

Appendix G: Special Requirements¹

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Appendix G: Special Requirements

Letters Imposing Provisions Under Authority of Stipulations

Letter Number	Date of Letter	Due Date	Subject
01-008-DG	05/08/01	N/A	Earthquake Monitoring System
01-009-FC	02/07/01	N/A	Slope Stability Performance Requirements Pursuant to Stipulation 3.2.1.2
01-010-DG	03/16/01	05/15/01	Stipulation 3.4.2.3. Fault Monitoring, Imposing Special Provisions under Authority of Stipulation 1.3.2
01-011-DG	03/19/01	06/01/01	Stipulation 3.8 Glacier Surges, Imposing Special Provisions under Authority of Stipulation 1.3.2
01-012-CA	01/19/01	N/A	Revised JPO Brushing Policy
01-012-DG	03/22/01	11/01/01	Performance Requirements for Depth of Cover at Buried Mainline Pipe Side-bend and Over-bend Locations, Imposing Special Provisions under Authority of Stipulation 1.3.2
95-073-GD	05/18/95	N/A	Zones of Restricted Activities for Peregrine Falcon and Other Raptors Stipulation 2.5.3
01-110-DG	06/29/01	07/31/01	Aboveground System Additional Requirements pursuant to Stipulation 3.2.1.2
01-111-DG	06/18/01	N/A	Restoration Performance Requirements Pursuant to Stipulation 2.12.1
01-114-DG	06/29/01	N/A	Stipulation 3.2.1 Pipeline System Standards for pipe Curvature, Imposing Special Standards under Authority of Stipulation 3.2.1.2
S.N.-P001-TAPS-3789	2/19/87	N/A	Zones of Restricted Activities Key Fish Areas Stipulation 2.5.3.1.
Agreement (JPO/Alyeaka)	2/28/02	N/A	Agreement between Joint Pipeline Office and Alyeska Pipeline Service Company Stipulation 1.18.1

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| <input type="checkbox"/> AK. Dept. of Fish & Game | <input type="checkbox"/> U.S. Environmental Protection Agency |
| <input type="checkbox"/> AK. Dept. of Natural Resources | <input type="checkbox"/> U.S. Dept. of Transportation |
| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
 Anchorage, Alaska 99501
 (907) 271-5070/271-4336
 FAX # (907) 272-0690

March 16, 2001

Letter No.: 01-010-DG
 File No.: PT 5.40, F1060, D3040
 DD.: 5/15/01

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK 99512

Re: Stipulation 3.4.2.3. Fault Monitoring, Imposing Special Provisions under Authority of Stipulation 1.3.2.

Dear Mr. Shoaf:

Under authority of Stipulation 1.3.2, the Authorized Officer and State Pipeline Coordinator may require Permittees and Lessees make such modification of the pipeline as they deem necessary to protect or maintain integrity of the pipeline. Government Letter P001-TAPS-3853 previously conveyed conditions of fault monitoring to Alyeska from the Authorized Officer. By authority of Stipulation 1.3.2, the requirements of that letter are adopted as a modification of operational requirements of Stipulation 3.4.2.3.

You are authorized to discontinue further annual fault monitoring surveys provided APSC continues annual surveillance of the aboveground pipe at each of the three identified faults and maintains the position of the pipe on the beams to assure design limits of movement are attainable. You are directed to provide photo documentation to show the pipe support is in the operations design limits and report the results annually.

Mr. Robert I. Shoaf

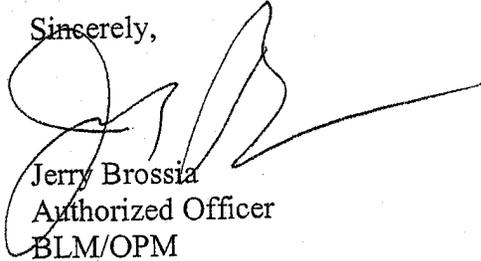
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March 16, 2001

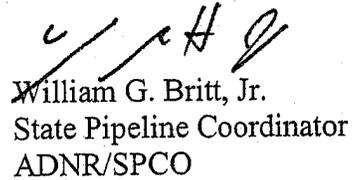
Re: Stipulation 3.4.2.3. Fault Monitoring, Imposing Special Provisions under Authority of Stipulation 1.3.2.

If you have any questions, please contact Doug Lalla of our office at (907) 271-4394.

Sincerely,



Jerry Brossia
Authorized Officer
BLM/OPM



William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

cc:

Gary Reimer, BLM
Colleen McCarthy, BLM
Don Keyes, BLM
Doug Lalla, BLM
Emery (Lee) Monthei, APSC (MS 530-B)
Jim Roddick, APSC (MS-855)
Shelly Martin, APSC (MS542)
Eldon Johnson, APSC (MS 855)
John Ferrell, APSC (MS 855)

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| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

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May 8, 2001

Letter No.: 01-008-DG
File No.: PT 5.40, F1060, D3040
DD.: N/A

Mr. Robert I. Shoaf
Vice President
Alyeska Pipeline Service Company
1835 South Bragaw Street, MS 528
Anchorage, AK 99512

Re.: **Earthquake Monitoring System**

Dear Mr. Shoaf:

With this letter the Joint Pipeline Office (JPO) is clarifying and imposing special provisions to the required and approved Earthquake Monitoring System (EMS) and procedures previously developed under the Notice to Proceed issued for Pipeline start-up in 1977.

In 1977 Alyeska contended the entire pipeline was designed to withstand a contingency earthquake without Oil leakage. The Alaska Pipeline Office (APO) in letter S.N. P001-APO-2243 dated May 21, 1977 stated the following in response: "We accept your conclusion based on our design review of total system performance. However, we will continue to require an Earthquake Monitoring System as part of Alyeska's overall Operations Supervisory System. Submittal of the final construction and operational details of this system for review and approval remains a requirement of the Terminal Control System Notice to Proceed TSC-XX-1."

Under authority of Stipulation 1.3.2, the Authorized Officer and State Pipeline Coordinator require the EMS and procedures be in place to protect or maintain integrity of the Pipeline; prevent serious and irreparable harm to the environment; or remove hazards to public health and safety. In addition, the following clarification and special provisions are imposed on the approved EMS:

1. Alyeska will maintain a network of ground-motion detectors capable of continuously monitoring, recording, and instantaneously signaling the occurrence of ground motion (acceleration) in the vicinity of the Pipeline reaching a level of the Design Operating Earthquake (DOE). Ground motions for a DOE is defined as one-half the intensity of a

Mr. Robert I. Shoaf
Re.: Earthquake Monitoring System

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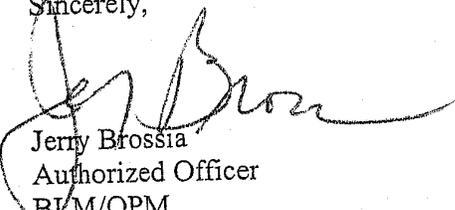
May 8, 2001

Design Contingency Earthquake (DCE). The DCE for each seismic zone is defined in Stipulation 3.4.1.1.

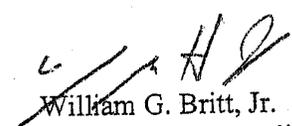
2. The EMS shall initiate a programmed shutdown of the Pipeline when DOE ground motion is reached but is not required for ground motion less than 0.10g. The programmed shutdown shall include the idling of all Pump Stations. The EMS shall alert the pipeline controller by issuing a seismic alarm, when the DOE ground motion level is reached and initiate an automatic Pipeline shutdown in ten minutes. Provided all monitoring instrumentation shows the Pipeline is functioning properly and no indication of a possible leak has been received, the pipeline controller may intervene to allow operation of the Pipeline to continue. The pipeline control system shall provide for automatic shutdown of the pipeline if the pipeline controller fails to acknowledge a seismic alarm within ten minutes.
3. If the leak detection system indicates a possible leak, the Operations Control Center shall initiate a shutdown and close all remote gate valves that will isolate appropriate pipeline segments containing a possible leak. The valves shall be closed in a manner to minimize oil spill volume and to insure the safety and integrity of the pipeline. The appropriate segments include those indicated by the leak alarm and those identified by the EMS as experiencing ground motion at or above the DOE level.
4. The EMS shall determine the segments of the Pipeline experiencing ground motion at or above the DOE level and generate a list of those potentially affected features of the Pipeline. A prompt close inspection of the Pipeline shall occur guided by this list.

If you have any questions, please contact Doug Lalla of our office at (907) 271-4394.

Sincerely,



Jerry Brossia
Authorized Officer
BLM/OPM



William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

cc:

Dan Rice, ADNR
Gary Reimer, BLM
Colleen McCarthy, BLM
Don Keyes, BLM
Doug Lalla, BLM
Mike Joyner, APSC (MS 700)
Emery (Lee) Monthei, APSC (MS 530-B)
Jim Roddick, APSC (MS-855)
Shelly Martin, APSC (MS 542)
Eldon Johnson, APSC (MS 855)

- | | |
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| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
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 FAX # (907) 272-0690

February 7, 2001

Letter No.: 01-009-FC
 File No.: PT 5.20, F2030 & D1180
 DD.: N/A

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK 99512

Re: Slope Stability Performance Requirements Pursuant to Stipulation 3.2.1.2

Dear Mr. Shoaf:

During the updating of the performance standards for Stipulation 3.5.1, slope stability, we determined that JPO's criteria for evaluating this stipulation should be implemented as a pipeline system standard.

Stipulation 3.1.1 states that the following standards shall be complied with in design, construction, operation, and termination of the pipeline system. Stipulation 3.2.1.1 lists four specific codes and regulations and 3.2.1.2 provides that the Federal Authorized Officer (Grant) and State Pipeline Coordinator (Lease) may impose additional requirements as necessary to reflect the impact of sub-arctic and arctic environments.

The presence of permafrost, which is predominantly a geologic soil condition representative of arctic and sub-arctic environments, and present throughout much of the route of the Trans-Alaska Pipeline requires special geotechnical consideration. Therefore, pursuant to Stipulation 3.2.1.2 of the Agreement and Grant of Right-of-Way, the following standard is to apply to all design criteria for facilities on the Trans-Alaska Pipeline.

Requirement: Slopes with a grade greater than 10% shall have a static factor of safety (Design Basis Appendix A-3.1079, p. 4-18) no less than 1.5 and a dynamic factor of safety (Design Basis

Mr. Robert I. Shoaf
Slope Stability Performance Requirements Pursuant to Stipulation 3.2.1.2

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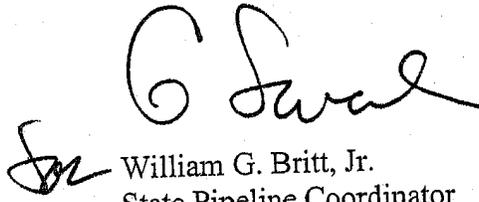
February 7, 2001

Appendix A-3.1079, p. 4-18) no less than 1.0 or ground displacement no greater than 5 inches unless otherwise approved as a variance by the Authorized Officer and State Pipeline Coordinator.

If you have any questions, please contact Joe Dygas of our office at (907) 271-4452.

Sincerely,


Jerry Brossia
Authorized Officer
BLM/OPM


William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

Enclosure(s):
Factors of Safety

cc:

C.A.Richey, APSC (MS 830)
Lee Monthei, APSC (MS 530-B)
Elden Johnson, APSC (MS 855)
John Ferrell, APSC (MS 855)
Karen Kilty, APSC (MS 542)

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JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
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(907) 271-5070/271-4336
FAX # (907) 272-0690

March 16, 2001

Letter No.: 01-010-DG
File No.: PT 5.40, F1060, D3040
DD.: 5/15/01

Mr. Robert I. Shoaf
Vice President
Alyeska Pipeline Service Company
1835 South Bragaw Street, MS 528
Anchorage, AK 99512

Re: **Stipulation 3.4.2.3. Fault Monitoring, Imposing Special Provisions under Authority of Stipulation 1.3.2.**

Dear Mr. Shoaf:

Under authority of Stipulation 1.3.2, the Authorized Officer and State Pipeline Coordinator may require Permittees and Lessees make such modification of the pipeline as they deem necessary to protect or maintain integrity of the pipeline. Government Letter P001-TAPS-3853 previously conveyed conditions of fault monitoring to Alyeska from the Authorized Officer. By authority of Stipulation 1.3.2, the requirements of that letter are adopted as a modification of operational requirements of Stipulation 3.4.2.3.

You are authorized to discontinue further annual fault monitoring surveys provided APSC continues annual surveillance of the aboveground pipe at each of the three identified faults and maintains the position of the pipe on the beams to assure design limits of movement are attainable. You are directed to provide photo documentation to show the pipe support is in the operations design limits and report the results annually.

Mr. Robert I. Shoaf

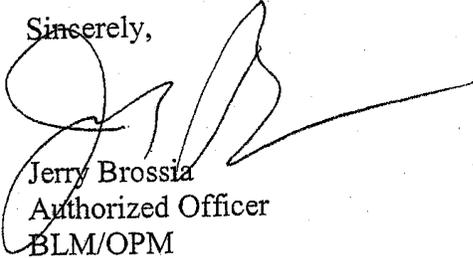
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March 16, 2001

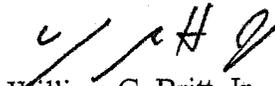
Re: Stipulation 3.4.2.3. Fault Monitoring, Imposing Special Provisions under Authority of Stipulation 1.3.2.

If you have any questions, please contact Doug Lalla of our office at (907) 271-4394.

Sincerely,



Jerry Brossia
Authorized Officer
BLM/OPM



William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

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| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
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March 19, 2001

Letter No.: 01-011-DG
 File No.: PT 5.40, F2001, D3080
 DD.: 6/1/01

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK 99512

Re: Stipulation 3.8 Glacier Surges, Imposing Special Provisions under Authority of Stipulation 1.3.2.

Dear Mr. Shoaf:

Under authority of Stipulation 1.3.2, the Authorized Officer and State Pipeline Coordinator may require modification to protect or maintain stability of geologic materials and the integrity of the pipeline. The glaciers along the Trans-Alaska Pipeline route require special geotechnical consideration. Therefore, further requirements are necessary in addition to those provided in Stipulation 3.8 Glacier Surges.

Pursuant to Stipulation 1.3.2 of the Agreement and Grant-of-Way and the State Right-of-Way Lease, the following procedures for monitoring Black Rapids Glacier, Castner Glacier, Fels Glacier, Canwell Glacier, and Worthington Glacier to detect glacier surges and preparing to implement contingency plans should a glacier encroach on the pipeline are required.

1. Prepare a generic contingency plan for glacier surges. The Alyeska risk assessment recommended a contingency plan be prepared for the Black Rapids and Canwell Glacier. We support this recommendation.
2. Aerial photos of the five glaciers shall be taken and analyzed on a five-year cycle. The rate of movement of each glacier is estimated by comparing the terminus location in successive aerial photographs. The next photos are due in year 2004. The evaluation reports will be transmitted to the Joint Pipeline Office.

Mr. Robert I. Shoaf

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March 19, 2001

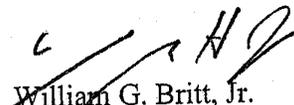
Re: Stipulation 3.8 Glacier Surges, Imposing Special Provisions under Authority of Stipulation 1.3.2.

3. Aerial photographs shall be taken and analyzed once per year for glaciers that are estimated to reach the pipeline within 5-years.
4. Provide semimonthly surveillance of Black Rapids and Canwell Glaciers to assure a glacier surge does not go undetected.
5. Prepare a contingency plan for a glacier that is expected to reach the pipeline in less than 5-years.
6. If the movement analysis indicates a glacier is likely to threaten the pipeline in less than 2-years, a conceptual engineering study shall be completed and measures executed to protect or relocate the pipeline facilities threatened.

If you have any questions, please contact Doug Lalla of our office at (907) 271-4394.

Sincerely,


Jerry Brossia
Authorized Officer
BLM/OPM


William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

cc:

Gary Reimer, BLM
Colleen McCarthy, BLM
Don Keyes, BLM
Doug Lalla, BLM
Emery (Lee) Monthei, APSC (MS 530-B)
Jim Roddick, APSC (MS 855)
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John Ferrell, APSC (MS 855)
Shelly Martin, APSC (MS 542)

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JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
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January 19, 2001

Letter No.: 01-012-CA
 File No.: 51.2.2.2.2, 2.4.1.1,
 2.4.3.1, 2.4.3.2, 2.5,
 2.7.2.3, 2.7.2.4, 2.7.4.5,
 2.8.1, 2.10.1, PT 3.10
 DD.: N/A

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK 99512

Re: Revised JPO Brushing Policy

Dear Mr. Shoaf:

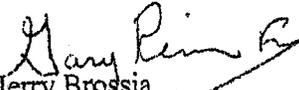
In response to Alyeska's concerns associated with the Joint Pipeline Office ROW Brushing and Undisturbed Buffers Adjacent to Fish Streams dated July 7, 2000, staff from the JPO and Alyeska have worked together to modify the policy (enclosure). This was a cooperative effort to clarify JPO intent and develop standards that can be reasonably implemented. The current policy only cites protection of fish streams and, although important, it does not comprehensively address brushing along the entire right-of-way. In addition to fish related concerns, the revised policy considers other values associated with vegetation protection such as wildlife habitat, erosion control, aesthetic values, and water quality. Meeting participants agreed that vegetation served these important functions and worked to develop a policy that would allow Alyeska to meet its' obligations while minimizing disturbance to vegetation along the entire right-of-way. The working group agreed that the policy should be re-visited periodically to ensure it is functioning as intended.

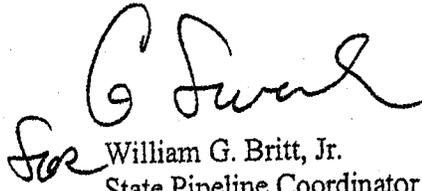
The revised policy is for routine brushing along the TAPS right-of-way. Brushing restrictions for other activities including oil spill containment sites, harvest of willows for revegetation purposes, and harvesting danger trees shall be controlled by their respective authorizations.

Mr. Robert I. Shoaf
Revised JPO Brushing Policy

The attached policy supercedes all previous right-of-way brushing directives. If you have any questions please contact Mike Thompson at 271-4346.

Sincerely,


Jerry Brossia
Authorized Officer
BLM/OPM


William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

Enclosure:

JPO BRUSHING POLICY (2 pp)

cc:

John Globig, APSC
Ken Wilson, APSC
Dave Schmidt, APSC
Pete Nagel, APSC
Tom Arminski, APSC
Alan Richey, APSC
Susan Harvey, ADEC
Gary Reimer, JPO
Mike Thompson, JPO
Tony Braden, JPO
Colleen McCarthy, JPO
Al Samet, JPO
Don Study, JPO
Mike Kasterin, JPO
Bonnie Friedman, JPO
Carl Laughtenberger, JPO
Mike Wrabetz, JPO
Phil Brna, JPO
Jim Ducker, JPO

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JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
Anchorage, Alaska 99501
(907) 271-5070/271-4336
FAX # (907) 272-0690

March 22, 2001

Letter No.: 01-012-DG
File No.: PT 5.20, F2030, D1180
DD.: 11/1/01

Mr. Robert I. Shoaf
Vice President
Alyeska Pipeline Service Company
1835 South Bragaw Street, MS 528
Anchorage, AK 99512

Re: Performance Requirements for Depth of Cover at Buried Mainline Pipe Side-bend and Over-bend Locations, Imposing Special Provisions under Authority of Stipulation 1.3.2.

Dear Mr. Shoaf:

We concur with Alyeska (Letter No. 00-16547) that Stipulation 3.3 in JPO's Letter ~~No. 00-077-JH~~ is for the construction phase only. Structural overfills were required to provide pipe restraint and soil stability above the level of the pipe axis at side-bends and over-bends to compensate for insufficient burial depth.

Under authority of Stipulation 1.3.2 the Authorized Officer and State Pipeline Coordinator may require Permittees and Lessees to make such modification of the pipeline as they deem necessary to protect or maintain integrity of the pipeline. It has been determined that the following operational requirements are necessary to protect and maintain the integrity of the pipeline.

Structural overfills shall be monitored and maintained throughout the life of the pipeline unless it can be shown that conditions have changed. In this event, Alyeska will provide a detailed analysis to show that pipe rupture will not occur from pipe or soil instability. This analysis shall consider the pipeline operation at full capacity.

Specifications for monitoring and maintenance are:

- (1) Structural overfills are to be maintained in thickness, length and width to ensure pipe stability,
- (2) APSC Drawings AL-00-G100, Sheets 1-143 shall show limits of structural overfills,
- (3) Cross drainage will be provided, where appropriate, at structural overfills,

Mr. Robert I. Shoaf

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March 22, 2001

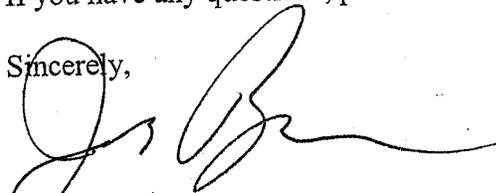
Re: Performance Requirements for Depth of Cover at Buried Mainline Pipe Side-bend and Over-bend Locations,
Imposing Special Provisions under Authority of Stipulation 1.3.2.

- (4) Structural overfills shall be protected with riprap, when necessary in floodplain areas, and
- (5) Signs will be maintained at structural overfill locations.

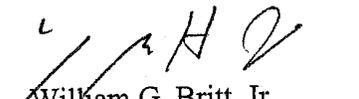
In addition, Alyeska is directed to conduct surveillance of the structural overfills at 22 locations, as listed in Appendix E of MS-31, Third Edition, Rev. 1, dated September 15, 2000 and evaluate instrumented pig data at structural overfill locations to detect the approach to operational tolerance levels for the pipe. Results of surveillance and pig data analysis shall be submitted to JPO by the due date indicated above.

If you have any questions, please contact Joe Dygas of our office at (907) 271-4452.

Sincerely,



Jerry Brossia
Authorized Officer
BLM/OPM



William G. Britt, Jr.
State Pipeline Coordinator
ADNR/SPCO

cc:

Gary Reimer, BLM
Joe Dygas, BLM
C.A.Richey, APSC (MS 830)
Lee Monthei, APSC (MS 530-B)
Elden Johnson, APSC (MS 855)
John Ferrell, APSC (MS 855)
Shelly Martin, APSC (MS 542)
Jim Roddick, APSC (MS 855)

**AGREEMENT
BETWEEN
JOINT PIPELINE OFFICE
AND
ALYESKA PIPELINE SERVICE COMPANY**

February 28, 2002

In the matter of continuous improvement
Of the Alyeska compliance systems, quality program, change management
And corrective action processes.

Whereas, the Alyeska Pipeline Service Company (APSC), as agent of the Owners of the Trans Alaska Pipeline System (TAPS), operates the pipeline system subject to an agreement and grant of right of way entered into between the pipeline owners and the Department of Interior, effective January 23, 1974 under authority of Trans-Alaska Pipeline Authorization Act, 87 Stat, 853 (1973) ("TAPAA"), the Mineral Leasing Act, § 185. the TAPS ROW;

Whereas, the pipeline is subject to the State of Alaska ROW Lease issued May 1974 under AS.38.35, issued for a thirty-year term;

Whereas, certain Federal and State of Alaska agencies have created a joint pipeline oversight office, hereafter called Joint Pipeline Office (JPO);

Whereas, the Department of Interior, through the Authorized Officer, and the State of Alaska, through the State Pipeline Coordinator, through the JPO, are required to make decisions regarding the safe operation of the pipeline system;

Whereas, to meet its business objectives and its commitment in Sections 9 and 16 of the Grant and Lease respectively, Alyeska maintains a Quality program (QA 36) and has recently obtained approval from the JPO for Revision 10;

Whereas, this document identifies corrective and preventive actions that will address, resolve and close Grant and Lease deficiencies concerning timeliness of document revision (Stipulations 1.18.3) and adequacy of change management (Stipulation 1.21.1) cited in the Operations and Maintenance CMP Reports of 1999 and 2001.

Whereas, numerous JPO oversight processes and Alyeska assessment processes (including but not limited to the closure process for AAI 1955 and the JPO's Comprehensive Monitoring Program) have identified a need to improve the quality program, change management, corrective action processes and other management processes that pertain to Grant and Lease compliance;

Whereas, the parties to this agreement wish to consolidate Alyeska's response to these oversight and assessment processes and to identify a single path forward, using continuous improvement;

Whereas, Alyeska has incorporated language in QA 36 Revision 10 to clarify the role for the quality program in grant and lease compliance, change management and corrective actions;

Whereas, Alyeska has made significant progress improving these processes and is committed to continuing that improvement;

Whereas, the parties agree that the JPO has approved QA 36 Rev. 10 and will close AAI 1955 in reliance on the commitments made in this agreement:

Therefore, to accomplish these results, and in particular to maintain compliance and improve the systems and processes Alyeska uses to assure compliance, the parties (JPO and APSC) agree as follows:

On December 14, 2001, the JPO approved Revision 10 of QA 36. Revision 10 clarifies the role of the Quality Program in assuring Grant and Lease compliance, including but not limited to effective change management and an effective corrective action program.

The Bureau of Land Management and the Alaska Department of Natural Resources provided Alyeska with their interpretations of the Grant and Lease requirements by February 28, 2002. Alyeska will complete and publish its Grant and Lease compliance manual ("GL 2") and an associated compliance process by April 15, 2002. Alyeska will train appropriate Alyeska and contractor personnel in GL2 and the compliance process by August 1, 2002.

By the end of December 2001 an Alyeska systems renewal team identified improvements to the TAPS regulatory compliance process. By March 31, 2002 Alyeska will review with the JPO Alyeska's improvement plan that results from this team's recommendations. By April, Alyeska will provide the JPO its final plan for improvement actions and schedule.

In order to create a basis for closing AAI 1955 and identifying future continuous improvement activities related to those issues, during November and December 2001 and January 2002 the parties conducted a joint audit of the results of Alyeska's processes that manage change of TAPS hardware. At the present time, the JPO has determined that the Stipulation 1.18.3 compliance standard for timely update of drawings and documents for critical systems is 180 days. If, based on data from the audit, Alyeska believes that a different standard is appropriate, Alyeska will request the JPO to agree to a change in the compliance standard.

By April 15, 2002, an Alyeska Systems Renewal Team will review Alyeska's corrective action process and identify additional improvements that will increase the efficiency and effectiveness of the current process. These improvements will also support closure of the two remaining findings from the March 9, 2000, Alyeska special review on the Corrective Action Process, SR# 00-03.

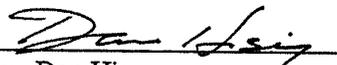
Following identification of these improvements, Alyeska will use its best efforts to obtain JPO agreement with the improvement plan and implementation schedule, as it relates to compliance with Stipulation 1.18.1 of the Grant and Lease for the TAPS Right of Way. Alyeska agrees that:

- The corrective action process will use a risk-based prioritization standard (including Grant and Lease compliance and risks to safety, the environment and TAPS integrity) that will appropriately distinguish deficiencies and focus management attention on timely implementation of corrective actions.
- The corrective action process will be compatible with other key work processes developed by Systems Renewal.
- The process will include trending of corrective actions.
- The process will use categorization methods that are compatible with the Grant and Lease of ROW agreements.
- The process will include JPO notification twice per year of corrective actions on critical items (as defined by the interpretation for Stipulation 1.18.1) that are either deferred beyond their initial due date or are not funded.

Until development and implementation of the improvements that relate to compliance with Stipulation 1.18.1, Alyeska agrees that it will notify the JPO if a funded corrective action on a system (as defined in the draft Interpretation for Stipulation 1.18.1) becomes unfunded. Alyeska also agrees that the standardized prioritization developed during this effort will be applied to the 2003 budget.

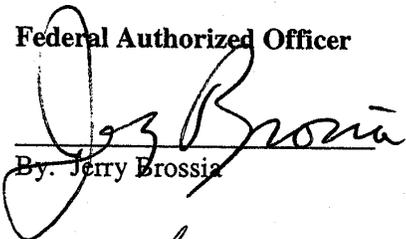
The interface between the Management of Improvement and Corrective Actions and budgeting processes is included in the scope of the effort. The budgeting process itself will be addressed later as part of ongoing system renewal work.

Alyeska Pipeline Service Company


 By: Dan Hisey
 Chief Operating Officer

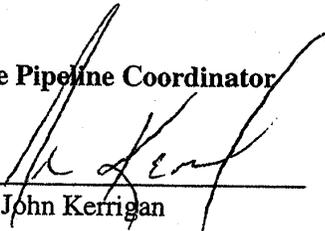
2/28/02
 Date

Federal Authorized Officer


 By: Jerry Brossia

030602
 Date

State Pipeline Coordinator


 By: John Kerrigan

3/6/02
 Date



- Ak. Dept. of Environmental Conservation
- Ak. Dept. of Fish & Game
- Ak. Dept. of Labor
- Ak. Dept. of Natural Resources
- Ak. Division of Governmental Coordination

- U.S. Bureau of Land Management
- U.S. Dept. of Transportation
- U.S. Environmental Protection Agency

JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
 Anchorage, Alaska 99501
 (907) 271-5070/278-8594/258-5400
 FAX # (907) 272-0690

May 18, 1995

Letter No.: 95-073-GD
 File No.: (51) 2.5.1
 DD.: N/A

Mr. Douglas M. Webb
 Sr. Vice President, Corporate Affairs
 Alyeska Pipeline Service Company
 1835 South Bragaw Street (MS-542)
 Anchorage, Alaska 99512

Re: Zones of Restricted Activities for Peregrine Falcon and Other Raptors

Dear Mr. Webb:

Enclosed are the Trans-Alaska Pipeline System (TAPS) Peregrine Falcon and Raptor Protective Restrictions issued under the authority of Stipulation 2.5.3, Zones of Restricted Activities, in the Federal Agreement and Grant of Right-of-Way, State Right-of-Way Lease, and in compliance with Section 7 of the Endangered Species Act, as amended. These restrictions follow guidelines developed in consultation with the U.S. Fish and Wildlife Service (USFWS). Please note that these restrictions have been changed since last issued in April, 1994. Included are protective restrictions for the delisted arctic peregrine falcon and other raptors nesting near TAPS north of the Brooks Range.

USFWS removed the arctic peregrine (*falco peregrinus tundrius*) from the list of endangered and threatened wildlife October 5, 1994 (Federal Register Vol. 59, No. 192, 10/5/94). This subspecies is found in the Sagavanirktok River drainage. Section 4 (g) of the Endangered Species Act requires USFWS to monitor recovered species for five years following de-listing. The American Peregrine (*f. p. anatum*) has not been delisted. This subspecies generally occurs south of the Brooks Range.

Effective immediately, JPO is changing the area within Zones of Restricted Activities at Franklin Bluffs, Sagwon Bluffs, Slope Mountain, Grapefruit Rocks, and Yukon River. Each of these three areas remain important nesting and rearing locales for not only peregrine falcons, but gyrfalcons and rough-legged hawks.

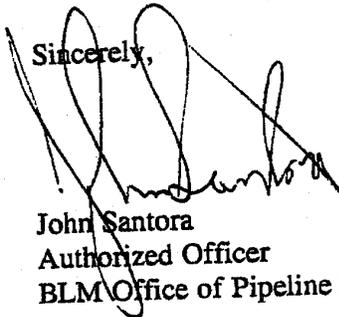
Douglas M. Webb

2

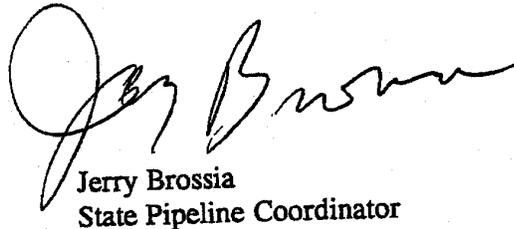
May 18, 1995

All activities within the Zones of Restricted Activities must comply with the attached restrictions and approved variances. Other variances may be approved by JPO on a case by case basis. A copy of the Federal Register publication presenting the USFWS ruling affecting the arctic peregrine is also attached. If you or your staff have questions, please contact Mike Kasterin at 271-4459.

Sincerely,



John Santora
Authorized Officer
BLM Office of Pipeline Monitoring



Jerry Brossia
State Pipeline Coordinator

Enclosures:

Federal Register, Vol. 59, No. 192, October 5, 1994, 50 CFR Part 17, Endangered and Threatened Wildlife and Plants; Final Rule

Trans-Alaska Pipeline System Protective Restrictions For Peregrine Falcons And Other Raptors, with 5 maps, 5/16/95

cc: Skip Ambrose, USFWS
Dee Ritchie, BLM, FBKS
Phil Brna, BLM/JPO
Michael Thompson, ADF&G/JPO
M. F. Smith, APSC (MS 569)
Dennis Prendeville, APSC (MS 596)
David Trudgen, APSC (MS 538)

w/o encl:

Carl Lautenberger, EPA/JPO
Tom Chapple, ADEC/JPO
Don Keyes, BLM/JPO
Gary Reimer, BLM/JPO
Greg Swank, ADNR/JPO
Tony Braden, ADNR/JPO
John Strawn, ADOT/JPO

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| <input type="checkbox"/> AK. Dept. of Environmental Conservation | <input type="checkbox"/> U.S. Bureau of Land Management |
| <input type="checkbox"/> AK. Dept. of Fish & Game | <input type="checkbox"/> U.S. Environmental Protection Agency |
| <input type="checkbox"/> AK. Dept. of Natural Resources | <input type="checkbox"/> U.S. Dept. of Transportation |
| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
Anchorage, Alaska 99501
(907) 271-5070/271-4336
FAX # (907) 272-0690

June 29, 2001

Letter No.: 01-110-DG
File No.: PT 5.20, F2030 & D1180
DD.: 7/31/01

Mr. Robert I. Shoaf
Vice President
Alyeska Pipeline Service Company
1835 South Bragaw Street, MS 528
Anchorage, AK 99512

Re: **Aboveground System Additional Requirements Pursuant to Stipulation 3.2.1.2**

Dear Mr. Shoaf:

Stipulation 3.2.1.2 provides that the Federal Authorized Officer and State Pipeline Coordinator may impose additional requirements as necessary to reflect the impact of sub-arctic and arctic environments. Permafrost is present throughout much of the route of the Trans-Alaska Pipeline and requires special geotechnical consideration.

Pursuant to Stipulation 3.2.1.2 of the Agreement and Grant of Right-of-Way, the following operations standard shall apply to the Trans-Alaska Pipeline Aboveground System. The aboveground system shall be maintained to perform under the effects of seismic and hydraulic events and unstable soils under changing environmental conditions according to approved inservice criteria, factors of safety, and current and future environmental conditions.

Stipulation 3.9.1 of the Agreement and Grant of Right-of-Way indicates in part that thermal changes be avoided or minimized, and that any degradation of the permafrost not jeopardize pipeline foundations. Where degradation of permafrost could jeopardize pipeline foundations and reduce their ability to perform as designed during a seismic or hydraulic event, then timely engineering evaluation and corrective maintenance intervention is required. Appropriate corrective maintenance intervention shall be consistent with design criteria. For example, where a Vertical Support Member (VSM) no longer meets vertical or lateral load design criteria, then intervention is required after appropriate engineering evaluation. Maintenance is required where a critical aboveground component or foundation condition can not perform as designed or meet design criteria. A critical component (VSMs, Shoes, Anchors, Heat Pipes) or environmental condition (VSM depressions) is one whose failure could lead to a failure of mainline pipe, non-

Mr. Robert I. Shoaf

2

June 29, 2001

Aboveground System Additional Requirements Pursuant to Stipulation 3.2.1.2

compliance with design basis or code requirements for the mainline pipe under either static or dynamic conditions.

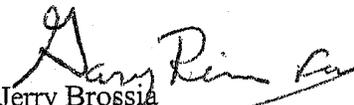
In order to maintain the aboveground system in a condition capable of performing within the limits or criteria as it was designed, timely corrective maintenance is necessary. Therefore, where a critical hardware component or foundation condition is identified as being not in compliance with design criteria, appropriate engineering evaluation and maintenance intervention shall occur within a year of discovery, but no later than one year after discovery unless approved.

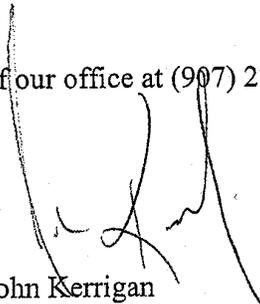
Changes or variances from standing aboveground system design or inservice criteria for unusual or changing foundation conditions will require approval by the Authorized Officer and State Pipeline Coordinator.

Therefore, given the above requirements, we are requesting an updated corrective maintenance schedule of those aboveground components or conditions and their locations that will receive corrective maintenance annually.

If you have any questions, please contact Joe Dygas of our office at (907) 271-4452.

Sincerely,


Jerry Brossia
Authorized Officer
BLM/OPM


John Kerrigan
State Pipeline Coordinator
ADNR/SPCO

cc:

C.A.Richey, APSC (MS 830)
Lee Monthei, APSC (MS 530-B)
Elden Johnson, APSC (MS 855)
Steve Sorensen, APSC (MS 855)
John Ferrell, APSC (MS 855)
Shelley Martin, APSC (MS 542)

- | | |
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| <input type="checkbox"/> AK. Dept. of Environmental Conservation | <input type="checkbox"/> U.S. Bureau of Land Management |
| <input type="checkbox"/> AK. Dept. of Fish & Game | <input type="checkbox"/> U.S. Environmental Protection Agency |
| <input type="checkbox"/> AK. Dept. of Natural Resources | <input type="checkbox"/> U.S. Dept. of Transportation |
| <input type="checkbox"/> AK. Division of Governmental Coordination | <input type="checkbox"/> AK. Dept. of Labor |



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
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June 18, 2001

Letter No.: 01-111-DG
 File No.: N/A
 DD.: N/A

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK. 99512

Re: Restoration Performance Requirements Pursuant to Stipulation 2.12.1

Dear Mr. Shoaf:

The following special requirement is to establish criteria to evaluate Alyeska Pipeline Service Company (APSC) compliance with stipulation 2.12.1. The stipulation requires that (under federal authority), "Areas disturbed by Permittees shall be restored by Permittees to the satisfaction of the Authorized Officer as stated in writing" and (under state authority) "Areas on State Land disturbed by Lessees shall be restored to the satisfaction of the Pipeline Coordinator as stated in writing."

For the purpose of this stipulation, a "disturbed area" is defined as one in which there has been "a departure or change from original natural conditions which can be attributed to direct or indirect effects of Permittees' or Lessees' activities or the Pipeline System." Restoration is defined as "returning a disturbed site (excluding routine workpad maintenance activities e.g. brushing, corrosion or valve excavation unless it affects critical habitat or drive lane maintenance activities) to its original or normal physical condition and natural biological productivity and diversity by means of best practicable protection, stabilization, erosion control, habitat reconstruction, and revegetation techniques with the intent of reestablishing native plant and animal species."

The Joint Pipeline Office (JPO) further requires that disturbed area restoration be completed as soon as practical after the disturbance; and, in the case of work pads, access roads, dikes, and similar long-term earthen structures, upon completion of use.

Mr. Robert I. Shoaf
Restoration Performance Requirements Pursuant to Stipulation 2.12.1

2

June 18, 2001

Therefore, pursuant to Stipulation 2.12.1 of the federal Agreement and Grant of Right-of-Way and the state Right-of-Way Lease, successful restoration will be evaluated by the Authorized Officer and Pipeline Coordinator on a site-specific basis considering whether the following restoration measures have been taken:

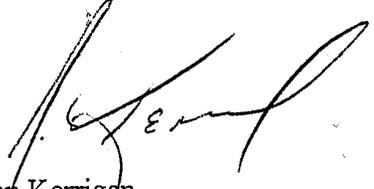
1. Remove all contaminated material;
2. To the extent possible, return a disturbed site to its original or normal physical condition and natural biological productivity and diversity with reestablishment of native plant and animal species;
3. Prevent erosion;
4. Conform to the adjoining land forms and approximate the original land contours;
5. Maintain pipeline system integrity;
6. Remove improvements as required by the appropriate authority; and
7. Provide for public safety.

Please be advised that JPO approval of Alyeska manual "EP 106, Erosion Control for Maintenance Operations" is hereby rescinded. Current JPO policy is to evaluate compliance based on stipulation specific performance standards independent of Alyeska manuals such as EP-106.

If you have any questions, please contact Gary Reimer of our office at (907) 271-4481.

Sincerely,


Jerry Braggia
Authorized Officer
BLM/OPM


John Kerrigan
State Pipeline Coordinator
ADNR/SPCO

cc:

Alan Richey, APSC (MS 830)
Jim Sweeney, APSC (MS 542)
Ken Wilson, APSC (MS 223 P-D)
Tony Braden, JPO

A.K. Dept. of Environmental Conservation
 A.K. Dept. of Fish & Game
 A.K. Dept. of Natural Resources
 A.K. Division of Governmental Coordination

U.S. Bureau of Land Management
 U.S. Environmental Protection Agency
 U.S. Dept. of Transportation
 A.K. Dept. of Labor



JOINT PIPELINE OFFICE

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 FAX # (907) 272-0690

June 29, 2001

Letter No.: 01-114-DG
 File No.: PT 5.40, F2030, D3030
 DD.: N/A

Mr. Robert I. Shoaf
 Vice President
 Alyeska Pipeline Service Company
 1835 South Bragaw Street, MS 528
 Anchorage, AK 99512

Re: Stipulation 3.2.1 Pipeline System Standards for Pipe Curvature, Imposing Special Standards under Authority of Stipulation 3.2.1.2.

Dear Mr. Shoaf:

Stipulation 3.2.1.2 provides that the Federal Authorized Officer and State Pipeline Coordinator may impose additional requirements as necessary to reflect the impact of sub-arctic and arctic environments. Permafrost is present throughout much of the route of the Trans-Alaska Pipeline and requires special geotechnical consideration.

Therefore, pursuant to Stipulation 3.2.1.2 of the Agreement and Grant of Right-of-Way, the following operations standard shall apply to the Trans-Alaska Pipeline mainline 48-inch diameter pipe. The intervention criteria used to determine when corrective maintenance is required shall include:

1. If the pipe curvature increases more than 20% as a result of pipe movement in comparison to the 1992 NOWSCO Curvature Pig data and the cumulative curvature is greater than 85% Critical Buckling Curvature, or
2. Deformation data showing the formation of a 0.25-inch "waveform" or bulge indicating the onset of wrinkling combined with other evidence showing pipe instability shall require corrective maintenance.

Reliability Centered Maintenance, Risk Assessment or other suitable and documented analysis will determine the optimal pigging schedule. Should TAPS throughput exceed 1.6 MM Bbls. per day (the throughput in 1992 when the baseline data pig run was completed), the curvature pig

Mr. Robert I. Shoaf

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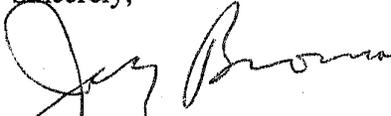
June 29, 2001

Stipulation 3.2.1 Pipeline System Standards for Pipe Curvature, Imposing Special Standards under Authority of Stipulation 3.2.1.2.

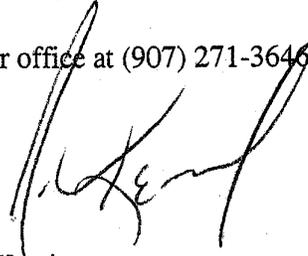
schedule shall be evaluated, as increasing temperatures will affect the stress in areas of high curvature.

If you have any questions, please contact Don Keyes of our office at (907) 271-3646.

Sincerely,



Jerry Brossia
Authorized Officer
BLM/OPM



John Kerrigan
State Pipeline Coordinator
ADNR/SPCO

cc:

Gary Reimer, BLM
Dave Norton, APSC (MS 568)
Dan Rice, ADNR
Colleen McCarthy, BLM
Don Keyes, BLM
Doug Lalla, BLM
Emery (Lee) Monthei, APSC (MS 530-B)
Jim Roddick, APSC (MS 855)
Eldon Johnson, APSC (MS 855)
Shelly Martin, APSC (MS 542)
David Hackney, APSC (MS 855)

ZONES OF RESTRICTED ACTIVITY FOR PROTECTION OF KEY FISH AREAS
ALONG TAPS ON FEDERALLY ADMINISTERED LANDS

APRIL 1, 1987

P0601.12030201

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ALASKA STATE OFFICE - DIVISION OF MINERALS
BRANCH OF PIPELINE MONITORING
ANCHORAGE, ALASKA



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Alaska State Office
701 C Street, Box 30
Anchorage, Alaska 99513

IN REPLY REFER TO

POO1.120302 (983)
.0102

FEB. 19 1987

Mr. Theo L. Polasek
Vice President, Operations
Alyeska Pipeline Service Company
1835 South Bragaw Street
Anchorage, Alaska 99512

In reply refer to:
S.N.-POO1-TAPS-3789
Zones of Restricted Activities
Key Fish Areas

Dear Mr. Polasek:

In consideration of the Agreement and Grant of Right-of-Way, Stipulation 2.5.3.1 concerning zones of restricted activity, a corrected listing of key fish areas has been compiled following discussions between our respective staffs and field investigations. This enclosed listing is entitled "Zones of Restricted Activity for Protection of Key Fish Areas Along TAPS on Federally Administered Lands," dated April 1, 1987. With regard to Federal interests, the enclosed document supercedes a similar listing entitled "Zones of Restricted Activity for the Protection of Fishery Habitats on Federally Administered Portions of the Trans-Alaska Pipeline System," dated January 1, 1986.

Please insure pipeline operation and maintenance activities are conducted so as to accomplish the work with minimum intrusion into the areas and periods of concern.

Sincerely,

Calvin H. Kohl

Chief, Branch of
Pipeline Monitoring

Enclosure - 1

cc: B. Hilliker (538)w/Encl.

PREFACE

The Agreement and Grant of Right-of-Way for Trans-Alaska Pipeline between the United States of America and Amerada Hess Corporation, ARCO Pipe Line Company, BP Pipelines Inc., Exxon Pipeline Company, Mobil Alaska Company, Phillips Petroleum Company, SOHIO Pipe Line Company, and Union Alaska Pipeline Company.
Stipulation 2.5.3. Zones of Restricted Activities states:

"2.5.3.1. Permittees' activities in connection with the Pipeline System in key fish and wildlife areas may be restricted by the Authorized Officer during periods of fish and wildlife breeding, nesting, spawning, lambing or calving activity and during major migrations of fish and wildlife. The Authorized Officer shall give Permittees written notice of such restrictive action. From time to time, the Authorized Officer shall furnish Permittees a list of areas where such actions may be required, together with the anticipated dates of restriction."

This document is the Federal Authorized Officer's list described, as above. As the Federal Authorized Officer's list, it includes only sensitive fishery habitats on Federally administered portions of the pipeline.

Sensitive fish streams listed in this report have been identified from another Branch of Pipeline Monitoring report titled: "OPEN FILE REPORT - TAPS FISH STREAMS" (April 1, 1987) which lists fish streams along TAPS mentioned in recent literature.

This list will be updated from time to time with any additions or corrections resulting from further State, Federal, Alyeska Pipeline Service Company or other study of pipeline streams. Please direct all correspondence concerning this report to :

James K. Gilliam, Ecologist
U.S. Bureau of Land Management
Branch of Pipeline Monitoring
701 C Street, Box 30 (AK-983)
Anchorage, AK 99513
(907) 267-1266

FISH SPECIES Codes
(Adapted from Johnson and Rockwell, 1981)

? = Fish Present?	
<u>AB</u> = Alaska blackfish	: <u>Dallia pectoralis</u>
<u>AC</u> = Arctic char	: <u>Salvelinus alpinus</u>
<u>AL</u> = Arctic lamprey	: <u>Lampetra japonica</u>
<u>AS</u> = American shad	: <u>Alosa sapidissima</u>
<u>BB</u> = Burbot	: <u>Lota lota</u>
<u>BC</u> = Bering cisco	: <u>Coregonus laurettae</u>
<u>BL</u> = American brook lamprey	: <u>Lampetra sp.</u>
<u>BW</u> = Broad whitefish	: <u>Coregonus nasus</u>
<u>CA</u> = Arctic cisco	: <u>Coregonus autumnalis</u>
<u>CD</u> = Sculpin	: <u>Family Cottidae</u>
<u>CI</u> = Cisco	: <u>Coregonus sp.</u>
<u>CN</u> = Slimy sculpin	: <u>Cottus cognatus</u>
<u>CS</u> = Least cisco	: <u>Coregonus sardinella</u>
<u>CT</u> = Cutthroat trout	: <u>Salmo clarki</u>
<u>DS</u> = Dog (Chum) salmon	: <u>Oncorhynchus keta</u>
<u>DV</u> = Dolly varden	: <u>Salvelinus malma</u>
<u>GR</u> = Grayling	: <u>Thymallus arcticus</u>
<u>HO</u> = Pond smelt	: <u>Hypomesus olidus</u>
<u>HW</u> = Humpback whitefish	: <u>Coregonus pidschian</u>
<u>IN</u> = Inconnu (Sheefish)	: <u>Stenodus leucichthys</u>
<u>KO</u> = Kokanee	: <u>Oncorhynchus nerka</u>
<u>KS</u> = King (Chinook) salmon	: <u>Oncorhynchus tshawytscha</u>
<u>LC</u> = Lake chub	: <u>Couesius plumbeus</u>
<u>LS</u> = Longnose sucker	: <u>Catostomus catostomus</u>
<u>LT</u> = Lake trout	: <u>Salvelinus namaycush</u>
<u>LW</u> = Lake whitefish	: <u>Coregonus clupeaformis</u>
<u>NP</u> = Northern pike	: <u>Esox lucius</u>
<u>OM</u> = Rainbow smelt	: <u>Osmerus mordax</u>
<u>PS</u> = Pink (Humpback) salmon	: <u>Oncorhynchus gorbuscha</u>
<u>PW</u> = Pygmy whitefish	: <u>Prosopium coulteri</u>
<u>RB</u> = Rainbow trout	: <u>Salmo gairdner</u>
<u>RS</u> = Red (Sockeye) salmon	: <u>Oncorhynchus nerka</u>
<u>RW</u> = Round whitefish	: <u>Prosopium cylindraceum</u>
<u>SB</u> = Stickleback	: <u>Family Gasterosteidae</u>
<u>S9</u> = Ninespine stickleback	: <u>Pungitius pungitius</u>
<u>SH</u> = Steelhead trout	: <u>Salmo gairdneri</u>
<u>SK</u> = Sucker	: <u>Family Catostomidae</u>
<u>SS</u> = Coho (Silver) salmon	: <u>Oncorhynchus kisutch</u>
<u>TP</u> = Trout-Perch	: <u>Percopsis omiscomaycus</u>
<u>WF</u> = Whitefish	: <u>Coregonus sp.</u>

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- (C) Elliott, George V. 1980. First interim report on the evaluation of stream crossings and effects of channel modifications on fishery resources along the route of the trans-Alaska pipeline. U.S. Fish and Wildlife Service, Anchorage, AK (June, 1980:77pp).
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- (F) Office of the Federal Inspector for ANGTS. 1984. List of fish stream data. Anchorage, AK (February 13, 1984;50pp).
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EXPLANATION OF HEADINGS

A&G STIP. 2.5.3 ZONES OF RESTRICTED ACTIVITIES-KEY FISH AREAS 04/01/87 PAGE 00 of 00

MP	STREAM NAME(s)	FISH	A:JaFeMrApMaJuJlAuSeOcNoDe	FIELD	MER:REFER:
A/S	Comments	SPECIES:D	PERIOD OF SENSITIVITY	STATION:T	-ENCE:
				G-5	R
					SEC
4.12:	(Edge) Lakes			21736:U	AB E
				21796:10N	F
137	TAPS A/G; Causeway			1550+00:14E	
				1541+70:20	
277.14:	PROSPECT CREEK	CN;GR;KS:Y	CCCCCCCCCCCCCCCCCCCC	1463150:F	AB E
		LS;NP;RW:E		1463408:22N	FG
91	TAPS A/G; BLOCKPOINT		S	1590+00:14W	
					3l
*790.9:	(Grey Stream)	DV;SS	CCCCSSSSSSSjlauCCCCCCC	4176212:C	AB E
					09S
2	TAPS B/G; CMP			506+06:05W	
					28

SECTION 00 = Section 01 is Pump Sta. 1 to Pump Sta. 2; Section 10 is Pump Sta. 10 to Pump Station 11.

MP = The distance in miles from Pump Sta. 1; * Prefix denotes extrapolated mileage not field checked.

AS = Alyeska Pipeline Service Company (G-100 as-builts) alignment sheet number.

STREAM NAME = Adapted from Johnson and Rockwell, 1981; For example: YUKON RIVER denotes a name recognized by the U.S. Geological Survey; (Small or Jackie's CK) denotes a non-USGS recognized popular name; [Snowpad CK] denotes a new name used in this list.

COMMENTS = TAPS A/G denotes above-ground pipe mode; TAPS B/G denotes below-ground mode; CMP is a corrugated-metal-pipe or culvert; LWC is a low water crossing; BLOCKPOINT is a physical barrier to vehicle passage; CAUSEWAY, BRIDGE and PARALLEL are self-explanatory;

FISH SPECIES = see Page ii of iv for explanation of codes.

ADAD = "YES" denotes anadromous fish stream designated by Alaska Dept. Fish and Game.

PERIOD OF SENSITIVITY = C denotes Critical period of fish usage; S denotes Sensitive period of fish usage.

FIELD STATION = Distance in feet from Pump Station No. 1 as estimated in field; * Prefix denotes an extrapolated stationing not field checked.

G-5 = Obtained from selected references (see Page iii of iv) and refers to construction drawings.

MER = Meridian - U is Umiat; F is Fairbanks; C is Copper River.

T = Tier or Township; R = Range; Sec = Section.

REFERENCE = see page iii of iv

