U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave, S.E.
Washington, D.C. 20590

March 3, 2010

Mr. Paul J. Pike
Senior Project Executive
ExxonMobil Development Company
Greenspoint 4, GP4-450
16945 Northchase Drive
Houston, TX 77060-1905

Re: Alaska Pipeline Project - Federal Energy Regulatory Commission Docket PF09-11-000

Dear Mr. Pike:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is writing to request information about the nature of the proposed Alaska Pipeline Project (APP Project) and TransCanada/Exxon Mobil plans for the submission of special permit applications for the project pursuant to 49 C.F.R. § 190.341. As you are aware, a special permit is an order by which PHMSA waives compliance with one or more of the Federal Pipeline Safety Regulations under the standards set forth in 49 U.S.C. 60118(c) and 49 C.F.R. § 190.341, subject to conditions and limitations set forth in the order. A special permit may be issued to a pipeline operator (or prospective operator) for specified facilities that, absent waiver, would be subject to the regulation.

PHMSA appreciates the project briefings provided by the APP project team over the past several months. Based on these briefings, it is our understanding that you intend to request special permits regarding certain aspects of the proposed pipeline. To avoid project delays, PHMSA requests that the APP Project submit any special permit applications as soon as possible. PHMSA advises the APP Project to submit its applications before making design-related decisions that could require special permits.

Additionally, to facilitate our review of the project for compliance with the gas pipeline safety regulations at 49 C.F.R. Part 192 and any special permit application(s), please provide the safety and environmental information listed in the informal preliminary information requests enclosed with this letter as Enclosures A and B. Depending on your response, PHMSA may request additional information, including, but not limited to: data, reports, studies, documents, and independent third party analyses. PHMSA expects a detailed safety and environmental review to take a minimum of 12 months or more, depending upon the extent and nature of the request, any requirements for additional information or studies, and the quality of submittal documents.

PHMSA is required to conduct an environmental review in accordance with the National Environmental Policy Act. An overview of the preliminary environmental information needed to support the anticipated special permit applications is provided in Enclosure B. Your timely submission of permit applications and detailed safety and environmental information will enable PHMSA to properly analyze potential risks to public safety and to the environment that could result from our decision to grant or deny a special permit.

Please contact Dennis Hinnah at 907-271-4937, or Alan Mayberry, Director of Engineering and Emergency Support, at 202-366-5124, if you have any questions.

Sincerely,

Jeffrey D. Wiese
Associate Administrator for Pipeline Safety

Cc: With Enclosures

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Enclosure A

Information Request for the Proposed Alaska Pipeline Project (APP Project)

1.0 Introduction

This document outlines preliminary information PHMSA will need to begin both review of project compliance with 49 Code of Federal Regulations (CFR) Part 192 and consideration of anticipated special permit applications. It is not an exhaustive listing of required information, but identifies initial information needs on the types of issues PHMSA believes might require more extensive review.

Gas pipeline operators must comply with 49 CFR Part 192 (the Regulations) and the industry codes and standards incorporated by reference into the Regulations, when designing, constructing, inspecting, testing, and operating natural gas pipelines. Compliance with the Regulations, codes, and standards provides a substantial basis for concluding that pipelines have been designed, fabricated, constructed, inspected, and tested in a manner that will protect public safety.

If an operator (or prospective operator) of a pipeline facility wishes to deviate from one or more Regulations, the operator may apply for a special permit to do so. Pursuant to 49 USC 60118(c) PHMSA has the authority to issue orders (special permits) granting a waiver of compliance with the Regulations with respect to such pipeline facility on terms PHMSA considers appropriate if PHMSA determines that the special permit is not inconsistent with pipeline safety. PHMSA often places conditions on special permits designed to address any safety issues that are identified during the special permit review process. The procedures for processing special permits are set out in 49 CFR § 190.341.

PHMSA anticipates that the APP Project will propose alternative design methods, most notably the use of a Reliability Based Design approach addressed in Supplement to ASME B31.8R-2008. The use of Reliability Based Design is not recognized under current Regulations. In addition, PHMSA anticipates the APP Project will apply for special permits to waive other regulations including, but not limited to, requirements regarding post construction pressure tests, depth of cover, and valve spacing.

Use of design, material, construction, operational and integrity management approaches not recognized under current Regulations will have potential effects on many functional areas, including specified design attributes, fabrication, construction, operation, monitoring, and integrity management. This information request outlines our preliminary information needs in each functional area. Within each functional area, the criteria being assessed are identified together with the underlying technical requirement (code, standard, rule, etc.). The required information associated with the criteria statement is then identified. There is also a general set of

required information that enables definition of the scope of anticipated special permit (waiver) requests.

This information request is not comprehensive. As design and operating intent matures, it is expected that additional information will be identified in these functional areas:

- General Requirements (Section 2)
- Design Requirements (Section 3)
- Material and Fabrication Requirements (Section 4)
- Construction Requirements (Section 5)
- Corrosion Control Requirements (Section 6)
- Testing Requirements (Section 7)
- Operation and Maintenance (O&M) Requirements (Section 8)
- Integrity Management Requirements (Section 9)

2.0 General Requirements

2.1 Applications for Special Permits (Waivers)

2.1.1 Criterion: In order to understand the impact of anticipated special permits, PHMSA must be provided with sufficient information early in the design phase of the pipeline.

Basis: Federal Law 49 U.S.C. 60118(c); 49 C.F.R. § 190.341.

(a) Required Information: A summary of codes, consensus industry standards and special assurance practices (design, operational, maintenance, and integrity management) that the APP Project will apply to the full life cycle of the Project.

(b) Required Information: An overview summary of the extent to which the design will comply with, go beyond, and/or deviate from, existing regulatory requirements.

(c) Required Information: A listing of all regulations (including consensus industry standards and other material incorporated into the regulations by reference [Re: 49 CFR § 192.7]), by specific section, that will be the subject of a special permit request. For any regulation/requirement not listed, it will be assumed that the APP Project intends full compliance in accordance with the pipeline safety regulations contained in 49 CFR Part 192. The nature of the deviation from the requirement must be identified. If you do not submit any applications for a special permit when replying to this request, please note when you will submit special permit requests. For each regulation for which a special permit (waiver) will be sought, the applicable pipeline segments to which these special permits apply must be identified. If the deviation applies to the entire pipeline, identify as "all segments."

(d) Required Information: It is anticipated that one condition of any special permit would be full-time oversight by federal PHMSA inspectors, both in the APP Project's headquarters design and operations offices and at construction camps. This oversight will require suitable office space and/or accommodations both at headquarters offices and at all construction camps, and unfettered access by federal inspectors to documents, records, and activities subject to federal oversight. The APP Project should commit to satisfy these conditions.

(e) Required Information: Identify the pipeline stationing and mile posts for the location or locations of the applicable special permit segment(s).

2.2 Quality Management System

2.2.1 Criterion: The unique challenges associated with the APP Project's proposed project, including the anticipated need for special permits from established pipeline safety regulations, places a greater burden on the APP Project's quality and management systems to assure pipeline integrity, safety, and environmental protection for the life of the pipeline. A robust quality management system is essential to meet these objectives and to provide PHMSA with the confidence in the pipeline design, operational, maintenance, and integrity management plans to approve anticipated special permits.

Basis: 49 CFR § 192.13

(a) Required Information: Provide the prospective Quality Management System plan/program. Please indicate whether you will conform to, and implement, API Specification Q1. Please describe and justify any exceptions taken to API Specification Q1.

2.3 Construction Quality Assurance and Quality Control

2.2.1 Criterion: The unique challenges associated with the APP Project's proposed project, including the anticipated need for special permits from established pipeline safety regulations, places a greater burden on the APP Project's quality of construction to assure pipeline integrity, safety, and environmental protection for the life of the pipeline. A robust construction quality assurance and quality control process is essential to meet these objectives.

Basis: 49 CFR § 192.13

(a) Required Information: Provide the APP Project's construction quality assurance and quality control plans and procedures. Please identify and indicate your commitment to conform to, and implement, applicable construction quality standards.

3.0 Design Requirements

3.1 Reliability Based Design

3.1.1 Criterion: It is implicit in 49 CFR 192 that operators are to apply stress-based design practices for pipeline design. Since many specific regulations assume this approach and are predicated on a stress-based design, the application of other design practices requires a special permit. Use of a Reliability Based Design and Assessment (RBDA) approach requires review of extensive information in order to reach the conclusion that pipeline safety is not compromised.

Basis: 49 CFR Part 192, Subpart C.

(a) Required Information: Provide pipeline design criteria and identify associated limit states associated with each criterion for applicability to the reliability based model.

(b) Required Information: Identify all target reliability values associated with pipeline and component design and provide the basis for their determination, including specific identification of any assumptions used and the basis for validity of each assumption. Also identify where target values have been increased to improve the margin of safety.

(c) Required Information: Provide the model used to determine the reliability of the pipeline, including the value of the applicable limit states and the associated limit state functions. Include the basis for any non-conservative inputs, such as wall thickness, when compared to similar values that would be derived from a design determined using methods that comply with 49 CFR 192 requirements. Include the basis for any segmentation of the pipeline for purposes of establishing the reliability target.

(d) Required Information: Identify any time-dependent inputs that could affect model results, such as population density determinations. For such time-dependent inputs, provide programs or procedures that will evaluate these inputs and their impact on the model.

(e) Required Information: Provide the basis for the use of empirical or test data when developing the reliability model, including documented evidence that the data used is representative for its intended purpose. Justify applicability of the data

used to new pipeline construction and operation in the service conditions expected.

(f) Required Information: Provide the basis for key assumptions and any simplifications in the model.

(g) Required Information: Provide a listing of the hazards considered by the model, including natural phenomena hazards (e.g., seismic, slope instability, freeze-thaw effects), and the basis for their contribution to the probability of pipeline failure.

(h) Required Information: Provide the basis for uncertainty that exists with the model and identify safety margins applicable to the pipeline.

(i) Required Information: If any risks, such as environmental risks, are not considered by the model, give the basis for elimination of such risks.

3.2 Strain Based Design

3.2.1 Criterion: It is implicit in 49 CFR Part 192 that operators are to apply stress-based design practices for pipeline design. Since many specific regulations assume this approach and are predicated on a stress-based design, the application of other design practices requires a special permit. Use of a Strain Based Design approach requires review of extensive information in order to reach the conclusion that pipeline safety is not compromised.

Basis: 49 CFR Part 192, Subpart C.

(a) Required Information: Identify applicable threats and limit states for which strain based design techniques will be used for each pipeline segment.

(b) Required Information: Because a comprehensive consensus industry standard has not yet been developed for strain based design, it is incumbent upon the APP Project to establish, document, and justify the design process/procedure, design criteria, and safety margins. The APP Project must submit its formal design process description and design criteria. This material must include the basis for all design criteria, how the criteria were established, data used to determine acceptability of design criteria, justification for design/safety factors incorporated into the design criteria, and means incorporated in the design or operation to verify the consistency of operational conditions with design basis assumptions. This applies to line pipe (including special

pieces/joints such as induction bends) and pipeline components (such as compressor stations, valves, pressure vessels, etc.)

(c) Required Information: Identify the design basis natural phenomena and/or outside force events/hazards applicable to each pipeline segment, the associated magnitude of these events/hazards, and the bases for any assumed values. This includes seismic events (earthquake zones and fault zones), frost heave, freeze/thaw cycles, landslides, soil creep, soil collapse, severe weather events, volcanic loadings and any other credible outside force scenario. APP should submit the design criteria, including design margin/safety factors, to address each event/hazard.

3.3 Additional Design Requirements for Alternative MAOP

3.3.1 Criterion: It is our understanding that the APP Project's strain based design approach and methodology for post-construction verification of pipeline integrity will likely apply for a special permit from MAOP and/or class location requirements of Subparts J and/or L. Even if a special permit is not requested, the APP Project may desire to operate at the alternative MAOP allowed in Part 192. In either case, the additional design requirements of 49 CFR §§ 192.112 and 192.620 apply.

Basis: 49 CFR §§ 192.112 and 192.620

(a) Required Information: Provide information that demonstrates compliance with 49 CFR §§ 192.112 and 192.620 for applicable pipeline segments.

(b) Required Information: Provide a detailed pipe fracture control plan that demonstrates compliance with 49 CFR § 192.112(b).

3.4 Depth of Cover

3.4.1 Criterion: Known deviations from depth of cover requirements must be documented and reviewed for acceptability. In these cases, the APP Project must apply for a special permit.

Basis: 49 CFR § 192.137(c)

(a) Required Information: Provide a description of the locations where the pipeline will be exposed and buried. Where buried, identify the depth of cover. Identify any design features which provide additional protection to the pipeline due to deviations from required depth of cover. Identify the segments and

locations by milepost to which these additional protective features will be provided.

3.5 Valve Spacing

3.5.1 Criterion: Regulations require minimum block valve spacing based on the class location in which the segment is located.

Basis: 49 CFR § 192.179

(a) Required Information: The APP Project should identify the criteria and technical basis for establishing block valve spacing and location.

3.6 Pipeline Components

3.6.1 Criterion: The unique challenges of the APP Project's project could also have significant affect on the design of compressor stations and other components of the pipeline system, besides line pipe.

Basis: 49 CFR Part 192, Subpart D

(a) Required Information: The APP Project should identify the criteria, specifications, and technical basis for designing pipeline components other than line pipe, including as a minimum all items listed in Subpart D.

4.0 Material and Fabrication Requirements

4.1 Steel Pipe Manufacturing Specification and Quality

4.1.1 Criterion: The proposed pipeline will operate at pressures well above those typical for US pipeline operation and therefore require very heavy wall pipe. In addition, there have been recent examples of sub-standard steel being installed in new pipelines in the lower 48 states. The steel and pipe must meet all technical and quality standards. In addition, the APP Project has indicated its intent to request a special permit from post-construction pressure testing. As a result, additional activities or requirements to assure pipe quality are imperative.

Basis: 49 CFR § 192.55 and Appendix B; and PHMSA Advisory Bulletin in 74 CFR 23930, May 21, 2009, Docket No. PHMSA-2009-0148; and PHMSA "Interim Guidelines for Confirming Pipe Strength in Pipe Susceptible to Low Yield Strength" dated September 10, 2009

(a) Required Information: Provide all specifications that will be used to manufacture the steel and pipe.

(b) Required Information: Identify all consensus industry standards which will be used for manufacturing, and testing the properties of, the steel and pipe.

(c) Required Information: Provide a description of the APP Project's quality oversight process with respect to the manufacture of steel and pipe. This should include the process used to qualify the selected steel mill(s) and pipe manufacturing facilities and the process by which the APP Project will provide quality oversight of steel and pipe manufacturing process.

(d) Required Information: Provide a description of testing that will be performed to verify the quality and material properties of the pipe. This should include a listing of all material properties to be tested and acceptance criteria for all properties. Because the APP Project has indicated that a special permit will be requested for post-construction pressure testing, PHMSA would expect that 100% of pipe joints be tested to verify material properties. If a sampling approach is used to verify pipe material properties, the APP Project must submit an engineering and technical justification for assuring that all pipe joints meet material specifications. Because of recent problems at other construction projects with pipe steel not meeting specified minimum yield strength (SMYS) specifications, the APP Project

should explicitly address its processes and procedures for assuring that all pipe joints meet minimum material property specifications.

(e) Required Information: Provide a process description for analyzing and dispositioning material properties and flaws. If applicable, provide the basis for determining the use of Engineering Critical Assessment methodology to address the acceptability of material flaws.

5.0 Construction Requirements

5.1 Qualification of Welding Procedures

5.1.1 Criterion: Existing PHMSA regulations specify minimum requirements for welding of pipe. Welding of pipe in arctic environment presents challenges.

Basis: 49 CFR Part 192, Subpart E

(a) Required Information: Provide any special processes, procedures, or additional requirements used to qualify the weld procedure in accordance with API 1104. In particular, if strain based design is used, the destructive testing used to qualify the weld procedure should be both a hoop stress overstress test and a bending/mechanical deformation overstrain test. Include a description of all special processes (e.g., backwelding).

(b) Required Information: If API 1104, Appendix A will be used for welding and weld non-destructive testing, the APP Project must outline guidance documents for the testing of weld and non-destructive testing (NDT) procedures for various pipe steel suppliers and pipe manufacturers. The guidance must document how pipeline welders and NDT technicians will be qualified. The guidance document must outline how Appendix A will be developed into construction procedures that give guidance to Construction Personnel and Quality Assurance Personnel to properly handle pipe lifting and lower-in operations with out invalidating API 1104, Appendix A.

(c) Required Information: Provide a description of how the weld procedures account for very heavy wall pipe, the extreme arctic environment, and any other unique condition not typically encountered in pipeline construction in the lower 48 states. Factors such as pre-weld heat treatment, post-weld heat treatment, maintenance of heat on weld, and maximum time allowed between passes should be explicitly addressed. Demonstrate how the shop qualified weld procedure or procedure qualified in a controlled environment is appropriate for the field environment.

(d) Required Information: Provide a description of how the weld procedures account for the potential difficulties encountered with weld site preparation and pipe fit-up for any field-cut factory bends and pipe wall thickness variances. This information should include, but not be limited to, fit-up tolerance for alignment of pipe ends, joint design, accounting for wall thickness variance,

(e) Required Information: Provide a description of how the weld procedures will be qualified and field implemented for conducting backwelding and repair welding to meet API 1104.

5.2 Qualification of Welders

5.2.1 Criterion: Existing PHMSA regulations specify minimum requirements for welder qualification. Welding of pipe in arctic environment presents challenges.

Basis: 49 CFR Part 192, Subpart E

(a) Required Information: Provide a description of the process for qualifying individuals to weld on the pipeline. Explicitly describe any special features of the welder qualification process that address very heavy wall pipe, the extreme arctic environment, and any other unique condition not typically encountered in typical pipeline construction in the lower 48 states.

5.3 Weld Acceptance Testing and Acceptance Criteria

5.3.1 Criterion: Because the APP Project has indicated it intends to request a special permit from post-construction pressure testing, weld acceptance testing and acceptance criteria are critical.

Basis: 49 CFR Part 192, Subpart E

(a) Required Information: Provide the specific written weld test program and weld acceptance criteria. Because the APP Project has indicated it intends to request a special permit from post-construction pressure testing, PHMSA would expect that 100% of welds would be nondestructively tested. The APP Project should describe and justify its weld acceptance criteria, using API 1104 as the basis; in particular, the APP Project should describe and justify if it intends to incorporate alternative acceptance criteria from Appendix A of API 1104 and use of any other proposed standards. The APP Project should describe the pipe conditions where backwelding will be used including for fittings, heavy wall pipe and transitions.

5.4 General Construction in Arctic Conditions

5.4.1 Criterion: Each transmission line or main must be constructed in accordance with comprehensive written specifications or standards that are consistent with Part 192. If the APP Project intends to request a special permit from post-construction pressure testing, additional measures are needed to assure that

the pipeline does not sustain integrity-threatening damage during construction. In addition, extreme arctic conditions pose unique challenges to pipeline construction.

Basis: 49 CFR Part 192, Subpart G

(a) Required Information: The APP Project should submit its plans and processes for quality oversight of construction activities, including QC inspection of all construction activities.

(b) Required Information: The APP Project should submit its plan regarding how it will address the unique challenges of the arctic environment during pipeline construction (e.g., discontinuous permafrost, stability of disturbed permafrost, pinch points). The APP Project should address if and how it will apply API RP 2N to its pipeline construction activities.

(c) Required Information: The APP Project should submit its plan to assure pipe coating durability and integrity during pipe lowering, backfilling, and horizontal directional drills. The plan should describe all pipeline installation activities including procedures for handling pipe, lowering pipe into the ditch, type of backfill material to be used, and backfill procedures.

(d) Required Information: PHMSA expects that all construction personnel would be covered under the APP Project's Construction OQ program for the Alternative MAOP Rule, since mistakes during construction could lead to threats to pipeline integrity. The APP Project should describe all construction and verification related tasks to be included in its Construction OQ program. Helpful information for compliance with the Alternative MAOP Rule can be found at: http://primis.phmsa.dot.gov/maop/index.htm .

(e) Required Information: The APP Project should submit its plan regarding how it will address the unique challenges of the arctic environment during the time period between completion of construction for each segment and operational startup. PHMSA would expect the pipeline to be maintained and monitored sufficiently to prevent damage from outside forces, corrosion, etc. prior to being placed into service. The APP Project should address how it will monitor the pipeline for potential damage (including strain conditions) that could occur to the pipeline segments during long periods of disuse prior to placing the pipeline system into service.

5.4.2 Criterion: Regulations require that pipeline and components must have sufficient supports to preclude undue strain, including but not limited to, that caused by temperature-induced contraction/expansion or by high internal pressures.

Basis: 49 CFR § 192.161

(a) Required Information: Provide design and construction requirements for support structures.

5.5 Recent Construction Issues

5.5.1 Criterion: PHMSA has identified problems at recent construction projects in the lower 48 states that could present special challenges during construction in an arctic environment. PHMSA expects the APP Project to proactively develop its construction processes and procedures to avoid these problems.

Basis: 49 CFR Part 192, Subpart E

(a) Required Information: Provide a description of plans, processes and procedures to address/prevent the following problems: field cuts of factory or induction bends (sized for segmenting), poor weld fit-up, poor quality welding, poor backfill material, damaged or improperly installed coating, damaged pipe from improper bending in the field, hydrogen assisted cracking, damage or over-strain during lowering in ditch and backfill, and poor quality NDT.

5.6 Additional Construction Requirements for Alternative MAOP

5.6.1 Criterion: It is our understanding that the APP Project's strain based design approach and methodology for post-construction verification of pipeline integrity will necessitate the need to apply for a special permit from MAOP and/or class location requirements of Subparts J and/or L. Even if a special permit is not requested, the APP Project may desire to operate at the alternative MAOP allowed in Part 192. In either case, additional construction requirements of 49 CFR §§ 192.384 and 192.620 apply.

Basis: 49 CFR §§ 192.384 and 192.620

(a) Required Information: Provide information that demonstrates compliance with 49 CFR §§ 192.384 and 192.620 for applicable pipeline segments.

6.0 Corrosion Control Requirements

6.1 External Corrosion Control

6.1.1 Criterion: An effective corrosion control program is essential to long term pipeline integrity.

Basis: 49 CFR Part 192, Subpart I

(a) Required Information: Submit plans for managing external corrosion, including coating system, cathodic protection (CP), surveillance, monitoring, and periodic assessment (i.e., ILI assessment). The plans should provide comprehensive details of the CP system design, installation, operation, maintenance, and performance (including minimum performance specifications). PHMSA expects plans to include interference surveys to identify and mitigate all sources of interference (e.g., telluric currents, nearby pipelines, high voltage electric transmission lines, third party structures, etc.) and how they impact CP of the pipeline.

(b) Required Information: Submit plans for managing internal corrosion, including moisture control, inhibitors, coupons, monitoring, and periodic assessment (i.e., ILI assessment).

(c) Required Information: Submit plans for managing atmospheric corrosion on non-buried pipe, including monitoring and periodic assessment (i.e., ILI assessment).

6.2 Internal Corrosion Control

6.2.1 Criterion: An effective corrosion control program is essential to long term pipeline integrity.

Basis: 49 CFR Part 192, Subpart I

(a) Required Information: Describe your program to monitor for and mitigate the presence of, deleterious gas stream constituents, including, as applicable:

i. Provisions for use of filter separators or separators and gas quality monitoring equipment,
ii. Use of gas quality monitoring equipment including moisture analysis, chromatograph, and periodic hydrogen sulfide sampling
iii. Use of cleaning pigs and inhibitors, and sample accumulated liquids
iv. Use of corrosion coupons for internal corrosion monitoring

(b) Required Information: Describe your program to address deleterious gas stream constituents including the following as applicable:

i. Provisions to limit carbon dioxide and limits
ii. Provisions to restrict the presence of free water and limits
iii. Provisions to limit hydrogen sulfide and limits

(c) Required Information: Describe your program for review of the effectiveness of your mitigation and monitoring efforts, including anticipated frequency of formal review

7.0 Testing Requirements

7.1 Post Construction Pressure Test

Criterion: Each pipeline must be pressure tested to substantiate material strength, proposed MAOP, and that it is leak-tight. It is our understanding that the APP Project intends to request a special permit from this requirement. This is a critical aspect of pipeline regulations that verifies pipeline integrity prior to being placed into service. Other provisions of the pipeline safety regulations are predicated upon a successful demonstration of pipeline strength by pressure test. Any special permit from conducting a pressure test that fully complies with 49 CFR Part 192, Subpart J would require a substantial justification, including mitigation measures to assure an equal or greater level of pipeline safety.

Basis: 49 CFR Part 192, Subpart J

(a) Required Information: The APP Project should describe its proposed alternative methods to verify the strength and leak-tightness of the pipeline prior to being placed into service. As part of this information, the APP Project should describe additional compensatory measures related to pipeline design, construction, inspection, and testing of materials, operational measures and components to assure pipeline integrity. A comprehensive quality assurance and verification program description will ultimately be required of the APP Project

(b) Required Information: If the APP Project chooses to conduct a pressure test in conformance with Subpart J, describe the test plans and procedures to be used. The procedures should address the specific challenges associated with conducting the pressure test in arctic conditions.

8.0 Operation and Maintenance (O&M) Requirements

8.1 MAOP

8.1.1 Criterion: Existing regulations require that MAOP be established based on test pressure and assuring that the hoop stress does not exceed SMYS (with safety margin) for the class location in which the pipeline segment is located. If the APP Project applies for a special permit from the regulations pertaining to the MAOP, and/or class location, PHMSA would expect the applicable provisions of 49 CFR § 192.620 to apply. Even if a special permit is not requested, the APP Project may desire to operate the pipeline in accordance with the alternative MAOP allowed by Part 192. In either case, the APP Project should describe its program for complying with 49 CFR § 192.620.

Basis: 49 CFR Part 192, Subparts J and L; 49 CFR § 192.620

(a) Required Information: Describe and justify your alternative process for establishing the MAOP of the pipeline, if applicable.

(b) Required Information: Describe and justify your program for complying with the O&M requirements contained in 49 CFR § 192.620(d) for operating at alternative MAOP, if applicable.

8.2 Strain Monitoring

8.2.1 Criterion: With a traditional stress based design, assuring that the pipe hoop stress is not exceeded is a relatively simple matter of enforcing the MAOP. With a strain based design, long term assurance that design basis strain loading conditions are not exceeded requires the effective use of strain gauges and an effective monitoring program. PHMSA would expect that the APP Project's additional preventive measures would include a formal program for monitoring strain and ROW conditions. PHMSA would expect additional monitoring in earthquake zones and fault zones, hill/mountain side cut areas, discontinuous permafrost and permafrost areas including freeze/thaw areas. Because of the anticipated special permit to use strain based design, and the proximate threat of outside forces, PHMSA expects the APP Project to implement a robust strain monitoring program.

Basis: 49 CFR Part 192, Subpart L

(a) Required Information: Describe and justify the systems, tools, and plans for continually monitoring and analyzing localized strain on the pipeline, along with procedures for implementing preventive and mitigative measures to proactively address conditions that could cause design basis strain limits to be exceeded. PHMSA would expect such a program to include periodic ILI assessment with tools capable of identifying pipe deformation and other anomalies indicative of pipe movement, deformation, or other strain conditions.

8.3 Reliability Based Assessment

8.3.1 Criterion: It is implicit in 49 CFR Part 192 that operators are to apply stress-based design practices for pipeline design. Since many specific regulations assume this approach and are predicated on a stress-based design, the application of other design practices requires a special permit. Use of a Reliability Based Design and Assessment (RBDA) approach requires review of extensive information in order to reach the conclusion that pipeline safety is not compromised. A key aspect of RBDA is the periodic assessment of pipeline condition and integrity to assure that limit states are not exceeded during the life of the pipeline.

Basis: 49 CFR Part 192, Subparts C, J, L, and O.

(a) Required Information: Provide a description of the program for monitoring pipeline integrity and the material condition of the pipeline, including assessment methodology, acceptance criteria for anomalies/defects, and frequency of assessment. PHMSA would expect such a program to include an ILI assessment program and a comprehensive strain monitoring program.

(b) Required Information: Provide a description of the operational approach that will be used as the dense gas phase transitions between gaseous, liquid and supercritical fluid. PHMSA would expect the approach to include normal and abnormal operations and associated monitoring and mitigation.

Enclosure B

Guidance for Special Permit Applicants on Providing Environmental Information

The processing of an Alaska gas pipeline special permit (SP) application will involve an environmental analysis in accordance with the National Environmental Policy Act of 1969 (NEPA), the President's Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1508), and Department of Transportation (DOT) policy. To the extent PHMSA's grant or denial of your special permit request may constitute a Federal action under NEPA, in addition to analyzing any potential risks to public safety, PHMSA also analyzes any potential risks to the environment that could result from such grant or denial. Specifically, PHMSA evaluates whether the special permit would significantly impact the likelihood of a pipeline spill or failure as compared to the environmental status quo in the absence of the special permit.

PHMSA's environmental analysis must be incorporated into FERC's Environmental Impact Statement (EIS) for the project, as required by the Alaska Natural Gas Pipeline Act of 2004 (ANGPA) (15 USC 720b). ANGPA imposes time limitations on the FERC EIS, making the early submission of special permit applications critical. Once FERC determines that the project certificate application is complete, it must complete a draft EIS within one year. If PHMSA does not receive special permit applications and all necessary supporting information well in advance of the completion of FERC certificate application, it is likely that there will be insufficient time to properly conduct our safety and environmental analyses before the EIS deadlines.

To facilitate PHMSA's environmental analysis, the special permit applicant needs to provide certain environmental information. The purpose of this form is to provide guidance to the applicant on what information should be provided. Any information submitted by the applicant is subject to being made public.

I. Purpose and Need

[Describe pipeline and specify county and state where the affected segments located]

[Cite regulation(s) for which special permit (waiver) is sought. Paste relevant portion of regulation(s) here.]

[State the unique circumstances and reasons for your special permit request. Explain how the special permit will benefit you and the public.]

II. Site Description and Affected Environment

Describe the right-of-way and the type of environment in the vicinity of the affected pipeline segments including:

[Provide map if available]

[Describe extent to which landowners, businesses, and residential areas are in the vicinity including parks]

[Describe surface waters in the vicinity including wetlands]

[Describe drinking water aquifers in the vicinity]

[Describe soils and vegetation in the vicinity]

[Describe wildlife habitats including fisheries in the vicinity]

[Describe any geologic hazards]

[Describe any cultural resources that may be affected if a special permit were granted]

[Describe any socioeconomic impacts or special impacts on Native Americans, if any,, if a special permit were granted]

[Describe the existing infrastructure that is within the Potential Impact Radius of the pipeline]

III. Mitigation Measures

[Describe the alternative mitigation measures you are offering to implement in lieu of compliance with the regulations for which you are seeking a special permit.]

IV. Analysis and Investigation of Alternatives

[Explain the basis for the particular set of alternative mitigation measures listed in section III above. Explain whether the measures will ensure that a level of safety and environmental protection equivalent to compliance with existing regulations is maintained.]

[Discuss how the special permit would affect the risk or consequences of rupture or failure (positive, negative, or none)]

[Discuss any effects on pipeline longevity and reliability such as life-cycle and periodic maintenance. Discuss any technical innovations as well]

[Discuss how the special permit would impact human safety]

[Discuss whether the special permit would affect land use planning]

[Discuss any pipeline facility, public infrastructure, and environmental impacts associated with implementing the special permit. In particular, discuss how any environmentally sensitive areas could be impacted]

[Evaluate alternatives to the special permit and any beneficial or adverse consequences of such alternatives.]

NOTE: The APP Project should include the pipeline stationing and mile posts (MP) for the location or locations of the applicable ***special permit segment(s)***.