

B.8 REQUIRED FEDERAL MITIGATION MEASURES

SOCIOECONOMICS

S-1 Measure: Temporary worker camps will be required to house construction workers. Housing provided shall be consistent with Wyoming Industrial Siting Administration Permit conditions.

Effectiveness: Provision of construction work camps would help relieve the demand for single status housing throughout the project area. However, due to the presence of family status workers, these camps would not totally eliminate the significant housing impacts that would be associated with the project. Demand for single-family homes, multi-family units, and mobile home lots may still exceed the response capabilities of local area developers. Additional measures that would induce developers from outside the region to produce housing and/or the provision of other forms of temporary housing such as modular condominiums or apartments may be required to fully meet projected housing demand. The absence of sufficient numbers of housing units could otherwise result in an unquantifiable amount of temporary occupancy of area public lands ("squatting"), particularly in the vicinity of Big Piney, Marbleton, and LaBarge.

Application: This measure will be applied to the Proposed Action and all of the siting alternatives.

WILDLIFE AND FISHERIES

WF-1 Measure: State wildlife laws and regulations will be posted in conspicuous places at the job sites and work camps.

Effectiveness: Posting laws and regulations may help to reduce wildlife violation incidences or at least eliminate the violator's excuse of ignorance of wildlife laws.

Application: This measure will be applied to the Proposed Action and all alternatives.

WF-2 Measure: During construction and operation phases, dogs, excepting guard dogs or seeing-eye dogs, will be prohibited from well sites and construction sites.

Effectiveness: This measure would reduce harassment to wildlife species.

Application: This measure will be applied to the Proposed Action and all siting and component alternatives.

WF-3 Measure: The location of the well in the Graphite Unit, Sec. 22, T.27N., R.114W. will be relocated and approved by the Authorized Officer. Offset drilling or other measures may be required at the time of approval.

Effectiveness: Relocating this well to the northeast would reduce critical winter range losses and associated human disturbances to elk wintering in the Graphite Hollow area, and would slightly decrease predicted elk population reductions and productivity losses.

Application: This measure will be applied to the Proposed Action and all alternatives.

WF-4 Measure: Construction of any pipelines in the Seedskaadee National Wildlife Refuge would be in accordance with any seasonal and other restrictions determined by the Fish and Wildlife Service.

Effectiveness: Implementation of this measure would decrease human disturbance impacts to sensitive species.

Application: This measure will be applied to the Shute Creek Alternative sales gas and CO₂ line which Exxon has identified.

WF-5 Measure: Where the Authorized Officer determines that rehabilitation of temporarily disturbed areas within critical wildlife habitat on federal land will not be successful within five years from disturbance, the company will be required to compensate for the lost habitat. Temporarily disturbed areas do not include those covered by permanent facilities like road beds, well site equipment, etc. Such critical wildlife habitat will be determined by the Authorized Officer in conjunction with Wyoming Game and Fish. Compensation will include continued rehabilitation efforts on the disturbed areas and development and implementation of an off-site mitigation plan for similar critical habitat on federal land within the species use area that is in poor condition due to natural or man-made causes. The plan must be approved by the Authorized Officer who will coordinate with Wyoming Game and Fish.

Effectiveness: Implementation of this measure will have only limited effectiveness in mitigating impacts to wildlife critical range. "Successful rehabilitation within five years," as used above applies primarily to soils and vegetation criteria for defining success in rehabilitation. Big game critical ranges are generally dependent upon shrub habitats which provide forage during critical winter periods when grasses and forbs are covered by snow. Successful rehabilitation of critical range to shrub habitats would take from 10 to 50 years depending upon shrub species, soils, moisture, and a variety of other factors. Rehabilitation of disturbed areas to soils and vegetation success standards is a necessary first step in successful reestablishment of critical ranges.

Secondarily, even when critical range shrub habitats are reestablished along road and well pad edges, their value to wildlife will be limited due to wildlife's behavioral reaction to continued human activity.

In addition, the mitigation measure specifies off-site mitigation for similar critical range "within the species use area". This terminology would unnecessarily limit the measure's effectiveness by not specifying mitigation possibilities for other species.

Application: This measure will be applied to the Proposed Action and all siting and component alternatives.

- WF-6 Measure: Northwest Pipelines wastewater evaporation pond at their Craven Creek treatment facility will require the installation of special wildlife protective measures. These measures include sufficient deterrents to keep terrestrial animals, waterfowl, and birds out of the pit. The design of deterrent methods and the development of an implementation and monitoring plan shall be included as part of Northwest's Construction and Use (CU) plan for the treatment plant facility. Review of this plan will include the U.S. Fish and Wildlife Service (FWS) and the Wyoming Game and Fish Department (WG&F). Approval by the Authorized Officer of the CU Plan is required prior to construction.

Methods of deterrence may include fencing the evaporation pond with small mesh wire to protect terrestrial wildlife; stringing beaded cables which are studded with plastic "whirlers" or other mechanical devices which would frighten birds; placing the pond near human activity or stationing a person to frighten birds away during migration; or other methodologies which must be approved by the Authorized Officer.

Effectiveness: Implementation of this measure would preclude small animals and big game using the pond as a drinking water source and being harmed or killed by ingesting the toxic wastewater.

This measure would mitigate the potential for impacts to waterfowl, shorebirds, or other migratory birds which may be attracted to the evaporation pond. Any migratory bird mortality associated with the evaporation pond would be an illegal action under Section 2 of the Migratory Bird Treaty Act (16 U.S.C. 703-711). This measure would ensure compliance with said Act.

Application: This measure will be applied to the Proposed Action and all alternatives.

- WF-7 Measure: Colored markers will be hung on transmission lines to increase visibility of wires over river crossings within known bald eagle concentration areas in order to reduce eagle and sandhill/whooping crane collisions with wires.

Effectiveness: As written, this measure would reduce the potential for eagles, whooping cranes, sandhill cranes, and waterfowl striking wires where they cross the river. This measure would not be effective in reducing potential wire-strikes in the other sensitive areas of Fontenelle Creeek and LaBarge Creek.

Application: This measure will be applied to the Buckhorn, Shute Creek, and Northern Alternatives.

- WF-8 Measure: The critical ranges and other important wildlife areas will be avoided during the periods listed below during construction of linear facilities unless direction is otherwise given from the Authorized Officer. (See Wildlife Technical Report wildlife maps for location of specific areas.)

<u>Area</u>	<u>Period</u>
Elk critical winter range	Nov. 15 to April 1
Elk calving areas	May 15 to June 30
Deer critical winter range	Nov. 15 to April 1
Sage grouse leks	March 1 to June 30
Golden eagle nests (within ½ mile)	February 1 to July 15
Osprey nests (within ½ mile)	April 15 to August 15
Prairie falcon nests (within ½ mile)	March 15 to August 1
Merlin nests (within ½ mile)	April 15 to August 15
Ferruginous hawk nests (within 1 mile)	March 15 to July 15
Cooper's hawk nests (within ½ mile)	April 1 to August 15
Burrowing owl nests (within ½ mile)	April 15 to July 15
Swainson's hawk nests (within ½ mile)	April 1 to July 15
Cutthroat-Rainbow Trout (stream Crossings)	April 15 to July 10
Brown & Brook Trout (Stream Crossings)	Sept. 1 to Nov. 1
<u>Effectiveness:</u> Avoiding the areas listed above would eliminate many of the potential impacts to species of concern.	

Application: This measure will be applied to the Proposed Action and all alternatives.

- WF-9 Measure: Staging areas for stream crossing equipment will be located outside of the stream's riparian zone in order to reduce the possibility of silt entering into streams and to reduce disturbance to vegetation in the riparian zone. A maximum construction right-of-way of 25 feet would be used in riparian areas to reduce disturbance. Variances to this must be approved by the Authorized Officer.

Effectiveness: This measure will reduce the total amount of riparian vegetation removed during construction, minimizing loss of stream bank cover, eroded material available to the stream, and habitat degradation from suspended solids and turbidity.

Application: This measure will be applied to the Proposed Action and all alternatives.

- WF-10 Measure: Well pads and all other facilities, currently and in the future, planned for the riparian zone shall be offset from the stream bank and/or out of alluvial soils or soils with poor drainage as approved by the Authorized Officer. The distance should be at least 500 feet wherever topographically possible.

Effectiveness: This measure will minimize loss of stream bank cover and reduce sediment available to streams. It will also reduce the potential for accidental spills of toxic substances reaching the stream and may also reduce the potential for contamination of surface water resulting from leaks in casing.

Application: This measure will be applied to the Proposed Action and all alternatives.

WF-11 Measure: Crossings of the Green River will be conducted during the fall low flow period.

Effectiveness: Crossing the Green River at low flow will minimize habitat degradation by minimizing the amount of suspended solids and turbidity generated during in-stream construction.

Application: This measure will be applied to the Proposed Action, Exxon and American Quasar CO₂ and sales gas pipelines; Buckhorn Alternative, American Quasar, and Williams sour gas pipelines, molten sulfur pipeline, Exxon sales gas and CO₂ pipelines; Shute Creek Alternative, American Quasar sour gas pipeline, molten sulfur pipeline, Exxon sales gas and CO₂ pipelines; Northern Alternative, American Quasar molten sulfur pipeline, sour gas pipeline, Exxon sales gas and CO₂ pipelines.

WF-12 Measure: The intake structure on the Green River for the proposed Craven Creek water supply pipeline (and any others) will be constructed in accordance with design specifications provided or approved by Wyoming Game and Fish.

Effectiveness: Having design specifications for the intake structure approved by Wyoming Game and Fish should eliminate any significant adverse impacts to fisheries associated with impingement, entrainment, reduced flows, or habitat loss.

Application: This measure will be applied to the water supply pipeline for the Craven Creek site, and all alternatives with the Craven Creek plant site.

WF-13 Measure: The companies will be required to implement the fisheries and surface water quality monitoring program appended to the FEIS. Stream sampling locations will include the four established stations in the well field on Fish Creek, Beaver Creek, Pine Grove Creek, and Black Canyon Creek as well as others that may be specified by the Authorized Officer.

Effectiveness: The sediment monitoring program will help identify and quantify adverse impacts in the wellfield but it will not eliminate any impacts related to sedimentation, unless it results in additional corrective action (special erosion control) in severely affected streams.

Application: This measure will be applied to the Proposed Action and all alternatives.

WF-14 Measure: In the event an applicant finds it necessary to remove a beaver pond which has flooded an existing road, the applicant will initiate consultation with WGF and BLM or the FS.

Effectiveness: If alternative measures can be found to eliminate the beaver pond, loss of critical fisheries habitat will be minimized.

Application: This measure will be applied to the Proposed Action and all alternatives.

HEALTH AND SAFETY

H-1 Measure: Companies will be required to provide automatic shut down systems on sour gas trunk lines for all block valves.

Effectiveness: Automatic operation of block valves was assumed in the modeling conducted for H₂S releases from trunk line ruptures. Automatic block valves are effective in limiting the amount of sour gas released during a pipeline rupture.

Application: This measure will be applied to the Proposed Action and all alternatives.

H-2 Measure: Companies will be required to have automatic shut down systems for all sour gas wells within the Riley Ridge well field.

Effectiveness: This measure will reduce the amount of sour gas released in the event of a gathering pipeline leak or rupture and will allow a well to be shut-in without exposing people to potentially high levels of H₂S.

Application: This measure will be applied to the Proposed Action and all alternatives.

H-3 Measure: Companies will develop community contingency and evacuation plans in coordination with the public safety organizations including community civil defense organizations, sheriff, highway patrol, fire departments, livestock operators residing in the area, and other human inhabitants, etc., for accidental release of H₂S and in accordance with appropriate federal and state regulations. Plans will include early warning and mass alert systems, and human evacuation procedure. Communities involved will be Marbleton, Big Piney, Western Camp, Dry Piney Camp, Calpet, and LaBarge. Outlying areas include all other permanent residences within the project area or area of influence, and temporary human occupancy areas (i.e., Fontenelle Recreation Area).

Effectiveness: Community and outlying area contingency and evacuation measures would be an effective means of insuring that an organized, systematic approach towards alerting and evacuating the populations of the communities and outlying residence occurs. The contingency and evacuation plans will address possible H₂S hazards and describe the procedure that will be used to protect human life. These plans would include concern for any receptor within the area of influence of the well field, trunk lines, or processing plants. The measure, however, would not eliminate the possibility of some people being exposed to significant or lethal levels of H₂S.

Application: This measure will be applied to the Proposed Action and all alternatives.

- H-4 Measure: No sour gas trunk line will be located closer than 1 mile to a populated area or sensitive receptor as identified on Map 2-1 in the FEIS. The applicants must use the best available engineering design (i.e., alignment, block valve type and spacing, pipe grade, etc.), best construction techniques (i.e., pipe depth, hydrostatic testing, etc.), and monitoring plans (i.e., surveillance, warning signs, etc.) as approved by the Authorized Officer to minimize both the probability of rupture and radius of exposure in the event of an accidental pipeline release of sour gas. A variance from the 1-mile distance may be granted by the Authorized Officer based on detailed site-specific analysis that would consider meteorology, topography, and special pipeline design and/or construction measures. This analysis would ensure that populated areas and sensitive receptors would not be exposed to an increased level of risk.

Effectiveness: This measure will reduce both the probability of a rupture and minimize the extent of exposure for both discomfort and lethal levels of H_2S to sensitive receptors in the event of a sour gas pipeline rupture. The probability of rupture can be reduced by such measures as warning signs, burial depth, pipe thickness and grade, while such measures as block valve types and spacing and pipeline alignment would minimize the exposure radius from the point of rupture in the event of an accident. See Attachment B.9 for a discussion of the effectiveness of block valve spacing and resultant exposure distances.

Application: This measure would be applied to the sour gas trunk lines in the Proposed Action and all alternatives, specifically Northwest Pipeline's 30-inch diameter line, American Quasar's 30 and 36-inch diameter lines, and Exxon's 30-inch line for the Shute Creek Alternative.

- H-5 Measure: Drilling operators will be required to identify in their H_2S contingency plans readily available sources of fuel gas in the area during drilling operations. This gas could be added at the flare stack to burn the H_2S in the event of an uncontrolled blowout.

Effectiveness: This measure would reduce the risk of exposure to both discomfort and lethal levels of H_2S in the event of a blowout. The flaring would convert the H_2S to less harmful SO_2 .

Application: This measure will be applied to the Proposed Action and all alternatives.

- H-6 Measure: All applicants will be required to have a gas-assisted flare mechanism at the plant site to flare the non-combustible sour gas in the event of a plant upset.

Effectiveness: In the event of a total plant shutdown, gas must be flared for an interim period until the wells can be shut-in. Since the raw sour gas is not combustible, a gas-assisted flare will be necessary. This would minimize the impacts to nearby sensitive receptors.

Application: This measure would be applicable to all applicants at all siting locations.

WATER RESOURCES

- W-1 Measure: Because of the data gaps in the EIS on composition of water to be injected, injection procedures, and surface and bottom locations, all injection wells on federal lands to be used for plant waste water are not covered in sufficient detail by this EIS. Consequently, all injection wells for plant waste water disposal on federal lands, including those on plant rights-of-way, will need an EA or other NEPA compliance prior to approval. This may be facilitated by the applicant for Wyoming DEQ permits also submitting that information to the BLM for analysis.

Effectiveness: The drilling of all injection wells in compliance with State of Wyoming requirements will help minimize the degradation of aquifers.

Application: This measure will be applied to the Proposed Action and all alternatives.

- W-2 Measure: All injection wells must be designed in accordance with the Wyoming DEQ and the Wyoming Oil and Gas Commission. In addition, those on Federal minerals must have the approval of the BLM Minerals Division.

Effectiveness: Cementation of the annular space surrounding the well casing would greatly reduce the possibility of contaminating aquifers penetrated by the well. Poor quality waters from saline aquifers, or leaked from poorly constructed or corroded casing would be prevented from migrating vertically along this annular space to aquifers which contain good quality water.

Application: This measure will be applied to the Proposed Action and all alternatives.

AIR QUALITY

- AQ-1 Measure: The companies will be required to fund, at least in part, a long-term acid deposition monitoring and analysis program to track potential impacts to Class I areas within the region. The most likely areas to be monitored are the Bridger and Fitzpatrick Wildernesses within the Wind River Range. Based on the Air Quality Technical Report prepared by ERT for the Riley Ridge EIS, the Forest Service will develop a program which will be at least partially

funded by the Companies at a level to be determined by the Forest Service. Such a level will be determined, among other considerations, by the actual number and placement of plants. Participation by a particular company would be contingent upon its receiving a plant right-of-way grant and the timing of its activities with that grant.

Effectiveness: Baseline and post construction data in the Bridger and Fitzpatrick Wildernesses relating to the short- and long-term effects on water quality, soils, flora, and fauna will provide valuable information for documenting existing conditions, the effects, and determining which environmental parameters are principally involved in acid deposition. Conceptual monitoring recommendations are delineated in Appendix E.

Application: This measure will be applied to the Proposed Action and all alternatives.

AQ-2 Measure: In order to comply with the requirements of a PSD Permit, American Quasar would be required to implement technology for control of H₂S and SO₂ emissions at the East Dry Basin plant site and for control of H₂S at the Buckhorn plant site. One technique for H₂S and SO₂ control would employ a system to feed the sweetened gas to a catalytic hydrolysis reactor where residual COS would be converted to H₂S following acid gas removal. The H₂S would then be removed in a trim H₂S contactor using lean selexol solvent. Prior to committing to a particular control technology, American Quasar would have to evaluate this system along with other processes to determine the additional SO₂ control generated by this technology.

Effectiveness: A minimum sulfur removal of 99.72 percent is required in order to comply with PSD increments at East Dry Basin. While BLM does not regulate compliance with air quality regulations and cannot require specific control technology, compliance with PSD Permit requirements will be necessary for issuance of a BLM right-of-way grant. While the control level is technologically feasible, cost considerations may prevent certain technologies from being implemented.

Application: This measure will be applied to the Proposed Action for SO₂ control and the Proposed Action and all alternatives for H₂S control.

SOILS AND VEGETATION

SV-1 Measure: All new well field pipelines and transmission lines will be required to use common rights-of-way when economically and technically feasible. The exact locations will be determined as necessary by the Authorized Officer.

Effectiveness: Although this measure will not eliminate loss of vegetation for new facilities, it will concentrate development to designated areas limiting impacts on land use and wildlife. Maintenance and erosion control will probably be accomplished more easily with corridors confined to the same vicinity; it may also eliminate excessive cut and fill for new roads.

Application: This measure will be applied to the Proposed Action and all alternatives.

- SV-2 Measure: Development will avoid or minimize disturbance to highly saline-alkaline sites and sand dunes. An example of a saline-alkaline site is the "white alkali" Soapholes area north and east of Big Piney. Locations to be avoided would be determined by the Authorized Officer.

Effectiveness: Avoiding and minimizing disturbance to sand dunes and alkali areas will eliminate problems in revegetating saline soils and stabilizing eroding dunes.

Application: This measure will be applied to the Proposed Action and all alternatives.

- SV-3 Measure: During transmission line construction, brush (shrub) clearing along access trails and at tower assembly areas will be limited to trimming and/or crushing to avoid disturbing root systems.

Effectiveness: This measure will be effective in limiting the amount of shrub vegetation disturbed along the transmission line right-of-way. By not disturbing the root system, some crushed or clipped shrubs will resprout and revegetate the right-of-way more quickly. This will reduce soil erosion and speed restoration of wildlife habitat.

Application: This measure will be applied to the Proposed Action and all alternatives.

- SV-4 Measure: All areas not needed for production on the well pads must be recontoured and rehabilitated following the drilling phase for each well. The determination on necessary area for operation will be made by the Authorized Officer in consultation with the operator.

Effectiveness: This measure will be effective in revegetating the well pad area and will reduce soil erosion as well as speed restoration.

Application: This measure will apply to the Proposed Action and all alternatives (applicable to Williams well pads only).

VISUAL RESOURCES

- V-1 Measure: The following gathering pipeline segment will be relocated off the steep forested slopes: the pipeline from the well in Section 13, T.29N., R.115W., will be rerouted to follow the road to the proposed well in Section 18 T.29N., R.114W.
- Effectiveness: Relocation of the pipeline would eliminate the most visually prominent pipeline cuts, and have a noticeable effect on reducing the combined visual change as seen from South Piney Creek Road and Snider Basin.
- Application: This measure will be applied to the Proposed Action and all alternatives.
- V-2 Measure: In forested areas, pipelines will cross existing roads in a configuration that provides visibility of only short segments of the corridor by making a jog soon before and after crossing. Deviations or exceptions based on slope or other technical problems must be approved by the Authorized Officer.
- Effectiveness: This measure would reduce the extent of visibility of project facilities adjacent to sensitive viewpoints.
- Application: This measure will be applied to the Proposed Action and all alternatives.
- V-3 Measure: Where possible, power distribution lines in the well fields will be placed underground and located in the pipeline or road rights-of-way within $\frac{1}{2}$ mile of sensitive viewpoints, including: Middle Piney Creek Road, South Piney Creek Road (including Snider Basin), Indian Creek/Coal Creek Road, Pine Grove Ridge Road and upper Beaver Dam Creek Road (in Section 3, 4, and 5, R.114W., T.27N.). Others may be determined by the Authorized Officer.
- Effectiveness: This measure would reduce the negative influence created by a scattered maze of wood poles and electrical lines, such as now exists in portions of the well field presently under development. Undergrounding would have a significant effects in reducing the cumulative adverse visual change that would otherwise occur.
- Application: This measure will be applied to the Proposed Action and all alternatives.
- V-4 Measure: Wires, conductors, insulators, and towers of transmission lines will have a dull finish to reduce reflection and visibility of the structures. If the authorized officer determines that certain distribution lines should use nonreflective materials, then it may be required.

Effectiveness: This measure would reduce the visual contrast of proposed structures, particularly as seen from middleground and background viewing areas.

Application: This measure will be applied to the Proposed Action and all alternatives.

- V-5 Measure: Where directed by the Authorized Officer within the analyzed mile-wide corridors, transmission lines located along valley floors will be situated such that the structures follow the landform break or vegetative change between the valley floor and sideslopes to reduce the visibility of the structures.

Effectiveness: Such an alignment would make the lines less prominent and therefore, reduce both the facility and combined visual change impacts.

Application: This measure will be applied to the Proposed Action and all alternatives.

- V-6 Measure: The UP&L transmission line segment running from the proposed Big Mesa plant site to the proposed substation will be relocated off the prominent ridge top location. It will run northeast from the proposed Big Mesa plant site to the Dry Piney Creek Road and follow the road to the substation site.

Effectiveness: Removing the line from this extensive and prominent landscape feature would greatly reduce the visibility of the transmission line. Facility impacts would be reduced to insignificant, and the combined visual change impacts in this area would also be diminished.

Application: This measure will be applied to the UP&L transmission alternative.

- V-7 Measure: The companies will be required to remove litter including broken equipment, work trash, and other man-produced material, from well field units, plant sites, and other areas of operation. Litter will be disposed of in approved sites.

Effectiveness: This measure will minimize adverse visual impacts from litter in the Project area.

Application: This measure will be applied to the Proposed Action and all alternatives.

AGRICULTURE/GRAZING

AG-1 Measure: Construction will be scheduled during the months of April, May, and October to avoid conflicts with trailing sheep herds on the Slate Creek Sheep Trail. Timing will be determined by the Authorized Officer.

Effectiveness: This measure will reduce harassment to livestock and reduce the potential for livestock loss.

Application: This measure would be applied to the construction of all pipeline and transmission lines that would cross the Slate Creek Sheep Trail. These will include the following:

Proposed Action - Northwest's sour gas pipeline and plant water pipeline; Exxon's sulfur pipeline; and Exxon's and Quasar's transmission line.

Buckhorn - Same as Proposed Action.

Shute Creek - Northwest's sour gas pipeline and plant water pipeline; Exxon's sour gas pipeline, sulfur pipeline; and plant access road; and Exxon and Quasar's transmission line.

Northern - Exxon's sulfur pipeline and all companies' transmission line.

TRANSPORTATION

T-1 Measure: The companies will schedule their own and their contractors' large truck activities to avoid the following high recreation demand weekends. This will normally cover three-day periods.

- Memorial Day
- Independence Day
- Pioneer Day (July 24)
- Labor Day
- First two weekends of big game season

Effectiveness: This measure would eliminate the potential conflict between project vehicle activity and peak daily recreation travel demand associated with the high activity holiday weekends.

Application: This measure will be applied to the Proposed Action and all alternatives.

T-2 Measure: In spring and fall months when road moisture content is high, as determined by the Authorized Officer, the companies and their contractors will limit large truck activity in the well field to periods of frozen road conditions to protect the road beds.

Effectiveness: This measure will help preserve the stability of road beds and maintenance of travel surfaces.

Application: This measure will be applied to the Proposed Action and all alternatives.

T-3 Measure: The companies and their contractors will use front and rear vehicle escorts in the well field for oversized, overweight loads to maximize safety, as determined by the Authorized Officer.

Effectiveness: This procedure will help maximize the operational safety of equipment transport in the well field.

Application: This measure will be applied to the Proposed Action and all alternatives.

T-4 Measure: On federally permitted roads, stop signs and advance warning signs will be installed in areas of intersecting traffic, construction, or conditions of dangerous operation.

Effectiveness: The traffic control and informational signing will help minimize the potential for accidents at intersecting roadways.

Application: This measure will be applied to the Proposed Action and all alternatives.

LAND USE PLANS, CONTROLS, AND CONSTRAINTS

L-1 Measure: The railroad sulfur transport system will be located outside of the Seedskadee National Wildlife Refuge.

Effectiveness: Relocation of the proposed railroad would eliminate the impacts to riparian habitat within the Seedskadee National Wildlife Refuge and eliminate the conflicts with the habitat enhancement objectives of the Refuge.

Application: This measure will be applied to the Railroad Sulfur Transport Alternative for Exxon and American Quasar.

L-2 Measure: As determined by the Authorized Officer, the following will be required: the sulfur pipeline will be located along or as near as possible to existing roads or trails. Following construction, the right-of-way will be reclaimed in accordance with the Erosion Control, Revegetation, and Restoration Guidelines (Appendix B.7). Operation of the pipeline includes: 1) Monitoring--which will be limited to fixed-wing and helicopter patrol, vehicle via existing roads and foot patrol; and 2) Maintenance--which will be limited to four-wheel drive vehicle during summer and snow equipment during during periods of snow via closest existing road to pipeline segment needing maintenance. In the event required maintenance occurs during

wet periods, causing soil/ vegetation disturbance, reclamation of such areas will be required as soon as weather and seasonal conditions permit.

Effectiveness: Locating the sulfur pipeline along or as near as possible to existing roads or trails will greatly reduce and eliminate potential impacts to soils and vegetation. Monitoring and maintenance access requirements will also help eliminate associated potential soil, erosion, and vegetation impacts.

Application: This measure will be applied to the Proposed Action and all alternatives.