APPLICATION FOR PIPELINE RIGHT-OF-WAY LEASE
Point Thomson Export Pipeline

1. Date of Application

July 23, 2010

2. Name and Address of Applicant(s)

Please see the cover letter.

PTE Pipeline LLC
800 Bell Rm 647F
Houston, TX 77002

The contact for this right-of-way (ROW) Lease Application is Stephen McDaniel. He can be reached for clarification and/or additional information at (281) 654-8897 or via email at steve.mcdaniel@exxonmobil.com.

PART I PROPOSED ROUTE

The proposed Point Thomson Export Pipeline (PTEP) extends about 22 miles from the Point Thomson Central Pad (CP), located approximately 60 miles east of Prudhoe Bay, to a point of connection with the existing Badami Sales Oil Pipeline at the Badami Central Facilities Pad (CFP). The proposed PTEP route is shown in Exhibit A.

3. Point of Origin

The point of origin of the PTEP is the Point Thomson CP which is located in Section 3, Township (T) 9 North (N), Range (R) 23 East (E), and Section 34, T10N, R23E, Umiat Meridian (UM).

4. Point of Termination

The point of termination of the PTEP is at the point of connection with the existing Badami Sales Oil Pipeline in Section 8, T9N, R20E, UM.

5. Total Proposed Length

The total length of the proposed PTEP is approximately 22 miles.

6. Total Length Proposed to Cross State Lands

The total length of the proposed PTEP that crosses state lands is approximately 22 miles (i.e., the entire length of pipeline).

7. **Attach a map or plat showing the proposed alignment of the centerline of the pipeline right-of-way, and indicate the areas of state upland ownership throughout the length of the proposed right-of-way.**

   Exhibit A (Figures 1 through 22) shows the proposed alignment of the centerline of the PTEP. The centerline may need to be adjusted by as much as 3,000 feet during the design and permitting process to accommodate design optimization changes. The entire length of the pipeline ROW crosses lands owned by the State of Alaska.

8. **Proposed crossings of streams and other bodies of water (for each crossing indicate the width and depth of the stream or water body.**

   The PTEP crosses streams and drainages identified in Table 1. There are two shallow lakes/ponds that are crossed and identified in Exhibit A. One crossing is located in Section 34, T10N, R22E and is approximately 75' wide, the second crossing is in Section 1, T9N, R21E and is approximately 100' wide. The widths and depths of the "unnamed" drainages are based on topographic maps. The data for the "named" streams is based on the 2010 Water Crossing Study (USPT-WP-YRZZZ-060008). The lake/pond information is based on topographic maps and aerial photographs taken in 2009. The stream/drainages and lake/pond crossing information may change, because the pipeline route may change during the design and permitting process.

   Estimates of the "unnamed" stream bank widths near pipeline crossings are based on 1998 field observations during spring break up. The data for the "named" stream bank widths is based on the 2010 Water Crossing Study (USPT-WP-YRZZZ-060008).

9. **Attach a map or plat showing the proposed alignment of the centerline of the pipeline right-of-way where it crosses the beds of streams or other bodies of water.**

   Exhibit A shows the proposed alignment of the centerline of the pipeline ROW where it crosses the beds of streams or other water bodies.

10. **Width of the proposed temporary right-of-way required for construction for each segment of the pipeline route on state lands.**

    The temporary construction ROW is nominally 400 feet wide. The typical pipeline ROW is illustrated in Exhibit B.

11. **Size and location of any sites, in addition to the proposed pipeline right-of-way, requested on a temporary basis during construction.**

    Additional storage and staging lay down areas will be required to support pipeline construction. The locations for potential ice or snow pads and ice access roads are shown in Exhibit A. Additionally, space on existing or new gravel pads at the Point Thomson CP or the Badami CFP may be used for temporary storage along with staging and storage pads in Deadhorse. Lateral ice roads will run between the proposed pipeline construction ice road and the proposed sea ice road, as shown in Exhibit A. Existing roads around Badami (Section 9, 14, 15 & 16, T 9N, R20E) as well as those near Prudhoe Bay and Endicott are anticipated to be utilized. New roads constructed for the Point Thomson facility will also be used (Section 3, 4, 5, 6, 10, 14, 15, and 16, T9N, R23E; Section 36, T10N, R22E; Section 1, T9N, R22E).

Table 1 Stream/Drainage Crossings

Name	Legal Description	Category[1]	Drainage Area[2] (square miles)	Bank Full Condition Width[3] (feet)	VSMs	
					Approx. No. within Bank Full X-section[4]	Approx. No. in Active Channel[7]
C Creek	T9N, R23E, Sec 3	III	1.6	30 - 100	2	0
D Creek	T9N, R23E, Sec 4	II	2.1.	15 - 80	2	0
Drainage (UN1)	T9N, R23E, Sec 5	I	8.2	< 30[5]	0	0
Drainage (UN2)	T10N, R23E, Sec 32	I	n/a	undetermined	0	0
Drainage (UN3)	T10N, R23E, Sec 32	I	n/a	undetermined	0	0
Drainage (UN4)	T10N, R23E, Sec 32	I	n/a	undetermined	0	0
E Creek braid	T10N, R23E, Sec 31	I	n/a	undetermined	0	0
E Creek	T10N, R23E, Sec 31	III	4.3	50	1	0
E Creek braid	T10N, R23E, Sec 31	I	n/a	< 30[6]	0	0
Drainage (UN5)	T10N, R23E, Sec 31	I	n/a	undetermined	0	0
Stream 18a	T10N, R23E, Sec 31	II	2.1	25	1	0
Drainage (UN6)	T10N, R23E, Sec 31	I	n/a	undetermined	0	0
Drainage (UN7)	T10N, R23E, Sec 31	I	n/a	undetermined	0	0
Drainage (UN8)	T10N, R22E, Sec 36	I	n/a	undetermined	0	0
Drainage (UN9)	T10N, R22E, Sec 36	I	n/a	undetermined	0	0
F Creek	T10N, R22E, Sec 36	III	23.5	75	2	0
Drainage (UN10)	T10N, R22E, Sec 36	I	n/a	undetermined	0	0
G Creek	T10N, R22E, Sec 35	III	15.9	50 - 90	2	0
Drainage (UN11)	T10N, R22E, Sec 34	I	n/a	undetermined	0	0
H Creek	T9N, R22E, Sec 3	III	2.2	30	1	0
I Creek	T9N, R22E, Sec 5	III	12.2	70	1	0
J Creek	T9N, R22E, Sec 6	III	3.7	40 - 70	1	0
K Creek	T9N, R21E, Sec 1	III	13.9	75	2	0
L Creek	T9N, R21E, Sec 10	III	45.7	85 - 100	3	1
Drainage (UN12)	T9N, R21E, Sec 10	I	n/a	undetermined	0	0
Drainage (UN13)	T9N, R21E, Sec 10	I	n/a	undetermined	0	0
M Creek	T9N, R21E, Sec 9	III	5.5	40	1	0
N Creek	T9N, R21E, Sec 8	III	17.3	70 - 125	2	0
O Creek	T9N, R20E, Sec 13	III	7.6	12 - 30	2	0
Drainage (UN14)	T9N, R20E, Sec 13	I	n/a	undetermined	0	0
Drainage (UN 15)	T9N, R20E, Sec 13	I	n/a	undetermined	0	0
E. Badami	T9N, R20E, Sec 14	III	96.5	325 - 520	10	3
Middle Badami	T9N, R20E, Sec 15	III	22.6	60	1	0
W. Badami	T9N, R20E, Sec 16	III	44.7	70	2	0

Key:
< – less than > – greater than
1 – Category I are drainages, shallow swales, wetlands, or polygon fields having poorly defined channels. Category II streams are minor streams having poorly defined channels and drainage areas. Category III streams have definable channels and drainage areas.
2 – Named streams drainage area based on 2010 document USPT-WP-YRZZZ-060008, *Water Crossing Study*.
3 – Named streams bank full width based on 2010 document USPT-WP-YRZZZ-060008, *Water Crossing Study*. "Unnamed drainages" with "undetermined" bank widths are small drainages that have not been measured.
4 – Estimated based on current support layout and pipeline alignment.
5 – This estimate is based on measurement at one cross section.
6 – Order of magnitude estimate based on comparison with streams with similar features and characteristics as shown on base mapping and aerial photography.
7 – The portion of the bank full cross section that contains water or ice year round.
n/a – not available
VSM – vertical support member

12. Width of the proposed right-of-way required for operating the completed pipeline for each segment of the pipeline route on state lands.

The ROW required for operating the PTEP (the "operations right-of-way") will be 100 feet wide, as illustrated in Exhibit B.

13. Size and location of any sites, in addition to the proposed pipeline right-of-way, requested for the operation of the completed pipeline.

The export pipeline receiving facility at Badami pipeline facilities will be installed on a new gravel pad approximately 110 feet x 120 feet and connected to the southwest portion of the existing Badami pad via a short 32'-wide access road. This new gravel pad will contain the pig receiver and leak detection module, instrumentation and electrical module, and possibly a communications tower. The installation of a heater at Badami is also being considered and will be assessed during detailed design. Additionally, a 40' x 40' wide gravel pad for rig crossings of the export pipeline will be constructed with a cased pipeline crossing. The pad will be located approximately 450 feet south of the existing Badami pad to facilitate the Badami Unit's ongoing development.

14. Legal description of state lands within the proposed pipeline right-of-way that are reserved or committed to any purpose. (For each tract of such state lands, state the purpose to which it is reserved or committed.)

A review of the Alaska Department of Natural Resources (ADNR) public land records indicates that the proposed pipeline ROW will potentially intersect with Revised Statute Trail (RST) 1043 Bullen-Staines River qualified Revised Statute (RS) 2477 ROW. The potential intersections could occur in the following sections: Section 31 & 32, T10N R 23E; Sections 4 & 5, T9N, R23E; Section 4, T9N, R22E, UM.

The temporary pipeline construction and permanent ROW cross over the access road to the Badami Mine Site/Reservoir in Section 14, T9N, R20E, UM. The access road between the Badami Airstrip and Badami Central Facilities Pad is also crossed by the temporary pipeline construction ROW in Section 9, T9N, R20E, UM.

The legal description for the approximate temporary pipeline construction ROW is provided in Exhibit C. The legal description of the approximate operations ROW is provided in Exhibit D. The proposed centerline may be adjusted up to 3,000 feet on either side of the corridor shown in Exhibit A to accommodate design changes.

PART II PROJECT DESCRIPTION

15. Substance(s) to be transported.

Liquid Hydrocarbons with specific gravity of 0.7 to 0.9 will be transported (Table 2).

16. Size, engineering and design characteristics and amount of each type of pipe to be used.

The pipeline is designed to conform to the design code regulations present in 49 Code of Federal Regulations (CFR) 195 and applicable ExxonMobil and industry standards. The pipeline will be constructed by ExxonMobil Development Company (EMDC) for PTE Pipeline LLC.

The pipeline will be made of carbon steel with a nominal 12-inch inside diameter (12.75-inch outside diameter) and will be approximately 22 miles in length. The pipeline will have a maximum allowable operating pressure (MAOP) of approximately 2,035 pounds per square inch gage (psig). The minimum mainline pipeline wall thickness will be 0.406 inches, with an included corrosion allowance of 0.125 inches. Increased wall thickness in areas where there is a higher potential for accidental bullet strikes (based on local hunting practices and the results of ballistic verification analyses) may be implemented as a mitigation measure. An external coating of fusion-bonded epoxy and polyurethane foam insulation, with a galvanized metal outer jacket, will be employed on the PTEP to coincide with best available North Slope practices. Additional pipeline design characteristics are provided in Table 2 and in the *Point Thomson Design Basis – Export Pipeline* (Attachment II). The pipe diameter, wall thickness, and grade are not expected to change; however, design pressures, throughput, heating requirements, etc. will be further evaluated during detail design.

17. Size, number and location of pumping, compressing, heating or refrigeration stations.

Pumps and metering at the origin (Central Pad) will not be owned by PTE Pipeline LLC. The installation of a heater at Badami is also being considered and will be assessed during detail design. The metering at the terminus in Badami will be owned by PTE Pipeline LLC. Compression or refrigeration will not be required for the PTEP.

18. Transportation capacity of the proposed pipeline.

The pipeline design throughput is approximately 70,000 barrels per day (bbl/day – Attachment I, *Point Thomson Project – Project Description,* Table 6.1).

Table 2 Engineering Data Summary for the Point Thomson Export Pipeline

Transported Substance	Liquid Hydrocarbon
Substance Specific Gravity (@ standard conditions)	0.7 to 0.9 (water = 1.0)
Design Pressure (i.e. Maximum Operating Pressure)	2,035 pounds per square inch gauge
Pipeline Outside Diameter	12.750 inches
Pipeline Wall Thickness: Mainline, Station Piping, and Trap Sites (minimum)	• 0.406 inch (includes 0.125 inch corrosion allowance) • Increased wall thickness in areas where accidental bullet strikes might be anticipated
Pipe Material Grade	American Petroleum Institute 5L X65
Design Hoop Stress Factor: Mainline, Station Piping, and Trap Sites	0.72
External Coating: Mainline and Buried Road Crossings	Fusion Bonded Epoxy & Polyurethane Foam insulation with galvanized metal outer jacket
Cathodic Protection	See Design Basis
Minimum Hydrostatic Test Pressure and Duration	• Strength Test for 4 hours at min pressure of 125% Design Pressure • Leak Test for 4 hours at min pressure of 125% Design Pressure
In-line Inspection Capability	Yes
Valves	Automated isolation valves at the inlet and outlet of the pipeline
Isolation	Vertical Loop at East Badami Creek area
Check	None
Other Facilities: Badami Pigging Facilities Pipeline Design Throughput: Maximum Operating	 • Metering skid and leak detection system at Badami CPU on existing pad or new pad • Possible installation of heater at Badami is being considered • Pig launcher facility at Point Thomson Central Pad and pig receiver facility at Badami CPU on existing pad or new pad. • 70,000 barrels per day • 10,000 barrels per day (initial operations)
Pipeline Temperatures: Normal Operating Maximum Design Minimum Design Metal Temperature	 • ~143 °F inlet temperature; 58 to114 °F outlet (seasonally variable) • 200 °F • -20°F at Point Thomson Central Pad Pig Launcher and -50 °F at Mainline and Badami
Pipeline Support Mode(s): Mainline Road Crossings Creek and Water Crossings	 VSMs, minimum seven (7) feet clearance between lowest point of any element being supported by VSM (e.g., pipe insulation, pipeline attachments such as tuned vibration absorbers, electrical/communication cables, etc.) and tundra surface. In smooth wall steel casings through road bed gravel placed on the tundra (see Exhibits E, F, G and H). VSMs
Design Code/Regulation	49 CFR, Part 195 and American Society of Mechanical Engineers B31.4
Minimum Operational Life	30 years

Key:
% – percent
°F – Degrees Fahrenheit
CFR – Code of Federal Regulations
CPU – Central Processing Unit
MAOP – Maximum Allowable Operating Pressure
VSM –

19. Estimated life of the pipeline.

The estimated commercial life of the pipeline is 30 years (Attachment I, *Point Thomson Project – Project Description,* Table 6.1). The operational life of the pipeline is projected to be longer than the estimated commercial life through proper maintenance and operating procedures.

20. Planned temperature at which each substance will be transported and whether it will be heated or refrigerated to maintain that temperature.

Under normal operations, the inlet temperatures of the product will be approximately 143 degrees Fahrenheit (^{o}F) and the outlet temperature at the PTEP/Badami interconnect will vary from 58 to 114 ^{o}F depending upon seasonal variations. The export pipeline is designed for a maximum temperature of 200 °F and a minimum temperature of -50°F (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Sections 5.1 and 5.8).

21. The pipeline will be (check as appropriate):

√	Supported over the surface along its entire length[1]
	On the surface along its entire length
	Partially buried along its entire length
	Completely buried along its entire length
	None of the above (if this is checked, attach a map showing which portions of the pipeline are planned to be over the surface, on the surface, partially buried and wholly buried.)

Key:
1 –The pipeline will be supported on vertical support members along its entire length, except at road crossings where it will be in casings in the elevated road bed.

22. Describe the methods to be employed for partially or completely burying any portions.

As noted in Response #21, the pipeline will be supported on VSMs over the surface along its entire length except for two short road crossings, one near the West Pad (Section 36, T10N, R22E, UM) and the other near the existing gravel mine site/ reservoir road near Badami (Section 14, T9N, R20E, UM). A third crossing will be at a new gravel Rig Crossing Pad south of the Badami CPF (Section 9, T9N, R20E, UM) (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 3.7). At these three locations, the pipeline will be installed through a casing that will be placed in the road bed gravel constructed on top of the tundra. Exhibit E shows a typical casing installation. Exhibits F, G and H show the pipeline crossing designs through the West Access Road casings.

Power and fiber optic cables will be structurally supported along VSMs between the Point Thomson CP and Badami. At road crossing locations, the cables will be buried below the road, as shown in Exhibits E, F, G, and H.

23. Describe any bridges, trestles, other structures or berms for the support of the proposed pipeline.

The proposed PTEP will be supported on VSMs complete with "Z-type" offsets/expansion loops to permit extension and shortening of the pipeline due to thermal effects. The VSMs will be designed and installed to provide at least 7 feet of clearance between the lowest point of any element being supported by VSMs (e.g., pipe insulation, including pipeline attachments such as tuned vibration absorbers, electrical communication cables, etc. Design and installation of the VSMs will be completed using standard ExxonMobil and North Slope pipeline specifications and procedures. The VSM design will be evaluated during pipeline detail design (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 4.0).

24. Describe the proposed method for all stream crossings and crossings of other bodies of water.

One of the criteria used in identifying the proposed pipeline alignment was to select locations of streams and lakes where crossings would be relatively short. Therefore, all stream and water body crossings will be constructed above grade using VSMs (Attachment I, *Point Thomson Project – Project Description,* Section 6.1 and Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 4.4). Estimated widths and locations of stream/drainage crossings are shown in Table 1, lake/pond crossings are described in question # 8.

25. Describe the proposed methods for grades, cuts or fills.

No grades, cuts, or fills will be employed along the proposed pipeline ROW.

26. Planned facilities for spill or leak prevention and containment.

The pipeline design and operating procedures include numerous measures to prevent spills and to rapidly detect and respond to any spills that may occur. The pipeline will be designed, constructed, inspected, tested, operated and maintained in accordance with PHMSA / DOT regulations for the transportation of hazardous liquids by pipeline, 49 CFR 195, and applicable ExxonMobil and industry standards.

<u>Design</u>

The pipeline will feature a minimum wall thickness of 0.406 inches on the Mainline, which includes a corrosion allowance of 0.125 inches *(*Attachment I, *Point Thomson Project – Project Description,* Table 6.1 and Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 5.3.1). Increased wall thickness in areas where there is a higher potential for accidental bullet strikes (based on local hunting practices and the results of ballistic verification analyses) would be implemented as a mitigation measure. Road crossings will be constructed and supported in smooth walled steel casings through road bed gravel and not excavated into the tundra *(*Attachment I, *Point Thomson Project – Project Description,* Table 6.1). Pipeline design will meet all design regulations of 49 CFR 195 and American Petroleum Institute (API) Recommended Practice (RP) 1102 Steel Pipelines Crossing Railroads and Highways, 7th Edition.

The pipeline will feature isolation valves at the Pt. Thomson CP and Badami *(*Attachment I, *Point Thomson Project – Project Description,* Section 6.0 and Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 2.2*)*. The use of vertical loops will be employed at the East Badami Creek crossing to limit the amount of liquid hydrocarbon that could be spilled in the event of a pipeline leak or rupture (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 5.2).

Testing

- Hydrostatic testing will be conducted in accordance with 49 CFR 195 and American Society of Mechanical Engineers (ASME) B31.4. Strength test pressure will be at a minimum of 125 percent of the design pressure for a minimum of 4 hours.
- An additional 4-hour leak test will be conducted at 125 percent of the design pressure following the 4-hour strength test pressure (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 7.0).

Leak Detection

Metering equipment, leak detection equipment, data acquisition equipment, and control/safety systems will be employed at pipeline facilities *(*Attachment I, *Point Thomson Project – Project Description,* Section 6.0 and Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 9.0). A computational leak detection system will perform real-time monitoring for pipeline leaks and will be continually updated via a supervisory control and data acquisition (SCADA) system. Specific software and hardware options for leak detection will be finalized during detail design *(*Attachment I, *Point Thomson Project – Project Description,* Section 6.3).

Visual Inspection

Periodic visual inspection of the PTEP will be conducted in accordance with 49 CFR 195, ASME B31.4, and 18 Alaska Administrative Code (AAC) 75. Visual inspection of the PTEP will be conducted in accordance with state regulations which require weekly aerial surveillance of the PTEP, unless otherwise precluded by safety and weather conditions *(*Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 10.10).

Pigging

Pig launchers and receivers will be included at the Point Thomson CP and Badami, respectively. Cleaning pigs will be run periodically for removal of sediments and other deposits helping to mitigate internal corrosion. The pig launcher and receiver will also be designed to accommodate in-line inspection (ILI) tools *(*Attachment I, *Point Thomson Project – Project Description,* Section 6.0). After start-up, an ILI will be conducted to collect baseline integrity data for use in comparing subsequent monitoring data sets over the operational life of the pipeline per 49 CFR 195 Pipeline Integrity Management Program requirements..

Oil Spill Response Measures

Specific prevention and containment measures, equipment needs, and response strategies will be provided in an Oil Discharge Prevention and Contingency Plan (ODPCP) that will be prepared and submitted to the Alaska Department of Environmental Conservation (ADEC) for review and approval.

Corrosion Control

External corrosion of the pipeline will be controlled in accordance with 49 CFR 195, applicable ExxonMobil and industry standards, and a program will be developed for the operation and maintenance of the PTEP. The design basis for the factory-installed insulation of the pipeline includes polyurethane foam covered with a roll-formed, interlocked, galvanized metal jacket. This insulation-jacket system has a proven North Slope track record of preventing moisture ingress. The pipeline will be shop fusion bonded epoxy (FBE) coated and field joints will be coated with field-applied fusion bonded epoxy, insulation, sealing, and jacketing to coincide with best available North Slope practices for preventing external corrosion (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 11.1.2).

Internal corrosion will be controlled by dehydration of the liquid hydrocarbon product, injection of corrosion inhibitors, as needed, and maintenance pigging to remove sediments and other deposits *(*Attachment I, *Point Thomson Project – Project Description,* Section 6.2 and Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 11.1.1). In addition, the pipeline design will include a corrosion allowance of 0.125 inches (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Sections 5.3.1 and 11.1.1).

Corrosion will be monitored through the use of corrosion coupons installed in the product flow path and examined at least twice each calendar year, but with intervals not exceeding 7.5 months (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 11.1.1).

The PTEP will be designed to allow passage of ILI, and maintenance and cleaning tools. The frequency of inspection will be determined during detail design and developed to be consistent with 49 CFR 195 Pipeline Integrity Management Program.

Regulatory Compliance

PTE Pipeline LLC will comply with all state and federal regulations pertaining to spill prevention and response relative to the PTEP. These include, but are not limited to: 18 AAC 75 (Oil and Hazardous Substance Pollution Control), 49 CFR 194 (Response Plans for Onshore Pipelines), and 49 CFR 195 (Transportation of Hazardous Liquids by Pipeline). Summaries of these regulations are presented below.

State of Alaska – 18 AAC 75 (Oil and Hazardous Substance Pollution Control*)* includes, but is not limited to the following:

- Oil pollution prevention requirements.
- Financial Responsibility for Oil Discharges.
- Oil discharge prevention training and record keeping requirements.
- Requirements for the installation of a leak detection system.
- Discharge reporting, cleanup, and disposal of oil and other hazardous substances.
- ODPCP.
- Oil Spill Response Primary Action Contractor.

Federal – 49 CFR 194 (Facility Response Plans for Onshore Pipelines*)* includes, but is not limited to, the following:

- Procedures for responding to a worst-case discharge.

- Description of training program.
- Identification of environmentally sensitive areas.
- Immediate notification procedures.
- Spill detection and mitigation procedures.
- Identification of response resources.

Federal – 49 CFR 195 (Transportation of Hazardous Liquids by Pipeline*)* includes, but is not limited to the following:

- Accident and safety related condition reporting.
- Design requirements.
- Construction requirements.
- Pressure testing requirements.
- Operation and maintenance requirements, including emergencies and emergency response.
- Corrosion control requirements.
- Pipeline Integrity Management requirements.

Some other potentially applicable federal spill prevention / response statutes and regulations:

- Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.
- 40 CFR 110 (Discharge of Oil) - reporting requirements for spills to water
- 40 CFR 112 (Oil Pollution Prevention) - spill prevention plans required for sites with non transportation related storage of petroleum >1320gal total, where a spill could impact water
- 40 CFR 300 - 302 (Spill Contingency Plans and Reportable Quantities) - spill response planning, reportable quantities for releases of hazardous substances
- 33 CFR 153 (Control and Removal of Discharge of Oil or Hazardous Substances) - spill notification and response requirements for spills to water

Training

Appropriate safety, environmental and emergency planning / response training programs will be developed and implemented before construction and operations begin. The programs will define training requirements for employees and contractors by position, the content of each training requirement, and the frequencies of training refreshers. Training will comply with corporate requirements, the requirements of federal and state regulations (29 CFR (Labor), 49 CFR, and 18 AAC), and the requirements of applicable federal- and state regulations, issued permits and approved plans.

27. Proposed access roads, airstrips, heliports, float plane facilities, communication facilities and storage sites for equipment and materials, whether planned for construction, operation or maintenance support.

Access Roads

As described in Response #11, an ice road and ice storage pads will be constructed within the temporary construction ROW to support pipeline construction. Ice roads will be constructed from the sea ice road to the pipeline construction ice roads to improve access and also to access ice storage sites.

The locations for potential ice or snow pad staging areas and ice access roads are shown in Exhibit A. Water use alternatives and potential water sources for ice pad and ice road construction are provided in Section 4.1.3.1 of the *Point Thomson Project Environmental Report* (Attachment III) and Section 7.3.2 of the *Point Thomson Project – Project Description (*Attachment I)**.**

Airstrips and Heliports

A gravel airstrip will provide the only year-round fixed-wing access to the Point Thomson area (with the exception of the nearby Badami airstrip); however, it is not primary to the construction of the PTEP. The gravel airstrip will be located south of the Point Thomson CP, approximately 3 miles from the coast. It will be approximately 5,600 feet long by 200 feet wide and include navigational equipment, weather equipment and runway lighting (Attachment I, *Point Thomson Project – Project Description,* Section 7.2.8). During construction, heliport(s) and a seasonal ice airstrip may be used***.***

Communication Facilities

A new communication tower with associated equipment will be installed at the Point Thomson CP in support of project and pipeline operations. A new communication tower may also be installed on the gravel pad at Badami. A separate communication building will be located at the CP and will house radio frequency (RF) equipment to maintain RF efficiency (Attachment I, *Point Thomson Project – Project Description,* Section 7.3.6). Power and Fiber optic cables/Microwave system are being considered to power the export pipeline facilities at Badami and to provide a telecommunications/data transmission link between Deadhorse, Badami, and the Point Thomson CP. VSMs will be designed to carry and support the power/fiber optic cables (Attachment I, *Point Thomson Project – Project Description*, Section 6.0, Figures 6.1, 6.2, and 6.3).

Storage Sites

As described in Response #11, additional storage and laydown areas will be required during construction. These may be ice pads, snow pads, or existing gravel pads at Point Thomson and Badami.

28. Size, number, approximate location and planned duration of field camps.

During the first pipeline construction season, construction personnel will be housed in a construction camp on a gravel pad at Badami or on a single season ice pad in the Badami Unit. During the second construction season, pipeline construction personnel may be co-located with facilities construction personnel at Point Thomson.

Warm-up shacks and on-site sanitation facilities will be provided along the construction ROW. These facilities will be installed prior to and during the pipeline construction season and removed before spring breakup and when construction is complete.

29. Size, number and approximate location of housing for personnel operating or maintaining the pipeline.

The Point Thomson Project operations camp will be constructed south of the processing facilities on the CP. The camp will be sized to typically accommodate approximately 80 people, including personnel operating the pipeline, but will accommodate up to

approximately 140 people as needed, (Attachment I, *Point Thomson Project – Project Description,* Section 7.3.1)

30. Size, number and approximate location of health care facilities.

The existing North Slope emergency medical facilities will be available for the Point Thomson Export Pipeline Project. Emergency and first aid facilities and personnel will be provided at the Point Thomson CP during construction. A medical clinic will be provided at the Point Thomson CP during pipeline operation.

31. Approximate number of persons to be employed during construction.

During initial construction of the PTEP in 2012, it is estimated that approximately 140 individuals may be employed. The construction workforce is expected to increase to approximately 210 during 2013. Approximately 40 people will be involved during the summer 2013 hydrotest. A final determination will be made during finalization of the Construction Plan and a selected contractor execution plan.

32. Approximate number of persons to be employed to operate and maintain the pipeline.

It is estimated that operation and maintenance of the PTEP will require approximately ten (10) full-time equivalent personnel. This estimate is based on staffing needs for: pipeline monitoring and control, field support functions, aerial surveillance, pipeline inspections, maintenance and repair activities, pipeline pigging, field supervision/management, on-going commercial, engineering, right-of-way, legal and public affairs support, and other activities needed for proper operation of the system.

33. Planned commencement date for construction.

Pipeline construction activities will commence in late 2011. A second winter for construction of the pipeline is expected to commence by January 2013.

34. Estimated construction time.

It is estimated that construction of the pipeline will take two winter seasons and will take place during January 2012 (ice roads begin in 2011) through April 2012 and January 2013 through April 2013 (Attachment I, *Point Thomson Project – Project Description,* Section 14.0). Hydrostatic testing could be conducted prior to mid-April while the pipeline ROW ice road is passable, or later in 2013.

35. Planned commencement date for operations.

Operations are scheduled to commence at Point Thomson in 2014 (Attachment I, *Point Thomson Project – Project Description,* Section 14.0).

36. Estimated cost of materials.

The estimated cost of materials for the PTEP, based on conceptual engineering, is approximately $50 million.

37. Estimated cost of construction and installation.

The estimated cost for construction and installation of the PTEP, based on conceptual engineering, is approximately $80 million.

38. Estimated annual cost for operations and maintenance.

The annual operating and maintenance costs are estimated to be approximately $12 million.

PART III AVAILABILITY OF INTERCONNECTIONS, TERMINAL FACILITIES AND STORAGE FACILITIES

39. Describe how the proposed pipeline will connect with planned field gathering systems, if any.

The PTEP does not have a direct connection with the Point Thomson field gathering system. The PTEP begins at the outlet of the processing facilities at the Point Thomson CP and terminates at the point of connection to the Badami Sales Oil Pipeline at the Badami CFP. The pipeline facilities begin at the inlet valves to the launcher barrel at the Point Thomson CP and end at the isolation valve adjacent to the tie-in of the Badami Sales Oil Pipeline at the Badami CFP (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 1.3).

40. Discuss the technical and economic feasibility of providing connections with other field gathering systems at intermediate points along the proposed pipeline.

The PTEP will be designed, constructed, and operated as a common carrier system. The PTEP tariff will require that products to be transported meet the same specifications set by the tariffs of connecting carriers downstream of PTEP. Pipeline connections to transport merchantable liquid hydrocarbons produced from other field's gathering systems would be evaluated on a case-by-case basis.

Other factors to be considered in determining the technical and economic feasibility of such connections include, but are not limited to:

- Implementation of quality control measures to help ensure that any new hydrocarbons are compatible with other hydrocarbons being transported.
- Ability of the new hydrocarbon to meet the PTEP tariff specifications including temperature, vapor pressure, pumpability, sulfur content, composition, and basic sediment and water content.
- Location of the connection.
- Rate, pressures, estimated total quantity, continuity, and control of flow into and out of the pipeline.
- Leak detection monitoring and surveillance requirements.
- Measurement/custody transfer requirements.
- Relevant state and federal regulations.
- Regulatory and Permit requirements.
- Cost of installing the new connection.

41. Discuss the technical and economic feasibility of providing connections or interchanges with other pipelines at intermediate points along the proposed pipeline.

The PTEP will be designed, constructed, and operated as a common carrier system. The PTEP tariff will require that products to be transported meet the same specifications set by the tariffs of connecting carriers downstream of PTEP. Pipeline connections to transport merchantable crude or condensate from pipelines at intermediate points along the proposed pipeline will be evaluated on a case by case basis.

The principal factors to be considered in determining the technical and economic feasibility of such connections include, but are not limited to:

- Implementation of quality control measures to help ensure that any new hydrocarbons are compatible with other hydrocarbons being transported.
- Ability of the new hydrocarbon to meet the PTEP tariff specifications including temperature, vapor pressure, pumpability, sulfur content, composition, and basic sediment and water content.
- Location of the connection.
- Rate, pressures, estimated total quantity, continuity, and control of flow into and out of the pipeline.
- Leak detection monitoring and surveillance requirements.
- Measurement/custody transfer requirements.
- Relevant state and federal regulations.
- Regulatory and Permit requirements.
- Cost of installing the new connection.

42. Describe the location, area and capacity of proposed tank farms or other storage facilities.

No tank farms or other storage facilities are planned in conjunction with operation of the PTEP.

43. Describe any terminal delivery facility of the proposed pipeline and give its location.

No terminal facilities are planned for the PTEP.

44. Discuss the technical and economic feasibility of providing delivery facilities at intermediate points along the proposed pipeline.

Liquid hydrocarbon deliveries at intermediate points along the pipeline will be evaluated at the time of request. Determination of technical and economic feasibility will include consideration of factors such as:

- Location of the proposed delivery point.
- Rate, pressures, continuity, and control of flow into and out of the pipeline.
- Leak detection monitoring and surveillance requirements.
- Measurement/custody transfer requirements.
- Relevant state and federal regulations.
- Regulatory and Permit requirements.
- Cost of installing the delivery point.
- Quantity of product to be delivered to intermediate point

PART IV SAFEGUARDS FOR PERSONS, PROPERTY, THE PUBLIC AND THE ENVIRONMENT

ExxonMobil is committed to conducting business in a manner that is compatible with the environmental and economic needs of the communities in which we operate, and that protects the safety, security, and health of our employees, those involved with our operations, our customers, and the public. These commitments are documented in our Safety, Security, Health, Environmental, and Product Safety policies. These policies are put into practice through a disciplined management framework called the Operations Integrity Management System (OIMS). ExxonMobil's OIMS Framework establishes common worldwide expectations for addressing risks inherent in our business. The term Operations Integrity (OI) is used by ExxonMobil to address all aspects of its business that can impact personnel and process safety, security, health, and environmental performance.

ExxonMobil's OIMS is the "umbrella" Quality Control system that ExxonMobil Development Company, PTE Pipeline LLC (as an affiliate of ExxonMobil Pipeline Company (EMPCo) will employ to help ensure worker safety and full regulatory compliance during construction, operation, maintenance, and termination of the PTEP (Attachment I, *Point Thomson Project-Project Description,* Section 2.0). The key elements of the OIMS are:

- Management, Leadership, Commitment, and Accountability.
- Risk Assessment and Management.
- Facilities Design and Construction.
- Information and Documentation *(note, documentation / information on applicable laws and regulations, permits, codes, standards and practices included in this element)*.
- Personnel Training *(note, personnel safety and health included in this element)*.
- Operations and Maintenance *(note, regulatory compliance and environmental management included in this element)*.
- Management of Change.
- Third-Party Services.
- Incident Investigation and Analysis.
- Community Awareness and Emergency Preparedness.
- Operations Integrity, Assessment, and Improvement.

ExxonMobil employs Lloyd's Register of Quality Assurance (LRQA) to review operations integrity management system and attest that it meets the intent and requirement of ISO 14001.

Pipeline Integrity Management Program

A comprehensive Pipeline Integrity Management Program will be implemented to address construction, operation, maintenance, and termination procedures of the proposed pipeline to avoid damage or harm to state lands or waters in or near the pipeline corridor. The primary objective of the Pipeline Integrity Management Program is to ensure pipeline integrity, address spill prevention and design measures, establish procedures for monitoring performance, and plan for response. The Pipeline Integrity Management Program will comply with the requirements of a Pipeline Integrity Management Program as defined in 49 CFR 195. Elements of a Pipeline Integrity Management Program must include the following:

- A process for determining which pipeline segments could affect a High Consequence Area (HCA).
- A Baseline Assessment Plan.
- A process for continual integrity assessment and evaluation.
- An analytical process that integrates all available information about pipeline integrity and the consequences of a failure.
- Repair criteria to address issues identified by the integrity assessment method and data analysis.
- A process to identify and evaluate prevention and mitigation measures to protect HCAs.
- Methods to measure the Integrity Management Program's effectiveness.
- A process for review of integrity assessment results and data analysis by a qualified individual.

Other Measures

A Pipeline Construction Plan and Pipeline Surveillance and Monitoring Plan will also be developed to comply with state and federal regulations; including; 18 AAC 75 (Oil and Hazardous Substance Pollution Control), 49 CFR 194 (Response Plans for Onshore Pipelines), and 49 CFR 195 (Transportation of Hazardous Liquids by Pipeline).

The Pipeline Construction Plan will identify site-specific measures required to ensure surface protection. The Pipeline Surveillance and Monitoring Plan will identify procedures to monitor performance to ensure continued operational integrity.

Specific applications of OIMS for safeguarding persons, property, the public, and the environment are described in Responses #45 through #53 of Part IV.

45. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause a hazard to the safety of workers on the pipeline.

The safety goal for ExxonMobil employees and contractors working on the Project is *"Nobody Gets Hurt" (*Attachment I, *Point Thomson Project-Project Description,* Section 1.3).

Some of the specific tools that will be developed under OIMS and employed to ensure worker safety include:

- A project-specific Safety, Security, and Health (SSH) program will be developed and implemented for construction and operation of the pipeline. The SSH program and plans will address and incorporate the following:
  - Management commitment, staffing, and roles and responsibilities to successfully implement the plans,
  - Management of Contractors and Sub Contractors and their roles and responsibilities,
  - Safety, security, and health processes and procedures to evaluate and assess the program implementation,
  - Incident management and response,
  - Emergency Planning and Response procedures,

- Lessons Learned evaluations,
- Worker training programs,
- Polar Bear and Wildlife Interaction Plan.
- Journey Management planning for work and travel on the North Slope.
- Health considerations for living and working in on-site camps, and
- Medical response plans,

- Design phase safety recognition. Safety requirements will be incorporated into the design phase of the project by implementing the following design-related requirements, reviews, assessments and plans (Attachment I, *Point Thomson Project-Project Description,* Section 2.1.1):
  - Hazard and Operability (HAZOP) for Process Hazard Analysis.
  - Facility Site Reviews.
  - Design Readiness Review.
  - Independent Project Review.
  - Constructability Reviews.
  - Review of Human Factors.

- Compliance with applicable federal, state, and local safety and health laws and regulations, including:
  - Safety and health standards promulgated by the Secretary of Labor pursuant to Section 107 of the Contract Work Hours and Safety Standards Act (40 United States Code [U.S.C.] 333), published in 29 CFR Part 1926.
  - Safety and health standards promulgated by the U.S. Department of Transportation, Pipeline Hazardous Materials and Safety Administration pursuant to 49 CFR 195.
  - Safety standards promulgated by the Secretary of Labor pursuant to Section 6 of the Williams-Steiger Occupational Safety and Health Act of 1970 (29 U.S.C. 655), published or incorporated by explicit reference in 29 CFR Parts 1904 and 1910.
  - Occupational safety and health standards, orders, rules and regulations promulgated by the Alaska Department of Labor pursuant to Alaska Statute (AS) 18.60.010 through AS 18.60.105.

- Safety and environmental training for project personnel including components related to personnel safety and health, permit and regulatory compliance, wildlife interaction, the ODPCP, and compliance with EMDC and other applicable industry expectations. Components of the training program will include, but are not limited to, the following (Attachment I, *Point Thomson Project-Project Description,* Section 11.2.):
  - The Arctic Pass process that addresses the induction and ongoing training necessary for ensuring that personnel do not undertake visits to EMDC facilities without appropriate orientation and training.
  - Regulatory and Permit Compliance.
  - Alaska Native Cultural Awareness.
  - Site Orientation.
  - Driving road rules.
  - Environmental Awareness.
  - Waste Management.

- Spill Prevention and Reporting.
- Polar Bear and Wildlife Interaction.
- Job Safety Analysis.
- Hearing Conservation.
- Blood Borne Pathogens.
- Eye Safety.
- Hand Safety.
- Back Safety.
- Behavior Based Safety (BBS) Processes.
- Winter Driving.
- Food Safety.
- Arctic Water Survival.
- First Aid/Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED).
- A Permits and Environmental Compliance System will be prepared for field supervisors and other key personnel. The purpose of this system is to provide those supervisors and key personnel with the tools and resources to ensure compliance with project permits and applicable environmental laws and regulations. This system can only be prepared after project permits and other authorizations are obtained so that permit obligations can be included and explained. The system will provide procedures for permit and regulatory compliance, including such requirements as ROW Lease requirements, oil spill reporting, environmental monitoring, and other regulatory and permit requirements. In addition, the system will detail EMDC environmental policies and performance expectations.

46. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause a hazard to the <u>public health and safety</u>.

The measures outlined under Response #45 that promote safety of the workforce also reduce hazards to public health and safety. Additional design, administrative, and operational controls that will be implemented to prevent and abate hazards to the public health and safety are discussed below.

<u>Construction and Operations Practices</u>

Established, safe construction practices, together with implementation of a Pipeline Integrity Management Program, will be used to guard the health and safety of the public during construction and operation of the pipeline. PTE Pipeline LLC will observe and comply with applicable federal, state, and local laws and regulations related to public health and safety, including federal Pipeline Hazardous Materials and Safety Administration (PHMSA) regulations pursuant to 49 CFR 195. These federal regulations provide stringent standards for: pipe materials, pipe design, pipe components (e.g., valves, flanges), pipe welds, pipeline construction, corrosion protection, pipeline pressure testing, and operation and maintenance.

Access

Limited potential exists for public access to the site in this remote area. During construction, a "limited access" policy will be implemented. Wherever possible, access to the construction ROW will be controlled. Local communities will be consulted about construction and maintenance operations to aid in the identification of means to avoid potential conflicts with subsistence users and local travelers and to provide emergency assistance to such users or travelers.

Spills and Leaks

Risks relating to spills or leaks will be reduced by implementing a Pipeline Integrity Management Program and leak detection systems which are both described in Response #26, and pipeline testing and monitoring as described in Response #52.

Spill prevention measures, including those related to the use of liners for refueling operations and for stationary vehicles, will be provided in the Permits and Environmental Compliance System described in Response # 53.

A Point Thomson ODPCP will be developed and implemented in accordance with 18 AAC 75 and will include plans for prevention of and response to any spills of oil, fuel or other hazardous substances. The ODPCP will address oil spill prevention and response for protection of public health and safety during pipeline operation and is further described in Response #26.

Inspections and Maintenance

Measures to protect public health and safety during pipeline operation include an ongoing inspections and maintenance program as part of the PHMS regulatory compliance program and *Pipeline Surveillance and Monitoring Plan*.

Elevation

The pipeline will be elevated a minimum of 7 feet above tundra surface to enable safe under passage for snowmobiles and other means of land transportation by the public. The 7-foot elevation is consistent with the *2008 North Slope Area Wide Competitive Oil and Gas Lease Sale Mitigation Measures and Advisories*.

Pipeline Wall Thickness

The PTEP is designed meet all applicable industry and regulatory standards and to protect against accidental or incidental bullet damage in areas of subsistence hunting (Attachment II, *Point Thomson Design Basis – Export Pipeline,* Section 5.3.2). In areas where the alignment of the PTEP may be close enough to subsistence hunting areas to cause additional safety concerns (e.g., coastal bays or inlets), greater wall thicknesses will be incorporated into the design as a mitigation measure.

Signage

Signs will be placed at appropriate locations along the pipeline and at locations required by 49 CFR 195 warning the public of associated hazards and providing the operator's name and 24-hour-a-day contact information.

Public Outreach

EMDC, on behalf of PTE Pipeline LLC, has an established, ongoing public outreach and consultation process with North Slope communities in the area through which public safety concerns, access for subsistence, emergency assistance, and other safety-related issues are addressed *(Note: liaison with the public and public agencies / officials is also addressed in and a requirement of the 49 CFR 195 regulations)*.

47. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damage to public or private property.

No private property exists within or adjacent to the proposed ROW. A Cultural Resources Management Plan (CRM) has been prepared to provide guidance regarding identification, assessment and treatment of cultural resources in the area, which include historic and private properties and will be submitted to the North Slope Borough and SHPO. Private properties that may be encountered along the transportation routes used to access the PTEP ROW are identified and will be protected from trespass or other disturbance.

Federal land exists in the Bullen Point area, which is in proximity to the proposed PTEP ROW. Access to the Bullen Point site will not be allowed except with express permission from the necessary government agencies (U.S. Air Force).

All lands on the proposed ROW are managed by ADNR. Potential impacts to the public property in the ROW could include impacts to freshwater resources, tundra and vegetative cover, and soils. The *Point Thomson Project Environmental Report* (Attachment III) Sections 4.1.2 (Geology and Geomorphology), 4.1.3 (Fresh Water Resources and Hydrology), and 4.2.2 (Vegetation and Wetlands) contain further information on the potential impacts and associated mitigations to these resources. The measures outlined under Response #45 that provide for safety of the workforce also help to reduce hazards to public or private property. Plans to detect and abate any condition that may cause or threaten to cause serious and irreparable harm to tundra and vegetative cover and soils, and freshwater resources including fish or other wildlife are addressed in Response #48 (vegetation and soils) and Response #49 (fish or other wildlife or their habitats)

Plans to detect and abate serious and irreparable impacts to these resources are summarized below under construction, operation and maintenance, and termination.

Construction

During construction, impacts will be avoided, minimized, and/or mitigated by various methods, including the following:

- Compliance with applicable regulations and permits.
- No gravel placement is planned along the proposed pipeline ROW, with the exception of necessary gravel structures in the vicinity of the Badami connection, as described in Response #13.
- Construction will be conducted in the winter from ice roads and ice pads. This will minimize damage to tundra, streams, and lakes. All ice roads and pads will require a permit from ADNR.

- EMDC, on behalf of PTE Pipeline LLC, will develop Point Thomson project-specific pipeline specifications that will address winter construction practices. These will draw upon standard North Slope specifications, as well as from ExxonMobil's Global Practices. Best practices from each of these sources are being identified and incorporated, as appropriate.
- Implementation of ice construction and the aforementioned specifications should result in minimal impacts to tundra vegetation and soils during construction of the pipeline.
- Construction will be monitored by trained personnel (see Response #52) to minimize disturbance to tundra and water bodies.
- Potential damage to the tundra resulting from vehicles or other materials on the ice pad work surface will be identified and preventative / corrective action will be taken, as appropriate. Corrective action typically involves assessing the extent of the damage and, if warranted, rehabilitating the disturbed area in a timely manner or upon completion of construction activities. Design and construction measures to prevent or repair any damages to project area vegetation are described in Response #48.
- To reduce the potential for ice roads to affect drainage patterns and result in erosion, ice roads may be breached at known drainage paths before break up (Attachment III, *Point Thomson Project Environmental Report,* Section 4.1.3.1).
- Ice pads/ice roads generally melt more slowly than snow cover on the surrounding tundra. This results in delayed greening of vegetation in the area covered by the ice pad/road. This is a temporary situation and North Slope experience indicates that within 1 year the vegetation within the ice pad/road area is virtually indistinguishable from adjacent tundra.
- Water sources will require temporary water use permits from ADNR. The permits will stipulate conditions for the protection of fish and water resources, as appropriate. Protection of fish in affected streams and lakes will also be addressed by permits issued by the Alaska Department of fish and Game (ADF&G).
- Spills will be addressed by prevention and response plans during construction and are described in Response #26 under Regulatory Compliance. Additionally, construction personnel will receive spill prevention and response training, and will be provided with on-site spill response equipment. Portable liners will be used under resting mobile equipment, fuel storage areas will be surrounded by secondary containment, storage pads will be constructed to prevent spills from running off-pad, and all spills will be cleaned up immediately and disposed of appropriately before breakup. The work surface will be left as clean as practicable following completion of pipeline construction.

Operation and Maintenance

During operation and maintenance, impacts will be avoided, minimized, and/or mitigated by various methods, including the following:

- Compliance with applicable regulations and permits.
- No gravel placement is planned along the proposed pipeline ROW, with the exception of necessary gravel structures in the vicinity of the Badami connection, as described in Response #13.
- The pipeline will be above ground suspended on VSMs, with very little direct impact to the tundra surface.

- Elevating the pipeline also reduces heat transfer to the ground surface and, thus, prevents or minimizes thaw of the underlying permafrost.
- VSMs located in river channels or floodplains will be designed to accommodate the maximum scour depth that is likely to occur during the 100-year flood (Attachment III, *Point Thomson Project Environmental Report,* Section 4.1.3.2).
- Spill prevention and response for operation and maintenance is described in Response #26.
- The pipeline will be monitored regularly during operations as described in Response #52 using aircraft for visual observations. Any on the ground monitoring will be done in a manner that minimizes disturbance to tundra by using vehicles approved for tundra travel during the appropriate season.
- Most planned pipeline repairs or maintenance will be completed in winter from ice pads, ice roads, and/or existing gravel pads.
- If maintenance or repairs are required to be conducted during the summer or fall when travel over the tundra is permitted, repairs will be supported by approved tundra travel methods.
- If repairs or maintenance are required at times when tundra travel is prohibited, heavy-lift helicopters will be used.
- The *Point Thomson Project Environmental Report (*Attachment III*),* Sections 4.3.4.2 "Construction" and 4.3.4.3 "Operations" of "Environmental Consequences" describe general information about environmental consequences to lands in the pipeline corridor, and proposed methods to mitigate those impacts.
- After construction, a comprehensive pipeline inspection and maintenance program will be implemented. The goals of this program will not only be to ensure pipeline operating integrity and safety, but to also prevent, identify, and respond to all situations that pose significant risk of damage to the environment.

Termination

Detailed abandonment procedures will be developed prior to termination of pipeline operations (Attachment I, *Point Thomson Project – Project Description,* Section 13.0). Abandonment procedures will be based on applicable regulatory requirements at the time and will be designed to minimize impacts to public and private property in coordination with the land owner.

48. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damage to vegetation or timber.

The proposed ROW exists almost exclusively on tundra, with a small number of lake and stream crossings. No timber exists in the proposed ROW. The *Point Thomson Project Environmental Report* (Attachment III) provides general information about possible effects on vegetation in the pipeline corridor.

Plans to detect and abate serious and irreparable impacts to these resources are summarized below under construction, operation and maintenance, and termination.

Construction

During construction, impacts will be avoided, minimized, and/or mitigated by various methods, including the following:

- Compliance with applicable regulations and permits.
- Highly localized disturbance to tundra will occur at the VSM locations. Construction techniques used to drill holes for VSMs (e.g., recovery and removal of all drill cuttings), will limit this disturbance to the hole itself and will not affect the adjacent tundra.
- No gravel placement is planned along the proposed pipeline ROW with the exception of necessary gravel pads in the vicinity of the Badami connection. This gravel placement will be authorized by the US Army Corps of Engineers, State of Alaska, and North Slope Borough.
- Construction will generally be conducted in the winter from ice roads, ice pads, or frozen lake surfaces. This will minimize damage to vegetation. All ice roads and pads will be permitted. To reduce the potential for ice roads to affect drainage patterns and result in erosion, ice roads may be breached at known drainage paths before break up (Attachment III, *Point Thomson Project Environmental Report,* Section 4.1.3.1).
- EMDC, on behalf of PTE Pipeline LLC, is developing Point Thomson project-specific pipeline construction specifications that will address winter construction practices. These will draw upon North Slope best practices as well as from ExxonMobil's Global Practices. Best practices from each of these sources are being identified and incorporated, as appropriate.
- Implementation of the aforementioned specifications should result in minimal disturbance to tundra vegetation during construction of the pipeline.
- Construction will be monitored by trained personnel (see Response #52) to minimize disturbance to tundra.
- Potential damage to the tundra resulting from construction activities will be identified and preventative / corrective action will be taken as appropriate. Corrective action typically involves documenting the extent of the damage and, if warranted, rehabilitating the disturbed area in a timely manner.
- Spills will be addressed by prevention and response plans during construction and are described in Response #26, as outlined under Regulatory Compliance. Construction personnel will receive spill prevention and response training, and will be provided with on-site spill response equipment. Portable liners will be used under fuel transfers and resting mobile equipment, fuel storage areas will be surrounded by secondary containment, storage pads will be constructed to prevent spills from running off the pad and all spills will be cleaned up in a timely manner and disposed of appropriately before breakup. The work surface will be left as clean as practicable following completion of pipeline construction.

Operation and Maintenance

During operation and maintenance, tundra impacts will be avoided, minimized, and/or mitigated by various methods, including the following:

- Compliance with application regulations and permits.

- The pipeline will be above ground suspended on VSMs, with very little direct impact to the tundra surface.
- Elevating the pipeline also reduces heat transfer to the ground surface and, thus, prevents or minimizes thaw of the underlying permafrost.
- Spill prevention and response for operation and maintenance is described in Response #26.
- The pipeline will be monitored regularly during operations as described in Response #52 using aircraft for visual observations. Any on the ground monitoring will be done in a manner that minimizes disturbance to tundra by using vehicles approved for tundra travel during the appropriate season.
- Most planned pipeline repairs or maintenance will be completed in winter from ice pads, ice roads, and/or existing gravel pads.
- If maintenance or repairs are required to be conducted during the summer or fall when travel over the tundra is permitted, repairs will be supported by approved tundra travel methods
- If repairs or maintenance are required at times when tundra travel is prohibited, helicopters may be used.
- The *Point Thomson Project Environmental Report (*Attachment III*),* Sections 4.3.4.2 "Construction" and 4.3.4.3 "Operations" of "Environmental Consequences" describe general information about environmental consequences to lands in the pipeline corridor, and proposed methods to mitigate those impacts.
- After construction, a comprehensive pipeline inspection and maintenance program will be implemented. The goals of this program will not only be to ensure pipeline operating integrity and safety, but to also prevent, identify, and respond to situations that pose significant risk of damage to the environment.

Termination

Detailed abandonment procedures will be developed prior to termination of pipeline operations (Attachment I, *Point Thomson Project – Project Description,* Section 13.0). Abandonment procedures will be based on applicable regulatory requirements at the time and will be designed to minimize impacts to vegetation in coordination with the land owner.

49. Describe your plans to detect and abate any condition possibly arising from the construction, operation, maintenance or termination of all or any part of the proposed pipeline that may cause or threaten to cause serious and irreparable harm or damages to fish or other wildlife or to their habitats.

The proposed ROW exists in habitat used by many species of fish, birds, and terrestrial and marine mammals. The *Point Thomson Project Environmental Report* (Attachment III) provides information about possible impacts on fish and wildlife and their habitats in the pipeline corridor.

Plans to detect and abate serious and irreparable impacts to these resources are summarized below under construction, operation and maintenance, and termination.

Construction

During construction impacts will be avoided, minimized, and/or mitigated by various methods, including the following:

- Compliance with applicable regulations and permits.
- Construction will generally be conducted in the winter from ice roads, ice pads, and frozen lakes. This will minimize damage to wildlife habitat and to fish, birds and terrestrial mammals, many of which are not present in the winter.
- EMDC, on behalf of PTE Pipeline LLC, is developing Point Thomson project-specific pipeline construction specifications that will address winter construction practices. These will draw upon North Slope best practices as well as from ExxonMobil's Global Practices. Best practices from each of these sources are being identified and incorporated, as appropriate.
- Construction will be monitored by trained personnel (see Response #52) to minimize disturbance to wildlife and their habitats.
- Any damage to the tundra will be identified and preventative / corrective action taken, as appropriate. Corrective action typically involves assessing and documenting the extent of the damage and, if warranted, rehabilitating the disturbed area immediately or upon completion of construction activities. Design and construction measures to prevent or repair any damages to project area vegetation are described in Response #48.
- Title 16 permits applications will be submitted to the ADF&G for all fish-bearing streams and lakes that are crossed by the PTEP, as well as for all fish-bearing lakes used for water withdrawals. A standard stipulation in Title 16 permits require ice roads to be breached prior to breakup to reduce the potential for ice roads to affect drainage patterns, erosion, and fish habitat; and to allow for early fish passage (Attachment III, *Point Thomson Project Environmental Report,* Section 4.1.3.1).
- All construction, operation, maintenance, and termination activities will be conducted under a Letter of Authorization (LOA) from the U. S. Fish and Wildlife Service. This LOA will incorporate a Polar Bear and Wildlife Interaction Plan (PBWIP) (Attachment IV), which will identify specific measures that will be taken to protect polar bears.
- The potential for impacts to polar bears is more likely to occur in the winter construction season when females den. As outlined in the PBWIP, surveys will be performed to detect polar bear dens prior to construction and efforts will be made to avoid disturbance to denning bears.
- The PBWIP will also address measures to avoid grizzly bear, fox, and other wildlife encounters, and will present specific actions to be taken in the event of an encounter.
- Known brown bear dens will be identified in coordination with ADF&G and avoided during construction.
- Other species (in addition to bears) that could be affected by construction include those that have a tendency to become habituated to human activity – such as Arctic foxes and common ravens. These species are often attracted to areas of human activity because of their association of such activity with food or garbage. Measures will be incorporated to ensure that food materials are properly stored and food wastes are disposed of properly. Workers will be required to take part in environmental training regarding the

proper actions to take when working in areas frequented by foxes and other species of wildlife.

- Spill prevention and response plans during construction are described in Response #26 under Regulatory Compliance, and are intended to protect fish and wildlife resources and their habitats from damage from oil spills.
- Water sources will require temporary water use permits from ADNR. The permits will stipulate conditions for the protection of fish and water resources, as appropriate. Protection of fish in affected streams and lakes will also be addressed by permits issued by the Alaska Department of fish and Game (ADF&G).

Operation and Maintenance

Compliance with applicable regulations and permits.

Pipeline operation should have minimal impacts on wildlife and habitat due to various protective measures, including the following:

- The elevated pipeline will be designed to facilitate passage of caribou and other wildlife. The pipeline will be above ground suspended at a minimum of 7 feet above tundra surface on VSMs with little direct impact to the migration of wildlife.
- Spill prevention and response for operation and maintenance is described in Response #26.
- A comprehensive pipeline inspection and maintenance program will be implemented. The goals of this program will not only be to ensure pipeline operating integrity and safety, but to also prevent, identify, and respond to situations that pose significant risk of damage to fish and wildlife and their habitat.
- While Point Thomson is at the far eastern limit of their range, some spectacled and stellar eiders, both threatened species, may nest in the vicinity of the pipeline during the spring and summer months. Construction as well as most operations and maintenance work will be performed in the winter when these species are absent from the project area.
- Normal maintenance activities conducted during the summer have the potential to disturb wildlife within and immediately adjacent to the pipeline corridor. Therefore, when possible, planned maintenance will be conducted in winter when most wildlife is not present. If maintenance must be undertaken during summer, access to the project area will be restricted to those personnel directly involved in the maintenance and to that area where the work is required. Work will be conducted under procedures approved, where applicable, by the USFWS and ADF&G. Local communities will be consulted about construction and maintenance operations and efforts made to conduct the work in a manner that avoids conflicts with subsistence users.
- No changes to local or regional drainage patterns that would affect terrestrial wildlife habitats are expected to occur as a result of operation of the elevated pipeline.
- The *Point Thomson Project Environmental Report (*Attachment III*),* Sections 4.3.4.2 “Construction” and 4.3.4.3 “Operations” of “Environmental Consequences” describe general information about environmental consequences to lands in the pipeline corridor, and proposed methods to mitigate those impacts.

- After construction, a comprehensive pipeline inspection and maintenance program will be implemented. The goals of this program will not only be to ensure pipeline operating integrity and safety, but to also prevent, identify, and respond to all situations that pose significant risk of damage to the environment.

Termination

Detailed abandonment procedures will be developed prior to termination of pipeline operations (Attachment I, *Point Thomson Project – Project Description,* Section 13.0). Abandonment procedures will be based on applicable regulatory requirements at the time and will be designed to minimize impacts to fish, wildlife, and their habitats.

50. Describe your plans for restoring areas of vegetation or timber damaged or harmed directly or indirectly by the construction, operation, maintenance or termination of all or any part of the proposed pipeline.

Damage to the tundra resulting from pipeline activities will be identified and corrective action taken, as appropriate. Corrective action typically involves documenting the specific location of the damage, conducting a summer inspection and rehabilitating the disturbed area in a manner approved by the applicable regulatory agencies. Design and construction measures to avoid any damages to project area vegetation are described in Response #48.

51. Describe your plans for abating erosion and restoring areas eroded as a direct or indirect result of the construction, operation, maintenance or termination of all or any part of the proposed pipeline.

Because the pipeline will be constructed during winter, no erosion should occur as a direct result of construction activities. See Response# 47 & 48 regarding mitigation of potential erosion resulting from construction activities. Also, the pipeline will be constructed above grade on VSMs with no below grade river/stream crossings.

52. Describe your plans for quality control and your procedures for inspection and testing the pipeline, both during and after construction.

As noted in the introduction to Part IV, ExxonMobil's OIMS provides the framework for the overall quality assurance program for the pipeline. Under OIMS, an Integrity Management System (IMS) will be developed to address requirements for the inspection and audit of pipeline construction, operation, maintenance, and termination procedures (described in Part IV and Responses #45, 46 and #47). This IMS will ensure compliance with the quality control, inspection, and testing procedures identified in 49 CFR 195.

The *Pipeline Construction Plan* and *Pipeline Surveillance and Monitoring Plan*, to be developed later in the project and submitted for State Pipeline Coordinator's Office (SPCO) review, will provide more detailed information on proposed inspection and testing procedures.

Project activities planned to ensure overall pipeline quality are described below.

Field Design Changes

There may be a need for design changes in the field during the actual construction process based on the conditions encountered in the field. Field design changes will be documented

on the drawings and in the specifications. A *Procedure for Field Design Change* will be developed and used during Project Execution.

Construction Inspection

Structured risk assessments are required under OIMS. These risk assessments will be used to help define necessary construction inspection requirements. The inspections will be conducted in accordance with the Pipeline Integrity Management System and approved contractor Quality Assurance and Control Plans. In addition, a system will be implemented to react quickly and efficiently to any deviations to identified standards. Inspectors trained and qualified in the protection of tundra, water bodies, and wildlife and their native habitat will monitor construction activities. A set of complete records will be kept for reference during pipeline operation and maintenance and for future projects involving the pipeline (e.g., in-line inspection programs).

Hydrostatic testing of the pipeline will be conducted in accordance with 49 CFR 195 and ASME B31.4. Testing pressure will be a minimum of 125 percent of the operating pressure, held for a minimum of 4 hours, and will be followed by an additional 4-hour leak test at a minimum of 125 percent of the maximum operating pressure (Attachment II, *Point Thomson Design Basis – Export Pipeline*, Section 7).

Materials and Procedures Control

Suitable materials will be employed in the construction of the PTEP. Strict quality control will be required of all suppliers. Field butt welds on the pipeline will be inspected using non-destructive testing during construction. Throughout construction, inspectors will be employed to ensure that the approved welding procedures are followed, including preheat and cool down, if required.

Operations and Maintenance

Once the pipeline is in service, it will be periodically inspected using in-line inspection tools: (intelligent Inspection pigs).
The *Pipeline Surveillance and Monitoring Plan* will provide details about inspection pigging, and will define the types and frequency of inspection pigs to be run through the pipeline. The first inspection pig run will establish baseline pipeline conditions. Subsequent pig runs will be scheduled to monitor and detect change from the baseline conditions. The frequency of pig runs will be evaluated based on results from previous pig runs and on operating experience.

53. Describe your plans to ensure compliance by your contractors and subcontractors with the safeguards and stipulations of the right-of-way lease, if issued.

The importance of compliance by contractors and subcontractors is underscored by having one of the 11 OIMS elements devoted to Third Party Services. Through implementation of OIMS, EMDC, on behalf of PTE Pipeline LLC, will require its contractors and subcontractors to adhere to the same level of compliance that EMDC holds itself to, namely 100 percent compliance with permit stipulations and regulations, as well as EMDC's internal corporate policies, procedures, and expectations. Compliance is ensured by a multi-tiered system of contractor management, including the following:

- A contractor qualification evaluation criterion for past Health, Safety and Environmental performance before contract award.

- Pre-job contractor meetings with EMDC designed to identify expectations on contractor Health, Safety and Environmental performance.
- The Integrity Management System will contain requirements for inspections and audits of pipeline construction, operation, and maintenance, including those requirements that are the responsibility of contractors to adopt and to enforce.
- Provisions incorporating safeguards and stipulations of the ROW lease, and required compliance with those safeguards, will be incorporated into contracts and subcontracts for construction, operation, and maintenance of the pipeline.
- Any contractor or subcontractor not complying with the safeguards and stipulations of the ROW lease may be subject to disciplinary action.
- A Permits and Environmental Compliance System will be prepared for field supervisors and other key personnel. The purpose of this system is to provide those supervisors and key personnel with the tools and resources to ensure compliance with project permits and applicable environmental laws and regulations. This system can only be prepared after project permits and other authorizations are obtained so that permit obligations can be included and explained. The system will provide procedures for permit and regulatory compliance, including such requirements as ROW Lease requirements, oil spill reporting, environmental monitoring, and other regulatory and permit requirements. In addition, the system will detail EMDC environmental policies and performance expectations.

PART V SPECIAL SAFEGUARDS FOR NATIVES AND OTHERS SUBSISTING ON THE BIOTIC RESOURCES OF THE GENERAL AREA OF THE PROPOSED RIGHT-OF-WAY

54. Describe your plans and procedures to protect the interests of individuals living in the general area of the proposed right-of-way who rely on the fish, wildlife and biotic resources of the area for subsistence purposes.

Attachment III (*Point Thomson Project Environmental Report),* Section 4.3.3 provides general information about possible effects to subsistence resources and subsistence uses in the pipeline corridor, and the proposed methods to mitigate those impacts.

While there are no permanent residents of the general ROW area, residents of two North Slope communities use the project region for hunting and gathering of subsistence resources. These communities are Kaktovik (60 miles to the east) and Nuiqsut (115 miles to the west). Pipeline components integrated into the design include: pipeline elevated a minimum of 7 feet above the tundra for passage of snow machines, non-shiny exterior metal insulation wrap; and additional pipe wall thickness in places to address potential concerns of bullet strikes.

EMDC, on behalf of PTE Pipeline LLC, has an established, ongoing public outreach consultation process with Kaktovik and Nuiqsut as described in Response #46. During project planning and development, project representatives have consulted with local residents to identify and address local concerns during project design, construction, and operation. Design measures have been incorporated, such as increasing wall thickness and elevated pipelines, to provide for subsistence hunting and snowmachine travel to occur in the vicinity of the PTEP. Additional measures will be implemented during construction and operations to facilitate continued subsistence access.

PART VI FINANCIAL INFORMATION

55. Describe the probable financing requirements for the proposed pipeline.

PTE Pipeline LLC is currently wholly owned by ExxonMobil Pipeline Company (EMPCo). No financing will be required, as funding for PTE Pipeline LLC will be provided by its owner.

56. Attach an annual financial statement and balance sheet for each applicant, prepared in accordance with generally accepted accounting principles for each of the applicant's three fiscal years immediately preceding the date of this application and certified by a firm of reputable and independent Certified Public Accountants.

The applicant is PTE Pipeline LLC. PTE Pipeline LLC does not currently have a financial statement and balance sheet, so a financial statement and balance sheet (Attachment V) for its current 100 percent owner, EMPCo, is provided for 2007 through 2009. EMPCo's financials are not audited, but are consolidated into Exxon Mobil Corporation's financials, which are audited.

PART VII OTHER INFORMATION

57. Name and address of the proposed general contractor for constructing the pipeline.

The pipeline construction contractor will be selected later in the project and the name and address will be provided to the SPCO at that time.

58. Name and address of the proposed operator of the pipeline.

PTE Pipeline LLC will contract with EMPCo to be the operator of PTEP. Correspondence addressed to EMPCo as operator of PTEP should be sent to:

ExxonMobil Pipeline Company
Business Development and Joint Interest
PO Box 2220
Houston, TX 77252-2220

EMPCo expects to sub-contract most North Slope operating services to ExxonMobil Production Company.

59. Other information you believe may aid the consideration of this application.

A Reimbursement Agreement between ADNR and EMPCo for services associated with the PTEP ROW Lease Application dated November 30, 2009 has been executed. The provisions of this agreement outline the activities of the SPCO and address the following:

- Reimbursement of the State of Alaska for costs associated with processing this application (per AS38.35).
- Development of a plan for submittal and review of technical information with expected level of details.

Table 4 lists the additional documents that will be submitted in support of this application and the estimated submittal date to the SPCO.

Table 3 Additional Supporting Documentation

Document	Response # Referenced In	Estimated Submittal Date
Point Thomson Project – Project Description	18, 19, 24, 26, 27, 29, 34, 35, 45, 47, 48, 49	Attachment I
Point Thomson Pipeline Design Basis-Export Pipeline	16, 20 22, 23, 24, 26, 39, 46, 52	Attachment II
Point Thomson Project Environmental Report	27, 47, 48, 49, 54	Attachment III
Point Thomson Polar Bear and Wildlife Interaction Plan	45, 49	Attachment IV
Point Thomson Export Pipeline Surveillance and Monitoring Plan	44, 46, 52	Before December 31, 2010
Point Thomson Pipeline Construction Plan	31, 44, 52	Before December 31, 2010
Point Thomson Oil Discharge Prevention and Contingency Plan	26, 45	When available or submitted to SPCO by ADEC for public comment
Point Thomson Export Pipeline Integrity Management System	52, 53	Prior to start-up
Point Thomson Export Pipeline Field Design Change Plan	52	Prior to start of construction
Point Thomson Export Pipeline Construction QA/QC Plan	52	Prior to December 2010
Point Thomson Environmental Compliance System	53	*Develop prior to start of construction*
Financial Statement and Balance Sheet for ExxonMobil Pipeline Company	56	Attachment V

Key:
ADEC – Alaska Department of Environmental Conservation
QA – Quality Assurance
QC – Quality Control
SPCO – State Pipeline Coordinator's Office

APPLICATION FOR PIPELINE RIGHT-OF-WAY LEASE
Point Thomson Export Pipeline

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List of Exhibits

Exhibit A Proposed Point Thomson Export Pipeline Route
Exhibit B Typical Pipeline Right-of-Way
Exhibit C Legal Description for the Approximate Construction Right-of-Way
Exhibit D Legal Description for the Approximate Operations Right-of-Way
Exhibit E Typical Casing Installation
Exhibit F West Pad Access Road Crossing
Exhibit G Badami Mine Site/Reservoir Access Road Crossing
Exhibit H Badami Gravel Pad Rig Crossing

List of Attachments

Attachment I Point Thomson Project-Project Description
Attachment II Point Thomson Pipeline Design Basis-Export Pipeline
Attachment III Point Thomson Project Environmental Report
Attachment IV Point Thomson Polar Bear and Wildlife Interaction Plan
Attachment V ExxonMobil Pipeline Company Financial Statement and Balance Sheet