

**ADL 418997
ALASKA STAND ALONE GAS PIPELINE/ASAP
RIGHT-OF-WAY LEASE**

**EXHIBIT A
STIPULATIONS**

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1. GENERAL

1.1 Responsibilities

1.1.1 Except where the approval of the Pipeline Coordinator is required before the Lessee may commence a particular operation, neither the State nor any of its agents or employees is in any way obligated to examine or review any plan, design, specification, or other document which may be filed with the Pipeline Coordinator by the Lessee pursuant to these Stipulations.

1.1.2 The absence of any comment by the Pipeline Coordinator or any other agent or employee or Contractor of the State with respect to any plan, design, specification, or other document which may be filed by the Lessee with the Pipeline Coordinator shall not be deemed to represent in any way whatever, assent to, approval of, or concurrence in such plan, design, specification, or other document or of any action proposed therein.

1.1.3 With regard to the Construction, Operation, Maintenance, and Termination of the Pipeline:

- (1) The Lessee shall ensure full compliance with the provisions of this Lease, including these Stipulations, by its agents, employees, Contractors, and the employees of each of them;
- (2) Unless clearly inapplicable, the requirements and prohibitions imposed upon the Lessee by these Stipulations are also imposed upon the Lessee's agents, employees, Contractors, and the employees of each of them;
- (3) Failure or refusal of the Lessee's agents, employees, Contractors, or the employees of each of them to comply with the Stipulations shall be deemed to be the failure or refusal of the Lessee; and
- (4) The Lessee shall require its agents and Contractors to include the Stipulations in all contracts and subcontracts which are entered into by any of them for work on the Leasehold, together with a provision that the other contracting party, together with its agents, employees, Contractors, and the employees of each of them, shall likewise be bound to comply with the Stipulations.

1.2 Authority of Representatives of the Pipeline Coordinator and Lessee

1.2.1 No order or notice given to the Lessee on behalf of the Pipeline Coordinator or any other Person shall be effective as to the Lessee unless prior written notice of the delegation of authority to issue such order or notice has been given to the Lessee in the manner provided in Section 26 of the Lease.

1.2.2 The Lessee shall comply with each and every lawful order directed to the Lessee by the Pipeline Coordinator or by any duly authorized representative of the Pipeline Coordinator.

1.2.3 The Lessee shall maintain a sufficient number of its duly authorized Field Representatives to allow for the prompt delivery to the Lessee of all notices, orders, and other communications, written or oral, of the Pipeline Coordinator. The Lessee shall notify the Pipeline Coordinator and each of his/her duly authorized representatives of the Lessee's Field Representatives, who shall be appropriately identified in such a manner as the Pipeline Coordinator shall prescribe. The Lessee shall consult with the Pipeline Coordinator regarding the number and location of such representatives.

1.3 Notices to Proceed for Initial Construction of the Pipeline

1.3.1 Permission to Construct

1.3.1.1 The Lessee shall not initiate any Construction on State Land without prior written permission of the Pipeline Coordinator. Such permission shall be given solely by means of a written Notice to Proceed issued by the Pipeline Coordinator. Each Notice to Proceed shall authorize Construction only as therein expressly stated and only for the particular Construction Segment therein described.

1.3.2 Schedule for Notice to Proceed Applications

1.3.2.1 Prior to submission of any Preliminary Design or application for any Notice to Proceed for any Construction Segment on State Land, the Lessee and the Pipeline Coordinator shall agree to a schedule for the time, scope, and quantity of such submissions and applications. The purpose of such schedule is to assure that the Lessee's submissions and applications shall be reasonable in scope, and filed in a reasonable time frame. Submittals and applications shall be filed in accordance with said schedule, and the Pipeline Coordinator may refuse to consider any that are not so filed. The schedule may be reviewed and revised from time to time as may be agreed upon by the Lessee and the Pipeline Coordinator.

1.4 Submissions Required Before First Notice to Proceed Application

1.4.1 Prior to submission of any application for any Notice to Proceed for any Construction Segment on State Land, the Lessee shall submit to the Pipeline Coordinator the documents identified in Stipulations 1.4.2 through 1.4.5 below. These documents shall form the basis for the individual Notice to Proceed applications submitted for specific Construction Segments on State Land.

1.4.2 Design Documents

1.4.2.1 The Lessee shall develop a Design Basis and Criteria document as defined in Stipulation 3.2.1 for acceptance by the Pipeline Coordinator.

1.4.2.2 A Corrosion Plan for corrosion-resistant design and methods for early detection of corrosion, as required by Stipulation 3.6.2, shall be provided to the Pipeline Coordinator.

1.4.2.3 The Lessee shall submit to the Pipeline Coordinator an Engineering Analysis and Report on the Seismic Design of the Pipeline, as required by Stipulation 3.8.2.

1.4.2.4 The Lessee shall identify seismic faults and assess the results of fault movement and ground deformation as required in Stipulation 3.9.2, to the reasonable satisfaction of the Pipeline Coordinator.

1.4.2.5 The Lessee shall submit a Seismic Analysis of Pipeline Communication Systems, as required by Stipulation 3.5.5.

1.4.3 Plans for Construction, Operation, Maintenance, and Termination

1.4.3.1 The Lessee shall submit for approval the following plans, each of which shall cover Construction, Operation, Maintenance, and Termination activities:

- (a) Proximity to the Trans Alaska Pipeline System (TAPS) and Other Existing Infrastructure (Stipulation 3.4)
- (b) Blasting and Use of Explosives;
- (c) Camps;
- (d) Timber Clearing, Salvage and Utilization;
- (e) Work Pads (Stipulation 3.15);
- (f) Erosion and Sedimentation Control;
- (g) Fire Control;
- (h) Stream, River, and Floodplain Crossings (Stipulation 3.13);
- (i) Disposal of Sanitation and Hazardous Waste;
- (j) Pipeline Trench Backfill Methods
- (k) Disposal of Overburden, and Excess and Excavated Material;
- (l) Cultural Resource Preservation;
- (m) Groundwater Control;
- (n) Restoration and Revegetation of Disturbed Areas;
- (o) Fish and Wildlife Protection;
- (p) Access to the Pipeline and Methods for Access Road Construction (Stipulation 3.14);
- (q) Control, Cleanup, and Disposal of Hazardous Substances;
- (r) Use of Pesticides, Herbicides, Preservatives, and Other Chemicals;
- (s) River Training Structures;
- (t) Construction in Wetlands;
- (u) Handling of Solid and Liquid Waste; and

(v) Managing Human/Carnivore Interaction.

1.4.3.2 These plans shall provide sufficient detail and scope to allow the Pipeline Coordinator to determine if they are consistent with the requirements of this Lease. All applicable State and federal requirements shall be incorporated into the plans and programs of this Lease.

1.4.3.3 Any amendments to these plans must be approved by the Pipeline Coordinator before the amendment is implemented.

1.4.4 Quality Assurance Program

1.4.4.1 The Lessee shall submit a Quality Assurance Program for review and approval by the Pipeline Coordinator. The Lessee must have an approved Quality Assurance Program in effect during all phases of Construction, Operation, Maintenance, and Termination activities related to the Pipeline. The Quality Assurance Program shall document the Lessee's compliance with the Lease.

1.4.4.2 The Quality Assurance Program shall be comprehensive and designed to assure safety, Pipeline integrity, and compliance with all Stipulations.

1.4.4.3 Any amendments to the Quality Assurance Program must be approved by the Pipeline Coordinator before the amendment is implemented.

1.4.4.4 The Lessee, including its agents, employees, Contractors, and the employees of each of them, shall comply with the approved Quality Assurance Program.

1.4.5 Project Management Schedule

1.4.5.1 The Lessee shall submit a Project Management Schedule for the entire project to the Pipeline Coordinator. This schedule shall be time-scaled and shall include all activities and contingencies which may reasonably be anticipated in connection with the project. The Project Management Schedule shall include:

- (a) Data collection activities;
- (b) Submittal and approval activities; and
- (c) Pre-Construction, Construction, and post-Construction activities.

1.4.5.2 The Project Management Schedule shall be updated at thirty (30) day intervals, as significant changes occur, or as otherwise approved by the Pipeline Coordinator.

1.5 Submissions Required Before Notice to Proceed Application for a Construction Segment

1.5.1 Prior to submission of an application for a Notice to Proceed for a Construction Segment on State Land, the Lessee shall submit to the Pipeline Coordinator the documents identified in Stipulations 1.5.1 and 1.5.2 below.

1.5.1 Preliminary Design Submissions

1.5.1.1 Prior to applying for a Notice to Proceed for a Construction Segment on State Land, the Lessee shall submit the Preliminary Design for that Segment to the Pipeline

Coordinator for acceptance. The Pipeline Coordinator shall expeditiously review each submission and shall do so within thirty (30) days from the date of his/her receipt of the submission. The Pipeline Coordinator may request additional information if he/she reasonably determines it is necessary.

- 1.5.1.2 In appropriate cases, the Pipeline Coordinator may waive the requirement that a Preliminary Design be submitted.

1.5.2 Survey

- 1.5.2.1 Before applying for a Notice to Proceed for a Construction Segment, the Lessee shall, in a manner acceptable to the Pipeline Coordinator, by survey, locate and clearly mark on the ground the proposed centerline of the pipe and the location of all Related Facilities proposed to be constructed.

1.6 Application for Notice to Proceed

- 1.6.1 The Lessee may apply for a Notice to Proceed on State Land for only those Construction Segments for which the Preliminary Design has been accepted in writing by the Pipeline Coordinator or for which a waiver pursuant to Stipulation 1.5.1.2 has been issued in writing by the Pipeline Coordinator.

- 1.6.2 Each application for a Notice to Proceed shall be supported by:

- (a) A Final Design;
- (b) Approved plans as required by Stipulation 1.4.3;
- (c) All reports and results of environmental studies conducted or considered by the Lessee;
- (d) All data reasonably necessary to demonstrate compliance with the terms and conditions of these Stipulations with respect to that particular Construction Segment.
- (e) A Project Management Schedule for the Construction Segment, including: the Lessee's work schedules; consents, permits, or authorizations required by State and federal agencies and their interrelationships; design and review periods; data collection activities; and Construction sequencing.
- (f) A map or maps, prepared in a manner acceptable to the Pipeline Coordinator, depicting the proposed location of the Construction Segment, including: (1) the boundaries of all contiguous temporary use areas and (2) all improvements, buried or above-ground, that are to be constructed. The Pipeline Coordinator shall not issue a Notice to Proceed for Construction until he/she has approved all appropriate locations on the ground and the Lessee has set temporary boundary markers to the satisfaction of the Pipeline Coordinator; and
- (g) Such other data relevant to the application as may be requested by the Pipeline Coordinator either before submission of the application for a Notice to Proceed or at any time during the review period.

- 1.6.3 Within ninety (90) days of submittal of an application for a Notice to Proceed, the Pipeline Coordinator shall review such application and all data submitted in connection therewith. Said ninety (90) day period shall begin from the later of the following dates:
- (a) Date of receipt by the Pipeline Coordinator of an application for a Notice to Proceed.
 - (b) Date of receipt by the Pipeline Coordinator of the last submittal of additional data pursuant to this Stipulation.
- 1.6.4 During review of an application for a Notice to Proceed, discrete portions of the route of the Pipeline may be modified by the Pipeline Coordinator and relocated to another position within the general route if in his/her reasonable judgment the modification is necessary to achieve any of the objectives listed below. Any such modification shall be made without liability or expense to the State.
- (a) Protect or maintain stability of geologic materials;
 - (b) Protect or maintain integrity of the Pipeline;
 - (c) Prevent serious and irreparable harm to the environment (including but not limited to water and air quality, fish or wildlife populations, or their habitats);
 - (d) Remove hazards to public health and safety; or
 - (e) Protect existing infrastructure including TAPS.
- 1.6.5 If, during Construction, adverse physical conditions are encountered that were not known to exist, or that were known to exist but their significance was not fully appreciated when the Pipeline Coordinator issued a Notice to Proceed for the portion of the Construction Segment in which the physical conditions are encountered, the Pipeline Coordinator may authorize deviations from the initially approved location of the Pipeline to another location within the general route of the Pipeline at the point or points where the physical conditions are encountered, including adequate room for structurally sound transition. Any such modification shall be made without liability or expense to the State in order to achieve any of the objectives listed in Stipulation 1.6.4. A deviation shall not be constructed without the prior approval of the Pipeline Coordinator and, if so approved, shall conform in all respects to the provisions of the approval.

1.7 Written Authorizations

- 1.7.1 After Initial Construction of the Pipeline, the Pipeline Coordinator may require a Written Authorization for a major activity or significant modification to the Pipeline. Required information shall be project-specific and provided to the Lessee in writing.
- 1.7.2 Once all project information is received from the Lessee, the Pipeline Coordinator shall have thirty (30) days for review of each complete request, unless the Pipeline Coordinator states, in written notice, that more time is needed.
- 1.7.3 Any Written Authorization may contain site-specific terms and conditions as deemed reasonably necessary by the Pipeline Coordinator.

1.8 Surveillance and Monitoring

- 1.8.1 A Surveillance and Monitoring Program for the Pipeline shall be approved by the Pipeline Coordinator prior to start-up of the Pipeline. The program shall be designed to at a minimum:
- (a) Provide for and protect public health and safety;
 - (b) Prevent and mitigate damage to natural resources;
 - (c) Prevent and mitigate erosion;
 - (d) Maintain Pipeline integrity and monitor any Pipeline movement that may affect integrity (Stipulation 3.11); and
 - (e) Protect public and private property.

1.9 Incident Reporting

- 1.9.1 The Lessee shall give immediate notice in accordance with applicable law of any spill, leakage, or discharge of Natural Gas or other Hazardous Materials in connection with Pipeline Activities to the Pipeline Coordinator.
- 1.9.2 The Pipeline Coordinator may require notice of events or incidents in addition to those identified in Stipulation 1.9.1. The Pipeline Coordinator shall give the Lessee written notice of such reporting requirements.
- 1.9.3 The Lessee shall promptly notify the Alyeska Pipeline Service Company of incidents that may threaten TAPS.

1.10 Annual Report

- 1.10.1 The Lessee shall provide a comprehensive annual report by March 1 of each year this Lease is in effect beginning after the first Lease Anniversary Date unless notified otherwise by the Pipeline Coordinator. The Pipeline Coordinator shall provide a written description of the annual reporting requirements.

1.11 Completion of Use

- 1.11.1 Upon completion of use of all, or a very substantial part, of the Leasehold, the Lessee shall promptly remove all improvements and equipment, except as otherwise approved by the Pipeline Coordinator, and shall Restore the Leasehold to a condition that is approved in writing by the Pipeline Coordinator or, at the option of the Lessee, pay the cost of such removal and Restoration. Where approved by the Pipeline Coordinator, buried pipe may be left in place provided all residue is removed from the pipe and the ends are suitably capped.
- 1.11.2 All areas that do not constitute all, or a very substantial part of the Leasehold, or other portion of the Pipeline, utilized pursuant to authorizations issued in connection with the Pipeline, shall be "put-to-bed" by the Lessee upon completion of use unless otherwise directed by the Pipeline Coordinator. "Put-to-bed" is used herein to mean that Access Roads, material sites, and other areas shall be left in such stabilized condition that erosion shall be minimized through the use of adequately designed and constructed waterbars, Revegetation, and chemical surface control; that culverts and bridges shall

be removed by the Lessee in a manner satisfactory to the Pipeline Coordinator; and that Access Roads, sites and areas shall be closed to use. The Lessee's Restoration and Revegetation plans shall be approved by the Pipeline Coordinator prior to Termination of use of any Access Road, or any part thereof.

1.12 Changes in Condition

1.12.1 Unforeseen conditions arising during Construction, Operation, Maintenance, or Termination of the Pipeline may make it necessary to revise or amend these Stipulations to control or prevent damage to the environment or hazards to public health and safety. In that event, the Lessee and the Pipeline Coordinator shall agree as to what revisions or amendments shall be made.

1.13 Lessee Support of State Oversight

1.13.1 During the Design, Construction, Operation, Maintenance, and Termination of the Pipeline, the Lessee shall furnish, without cost, representatives of the State, including Contractors involved in field surveillance of the Leasehold and/or the Pipeline, adequate meals, living quarters, office space, transportation, and use of the Lessee's communication systems. Whenever possible, the Pipeline Coordinator shall give the Lessee advance written notice of the need for such services and facilities, including the number and names of Persons to be accommodated.

1.14 Access

1.14.1 Maintenance Access

1.14.1.1 The Lessee shall provide and maintain Access Roads and airstrips, the number and location of which shall be approved by the Pipeline Coordinator, to ensure that the Lessee's Maintenance crews and State representatives shall have continued access.

1.14.2 Public Access

1.14.2.1 The Lessee shall regulate or temporarily prohibit public access and vehicular traffic on Roads on State Land, which are not managed or owned by the Alaska Department of Transportation and Public Facilities (DOT&PF), as required for activities in the immediate vicinity of the Pipeline and Related Facilities. The Lessee shall provide appropriate warnings, flagging, barricades, and other safety measures when the Lessee is regulating public access.

1.14.2.2 Pipeline Activities shall not interfere with the public's free and unrestricted access to and upon the Leasehold, except that, with the Pipeline Coordinator's approval, the Lessee shall regulate or prohibit access, including vehicular traffic, to and upon the Leasehold to the extent necessary to facilitate Pipeline Activities, maintain Pipeline integrity, or to protect the public and wildlife from hazards associated with Pipeline Activities.

1.14.2.3 The creation of any permanent obstruction to the passage of small craft in streams is prohibited, unless otherwise approved by the Pipeline Coordinator.

1.14.2.4 The Lessee shall make provisions for suitable permanent crossings for the public where the Leasehold or Access Roads cross existing Roads, foot trails, winter trails,

easements or other rights-of-way, unless otherwise authorized by the Pipeline Coordinator.

- 1.14.2.5 After completion of Construction of the Pipeline, and with the concurrence of the Lessee, the Pipeline Coordinator may designate areas of the Leasehold to which the public shall have free and unrestricted access.

1.15 Public Improvements

- 1.15.1 The Lessee shall protect existing telephone and other transmission lines, Roads, trails, fences, ditches, and like improvements during Construction, Operation, Maintenance, and Termination of the Pipeline.
- 1.15.2 Any damages caused by the Lessee to public utilities and/or improvements shall be promptly repaired by the Lessee to a condition which is reasonably satisfactory to the Pipeline Coordinator.

1.16 Fire Prevention and Suppression

- 1.16.1 The Lessee shall promptly notify the Pipeline Coordinator of any fires on, or which may threaten any portion of, the Pipeline and shall take all measures necessary or appropriate for the prevention and suppression of fires in accordance with applicable law. The Lessee shall comply with the instructions and directions of the Pipeline Coordinator concerning the use, prevention, and suppression of fires on State Land.
- 1.16.2 Use of open fires in connection with Pipeline Activities is prohibited on State Land unless approved by the Pipeline Coordinator and performed in accordance with State law.

1.17 Health and Safety

- 1.17.1 The Lessee shall take all measures necessary to protect the health and safety of all Persons affected by its activities performed in connection with the Construction, Operation, Maintenance, or Termination of the Pipeline, and shall immediately abate any health or safety hazards. The Lessee shall immediately notify the Pipeline Coordinator of all serious accidents which occur in connection with such activities.

1.18 Protection of Survey Monuments

- 1.18.1 The Lessee shall mark and protect all survey monuments encountered during Pipeline Activities. These monuments are not to be disturbed; however, if a disturbance of a monument, or any of its accessories, becomes necessary, the Lessee shall contact the survey section of the Division of Mining Land and Water for current information on the policies regulating the implementation of "Records of Monuments" (AS 38.65.040).
- 1.18.2 A written report to the Pipeline Coordinator shall be made by the Lessee in the event that any monuments or accessories are inadvertently damaged.

1.19 Use of Existing Facilities

- 1.19.1 Subject to existing rights vested in other parties, the Lessee shall use existing facilities, to the maximum extent feasible, in all Pipeline Activities associated with the Pipeline. Nothing in this Stipulation shall require the Lessee to use an existing facility if the use of the facility could potentially create a risk to health, safety, or the environment.

1.20 Protection of Cultural Resources

- 1.20.1 The Lessee shall enter into a programmatic agreement with the State of Alaska Office of History and Archaeology (OHA) related to implementation of Section 106 of the Historic Preservation Act (16 U.S.C. 470 et seq.).
- 1.20.2 The Lessee shall take affirmative responsibility to require its agents, employees, Contractors, and the employees of each of them to protect cultural resources while conducting Pipeline Activities.
- 1.20.3 Should any sites or suspected sites be discovered during the course of Pipeline Activities, the activities that may disturb or damage the site shall cease. The OHA and the appropriate Coastal District shall be notified immediately.

1.21 Hunting, Fishing, Trapping, and Camping

- 1.21.1 With respect to Lessee’s agents, employees, Contractors, and the employees of each of them, the Lessee shall prohibit hunting, fishing, trapping, shooting, and camping within the Leasehold.
- 1.21.2 The Lessee’s agents, employees, Contractors, and the employees of each of them shall not use project equipment, including transportation to and from the job site, for the purpose of hunting, fishing, shooting, and trapping.

1.22 Off Right-of-Way Traffic

- 1.22.1 The Lessee shall not operate mobile ground equipment off the Leasehold, Access Roads, State highways, or authorized areas, unless approved by the Pipeline Coordinator or when necessary to prevent harm to any Person.

1.23 Material Sites

1.23.1 Purchase of Materials

- 1.23.1.1 If the Lessee requires materials from State Land, the Lessee shall make application to purchase such materials in accordance with appropriate State laws and regulations. No materials shall be removed from State Land by the Lessee without the approval of the Pipeline Coordinator.
- 1.23.1.2 Insofar as possible, use of existing material sites shall be authorized in preference to new sites.
- 1.23.1.3 Gravel and other construction materials shall not be taken from streambeds, riverbeds, lakeshores, or outlets of lakes, unless the taking is approved by the Pipeline Coordinator.

1.23.2 Layout of Material Sites

- 1.23.2.1 Material site boundaries shall be shaped in such a manner as to blend with surrounding natural land patterns. Regardless of the layout of material sites, primary emphasis shall be placed on prevention of soil erosion and damage to vegetation.

2. ENVIRONMENTAL

2.1 Environmental Briefings

2.1.1 The Lessee shall develop and provide environmental briefings for supervisory and field personnel and Field Representatives. The briefings shall communicate, at a minimum, Lease and environmental permit requirements.

2.2 Pollution Control

2.2.1 The Lessee shall conduct all activities associated with the Pipeline in a manner that shall avoid or minimize degradation of air, land, and water quality. In the Construction, Operation, Maintenance, and Termination of the Pipeline, the Lessee shall perform its activities in accordance with applicable air and water quality standards, related facility siting standards, and related plans required by Stipulation 1.4.3.

2.2.2 Mobile ground equipment shall not be operated in or on lakes, streams, or rivers on State Land unless such operation is approved by the Pipeline Coordinator.

2.2.3 The Lessee shall use only non-persistent and immobile types of pesticides, herbicides, preservatives, and other chemicals. Each chemical to be used and its application constraint shall be approved by the Pipeline Coordinator prior to use.

2.2.4 All waste generated in Construction, Operation, Maintenance, and Termination of the Pipeline shall be removed or otherwise disposed of according to all local, State, and federal laws, and in a manner reasonably acceptable to the Pipeline Coordinator.

2.2.5 The Lessee shall utilize and operate all facilities and devices used in connection with the Pipeline so as to avoid or minimize air pollution and ice fog. Facilities and devices which cannot be prevented from producing ice fog shall be located so as not to interfere with airfields, communities, or Roads.

2.3 Disturbance of Natural Waters

2.3.1 All activities of the Lessee in connection with the Pipeline that may create new lakes, drain existing lakes, significantly divert natural drainage and surface runoff, permanently alter stream or groundwater hydrology, or disturb significant areas of streambeds are prohibited unless such activities and necessary mitigation measures are approved by the Pipeline Coordinator.

2.3.2 The temperature of natural surface water or groundwater shall not be significantly changed by the Pipeline or by any Construction, Maintenance, Operation, or Termination related activities so as to adversely affect the natural surface water or groundwater, unless approved by the Pipeline Coordinator.

2.4 Erosion and Sedimentation

2.4.1 Erosion control measures shall be maintained to limit induced and accelerated erosion, limit sediment production and transport, and lessen the possibility of forming new drainage channels during Construction, Operation, Maintenance, and Termination of the Pipeline.

2.5 Excavated Material

- 2.5.1 Excess excavated material shall be disposed of in accordance with approved Construction plans during Construction and as approved by the Pipeline Coordinator during Operation, Maintenance, and Termination of the Pipeline.
- 2.5.2 Excavated materials shall not be stockpiled in rivers, streams, floodplains, or Wetlands unless approved by the Pipeline Coordinator.

2.6 Restoration and Revegetation

- 2.6.1 Revegetation of disturbed areas on State Land shall be conducted as soon as practicable and, if necessary, shall be repeated until Revegetation is successful, unless otherwise approved by the Pipeline Coordinator. All other Restoration shall be completed as soon as possible.
- 2.6.2 Surface materials taken from disturbed areas shall be stockpiled and utilized during Restoration unless otherwise approved by the Pipeline Coordinator. Stabilization practices, as determined by the needs for specific sites, shall include but shall not be limited to the placement of mat binders, soil binders, rock, or gravel blankets or structures.
- 2.6.3 All disturbed areas of State Land shall be left in such stabilized condition that erosion in excess of natural rates shall be minimized until the practicable Restoration and Revegetation of the Leasehold can be accomplished in a manner that is reasonably satisfactory to the Pipeline Coordinator.
- 2.6.4 Areas on State Land disturbed by the Lessee shall be Restored by the Lessee to the reasonable satisfaction of the Pipeline Coordinator as stated in writing.
- 2.6.5 Vegetation, overburden, and other materials removed during clearing operations shall be disposed of by the Lessee in a manner approved by the Pipeline Coordinator.
- 2.6.6 Upon completion of Restoration on State Land, the Lessee shall remove all equipment and supplies from the site.

2.7 Timber Clearing, Salvage and Utilization

- 2.7.1 Prior to initiating clearing operations on State Land, the Lessee shall provide the Pipeline Coordinator with an estimate of the amount of merchantable timber, if any, which shall be cut, removed, or destroyed in the Construction and Maintenance of the Pipeline, and shall pay the State in advance of such Construction or Maintenance activity, such sum of money as the Pipeline Coordinator determines to be the full stumpage value of the timber to be cut, removed, or destroyed.
- 2.7.2 The Lessee shall, as part of the Timber Clearing, Salvage and Utilization Plan required in Stipulation 1.4.3.1(d), provide an opportunity for residents and local communities to utilize the salvage timber.
- 2.7.3 All debris resulting from clearing operations and Construction that may block stream flow, delay fish passage, contribute to flood damage, or result in streambed scour or erosion shall be removed.

2.7.4 Logs shall not be skidded or yarded across any watercourse without the approval of the Pipeline Coordinator.

2.7.5 No log storage shall be located within three hundred (300) feet of any watercourse on State Land except with the approval of the Pipeline Coordinator.

2.8 Fish and Wildlife Protection

2.8.1 Fish Passage

2.8.1.1 All Pipeline Activities shall be conducted so as to assure free passage and movement of fish in streams designated by the Pipeline Coordinator in consultation with the Alaska Department of Fish and Game (ADF&G). Temporary blockages of fish necessitated by in-stream activities shall be approved by the ADF&G.

2.8.1.2 Pump intakes shall be screened to prevent harm to fish. Screening specifications shall be approved by the Pipeline Coordinator.

2.8.1.3 When abandoned, water diversion structures shall be removed or plugged and stabilized unless otherwise approved by the Pipeline Coordinator.

2.8.1.4 If material sites are approved adjacent to or in certain lakes, rivers, or streams, the Pipeline Coordinator may require the Lessee to construct levees, berms, or other suitable means to protect fish and fish passage and to prevent siltation of streams or lakes.

2.8.2 Fish Spawning Beds, Rearing Areas, and Overwintering Areas

2.8.2.1 The Lessee shall protect Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas from sediment where soil material is expected to be suspended in water as a result of Pipeline Activities. Settling basins or other sediment control structures shall be constructed and maintained to intercept sediment before it reaches rivers, streams, or lakes.

2.8.2.2 The Lessee shall comply with site-specific terms and conditions imposed by the Pipeline Coordinator to protect Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas from the effects of Pipeline Activities. Damage caused by the Lessee's Pipeline Activities shall be repaired to the reasonable satisfaction of the Pipeline Coordinator.

2.8.2.3 The Lessee shall avoid disturbance to Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas designated by the Pipeline Coordinator. However, where disturbances cannot be avoided, proposed modifications and appropriate mitigation measures shall be designed by the Lessee and approved by the Pipeline Coordinator.

2.8.3 Wildlife

2.8.3.1 The Pipeline shall be maintained to avoid significant alteration of big-game movement patterns. The Pipeline Coordinator may require additional measures to mitigate impacts to big-game movement.

2.8.3.2 The Lessee shall coordinate with the U.S. Fish & Wildlife Service regarding any activity that has the potential to disturb polar bears. Pipeline Activities shall avoid polar

bear dens unless alternative mitigative measures to minimize disturbances are approved by the Pipeline Coordinator and the U.S. Fish and Wildlife Service.

- 2.8.3.3 Prior to starting Pipeline Activities, the Lessee shall obtain the locations of known brown-bear dens from the ADF&G for the purpose of avoiding both human/bear interactions and disturbance of bear dens.

2.8.4 Zones of Restricted Activity

- 2.8.4.1 During periods of wildlife breeding, nesting, lambing, or calving activity, and during major migrations of wildlife, the Lessee's activities on State Land may be restricted by the Pipeline Coordinator with written notice. From time to time, the Pipeline Coordinator shall furnish the Lessee a list of areas where such actions may be required, together with anticipated dates of restriction. In addition, no blasting shall be done under water or within one-quarter (1/4) mile of streams or lakes with identified sensitive wildlife habitat without the approval of the Pipeline Coordinator.

- 2.8.4.2 During periods of fish spawning, rearing, and migration, the Lessee's activities on State Land may be restricted by the Pipeline Coordinator with written notice. From time to time, the Pipeline Coordinator shall furnish the Lessee a list of areas where such actions may be required, together with anticipated dates of restriction. In addition, no blasting shall be done under water or within one-quarter (1/4) mile of streams or lakes with identified sensitive fisheries habitat without the approval of the Pipeline Coordinator.

2.9 Use of Explosives

- 2.9.1 The Lessee shall submit a plan for use of explosives on State Land, including but not limited to blasting techniques, to the Pipeline Coordinator in accordance with Stipulation 1.4.3.
- 2.9.2 Any blasting not previously approved in the blasting plan shall be approved by the Pipeline Coordinator.

2.10 Vegetative Screens and Buffers

- 2.10.1 Where the Leasehold crosses Roads, a screen of native vegetation shall be established over the disturbed areas unless otherwise approved by the Pipeline Coordinator.
- 2.10.2 The Pipeline shall be located so as to provide a buffer of undisturbed land at least five hundred (500) feet wide between the Pipeline and streams, unless otherwise approved by the Pipeline Coordinator.
- 2.10.3 Undisturbed vegetative screens at least five hundred (500) feet wide shall be maintained between material sites and highways unless otherwise approved by the Pipeline Coordinator.

2.11 Contingency Plans

- 2.11.1 It is the policy of the Department of Natural Resources that there should be no discharge of petroleum products or other pollutants into or upon lands or waters of the State. The Lessee must therefore recognize its prime responsibility for the protection of the public and environment from the effects of spillage.

- 2.11.2 Prior to Pipeline startup, the Lessee shall demonstrate its capability and readiness to execute the Hazardous Substances control, cleanup, and disposal plan referenced in Stipulation 1.4.3 and approved by the Pipeline Coordinator. The Lessee shall update, as appropriate, the plans and methods of implementation, and submit the updates to the Pipeline Coordinator for approval.
- 2.11.3 If during any phase of the Construction, Operation, Maintenance, or Termination of the Pipeline, any oil or other pollutant should be discharged from the Pipeline or from any storage or refueling facility or equipment, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the Lessee. Upon failure of the Lessee to control, dispose of, or clean up such discharge, the Pipeline Coordinator may take measures to control and clean up the discharge at the full expense of the Lessee. Such action by the Pipeline Coordinator shall not relieve the Lessee of any responsibility as provided herein.

3. TECHNICAL

3.1 General

- 3.1.1 All Design, Construction, Operation, Maintenance, and Termination methods employed with respect to the Pipeline shall be in accordance with sound engineering practice and shall meet or exceed the U.S. Department of Transportation Regulations in 49 CFR, Parts 191, 192 and 199.
- 3.1.2 Requirements in addition to those set forth in the above minimum standards may be imposed by the Pipeline Coordinator as reasonably necessary to reflect the impact of arctic environments or other specialized situations. The Pipeline Coordinator shall make every effort to identify such additional requirements during the Design phase.
- 3.1.3 The Lessee shall perform Maintenance in such a manner as to minimize damage to the Leasehold; to minimize environmental deterioration, such as to water or air quality; and to protect public safety. The Lessee shall submit a Maintenance Plan to the Pipeline Coordinator for acceptance prior to start-up and shall submit to the Pipeline Coordinator for acceptance any subsequent major changes to the plan.

3.2 Design Basis and Criteria

- 3.2.1 The Lessee shall develop a Design Basis and Criteria document for acceptance by the Pipeline Coordinator. The document shall follow the Pipeline Coordinator's standard format modified to encompass the characteristics of the project. In particular, proximity to TAPS shall be given emphasis. After acceptance, any modifications to the contents of the Design Basis and Criteria shall also be accepted by the Pipeline Coordinator.

3.3 Technical Record Keeping

- 3.3.1 All drawings and primary technical documents shall be kept up-to-date. Changes to the Pipeline shall be documented by final drawings sealed by an engineer registered in the State of Alaska within 180 days of completion, unless otherwise authorized by the Pipeline Coordinator.

3.4 Proximity to TAPS and Other Existing Infrastructure

- 3.4.1 The Pipeline route and proximity to all existing or planned installations shall be approved by the Pipeline Coordinator. Any subsequent changes in route shall be approved by the Pipeline Coordinator.
- 3.4.2 All route and proximity analyses, maps, selection, and reports shall consider the potential impact radius.
- 3.4.3 The Lessee shall not interfere with operations or other activities of TAPS except as may be approved by the Pipeline Coordinator.
- 3.4.4 The Lessee and the Pipeline Coordinator agree to meet on a regular basis with Alyeska Pipeline Service Company to review all issues associated with proximity, including the opportunity to review and comment on the “proximity to Trans Alaska Pipeline System (TAPS) and Other Existing Infrastructure” (Stipulation 1.4.3.1(a)).

3.5 Electronics and Communications

- 3.5.1 The Lessee shall screen, filter, or otherwise suppress any electronically operated devices installed as part of the Pipeline which are capable of producing electromagnetic interference radiations so that such devices shall not adversely affect the functioning of the Pipeline communication systems.
- 3.5.2 Any structures built as part of the communication systems shall not interfere with radiation patterns of existing line-of-site communication systems, navigational aids, or related systems including all systems used in connection with the operation of TAPS.
- 3.5.3 The Lessee shall provide a reliable voice and data communication system and backup that shall provide information to a control center and be fully usable for an incident command system. This communication system shall provide automated and timely regulatory reporting, timely operational data retrieval, automated trending capabilities, alarming functionality, security, and automated operator notification. Part of the communication system shall be a fully functioning and reliable Supervisory Control and Data Acquisition (SCADA) system.
- 3.5.4 The Lessee shall maintain two independent communication systems capable of full transmission of voice and data for emergencies. Both the primary and backup systems shall be continuously available for use for incident command.
- 3.5.5 The Lessee shall ensure that both independent communication systems can be fully functional after a seismic event as defined elsewhere in the Stipulations. This includes all transmission equipment, supporting facilities, power, and other devices needed to make a fully functional communication system. A seismic analysis sealed by an engineer registered in the State of Alaska shall be provided to the Pipeline Coordinator verifying this has been accomplished.

3.6 Corrosion

- 3.6.1 The Lessee shall provide a plan for corrosion-resistant design and methods for early detection of corrosion in accordance with 49 CFR, Part 192.

3.6.2 The Corrosion Plan shall include consideration of:

- (a) Pipeline material to be used and information on its particular suitability for the environment involved;
- (b) Details on the external pipe protection to be provided (coating, wrapping, or other means of protection), including information on variations in environmental factors along the Pipeline route;
- (c) Plans for cathodic protection if necessary or when appropriate, including details of impressed-current sources and controls to ensure continuous maintenance of adequate protection over the entire surface of the pipe;
- (d) Details of plans for monitoring cathodic-protection current, including spacing of current monitors;
- (e) Provision for periodic intensive surveys of trouble spots, regular preventive maintenance surveys, and special provisions for abnormal potential patterns, especially those resulting from other pipelines or cables; and
- (f) Information on any precautions that may be required to prevent external or internal corrosion of the Pipeline.

3.7 Lightning Protection

3.7.1 Lightning protection and surge suppression shall conform to the requirements of NFPA 780, 2011 Edition, "Standard for the Installation of Lightning Protection Systems."

3.7.2 The Lessee shall provide an engineering summary verifying that all lightning protection is in place and fully functional. The report shall be updated to accommodate subsequent changes to facilities and installation requiring additional protection required under NFPA 780. All reports shall be sealed by an engineer registered in the State of Alaska.

3.7.3 The Lessee shall inspect lightning protection annually and repair damage no later than June 1 unless otherwise authorized by the Pipeline Coordinator.

3.8 Seismic

3.8.1 The Pipeline shall be designed to prevent gas leakage or damage to the Pipeline from the Design Contingency Earthquake (DCE). The DCE is defined as an earthquake with a five (5) percent probability of exceedance in fifty (50) years. Seismic ground-motion parameters shall be based on the U.S. Geological Survey (USGS) national seismic hazard maps for Alaska as appropriate to the particular pipeline or facility application, except for areas of special seismic hazards such as active faults, unstable slopes, or liquefaction zones. An engineer registered in the State of Alaska shall assess the design for each of these special seismic hazards.

3.8.2 An Engineering Analysis and Report on the Design of the Pipeline, sealed by an engineer registered in the State of Alaska, shall be submitted to the Pipeline Coordinator for review and acceptance. The report shall assess and confirm that the Pipeline can withstand the DCE and shall indicate any areas of high hazards, fault zones, and mitigating measure that the Lessee has undertaken. The report shall be

reviewed by a qualified geologist to determine that all identified hazards have been considered and proper geologic parameters (e.g., fault zone location, width, and DCE offset) have been used.

- 3.8.3 Seismic design provisions shall include an earthquake monitoring system (EMS). The EMS shall be integrated into the University of Alaska statewide seismic monitoring system and shall include the following elements:
- (a) A network of ground-motion detectors to continuously detect and instantaneously report events near the Pipeline approaching the level of the DCE;
 - (b) An automatic programmed shutdown of the Pipeline when an event near the Pipeline approaches the level of the DCE; and
 - (c) An automatic generation of a post-event inspection checklist targeting the facilities most affected by the location of the event.

3.9 Fault Displacements

- 3.9.1 Prior to applying for a Notice to Proceed for any Construction Segment on State Land, the Lessee shall demonstrate to the Pipeline Coordinator that all recognizable or reasonably inferred active faults or fault zones along the alignment within that Construction Segment have been identified, delineated, and characterized.
- 3.9.2 The Lessee shall demonstrate to the Pipeline Coordinator that the risk of leakage resulting from fault movement and ground deformation has been adequately assessed and provided for in the Design of the Pipeline for any Construction Segment. Evaluation of the risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of fault behavior active during the Holocene era and shall be compatible with the DCE and with observed relationships between earthquake magnitude and extent and the amount of deformation and fault slip within the fault zone. Individual fault-rupture parameters used for Pipeline fault-crossing design shall be verified by site-specific geologic field investigation.
- 3.9.3 In a fault zone that is reasonably interpreted as active, the Pipeline shall meet the following minimum design criteria:
- (a) The Pipeline shall resist failure resulting in leakage from displacement in the foundation material resulting from the DCE on that fault zone;
 - (b) No storage tank or compressor station shall be located within an active fault zone on State Land; and
 - (c) The manner of pipe installation across the fault zone, location of valves on each side of the fault, and monitoring system shall be included in the design.
- 3.9.4 Where the Pipeline crosses a fault or lies within a fault zone on State Land that is reasonably interpreted as active, the Lessee shall monitor crustal deformation in the vicinity (e.g., fault creep, seismicity) and report findings to the Pipeline Coordinator at a frequency to be agreed upon by the Pipeline Coordinator and the Lessee.

3.10 Land, Soil, Snow, and Ice Movement

- 3.10.1 Areas subject to mud flows, landslides, avalanches, rock falls, and other types of mass movements shall be avoided where practicable in locating the Pipeline on State Land. Where such avoidance is not practicable, the Pipeline Design, based upon detailed field investigations and analysis, shall provide measures to prevent the occurrence of, or protect the Pipeline against, the effects of such mass movements. Special emphasis shall be used to find areas of unusual cold-region methods of soil failure, such as transitional permafrost, solifluction, and areas of seasonal groundwater flow.
- 3.10.2 The Pipeline shall be designed to protect existing facilities, including TAPS, from the effects of mass movement caused by the Lessee's activities, and shall not adversely affect slope stability protection measures of existing structures.

3.11 Land and Surface Disturbance

- 3.11.1 All Construction, Operation, Maintenance, and Termination activities in connection with the Pipeline shall be conducted to minimize surface modifications. These activities shall be planned and executed in such a way that the resulting alteration of permafrost shall not jeopardize Pipeline integrity or the surrounding environment.
- 3.11.2 A monitoring program shall be developed by the Lessee to (a) identify any Pipeline movement that may affect Pipeline integrity, resulting from frost heave or settlement forces, and (b) identify surface heave or subsidence above the Pipeline. This program, including baseline data, shall be finalized and operational prior to transmission of Natural Gas through the Pipeline.
- 3.11.3 Construction of Access Roads, ice ramps, ice work pads, protective work mats, or any other method to protect the ground surface shall be approved by the Pipeline Coordinator. Approvals shall be obtained during all phases of the Lease, including Construction, Operation, Maintenance, and Termination of the Pipeline.
- 3.11.4 The Pipeline Coordinator shall approve Pipeline trench backfill methods prior to the start of detailed Construction planning.

3.12 Pipe/Soil Interaction

- 3.12.1 The Lessee shall produce a summary report discussing the effects of modifications to the in-situ thermal condition of the soils supporting the Pipeline caused by Construction, Operations, and/or Maintenance. The report shall also include the steps taken to mitigate those effects so as to maintain Pipeline operational integrity and minimize the effects of ground surface expression. The Pipeline shall be designed to maintain Pipeline integrity under potential ground movements resulting from these modifications as required by ASME B31.8S. The report shall be sealed by an engineer registered in the State of Alaska.
- 3.12.2 The Lessee shall monitor the thermal regime and submit annual reports on the thermal stability of the Pipeline. The reports shall also include records of the gas temperatures maintained in the Pipeline. The reporting frequency of these reports shall continue until the Pipeline Coordinator has determined that the installation has stabilized.

3.13 Rivers, Streams, and Floodplains

- 3.13.1 The Pipeline shall be designed to withstand or accommodate the effects (including runoff, stream and floodplain erosion, meander cutoffs, lateral migration, ice jams, and icings) of those meteorological and hydrologic (including surface and subsurface) conditions considered characteristic for each hydrologic region.
- 3.13.2 For stream crossings and portions of the Pipeline within a floodplain, the following design standards shall apply:
- (a) The design flood shall be based on the 100-year flood event as defined by the USGS Regional regression equations or flood frequency analysis of gage data if close and representative to the stream under consideration;
 - (b) The depth of channel scour shall be established by appropriate field investigations and theoretical calculations using those combinations of water velocity and depth that yield the maximum value. At the point of maximum scour, the cover over the top of the pipe shall be at least twenty (20) percent of the computed scour, but not less than four (4) feet;
 - (c) For overhead crossings, analysis shall be made to ensure that support structures are adequately protected from the effects of scour, channel migration, undercutting, ice forces, degradation of permafrost, and other external and internal loads;
 - (d) To avoid channelization along the pipe, appropriate design and construction procedures shall be included in the plans required and shall be used wherever there is potential for such channelization;
 - (e) Methods of constructing stream crossings, including horizontal directional drilling or excavation and backfill of pipe trench near and through stream banks and existing river-training structures shall be approved by the Pipeline Coordinator prior to initiation of Construction; and
 - (f) Low water crossings (fords across streams or rivers where any mobile ground equipment is moved on the streambed) shall be designed, constructed, maintained, and Restored to standards approved by the Pipeline Coordinator.
- 3.13.3 The Pipeline shall be designed to minimize the number of stream and Wetland crossings and to include, but not be limited to, consideration of effects to other nearby structures, from aufeis development, erosion and sedimentation, restriction of natural meander, or alteration of the physical or chemical nature of the water body caused by Pipeline Activities.
- 3.13.4 Temporary access over stream banks prior to and following Construction shall be made through the use of fill ramps rather than by cutting through stream banks, unless otherwise approved by the Pipeline Coordinator. The Lessee shall remove such ramps upon termination of the activity. Ramp materials shall be disposed of in a manner approved by the Pipeline Coordinator.
- 3.13.5 Culverts, bridges, and other hydrological structures necessary for Maintenance of the Pipeline shall be designed at a minimum to accommodate a fifty (50) year flood in accordance with criteria established by the American Association of State Highway and

Transportation Officials and the Federal Highway Administration, and in accordance with the DOT&PF Alaska Highway Drainage Manual.

- 3.13.6 ADF&G standards shall be adhered to for installation of culverts in fish streams designated by the Pipeline Coordinator. Such culverts shall be necessary for Construction or Operation of the Pipeline.

3.14 Access Roads

- 3.14.1 The Lessee shall submit a layout of each proposed Access Road for approval by the Pipeline Coordinator.
- 3.14.2 Access Roads shall be constructed to standards suitable for safe operations of equipment at the travel speeds proposed by the Lessee.
- 3.14.3 Design, materials, and construction practices employed for Access Roads shall be in accordance with safe and proven engineering practice. Access Roads intended for permanent use shall be constructed in accordance with federal and State road standards and the principles of construction for roads in the arctic environment.
- 3.14.4 The maximum allowable grade is twelve (12) percent unless otherwise approved by the Pipeline Coordinator.

3.15 Work Pads

- 3.15.1 Gravel work pads shall be designed and constructed to protect the ground surface and prevent any thermal degradation of permafrost.
- 3.15.2 A Maintenance Plan for work pads shall be developed for acceptance by the Pipeline Coordinator.

4. HIGHWAY USE AGREEMENT

- 4.1 Prior to commencement of Construction, the Lessee shall enter into a comprehensive agreement with DOT&PF for the use of highways and other facilities under the jurisdiction of the DOT&PF.