarding land use plans are noted. See also the responses to comments PM3-15 and FA4-4.
- LA2-280 The comment is incomplete and therefore was not addressed.
- LA2-281 See the response to comment PM3-2.
- LA2-282 See the responses to comments PM3-1, PM3-2, and PM3-3.

Respectfully submitted this 18th day of June, 2007.

By: /s/ Richard B. Hood
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CERTIFICATE OF SERVICE

I hereby certify that, on this 18th day of June, 2007, I caused the foregoing document to be served, by electronic mail, upon each person designated on the official service list compiled by the Secretary of the Federal Energy Regulatory Commission in this proceeding.

Dated at Phoenix, Arizona this 18th day of June, 2007.

By: /s/ Richard B. Hood
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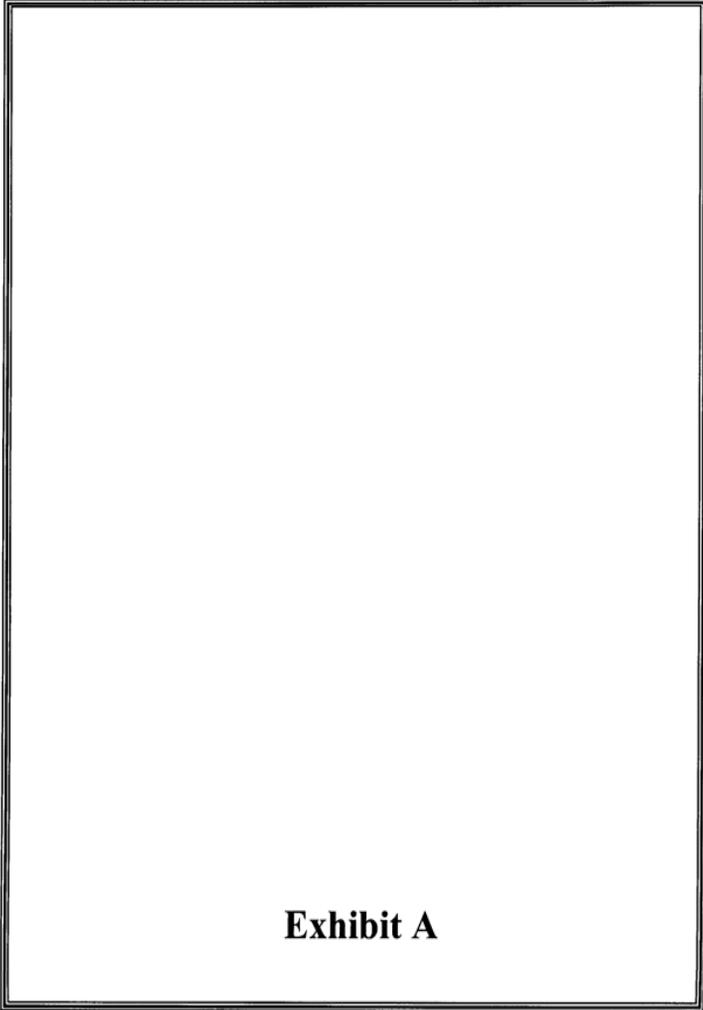


Exhibit A

Local Agencies

DRAFT
RISK INFORMED ASSESSMENT OF THE
PROPOSED PHOENIX EXPANSION
NATURAL GAS TRANSMISSION
PIPELINE PROJECT

Prepared for
Confidential Client
June 2007

This is a draft and is not intended to be a final representation
of the work done or recommendations made by Brown and Caldwell.
It should not be relied upon; consult the final report.

BROWN AND CALDWELL

1415 Louisiana, Ste 2500
Houston, Texas 77002

Local Agencies

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Local Agencies

RISK INFORMED ASSESSMENT
PROPOSED EXPANSION NATURAL GAS TRANSMISSION
PIPELINE PROJECT

EXECUTIVE SUMMARY

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RISK INFORMED ASSESSMENT
PROPOSED EXPANSION NATURAL GAS TRANSMISSION
PIPELINE PROJECT

1. PURPOSE AND OBJECTIVES

The purpose of this risk-informed assessment is to provide The Town of Buckeye, Arizona with pertinent information necessary to inform citizens how to evaluate the risks posed to a variety of land uses by a proposed natural gas transmission pipeline (NGTP). The need for this assessment arises from two directions. First, the routing of NGTP near urban and residential land uses is relatively new. Few local governments, nationally, are prepared technically to evaluate the risk such facilities pose to public safety and welfare and, as a result, zoning and set-back provisions in local ordinances are relatively limited.

The second need for the assessment arises from The Town of Buckeye's recognition that adequate land use guidance and risk assessment have not been provided by the project applicant (Transwestern Pipeline Company) nor by the Federal Energy Regulatory Commission, FERC, through the draft environmental impact statement prepared to meet National Environmental Policy Act requirements.

At the time of preparation of this risk-informed assessment, public hearings on the draft statement have been held. Of the citizens of The Town of Buckeye attending at least one hearing, one resident was "surprised" to learn that NGTP facilities do impose public safety and reliability risks. Other residents were concerned about the proximity of the pipeline route to their homes and schools. These responses from members of the public underscores the need to provide meaningful information concerning what can go wrong with such facilities; what the consequences can be if a pipeline incident was to occur, and how likely it is that such an incident can occur given current technology and regulation. Such information, grounded in science and within the rule of reason is essential for public stakeholders as pipeline routing decisions are made.

Research demonstrates that the concept of "risk" can be assessed from a variety of perspectives: probability (of occurrence), and deterministic approaches to risk assessment are among the most well known. Both of these approaches attempt to deal with the range of uncertainties that affect any judgment concerning whether specific decisions should or would be made stakeholders. More on the topic of "risk" will be discussed later in this assessment, yet it is crucial to understand that NGTP facilities are safe modes of transporting essential energy to our nation's cities and communities. However, the mere assertion that NGTPs are safe or even citing statistical evaluation of the safe record of gas transport is only one part of multiple considerations concerning risk. Those who assume risk or who have unknown risks imposed upon them want a more complete understanding of the factors that affect the overall risk of a technology, whether it be well known technologies such as automobile operation or lesser known technology such as nuclear power. Part of the purpose of this risk-informed assessment is to identify what can happen to NGTP facilities, evaluate the likelihood of these occurrences, identify risk mitigation options, and recommend mitigation options that minimize risk commensurate with practicability and economics.

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Local Agencies

RISK INFORMED ASSESSMENT PROPOSED EXPANSION NATURAL GAS TRANSMISSION PIPELINE PROJECT

2. SCOPE AND APPLICABILITY

The Town of buckeye, Arizona has engaged Brown and Caldwell to prepare a risk assessment of a proposed NGTP to be routed through the Town of Buckeye. Multiple master-planned communities have been proposed adjacent to the proposed NGTP route with several residential subdivisions already in the process of completing housing development. Homes, schools, and other sensitive land uses may be located from fifteen to five hundred feet from the centerline of the proposed NGTP facility.

EN Engineering was contracted by the Town of Buckeye to provide technical assistance in understanding the design, construction, and operation of NGTP. The EN Engineering report (Evaluation of the Constructability, Safety Measures, and Potential Conflicts of the Transwestern Pipeline Phoenix Expansion Project within the Town of Buckeye, Arizona, May 11, 2007) indicates the following selected conclusions as findings concerning the Transwestern proposed NGTP through the Town of Buckeye, Arizona.

1. "The class locations (those areas along an NGTP where the potential consequences of a gas pipeline incident may be significant) indicated on the "Issued for FERC application" alignment sheets are not commensurate with proposed and permitted development within the Town of Buckeye. It is recommended that the entire length of pipeline within the Town of Buckeye (some 24 miles) be designated as a class 3 location."
2. "The proposed main line valve spacing does not appear to comply with the requirements of the code. Designation of the entire length as class 3 location will require two additional main line valve settings."
3. "The pipeline alignment places it on the far outside edge of the power line corridor which will be only 15 feet from many development property lines along its route. Even (if constructed) at the center of the power line corridor, the pipeline would still be subjected to roadway and utility crossings which are the higher risk activities."
4. "The numerous planned and permitted developments within the Town of Buckeye anticipate several new road and utility crossings of the pipeline right-of-way." "It is recommended that Transwestern install the pipeline initially at a depth that will place it at least 2 feet below the planned depth of the deepest facility at each of the known crossing locations. By doing so, future excavation damage will be less likely" (EN Engineering, Executive Summary). Please refer to the EN Engineering report for a review of additional findings.

Based upon these findings, it is appropriate to assess the potential likelihood and consequences of an NGTP pipeline incident.

The analysis and conclusions in this report are directly applicable to stakeholder considerations of the potential risk NGTP pose to sensitive land uses. The information contained herein is derived directly from federal and commercial sources dealing with the issue of assessing the risks posed by NGTP facilities.

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2: User Provided Information

In order to provide clear and compelling reasons to apply resources to evaluate the risk of such facilities, specific pipeline incidents are described in detail. The purpose of these descriptions is to draw out and identify the multitude of factors that affect the design, construction, operation, and maintenance of an NGTP of the type proposed by Transwestern Pipeline Company. One pipeline incident, commonly known as the Carlsbad rupture, is a paradigm case in this assessment. The multiple issues that affect the design, operation, and maintenance of a NGTP are best understood in the context of an actual pipeline incident or failure. . Through the presentation of a chronology of events of the Carlsbad pipeline rupture, a real world context can be provided which brings the abstraction of probability theory into the world of contingent matters of fact. The intent is provide stakeholders a clear sense of the institutional, corporate, and personnel factors that interact during an emergency, and to suggest the true controlling safety case for these facilities is a full bore pipeline rupture and ignition.

Despite the technology of pipeline design and fabrication, the concept of a safe pipeline includes the complexities that affect human operators and their leadership. Ultimately, it is the operating company itself that is the manager of the risks posed by NGTP. Such a paradigm case illustrates that pipeline integrity includes not only the physical facilities, but also the constant stewardship and maintenance practices of the operator working to some standard. The federal Office of Pipeline Safety is the focal point of the standards to be maintained. Yet, it is the private sector operators of pipelines who must bear the burden of sustainable safety practice until a NGTP is de-commissioned. Pipelines can be in service for thirty years or longer.

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Local Agencies

RISK INFORMED ASSESSMENT
PROPOSED EXPANSION NATURAL GAS TRANSMISSION
PIPELINE PROJECT

3. ASSESSMENT OF THE RELIABILITY AND SAFETY ANALYSIS
OF THE PHOENIX EXPANSION PROJECT DRAFT
ENVIRONMENTAL IMPACT STATEMENT (EIS)

3.1 Assessing Likelihood of a Pipeline Accident

“Based upon approximately 301,000 miles in service, the rate of public fatalities for the nationwide mix of transmission and gathering lines in service is 0.01 per year per 1000 miles of pipeline. Using this rate, the pipeline facilities associated with the Phoenix Expansion Project might result in one public fatality about every 311 years. This would represent a slight increase in risk to the nearby public and would not result in a substantial potential for incidents that would cause serious injury or death to members of the public.” (p. 4-202. Phoenix Expansion EIS).

“In addressing likelihood, a fundamental issue is the metric to be used. For example, the probability of failure per unit length of pipeline or volume transported is very low, and safety measured this way exceeds, by far, that of all other transportation modes. However, for the pipeline system as a whole, there are about 300 accidents per year, (including liquid pipelines) which is not negligible especially from the point of view of those who are adversely affected.” (Transmission Pipelines and Risk Informed Guidance in Land Use Planning, Special Report 281, TRB/NAS p. 59)¹

The potential for a rupture on an NGTP is very low given the design and regulatory frameworks imposed for design, operation and maintenance. Yet the consequences of such a high pressure facility rupturing if located near populated areas are extremely high. The small utility easement proposed for the NGTP through the Town of Buckeye is not sufficient, as will be seen, to protect nearby population and property.

One type of measure focuses upon the overall safety of a system having significant volume transmitted and route miles utilized. Another measure focuses upon risk as a systematic evaluation of real world and hypothetical scenarios of what can go wrong, coupled with an evaluation of the consequences of the scenarios, with a determination then made of the probabilities of occurrence.

“...The common practice of obtaining a measure of risk by multiplying probabilities and consequences is, in general, not adequate. One reason for the preference for the expression, $R = \{S_i, P_i, C_i\}$ —or Risk = (scenarios/ probability or respective likelihood of the scenarios occurring/ consequences) is that a risk number alone does not distinguish a high consequence, low probability event from a low consequence, high-probability event.” (TRB, 281, P. 59)

¹ Also, using sheer volume as a metric would suggest that at 1.47 deaths/100 million miles traveled that the nations roadways were relatively safe if it were not for the fact, we travel almost 1.7 billion miles annually with over 46,000 fatalities on average, which makes this mode of travel relatively safe.

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(Compare two ways of expressing the loss of one-tenth of a life per year: 10 lives (consequences) every 100 years (probability) and 100 lives every 1000 years.)

The value of this risk concept lies in the ability to consider areas of uncertainty that are associated with managing a regulated technology over time, in the ability to weigh the strength of risk mitigation proposals, and in the ability to determine the contribution real events or scenarios should have in deciding to assume risk.

(more discussion on this topic needed)

3.2 Consequences of a Natural Gas Pipeline Rupture: The Carlsbad Case

“On August 19, 2000, five year old Kirsten Sumler was enjoying the great American outdoors with her mother, Amanda Smith. They were camping and fishing on the banks of the Pecos River in New Mexico with ten other members of their extended family. Six hundred and seventy-five feet away, an El Paso pipeline (EPNG) ruptured (30" EPNG operating at less than 675 psig). In an instant, six family members were burned alive. The six survivors sought shelter in the river, as the 500-foot tall flame roared over their heads for almost an hour. When rescuers arrive, one badly burned victim begged to be shot. As the rescuers tried to evacuate Kirsten, she cried, not wanting to leave her mother. Amanda told her to go. She promised that the fireman would take good care of her. Unfortunately, Kirsten was burned well beyond the point where good care would help; she died later in the burn unit. Her mother, Amanda, and the four remaining family members also died from their injuries.” (Carol Parker, Natural Resources Journal)

3.3 Chronology of the El Paso Natural Gas (EPNG) Carlsbad Pipeline Rupture

“At approximately 5:26 a.m., the control room operator (controller) monitoring the pipeline via SCADA at the gas control center located in El Paso, Texas, received a rate of change alarm for one of the three gas turbine compressors at the unattended Pecos River Compressor Station. Less than one minute later, a second compressor shut down and the station went into automatic emergency shut down, isolating the compressor station from the gas transmission pipelines (such a design feature usually includes automatic closure of valves isolating the station from the pipeline(s), opening the blowdown valves to an atmospheric vent to depressurize gas lines, and other features designed to protect critical equipment).

Additional alarms were received at the control center including a rate-of-change alarm for falling inlet pressure at the Pecos River Compressor Station. The controller at this station would not necessarily have known which pipeline was causing the falling inlet pressure alarm. In response to the alarms, the controller requested accelerated updated information from SCADA on the compressor station instead of the usual automatic scan data that occurred automatically at 4-minute intervals.

At approximately 5:30 a.m. the controller telephoned the Pecos River district station lead operations specialist at his home and asked him to send people to the Pecos River Compressor Station. The specialist then called

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out two personnel to report to the Pecos River Station. At about this time a local EPNG employee (pipeline operations specialist) located at his home south of Carlsbad noticed a glow in the southern sky and suspected an EPNG pipeline might be involved. He called the gas control center and asked if any pressure change had been noticed and passed along his observations. He then called his operating supervisor (pipeline lead operations specialist) and proceeded to report to the Pecos River Compressor Station.

At 5:31 a.m. the gas control center again experienced an interruption of data to the SCADA system from the Pecos River Compressor Station that prevented the control from receiving any additional information from this station. While the station was equipped with an uninterruptible power supply to maintain backup power to critical equipment, the local computer and modem link to SCADA were not connected to this backup power supply. SCADA communication with the Pecos River Compressor Station was not re-established until 9:04 a.m.

At 5:31 a.m., the local 911 emergency telephone operator received numerous calls from residents reporting a fire and the sound of an explosion. An off-duty EPNG employee who lived near the site also called 911 and reported a fire.

At 5:35 a.m., a controller again called the station lead operations specialist at home and indicated he suspected a possible pipeline failure. At this time the controller did not know which pipeline was involved. The specialist indicated he could now see indications of a fire in the early morning sky in the direction of the Pecos River Compressor Station and that he was on his way to the station.

At 5:44 a.m. a controller called the attended Keystone Compressor Station (57 miles upstream of the rupture) feeding gas into lines 1103 and 1110 and asked for compressors to be shut down. The controller then called the attended Eunice Compressor Station (53 Miles upstream of the rupture) feeding line 1100 and requested similar compressor shutdowns.

At 5:50 a.m. the controller called the attended Carlsbad Compressor Station (25 miles upstream of the rupture) feeding line 3191 to confirm compressor shutdown. It should be noted that even with the compressors shut down, the compressed gas inventoried in the miles of pipeline from the various compressor stations would continue to de-pressure out of the ruptured pipeline for some time.

At 5:45 a.m. the pipeline lead operations specialist was the first to arrive at the Pecos River Compressor Station near the accident site. This employee began closing transmission pipeline bloc valves downstream of the rupture, near the Pecos River Compressor Station, approximately one mile west of the fire. A block valve on line 1100 was closed first. A second pipeline operations specialist arrived and proceeded to assist in closing block valves on lines 1103 and 1110.

The downstream pig launcher valves that could permit gas to flow back up the pipeline toward the rupture were then closed.

At approximately 6:10 a.m. the station lead operations specialist arrived at the Pecos River Compressor Station and met the two pipeline operations specialists in the process of closing valves. The station specialist verified that the station had properly shutdown and the assisted the pipeline specialists in closing the block valve from the north line 3191. This line not only fed into the station but also fed lines 1103 and 1110 via various cross connections.

After closing the block valves downstream of the rupture, the two pipeline operations specialists proceeded to drive to the west side of the Pecos River service bridge to view the fire across the river, but could not determine which pipeline had ruptured because of the size and intensity of the flame. The fire was estimated to be approximately 500 feet in height based on nearby suspension bridge tower support structures. The two men then drove across a low-water crossing in the river north of the rupture as heat radiation prevented them

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using the pipeline service bridge across the river near the rupture side. Because of the heat intensity, as well as limited right of way road access, emergency responders were instructed by EPNG to stop and remain west of the Pecos River Compressor Station until EPNG personnel could bring the release situation under control.

At about 6:05 a.m., the two operators, carefully checking that they could tolerate the heat, left their vehicles and proceeded to close block valves on the east side of the river, approximately one quarter mile upstream of the rupture site. A block valve was first closed on line 1100 with no noticeable change in the fire's intensity. Next, block valves on lines 1103 and 1110 were closed with a noticeable reduction in fire intensity. The bypass valve on the line 1103 pig receiver was then closed and the fire subsided.

At approximately 6:21 a.m., 55 minutes after the initial rupture, operation personnel at the valves notified the gas control center that all appropriate valves were closed and that the fire was out.

As reported earlier, all twelve members of an extended family were either dead or dying from the ensuing fire. Six members of the family were found approximately 675 feet from the rupture. The remaining six family members were found further west of the campsite away from the fire as they had apparently jumped into the river in an attempt to escape the heat.

3.4 Federal Investigation of the EPNG Carlsbad Rupture

The National Transportation Safety Board's (NTSB) investigation into the fire indicated the force of the rupture and the violent ignition of the escaping gas created a 51-foot-wide crater about 113 feet along the pipe. A 49-foot section of the pipe was ejected from the crater in three pieces measuring approximately 3 feet, 20 feet, and 26 feet in length. The largest piece was found about 287 feet northwest of the crater in the direction of the suspension bridges. Visual examination of the pipeline in the crater and the ejected pieces showed significant corrosion on the inside pipe surfaces and the pipe wall exhibited significant thinning. No significant corrosion was found on the outside pipe wall.

Pipeline 1103, the pipeline that ruptured, was constructed in 1950 with pipe purchased from Republic Steel that had been manufactured in accordance with American Petroleum Institute Standard 5LX, high-test line pipe. The pipe was a 30" outside diameter, grade X52 (Specified minimum yield strength of 52,000 psi - This is a measure of the pipe's strength value which is not equivalent to its internal pressure) pipe with a nominal wall thickness of 0.335 inch, with sections of heavier wall pipe at locations such as road crossing and block valve assemblies. The pipeline was operating at approximately 675 pounds per square inch, gauge (psig), at the time of the accident. The maximum allowable operating pressure from Keystone Compressor Station to the Pecos River Compressor Station had been established by EPNG at 837 psig, which is equivalent to a strength level of 72% of the specified minimum yield strength in the 0.335-inch-wall thickness pipe. (P. 16 PAR NTSB/PAR-03/01)

Cleaning pigs were run through line 1103 twice a year. But the specific section of line that ruptured had not been pigged because it contained a reduced ----- valve, which prevents a pig from passing through the valve. It is important to note that on those portions of the line 1103 that were regularly pigged, solids and liquids were weighed and analyzed before disposal, with test results, including water concentrations and chemicals, provided to the EPNG chemistry laboratory in El Paso, Texas.

An earlier rupture, three years previous, on line 1300 caused internal corrosion generated a series of "spout pit" inspections on several segments of line 1100 and 1103 and other lines.

Line 1103, the ruptured line, had been inspected by aerial patrol nine days before the rupture, which occurred on August 19, 2000. Ground patrol inspected the lines the day before the rupture (August 18). The

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inspection team looked for field indicators of leaks such as dead or dying vegetation, discolored soil, erosion, or excavation near the pipeline.

EPNG officials stated they believed line 1103 was not transporting corrosive gas because the line was receiving "pipeline quality" gas and that unusual conditions, such as water in the pipeline, were not being observed at the pig receiver or the drip on line 1103. Gas quality standards were contained on EPNG's contracts with its gas suppliers but were not referenced in the company's corrosion control procedures. Corrosion coupons (pieces of metal with a specially prepared surface for measuring corrosion rates) or corrosion monitoring devices were not used in the ruptured section of 1103 because of the belief the gas transported was not thought to be corrosive. EPNG, therefore, did not inject corrosion inhibitors into this line and since the monitoring program did not require ultrasonic testing be performed on the low points of the non-piggable portions of line 1103, none was performed before the rupture. Visual inspections of line 1103 that were exposed, above grade, did not show evidence of internal corrosion.

EPNG's corrosion procedures were governed by its *Operating and Maintenance Procedures* manual (Section 201.2, "Corrosion Control," dated September 20, 1999). This manual prescribed minimum company requirements for monitoring and protecting metallic structures. These standards were specified by reference to 49 CFR 192.451 through 192.491. Even so, these procedures and standards did not address the factors that should be considered in determining whether transported gas could cause corrosion. While the types of contaminants mentioned (water, CO₂, H₂S and O₂) were in their contracts for gas, none of these contaminants or their limits were mentioned in the corrosion control procedures. In addition, no guidance was provided concerning how these contaminants are to be detected other than visual inspection of a pipe after it had been removed.

EPNG acquired Tenneco energy in December of 1996 and formed El Paso Energy Corporation. In January 2000 El Paso Energy acquired Sonat, Inc. another national gas pipeline company. El Paso Energy Corporation then assembled teams of representatives from each pipeline company and tasked them with establishing best practices and producing a common operating and maintenance manual. The new manual was issued three months before the accident with a new Corrosion Control Manual issued one month before the Carlsbad accident. These documents are a model for how empirical procedures must be applied to detect internal corrosion including how flow velocity of gas affects liquids accumulation in a pipeline.

From July 1999 to September 2000, the Federal OPS conducted eight safety inspections of EPNG under the system inspection pilot program. For each of these inspections compliance with internal corrosion control regulations were deemed by the federal regulators as "satisfactory," and noted that EPNG's internal audit program was working as designed.

For the 26 safety inspections of EPNG (conducted by OPS from June 1990 to September 2000, inclusive of the eight inspections just discussed, compliance with 49 CFR 192.602(b)(3) was noted as "satisfactory," "not applicable," "not checked," or in some cases, the form did not include questions related to maps and records. Before August 2000, there were no enforcement actions against EPNG for their program for making construction records, maps, and operating history available to operating personnel.

Subsequent to a corrective action order, EPNG identified 60 pipeline segments on its system where the risk of internal corrosion was judged to be greatest and eight pipelines from this group were found to have corrosion and in six of these the corrosion was deemed significant. An EPNG executive level oversight committee was formed to implement integrity management for all 46,000 plus miles of pipelines operated by El Paso Energy Corporation.

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3.5 NTSB Findings from the EPNG Carlsbad Incident

Ultimately, EPNG was found to have not trained its personnel responsible for detecting corrosion or to implement corrosion control procedures. EPNG also was found to have failed in following its own procedures, failed to investigate corrosion, failed to consider and act upon several unusual operating and maintenance conditions affecting line 1103, failed to follow its own leak and failure reporting procedures, and failed to maintain an accurate profile drawing of line 1103 which would have helped EPNG identify low points where liquids could accumulate in the pipeline.

3.6 Transwestern's Phoenix Expansion Project Proposed Safety Program with Assessment of Pipeline Rupture Impact on Transwestern's EIS

The following statements are offered by Transwestern as specific elements of its safety program which are intended to underscore its commitment to implement (pipeline) integrity management required by federal regulation:

"...each pipeline operator must...establish an emergency plan that includes procedures to minimize the hazards in a natural pipeline emergency."

These procedures include:

- "Receiving, identifying, and clarifying emergency events such as gas leakage, fires, explosions, and natural disasters.
- Establishing and maintaining communication with local fire, police, and public officials, and coordinating emergency response.
- Emergency shutdown of system and safe restoration of service.
- Making personnel equipment, tools, and materials available at the scene of an emergency.
- Protecting people first and then property and making them safe from actual and potential hazards." (TW UIS P. 4-198)

Other safety commitments include the promise to operate the pipeline according to DOT-approved standards and procedures, training all operating personnel in these standards and procedures, conduct periodic training seminars and review of operating and emergency procedures, implementing public liaison programs and the like.

Another feature of their operating routine put forward as a safety and reliability feature is the 24-hour, 365 day/year fully staffed gas control center located some 1160 miles away in Houston, Texas. While staffed area and sub-area offices are maintained along the pipeline right-of-way, it is the Houston center which monitors the system-wide changes to pressures, flows, and customer deliveries. It is the area and sub-area offices which are the initial responders to a pipeline emergency by dispatching contractor personnel. Transwestern freely admits the response time to a leak (or other emergency) could be up to 2 hours depending upon the time of day and location of personnel.

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Another safety or "mitigating" feature offered is the "remotely controlled valve" which, when a sudden pressure drop was detected would isolate a section of pipeline from the rest of the system.

Still another feature of safety and reliability are the air and ground patrols which seek to identify leaks, evidence of pipeline damage, evidence of encroachment (on rights-of-way) or damage to erosion controls (measures) resulting from erosion or washouts. "The pipeline would be designed to be piggable, allowing for the use of smart pigs for internal integrity inspection."

Finally, Transwestern states the following concerning pipeline rupture:

"If a pipeline rupture were to occur after pipeline operation has begun, natural gas would percolate through the soil and rapidly dissipate into the atmosphere. The potential outcome would depend on the volume of natural gas released and whether an ignition source is available. A pipeline break could result in soil and debris being thrown from the area of the break, destruction of nearby vegetation, and in the case of ignition, explosion or fire causing injury or property damage."

3.7 Natural Gas Transmission Pipeline Rupture

So as to not underestimate the failure mode "rupture," some reasonable description is in order. Many people, including many engineers understand this mode as a clean break of a pipeline where two pipe ends may join suggesting a simple failure of welds or joint failure. Pipe does not typically fail in this way. High pressure, large diameter gas transmission pipelines are all capable of rupture failure in which a small anomaly (imperfection in the pipe or welds) grows to a defect causing the pipe to literally unzip or shrapnel fracture within microseconds along the length of a pipeline segment. This phenomenon is characteristic of gas transmission lines versus liquid pipeline ruptures. Rupture fractures along a gas transmission line can propagate many feet along the length of a gas pipeline before the fracture energy dissipates. The highly compressed gas within these pipelines is the driver for this type of fracture. Such rupture failure leaves a major opening in the pipeline with highly compressed natural gas coming out at sonic speed from both ends of the remaining pipe.

"Regardless of the length of the rupture failure along the pipeline, all high pressure (i.e. high strength) large diameter gas transmission pipeline ruptures release gas as double bore failures. The fracture mechanics for certain types of anomalies (i.e. corrosion) have been well understood for many decades, especially for gas transmission pipelines. No high stress steel pipeline is invincible to pipeline rupture, if a wrong anomaly or conditions become present." (Commentary and Risk Analysis for the Proposed Emera Brunswick Pipeline Through Saint John, NB, Richard Kupriewicz, October 2006).

When rupture occurs in a gas transmission pipeline, gas is released in the order of 1,100 plus feet/second as the pipeline starts to de-inventory. The mass rate of gas release decreases with time, but is driven by the density of gas upstream of the bore. The mass rate of decay for the Transwestern Phoenix project is not known as the operator has not disclosed what the maximum future capacity of this pipeline is projected to be or could be given various gas demand scenarios. The peak mass rate of release does decay over time with the slope of the decay dependent upon a variety of system factors. It is assumed that at the operating pressures proposed, the Transwestern Phoenix line could be on the order of 30-40 tons of gas for every mile of pipeline. For a "pipeline at an operating pressure [MAOP or maximum allowable operating pressure] of 1000 psig, it will take a fairly significant period of time to de-inventory the pipeline during a rupture failure.

Most ruptures of the kind described ignite. The only emergency procedure is to extinguish the flame by fuel cut-off via pipeline valve closure and allowing the flame to burn itself out from lack of fuel. The placement of remote operated valves can reduce total blowdown or de-inventory time, and additional valves can reduce

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this time even more. Even so, "valve placement" does not reduce the potential impact zone associated with the high heat fluxes (the amount of heat transferred across a surface unit of area in a unit of time) related to these ruptures. Multiple valves could reduce blowdowns such that first responders could reach affected areas within ten or fifteen minutes, yet "such valving does not reduce the potential impact zone so important to consider at the time of early planning of pipeline routing. The "two-hour delay" response to a leak cited in Transwestern's draft EIS may be the result of a cautious approach to 'emergency' response, but even in a remote area, this delay time may allow for a fairly complete de-inventory of a pipe segment with maximum possible damage to people and property.

3.8 Heat Flux Phases of Pipeline Rupture

As described in the Carlsbad/EPNG case, the high mass rate of release and sonic velocity of escaping gas, the momentum forces for a rupture release can cause large craters formed by the gas jetting out the pipe bores (51 feet deep with 113 feet in length as measured by the NTSB site investigators). Horizontal momentum of the jetting gas is then transformed due to the buoyancy of the gas mass, into a vertical dissipating gas cloud. When this mass is ignited, two heat phenomena occur: a high heat flux "fireball" bursts with initial ignition followed within a minute by a less rapid combustion vertical "jet fire" associated with decaying heat flux radiation.

"A classic example demonstrating how a rupture can engulf unsuspecting victims that are too close to a pipeline rupture is the July 30, 2004 gas transmission pipeline rupture failure in Ghislenghien, Belgium (40 inch outside diameter with 0.5 inch wall thickness gas transmission pipeline operating at 1160 psig). Five of the twenty-four deaths (150 additional casualties) associated with this pipeline rupture failure, were fire department personnel who had responded to an initially reported gas leak emergency and were setting up safety barricades some distances from the leak."

The pipeline failed during an operating pressure increase on a pipeline that had been damaged by a third party several weeks earlier.

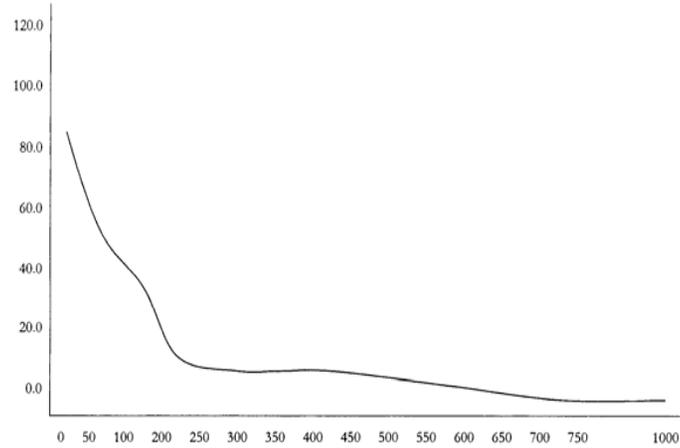
One example of a heat flux versus distance plot for a large diameter high pressure gas pipeline can be drawn as follows:

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For the size pipeline considered by Transwestern Phoenix project, the potential impact area for a rupture assuming early ignition is well over 1100 feet and possibly as far as 1800 feet. It should be the responsibility of Transwestern to develop and defend a heat flux / distance plot capturing early ignition. This information is critical to the pipeline routing decision affecting the Town of Buckeye.

3.9 The Consequences of Pipeline Rupture and Pipeline Routing Decisions

Key points that can be adduced from the preceding discussion include the following:

- Emergency response planning (ERP) is not useful as a credit against the risks associated with pipeline rupture events. No matter how effective the ERP, response cannot be fast enough to save those most at risk in the extreme heat flux zones associated with the most likely early ignition gas release scenarios.
- Details from Transwestern are warranted, and needed, to support a thorough understanding of the rupture mass release over time curve for the pipeline segments within the Town of Buckeye. The specific pipeline capacity throughput that defines this curve should be clearly stated. In the meantime, the following is one approach to identifying the proposed impact area radius as determined by various pipeline diameters and pressures (NAS, TRB Report 281, P. 112, Citing Stephens, 2000)

(Figure D-1 Attached)

This graphic was developed by C-FER Technologies which developed a model that examines isometric thermal radiation distances to determine a burn radius and a 1% fatality radius from a natural gas pipeline

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break. It is important to note that the Office of Pipeline Safety and FERC have also utilized C-FER models for regulatory purposes.

An assumption of the model is that risk can be expressed as the product of failure probability and failure consequences, and reliability is the complement of failure probability. The model incorporates three factors: a fire model that relates the gas release to the intensity of the heat, a model that provides an estimate of the amount of gas being released as a function of time, and a heat intensity threshold. The model can be used to determine a zone of impact for pipeline fire. The equation used in the model relates the diameter and operating pressure of a pipeline to the size of the affected area, assuming what I am calling the controlling safety case which is a full-bore pipeline rupture.

While thermal radiation isopleths are typically irregular in shape because of obstructions, nature of the gas discharge, and delays in ignition, the C-FER model calculates the degree of harm to people from thermal radiation based upon the thermal load received.

The model makes other assumptions including the belief that people will (in the open) remain in a fixed position from 1-5 seconds then move at approximately 5 miles per hour toward shelter (an assumption challenged by other analysts), and that shelter will be available within approximately 200 feet of the person's initial position. Heat flux is assumed to cause burn injury between 1,000 and 2,000 Btu/h/ft² (3.2 and 6.3 KW/M²) depending upon the time required to cause blisters. The heat flux for fatal injury (where 1 Person in 100 would not survive the thermal flux) is calculated to be 500 Btu/h/ft² or (15.8 kw/m²). Other calculations are made for varying thresholds of injury.

As is demonstrated by Figure ___, a 36" to 42" pipeline operating at 1100 to 1200 psig would require a nominal hazard area radius of between 980 feet to 1140 feet. Housing and Urban Development regulations at 24 CFR ... (find recent reference).

Note: Even this may be too conservative for reality: On July 30, 2004 a natural gas pipeline explosion in Ghilsenghien, Belgium ruptured/ignited and killed 24 people and left 132 injured. This explosion melted or burned everything within a radius of 1,312 feet. The pipeline was owned by Royal Dutch Shell.

RISK INFORMED ASSESSMENT
PROPOSED EXPANSION NATURAL GAS TRANSMISSION
PIPELINE PROJECT

4. THE MULTIPLE VARIABLES INVOLVED IN NATURAL GAS
PIPELINE INCIDENTS

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It is worth adding more description of principal pipeline accidents to drive home the multiple variables involved in the underlying causes of such accidents as well as their consequences. The National Transportation Safety Board has looked into well over 100 pipeline explosions which required special investigative reports between 1969 and 2003. Over 65 of these reports concerned natural gas transmission pipeline accidents and almost 20% (some 12-15) of these accidents were investigated between 1990 and 2003, a thirteen year period during which regulatory focus on the U.S. natural gas pipeline industry was arguably higher than the previous twenty years,

4.1 Edison New Jersey Incident

The Texas Eastern Transmission Corporation owned 36" natural gas transmission pipeline located near Edison, New Jersey ruptured catastrophically within the Quality Materials, Inc. asphalt plant property on March 23, 1994. The operating pressure of the pipeline was approximately 970 psig and at rupture, the releasing gas excavated soil from around the pipe propelling shrapneled pipe, rock, and other debris some 800 feet. The gas ignited within two minutes of rupture with Thermal Flux impact to building roofs at an apartment complex some 300 feet from the rupture. Alerted to the debris and rock falls on the apartment roof, over 1500 occupants fled the burning building. The ensuing fire destroyed eight buildings with no fatal injuries but over 100 injured people were treated at local hospitals and property damage was estimated at over \$25 million.

The original NTSB report (PB9S-915-501) which is unavailable online, stated the probable cause of the rupture was mechanical damage to the outside surface of the pipe which reduced its wall thickness and created a crack that grew to critical size over time. Contributing to the accident was the inability of the pipeline operator to promptly stop the flow of natural gas to the rupture. Post-accident investigation revealed "teeth marks" on the pipe, possibly caused by excavation equipment. Further excavation of the site exposed a great amount of debris around the pipe including a crushed Ford Ranger pickup truck that had been reported stolen in 1990.

4.2 Post-NTSB Appeal by Texas Eastern Corp.

A post-NTSB analysis petition to reconsider one of the original findings is useful to anyone involved in making transmission pipeline routing decisions. The nature of the appeal (re-consideration of findings) deals with whether the gouges or dents on the pipeline surface at or near the point of rupture were themselves causes of the rupture. While the probable cause of the rupture – mechanical damage to the exterior surface of the pipe that reduced pipe wall thickness that ultimately grew to critical size – was not disputed by Quality Materials, Inc., the petitioner. The apparent purpose of the petition by the landowner and easement grantor to Texas Eastern Transmission Corporation (TETCO), who owned the pipeline, was to establish that dents, gouges or other mechanical marks on the pipelines were known to TETCO inspectors before the rupture occurred. TETCO admitted that their consultant's inspection logs showed a "dent at or near the rupture site" in 1986, some seven years before the line failed, but that the dented pipe surface did not represent a significant loss of pipe wall strength. Even so, TETCO had scheduled this line (line 20) to be pigged in 1994 because of the importance of the line to service, its class location (class 3), and the fact multiple minor dents and gauges were recorded on the pipe during the 1986 inspection. However, the March 1994 rupture pre-empted this effort. The NTSB found that TETCO employee performance was not a factor in the pipe damage and that all inspection and operating personnel were properly experienced and trained when these tasks had been performed. In addition, even though the pipe had been damaged in the years previous to the March 1994 failure, TETCO often operated line 20 at MAOP without incident. It was the finding of NTSB that line 20 did not fail as a result of human error, or as a result of exceeding MAOP, but that line 20 failure was caused by "excavation equipment at some undetermined time." If there was a weakness in TETCO's

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safety/operating procedures, it was the absence of awareness that excavation activity on Quality Material's property could endanger the pipeline. At the same time, Quality Management "did not advise its (own) employees about the presence of or potential hazard posed by the pipeline within its property (nor did Quality Materials implement pre-cautionary measures to protect line 20 from excavation damage by employees." (NTSB Report: PAR-95-01, May 18, 20__).

Multiple contractors working in the vicinity of this pipeline over a period of years without significant response from either the pipeline owner/operator or the easement grantor helped create the condition for catastrophe despite a growing regulatory environment between 1980-1994 which included a focus on third-party damage potential.

4.3 An Historical Natural Gas Transmission Pipeline Incident: Houston, Texas, 1969

On September 9, 1969, at 4:40 p.m., a 14-inch natural gas pipeline operating at 739 psi ruptured in a residential area of Houston, Texas. The sonic boom caused by releasing gas alerted adjacent residents whose backyards were adjacent to the pipeline easement and within 50 feet of the ruptured line. While people evacuated, the escaping gas ignited some 8 to 10 minutes after the rupture. The explosion destroyed 13 homes, injured 9 residents, two seriously. The jetting fire burned for over an hour and a half until all valves were closed and the pipe de-inventoried. Some 106 homes were damaged. This section of pipe was part of a 194 mile transmission pipeline constructed in 1941. The failed pipe wall was seam welded and was 0.25 inches thick. The operating pressure was 714 psi, with a design pressure of 2142 psi. When the failed section of pipe was constructed, the subdivision had not been built and the pipeline route was in open country. Homes were built as close as 24 feet from the buried pipeline with very few residents aware of the proximity of the pipeline to their homes. In this failure, the pipeline operator was in the process of tie-ing in a new line with gas compressed into the downstream sections of pipe while the tie-in was completed. Pressure regulators failed to react to the building pressure downstream such that MAOP was exceeded (University of New Castle, UK, Pipeline Safety Incidents Overview, undated).

4.4 Other Incidents and Annual Incident Totals

A list of pipeline incidents is included at the end of this section. Many of these incidents include pipelines which carry other types of petroleum and gas products. This report has concentrated upon gas transmission pipelines. Even so, these incidents dramatize the almost evolutionary steps toward safety that both the industry and government have taken toward higher safety standards.

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5. NATURAL GAS TRANSMISSION PIPELINE VULNERABILITIES
TO RISK

These and many other incidents that we cited herein help reveal the multitude of risk areas that can cause the anomalies potentially resulting in pipeline failure. As recently as 2005, these threats to pipeline integrity were categorized as follows:

Twenty-Two Pipeline Integrity Risks of Concern

- | | |
|--|--|
| External corrosion | Wrinkle, bend or buckle |
| Internal corrosion | Stripped threads/broken pipe |
| Stren corrosion cracking | Gasket O-ring failure |
| Defective pipe seam | Control/reliability of equipment malfunction |
| Defective pipe | Seal pump padding failure |
| Defective pipe girth weld | Damage inflicted by 1 st , 2 nd , or 3 rd parties |
| Defective fabrication weld | |
| Previously damaged pipe | |
| Vandalism | |
| Incorrect operating procedures | |
| Cold weather | |
| Lightning | |
| Heavy rainfall events or flood damage | |
| Earth movement | |
| Miscellaneous | |
| Unknown | |
| In the ASME B 31___, Section 2.2. Standard | |

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6. THE STRUCTURE OF THE PIPELINE INDUSTRY AND HOW IT
IS REGULATED

In progress
XXX

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RISK INFORMED ASSESSMENT
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7. INSTITUTIONALLY-BASED FACTORS AFFECTING NATURAL
GAS PIPELINE SAFETY AND RELIABILITY

7.1 In Progress

XXX

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8. CONCLUSIONS

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REFERENCES

[List any reports reviewed for the assessment.]

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