

Appendix F

Winter Construction Plan

OVERLAND PASS PIPELINE PROJECT
WINTER CONSTRUCTION PLAN

DRAFT

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**OVERLAND PASS PIPELINE PROJECT
WINTER CONSTRUCTION REQUIREMENTS
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1.0 OVERVIEW

Overland Pass Pipeline Company LLC (Overland Pass) is currently anticipated to start construction of its Overland Pass Pipeline Project in October 2007, with construction being completed by March 2007. Inclement weather such as snow fall or sub-freezing temperatures during the construction period has the potential to impact construction activities. Pipeline construction typically can continue through difficult weather conditions, although construction progress may be impacted. To maintain the environmental objectives of the Overland Pass Pipeline Project, Overland Pass shall implement the following pipeline construction requirements and recommendations during construction that occurs during inclement (winter) weather periods. The following construction mitigation techniques would be implemented in the event that mitigation found in its Construction, Reclamation and Revegetation Plan (CRR Plan) cannot be implemented due to winter weather. The winter construction period will be considered to be in effect when any of the following conditions occur:

- The ground is frozen and plating of topsoil occurs
- Equipment slippage from operating on frozen ground results in scalping onto root plant systems or vehicles moving outside established ROW clearing limits
- Road crossings cannot be adequately compacted.
- Topsoil is frozen and cannot be separated from sub-grade material.
- Backfill material freezes to the extent that adequate compaction becomes difficult
- Topsoil stockpiles are frozen and cannot be uniformly redistributed across disturbed areas

The Overland Pass Pipeline will cross several areas as crucial big game winter range with winter habitat timing restrictions. On Federal land in Wyoming, 14.4 miles of crucial winter habitat have a November 15 to April 30 timing restriction. In Colorado, 2 miles of crucial winter habitat are present with a December 1 to April 30 timing restriction. In order to minimize the time construction activities could overlap with these timing restrictions, Overland Pass will make reasonable efforts to focus initial construction activities in the areas containing the timing restrictions with the goal of completing construction in those segments prior to or close to the effective date of the timing restriction. Because the location and size of the timing restrictions areas are highly scattered across the first 250 miles of the project in Wyoming it is not feasible to simultaneously start construction at each of the identified areas with timing restrictions, Overland Pass would consult with land management and wildlife agencies to determine if some restriction areas were more critical than others and would prioritize construction activities in the most important areas.

2.0 SOIL HANDLING - FROZEN SOIL CONDITIONS

The following requirements will be implemented during frozen soil conditions. Frozen soil conditions will be defined as when frost has penetrated the depth of the boundary between topsoil and subsoil.

- To the extent possible, OVERLAND PASS would minimize the amount of open trench to minimize amount of trench snow would have to be removed. Welding could take place in front of ditching in appropriate terrain, to minimize dealing with frozen topsoil and spoil storage.
- Frozen topsoil stripping activities will be limited to the equipment capable of accurately stripping variable depths of topsoil. It may be necessary to precede the grader or dozer

with a ripper mounted on a machine with sufficient power to achieve accurate depth penetration. During stripping, multiple stripping passes are preferred to a single pass to achieve the full stripping depth.

- If soils are frozen at the time of removal, surface material will be stripped from all areas using the full topsoil stripping technique outlined in the CRR Plan. Full width topsoil segregation on the PNG must be approved in advance via a variance.
- To minimize the risk of wind erosion during dry winter conditions, the topsoil/upper surface material will be watered down. On the PNG, tackifiers may be used on topsoil piles to prevent wind erosion, as stated in the CRR Plan.
- Where topsoil or spoil stockpiles remain in place during the winter, breaks in the topsoil or spoil pile at drainage crossings will be left to allow runoff and snowmelt to be diverted off the ROW and minimize interference with spring runoff.
- The ROW will be regraded immediately following backfilling and final clean-up and seeding activities will be performed as soon as possible. The final clean-up schedule will vary, depending on ground conditions and time of construction. If spring thaw reclamation activities are recommended, this will be determined by the Environmental Inspector, in consultation with all stakeholders.
- Frozen topsoil will not be returned to the ROW. The Environmental Inspector will suspend final clean-up activities and topsoil placement if these soils are frozen.
- If topsoil replacement and/or revegetation activities are suspended due to frozen topsoil conditions, normal temporary ROW stabilization procedures will be applied as ground conditions permit. Where final clean up and restoration has not been completed, the ROW will be left in a significantly roughened condition to reduce potential for erosion during snowmelt.
- If practical, the pipeline construction contractor may chose to excavate the trench after the pipeline has been welded, to reduce the possibility of the trench spoil freezing.
- If the EI determines that muddy conditions are too severe, work may be halted until conditions improve.

3.0 SNOW AND COLD WEATHER MANAGEMENT

The following requirements and/or recommendations will be implemented after significant snow events are followed by an extended period of freeze. (Note: if a snow event is followed immediately by a period of melting, normal project procedures for handling soil or erosion control will still be in effect.)

- During winter construction conditions, contractor equipment will be cleaned at wash stations or prior to being mobilized to the construction site, using compressed air instead of water, to prevent the spread of weed propagules.
- If practical, snow will be stored over the trench line prior to excavation to prevent deep frost penetration along the trench line. This snow shall be removed and stored at the edge of the ROW prior to topsoil removal and trenching activities.
- Snow will be removed or packed on the working side to increase frost penetration into the soil.

- If snow/ice separation is required during periods of heavy snow accumulation, Overland Pass will need an additional 25 foot of ATWS on the construction side (south / west) to stack the frozen material at the side of the ROW. This additional workspace for snow removal will be requested via the variance process. No blading of soils or removal of vegetation would be anticipated on this snow storage area, however, any surface that does get disturbed during construction would be restored in accordance with the CRR Plan.
- If rough, snow will be graded over the travel lane to improve driving conditions.
- Access roads will be cleared of snow to permit access to the ROW. Snow removal from roads will not mix soils with snow. Snow will not be plowed down to the road bed. Gaps will be left in windrowed snow at drainage crossings.
- Snow removal equipment will be confined to the boundaries of the ROW.
- Snow removal from the spoil side area will be limited. Excess snow that could interfere with trench backfilling operations will be removed and replaced on top of backfilled soils. A two foot gap will be left between stored spoil piles to avoid topsoil and subsoil mixing during backfilling. Snow will not be mixed in with spoil during backfilling.
- Prior to being aligned and welded into the line, each pipe joint will be thoroughly cleaned to remove all dirt, snow, ice, or any other material from inside the pipe.
- Snow will be removed from topsoil or spoil storage areas prior to trenching.
- Snow removal equipment must remain in the approved construction ROW. Snow would typically be graded off the ROW with a motorgrader, snowplow, or dozer. Snow will be moved to a strip adjacent to the ROW without grading the vegetation from the area next to the ROW. Equipment tracks may not leave the approved ROW. Gaps in the windrowed snow will be left at drainage crossings.

4.0 LOWERING-IN AND BACKFILL

The following requirements and/or recommendations will be implemented during lowering-in and backfilling activities during winter weather conditions.

- Prior to lowering-in of the pipeline, the pipeline trench will be cleared of snow.
- During backfill operations, precautions will be taken to limit the mixing of snow with spoil material. It is recognized that some mixing of snow and soil is unavoidable.
- The trench will be backfilled with unfrozen soils. The first several inches of frozen back fill may have to be removed from the spoil piles to accommodate this. If soil conditions are not such to achieve this requirement, the trench will be backfilled with available soils. In this specific instance, the remaining spoil piles will be stabilized until the soils in the trench have thawed out and any settlement has occurred. The settlement will be repaired after the soils have fully thawed, using the spoil that remains.
- Backfilling activities will immediately follow lowering-in activities, to prevent the infill of snow over the lowered-in pipe.
- OVERLAND PASS will determine if additional erosion control devices are needed to retain spoil material within the ROW. Spoil left over the winter may need to be treated with mulch or a tackifier on the PNG to hold it in place until spring restoration can occur.

5.0 TEMPORARY AND PERMANENT EROSION CONTROL METHODS

Temporary and permanent erosion control and stabilization methods shall be implemented in accordance with Overland Pass' construction procedures. Overland Pass will closely monitor erosion control structures and stabilization efforts during snow-melt periods. Overland Pass' intent is for all temporary erosion controls to be operational for the duration of winter and to withstand spring thaw and snowmelt periods.

- All temporary erosion controls shall be properly maintained during project construction, and reinstalled as necessary until permanent erosion controls are constructed.
- Temporary slope breakers will be installed as described in the CRR Plan. In the event soils are frozen and prevent construction of slope breakers, other erosion control measures will be utilized (trench interceptor excavated across slope, mulching, silt fence, straw bales, sandbags, etc.).
- Silt fences or staked straw bales will be installed where the disturbed ROW intersects with minor and major drainage areas. Silt fences will be installed on the edges of the disturbed ROW, perpendicular to the drainage area or wetland crossing area. Silt fences will also be installed on the upslope of geotextile fabrics, parallel to the stream.
- Mulching will be conducted to stabilize soil surfaces left over winter, where reclamation has not been completed. Mulch will consist of weed free straw at a rate of 1.5 tons per acre. Any disturbed area on the ROW abandoned over the winter, or for periods greater than 30 days will be mulched. If significant snow cover exists the decision to apply mulch will be determined by the EIs and/or CMs. When snow or frozen soils prevent effective crimping of mulch, liquid mulch binders may be used if approved by the agency.
- Depending on field conditions, temporary bridges and mats may be removed before the contractor leaves the ROW for the winter. Temporary bridges may need to be reinstalled in the spring prior to construction resuming. Temporary bridges that are removed may be stored on the ROW in a secure upland area near the crossing. Any equipment crossings remaining in place for spring/summer cleanup will be engineered to handle maximum predicted spring runoff flows and must be approved by the agency. Bridge removal would be subject to the same "corrective action" criteria discussed in Section 7.0 of this Plan.

6.0 HYDROSTATIC TESTING/DEWATERING

The following requirements and/or recommendations will be implemented during hydrostatic testing activities that occur during winter construction periods.

- The temperature of the hydrostatic test water will be continuously monitored. Non-toxic anti-freeze may be added to test water to prevent freezing of hydrostatic test water in the pipeline.
- Hydrostatic test water discharge locations will be monitored for icing and effectiveness of dewatering structures.

7.0 POST-CONSTRUCTION WINTER MONITORING

After construction, if final clean-up and revegetation activities have not occurred, winter monitoring of the ROW will be implemented. Specifically, winter monitoring will identify:

- erosion control structures requiring repair;
- areas of slope instability; and
- areas where significant levels of erosion are occurring.
- OVERLAND PASS will prepare a weekly status report, detailing restoration completeness during winter construction periods, and provide it to the authorized officer. If construction has been shut down for winter, OVERLAND PASS will prepare a monthly monitoring report for the authorized officer. The report will identify areas where erosion control issues have been corrected, and areas where final resolution and repair will be deferred until spring.
- During winter shutdowns, OVERLAND PASS will inspect the ROW on a regular basis and identify where erosion control measures are damaged or are ineffective and where corrective measures need to be taken, when conditions allow. The extent of inspections will be based on precipitation events, runoff amounts, and thawing. Where final restoration has been accomplished, regular inspections would not be necessary. Where frozen conditions persist for long periods of time, regular inspections would not be necessary. When snow melts or the ground thaws, the potential for erosion increases and the frequency of inspections would increase.
- A survey of the ROW by the agencies will be conducted to insure the ROW is stabilized, prior to terminating winter construction. Termination of winter construction will be approved by the agency (s).
- Winter inspections and monitoring may be completed via ground surveys or aerial surveys of the ROW, at a minimum of on a monthly basis.
- Only areas with severe erosion issues, and where significant resource damage is occurring, would this monitoring be required. In most cases, hand labor would be used to address these issues since equipment and poor access would likely cause collateral damage to the ROW, which would be worse than the original problem.
- Corrective actions may be deferred until spring where no sensitive resources are impacted, areas exist where access is not feasible, or where damage from accessing the site would outweigh the benefits of correcting the issue during the winter.

The inspections will pay particular attention to areas with steep slopes, wetland, and waterbody crossings.

The Environmental Inspector will determine the most effective means of dealing with identified problems, taking into consideration the suitability of the ROW for access by equipment, potential damage that could occur by equipment accessing the ROW and the urgency/significance of the problem.

If access is required during spring thaw, the requirements listed in section 8.0 will be followed.

8.0 SPRING THAW CONDITIONS

The following requirements will be implemented when working during spring thaw conditions (i.e., the ground is thawing (frost is leaving the ground) and snow is melting).

- Work will occur only in non-problem areas, such as well drained, dry sites or in shaded and frozen areas until conditions improve.
- Mats or geotextiles will be installed in problem areas. Preference will be given to minimal disturbance methods of surface stabilization (e.g., mats), which can be removed following construction.
- Frost inducement measures, such as snow packing to increase the load bearing capacity of the ground, will be employed. Frost inducement measures will be employed in the evening or early morning to take advantage of freezing temperatures.
- Construction activities will be postponed until evening or early morning in problem areas, when ground conditions are frozen.
- Construction activities will be suspended in affected areas, until soil conditions are suitable.

9.0 FINAL CLEANUP AND REVEGETATION

If final clean-up, restoration, and revegetation activities are suspended due to winter weather conditions, these activities will occur after the spring thaw following the requirements outlined in the Soil Stabilization and Restoration Plan. These activities may begin after the Environmental Inspector has determined that the conditions outlined above, no longer exist.