

**UNITED STATES OF AMERICA
DEPARTMENT OF STATE**

UPLAND PIPELINE, LLC) No. _____

**APPLICATION OF UPLAND PIPELINE, LLC
FOR A PRESIDENTIAL PERMIT AUTHORIZING THE
CONSTRUCTION, OPERATION, AND MAINTENANCE
OF PIPELINE FACILITIES FOR THE EXPORTATION OF
CRUDE OIL TO BE LOCATED AT THE UNITED STATES-CANADA BORDER**

Pursuant to Executive Order 11423, 33 Fed. Reg. 11714 (Aug. 16, 1968), as amended, and Executive Order 13337, 69 Fed. Reg. 25229 (Apr. 30, 2004), Upland Pipeline, LLC (Upland) hereby submits its application to the United States Department of State (State Department) for a Presidential Permit authorizing the construction, connection, operation, and maintenance of certain pipeline facilities for the export of crude oil, to be located at the international border between the United States and Canada, at Burke County, North Dakota (the “border crossing facilities”), as more fully described herein. Authorization to construct, connect, operate, and maintain the border crossing facilities is being requested in connection with Upland’s proposed international pipeline project (the “Upland Project” or the “Project”), which is designed to transport crude oil production from the Williston Basin region in North Dakota to access various markets in Canada and the eastern the United States, including refineries on the eastern seaboard. Upland submits that its proposed pipeline will serve the national interest of the United States by providing US domestic producers with much needed options for safe and environmentally sound access to markets, including the high basis differential markets of the eastern seaboard.

The instant filing contains the non-environmental information required to support a request for issuance of a Presidential Permit. In addition, Upland is submitting with this application an Environmental Report (ER), which is intended to provide the State Department with sufficient environmental information to appreciate the nature and scope of the proposed Project and its potential environmental impacts. The ER is intended to permit the State Department to determine lead agency status and initiate an environmental review of the proposed Project consistent with the National Environmental Policy Act (“NEPA”). 42 U.S.C. §§ 4321, *et seq.*

I. IDENTIFYING INFORMATION

Communications and correspondence with respect to this application should be directed to the following persons:

Kristine L. Delkus
TransCanada PipeLines Limited
Executive Vice President and
General Counsel
450 1st Street, S.W.
Calgary, Alberta
Canada T2P 5H1
(403) 920-2161
kristine_delkus@transcanada.com

James P. White
TransCanada Corporation
Associate General Counsel
Pipeline Law, US
1250 Eye Street, NW
Washington, DC 20005
(202) 682-4701 x224
jim_p_white@transcanada.com

The identity of the applicant is Upland Pipeline, LLC, a limited liability corporation, organized under the laws of the State of Delaware. Upland’s primary business address is 700 Louisiana Street, Houston TX, 77002-2700. The ultimate parent corporation of Upland Pipeline, LLC is TransCanada Corporation (TransCanada). Upland intends to enter into a development management and operations agreement with

TransCanada Oil Pipeline Operations, Inc., a subsidiary of TransCanada, to provide operating services for the Project.

TransCanada has more than 60 years' experience in the responsible development and reliable and safe operation of North American energy infrastructure including natural gas pipelines, power generation, gas storage facilities, petroleum pipelines and projects related to liquefied natural gas facilities. TransCanada owns and operates the Keystone Pipeline crude oil transmission system, which currently consists of (i) the Mainline segment extending from Hardisty, Alberta to Wood River and Patoka, Illinois; (ii) the Keystone Cushing Extension, extending from Steele City, Nebraska, to Cushing, Oklahoma; and (iii) the Gulf Coast segment, extending from Cushing, Oklahoma to Port Arthur, Texas. TransCanada is completing construction of the Houston Lateral, from Liberty County, Texas to refineries near Houston. Further, TransCanada is awaiting a Presidential Permit for the proposed Keystone XL Pipeline Project, which would extend from Hardisty to Steele City. The current total capacity of the existing Keystone Pipeline System is 590,000 barrels per day (bpd). Since 2010, the Keystone Pipeline System has safely delivered over 830 million barrels of Canadian and US domestic crude oil to markets in the US.

Further, TransCanada owns and operates a natural gas pipeline network of more than 42,500 miles, which taps into virtually all major natural gas supply basins in North America. TransCanada transports the majority of western Canada's natural gas production across the North American continent to markets in the United States and Canada and owns and operates over 400 Bcf of natural gas storage capacity.

As of year-end 2014, TransCanada had total assets of approximately U.S. \$59 billion. For the year ended December 31, 2013, TransCanada had a net income attributable to common shares of approximately U.S. \$1.7 billion and funds generated from operations of approximately U.S. \$4.3 billion. Attached as Exhibit A is a summary document demonstrating TransCanada's fitness to develop, construct, and operate the Project as a major cross-border pipeline system.

II. DESCRIPTION OF FACILITY

Upland is requesting a Presidential Permit solely with respect to the limited border crossing facilities portion of its international Project. The border crossing facilities are defined as a 17.77 mile segment of 20-inch diameter pipeline extending north from a mainline pipeline isolation valve located at milepost 107.60 of the proposed Project route in Burke County, North Dakota to the US-Canada border between North Dakota and Saskatchewan, Canada.

Exhibit B attached hereto shows: (i) a pipeline route map reflecting the location of the border crossing facilities; (ii) an engineering drawing depicting the border crossing; and, (iii) photos of the proposed construction site. In lieu of owning the construction site for the border crossing facilities, Upland plans to acquire pipeline right-of-way easements from the landowners along the route of the border crossing facilities.¹ These easement agreements will grant Upland the rights to construct, operate, and maintain the border

¹ With respect to the Project itself, Upland will acquire easements granting it the right to construct and operate the pipeline. Upland will acquire a limited number of sites in fee for certain above-ground facilities such as receipt facilities and valves.

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crossing facilities. The technical specifications of the line pipe to be utilized for the border crossing facilities, and the Project as a whole, are set forth in Exhibit C hereto.

The border crossing facilities are intended to transport crude oil as part of the proposed Project, which represents the US segment of an international project designed to transport crude oil production from the Williston Basin region in North Dakota to access various markets in Canada and the eastern the United States, including refineries on the eastern seaboard. The Project will have the capacity to transport up to approximately 300,000 bpd of crude oil.

In the United States, the Project will consist of approximately 126 miles of new 20-inch diameter pipeline. As currently designed, the Project will include 15 mainline valves, one at each of the five receipt facilities and ten located along the pipeline route. Attached as Appendix A hereto are detailed route maps depicting the preferred route of the proposed Project.

The Canadian portion of the Upland Pipeline System includes a 20-inch diameter pipeline that would extend from the US/Canada border near Northgate, Saskatchewan to Moosomin, Saskatchewan or Cromer, Manitoba. As discussed below at Section VII, review and approval of the proposed Canadian facilities will be subject to the jurisdiction of the Canadian National Energy Board (“NEB”) as well as various local, municipal, and provincial authorities.

III. NATIONAL INTEREST

Williston Basin crude oil production in ND has increased over eight-fold in the past seven years from approximately 138,000 bpd to approximately 1.2 million bpd (ND Pipeline Authority (NDPA), 2014a). Currently, more than 12 percent of total US oil production is produced in the Williston Basin. According to the US Energy Information Administration (EIA), it is one of four regions (along with the Gulf of Mexico, Eagle Ford, and Permian basins) producing more than one million bpd (EIA, 2014c).

Currently, transportation by rail dominates all other forms of crude oil transport in the Williston Basin in ND (NDPA, 2014b). Out of state crude oil exports for the past year were 20 to 30 percent pipeline transport, 60 to 70 percent railway transport, and approximately one percent truck transport (NDPA, 2014b).

The need for the Project results from the limited pipeline capacity to transport ND Williston Basin crude oil out of the region. In July 2014, and in response to market demand, Upland conducted an open season seeking long-term shipper commitments on the Upland Pipeline System. Upland received sufficient commitments to underpin development of the proposed Project. The Upland Pipeline System is expected to help relieve these pipeline capacity constraints and mitigate the current reliance by ND Williston Basin producers on rail transportation. The Upland Pipeline System is planned to be in service by the end of 2020.

The purpose of the Project, therefore, is to develop the infrastructure necessary to provide shippers in the Williston Basin in ND with a pipeline option to transport crude oil

north, across the US-Canada border, to access various markets in Canada and the eastern US, including refineries on the eastern seaboard.

The terminus of the Upland Pipeline System would be Moosomin, Saskatchewan or Cromer, Manitoba. At Moosomin or Cromer, shippers would have various transportation options to further ship their crude oil, including an interconnect with the proposed Energy East Pipeline System (EE System), which would be operated by Energy East Pipeline, Ltd. (Energy East). As proposed, the EE System would transport crude oil to various refineries and marine terminals in eastern Canada.

Williston Basin crude oil has experienced large discounts relative to international benchmark crudes as a result of insufficient pipeline capacity to clear markets. The Project, in connection with EE would provide additional pipeline capacity for Williston Basin crude oil to clear the large refining markets in the US East Coast, US Gulf Coast and eastern Canada. It would reduce volume transported by rail and improve producers' netback as a result of lower transportation costs. Refineries in the US East Coast and US Gulf Coast would benefit from increased supply diversity and energy security.

Pipelines continue to be the safest, most efficient, and environmentally preferable method for transportation of fossil fuels (Furchtgott-Roth and Green, 2013 and DOS, 2014).

IV. SIMILAR FACILITIES

The nearest similar facilities to the proposed border crossing facilities are those of the WBI Energy Transmission Williston-Tioga-Minot system and the Enbridge North

Dakota Region – Bakken (Line 26) system. Those facilities cross the border approximately 11.2 miles west of the proposed Project. Because of the distance, the WBI Energy Transmission Williston-Tioga-Minot system and the Enbridge North Dakota Region – Bakken (Line 26) facilities are not shown on any maps of the proposed Project; however, the WBI Energy Transmission Williston-Tioga-Minot system and the Enbridge North Dakota Region – Bakken (Line 26) facilities may be identified on any commercial pipeline map.

V. CONSTRUCTION PLAN

Plans for construction of the Project are discussed in the Environmental Report (ER) attached hereto. In addition, Upland has developed a detailed Construction Mitigation and Reclamation Plan (“CMR Plan”) for the project, which is included at Appendix F of the ER. Permitting, approvals, and financing are discussed elsewhere in this application and the attached ER. Specific problems anticipated in the development and construction of the facility and an indication of how they might be resolved are also addressed in the ER and the CMR Plan.

VI. FINANCING AND RATES

The capital cost of the U.S. portion of the Project, from North Dakota to the U.S.-Canada border is estimated to be U.S. \$300 million. While project financing has yet to be finalized, the project is anticipated to be financed through a combination of contributions from the owners, bank financing, and access to capital markets.

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The rates for crude oil transportation through the U.S. portion of the Project will be subject to regulation by the Federal Energy Regulatory Commission (“FERC”).

Upland anticipates there will be two categories of services offered:

- 1) Committed or term service – Upland is proposing long-term contracts with discounted rates and a fixed/variable rate design. The rates vary with contract term, with lower rates offered for longer terms. The fixed portion of the rate is based on levelized 10, 15, or 20-year contracts and will not change over the term of the shipper’s contract. The fixed portion of the rate is designed to recover the capital invested and is designed on a postage stamp basis. The variable portion of the rate is a flow-through of the actual operating costs, adjusted annually.
- 2) Uncommitted or spot service – Upland will offer service to non-contract shippers on a month-to-month basis at a posted spot rate. The spot rate will be subject to indexing, as permitted by FERC.

VII. CANADIAN APPROVALS

The Canadian portion of the Project will cross provincial and international boundaries and, accordingly, will be subject to the regulatory oversight of the NEB. The Project will require various NEB approvals related to the construction and operation of the proposed facilities. These authorizations include a Certificate of Public Convenience and Necessity (“CPCN”) under section 52 of the National Energy Board Act (“NEB Act”) and approval of tolls and other tariff and service matters under Part IV of the NEB

Act. It is expected that the section 52 application would be filed in 2015. A CPCN is anticipated by 2017.

Various ancillary authorizations from local, municipal and provincial authorities for activities incidental to the construction and operation of the project facilities will also be required. Filings for these authorizations are expected to begin in 2018.

It is not the practice of the NEB or other Canadian officials or agencies to state their views regarding potential facilities in advance of issuance of their formal decisions on such applications. There are no agreements or formal understandings regarding these matters at this time.

VIII. OTHER U.S. APPROVALS

Table 1.6-1 of the attached ER provides a list of the federal and state permits, licenses, approvals, and consultation requirements applicable to the Project in the United States. Road crossing and road use permits are not included in the table because such permits will be a standard requirement in virtually all counties crossed by the project. The instant application is being filed to request the required Presidential Permit from the Department of State. With respect to the other permits and approvals listed in the table, Upland has begun agency consultation and plans to file all necessary applications in a timely manner so that it can receive all necessary authorizations prior to the anticipated start of construction in 2019. A summary of agency consultation is included at Appendix D of the attached ER.

IX. HISTORIC PRESERVATION

In compliance with federal laws enacted to protect cultural resources from damage resulting from federally funded or permitted activities, including the National Historic Preservation Act, cultural resource investigations have been conducted along much of the Project route. These investigations were conducted in consultation with the North Dakota State Historic Preservation Officer (“SHPO”). A discussion of these investigations is set forth at Section 3.10 of the ER. Cultural resources field inventories were conducted in 2014 and will continue to determine whether there are properties in the project area that are eligible or potentially eligible for inclusion in the National Register of Historic Places (“NRHP”). NRHP-eligible or potentially eligible properties are identified in the attached ER.

Upland has engaged with a number of Native American tribes in the project area in order to gain an understanding of the tribes’ concerns with respect to the proposed pipeline project. Upland recognizes the unique history, status, and rights of Native American tribes and believes that the early establishment of relationships with them is a positive step towards finding mutually beneficial solutions to concerns raised.

The TransCanada Tribal Relations Department will engage with all affected tribes throughout the life of the project and will ensure that a comprehensive tribal engagement strategy is implemented, maintained, and continually improved.

X. ENVIRONMENTAL JUSTICE

To facilitate the Department of State’s obligations under Executive Order 12898, environmental justice considerations, including information on minority and low-income

populations likely to be affected by construction of the proposed pipeline, is included at Section 3.12 of the ER.

XI. COMPATIBILITY WITH NEC RECOMMENDATIONS

With respect to the recommendations contained in the August 8, 1994 National Economic Council White Paper, “Staff Recommendations on the Task Force on Border Infrastructure and Facilitation for Improved U.S. Border Operations,” Upland states as follows:

- No specific support infrastructure or access roads are necessary or required by state or regional plans with respect to the border crossing facilities.
- No Canadian development plans or priorities have been identified as specifically applicable to the border crossing facilities. Upland will comply with all permitting and other requirements applicable to the Canadian segment of the project, to the border.
- Upland will inspect the border crossing facilities in accordance with U.S. Department of Transportation regulatory requirements set forth at 49 C.F.R. Parts 194 and 195, including aerial, foot and in-line mechanical inspections. The cost of these inspections will be covered by Upland’s normal operating budget. Upland operational personnel will carry out all required inspections.

XII. ENVIRONMENTAL REVIEW

As noted above, Upland is submitting with its application a comprehensive Environmental Report, which is intended to provide the Department of State with sufficient environmental information to appreciate the nature and scope of the proposed Project and its potential environmental impacts. This information is intended to permit the State Department to confirm its role as the lead federal agency in the NEPA review process. Upland has conducted, and will continue to conduct, extensive environmental

and cultural field surveys and anticipates supplementing the ER with additional environmental and cultural studies, data, and analyses late in 2015.

Once the supplemental environmental information is submitted, Upland will have provided all required environmental information, including:

- i. Description of the site of the proposed facility showing the types of environment that will be affected by construction of the proposed facility and related facilities.
- ii. The probable impact of construction and operation of the proposed facilities on these environments, including positive and negative aspects of primary (construction and operation) and secondary (related to long-term growth stimulated by the facility) impacts.
- iii. Ways in which adverse impacts might be mitigated through construction techniques, site planning, and safety features, etc.
- iv. Any probable adverse impacts that cannot be avoided.
- v. Brief discussion of any trade offs between short-term environmental impacts and long-term environmental gains or vice versa.
- vi. Relationship of the proposed facility to other land use plans, policies, and controls in the affected area.
- vii. Description of the extent to which the construction of the proposed facility irreversibly curtails the range of the potential uses of the environment.
- viii. What alternatives to the proposed facility were considered and what are the relative environmental benefits and costs of the alternatives considered.

XIII. CONCLUSION

For the reasons set forth herein, Upland submits that the construction, connection, operation, and maintenance of the proposed border crossing facilities, in conjunction with the Project, are in the national interest of the United States. Accordingly, Upland respectfully requests that the Department of State issue a Presidential Permit authorizing the construction, operation, and maintenance of the identified border crossing facilities

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for the exportation of crude oil, to be located at the international border between the United States and Canada, at Burke County, North Dakota, as more fully described herein.

Respectfully submitted,

Kristine L. Delkus
Executive Vice President and
General Counsel
TransCanada Pipelines Limited
450 1st Street, S.W.
Calgary Alberta, Canada
T2P 5H1

James P. White
Associate General Counsel
Pipeline Law US
TransCanada Corporation
1250 Eye Street, NW
Washington, DC 20005

Dated: April 22, 2015

**UPLAND PIPELINE LLC
UPLAND PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT A**

EXPERIENCE

TransCanada has designed, constructed and operated pipelines in virtually every type of topography of the world and has been North America's pre-eminent operator of pipelines since the 1950s when operations commenced on the high-capacity, transmission pipeline system connecting western Canadian supplies to eastern markets. Today, we operate one of the largest, most sophisticated, remotely-controlled pipeline networks in the world with a solid reputation for safety and reliability. Through almost 60 years of experience, TransCanada has unequalled success in construction and operation of large diameter pipe in extreme climates and virtually all types of terrain.

Our network consists of approximately 42,500 miles of gas pipeline network throughout North America and a 2,150 mile oil system that crosses the Canada/U.S border supplying Alberta oil to Patoka and Cushing markets. TransCanada has developed a track record in operational excellence by developing and maintaining relationships with stakeholders and communities across the entire pipeline system.

Our Values, Commitment & Governance

At TransCanada, we see governance as the reflection of our corporate values. Those values — integrity, collaboration, responsibility and innovation — underpin all of our corporate policies. By following those policies in our day-to-day work, we govern our business, our relationships and ourselves in accordance with strong ethical values.

TransCanada's public safety and pipeline integrity programs are designed to ensure public safety and to meet or exceed industry best practices and regulatory requirements. The health and safety of the public, our employees and our contractors is paramount. From design and construction to operation and maintenance, safety is an integral part of everything we do.

TransCanada strives to minimize environmental impacts while ensuring we uphold our responsibility to strategically meet the energy demands of the continent. In short, our responsibility toward the natural world is comprehensive and works to minimize the effects that our operations might have on the environment. Ours is a broad, preventative vision of environmental sustainability.

Pipeline Innovation

As a result of this widespread experience, and including our learnings from operations, our North American pipeline network has developed into an extremely safe, reliable and cost-effective asset. We have attained this status by applying not only established industry knowledge but also innovative processes and technology. For example:

- We have implemented reliability-based methodologies into our design;
- We use risk models to validate design criteria and to set maintenance priorities;
- We utilize GIS technology to support our engineering and operations processes;
- We have installed industry-leading high strength steels into our mainlines; and
- We have made mechanized welding the standard, where possible, in large-diameter pipeline construction and we have developed and applied ultrasonic testing techniques which support the installation of our high-grade steels.

TransCanada is at the forefront of pipeline technology and is a leader in technical innovation.

TransCanada collaborates with industry and regulators to ensure effective material and process implementation.

TransCanada's unique, extensive and continually expanding network of pipelines allows the Company to develop technology improvements in engineering, design materials, welding, construction, project execution and operations.

TransCanada has a long history of developing and applying technology through the implementation of numerous improvements and ideas leading to an increase in productivity, maximized integrity, and quality assurance.

We have developed unique expertise in corrosion management. This allows us not only to operate safely and cost-effectively over the long term but to construct pipelines in new frontiers as well:

- We have proven experience in protecting our pipelines in areas where no commercial power is available. We operate a significant length of pipelines in such areas, particularly in northern Alberta. As a result, we have years of expertise in both the use of sacrificial anodes for transmission applications and in powering our cathodic protection systems with local, unattended sources such as thermo-electric generators;
- We are exploring new technologies, including fuel cells, to provide additional options for remote power generation; and
- We have decades of experience with the performance of pipeline coatings, particularly fusion-bonded epoxy (FBE), in cold climates and have done significant research in this area. No external corrosion failures have occurred to TransCanada FBE coated pipelines since their use was instituted approximately 30 years ago.

Operational Excellence

We are a leader with respect to operationally-efficient transmission companies in North America:

- Our oil and gas systems are designed for remote operation;
- We have specialized software which constantly analyses flow situations and monitors for abnormalities;
- We maintain our system with a risk-based, quantitative process that pinpoints our areas of greatest exposure and allows us to set our maintenance priorities;
- We are one of the world's largest operators of aero-derivative turbines outside the aircraft industry;
- We generate electricity from some of our compressor stations and have branched into renewable power generation with our wind and solar projects.
- We have a reputation for bringing new technology to our industry. From high-strength steels to new maintenance processes, we make new technology work.

TransCanada's operation and maintenance activities are governed by procedures that promote safety, environmental protection and efficiency in the operation of our pipelines. These procedures are developed and revised in conjunction with our pipeline and facility maintenance plans, safety and environmental protection programs, and in response to legislated requirements and best practices in all applicable regulatory jurisdictions in which we operate.

These Procedures are maintained electronically and are accessible at all locations across the organization. Results and findings from maintenance tasks are captured and trigger reviews and

updates to procedures to facilitate continuous improvement. A change-management program ensures that legislative and regulatory amendments are communicated, analyzed and incorporated into procedures when appropriate, and that staff receive timely notifications when procedures are revised.

TransCanada has developed company specific operating procedures, which are mandated, detailed procedures, maintenance task instructions, site operating procedures and forms that are utilized by field personnel managing TransCanada assets. Utilization of these company specific operating procedures is a key component of a project's Asset Management Strategy.

Operations Control Center

The TransCanada pipeline operations control center provides continuous, 24 hours/day, monitoring and control of the company's 36,500 mile gas pipeline network and 2,150 mile oil pipeline network. We have developed a state-of-the-art suite of control and information management tools which direct and monitor the safe and efficient flow of gas and oil across the continent. This package has evolved with the growth of our pipeline network over almost six decades, taking into consideration our learnings from system expansion, industry progression and customer needs.

The key services provided from the Operations Center include:

- Monitoring and control of the pipeline system and coordination of all activities on the system;
- Accurate receipt and delivery of all nominated volumes through optimum system operation; and
- A central role in emergency preparedness and response.

Overall system planning, outage coordination and general control center support is provided by our Operations Planning groups. More specifically, the following functions are carried out:

- Planning and coordination of outages from the very short term to one year into the future;
- Handling of unplanned outages;
- Simulation and hydraulic analyses of the pipeline network;
- Planning for capacity as well as the allocation of that capacity to customers; and
- Development and implementation of operating strategies.

The entire TransCanada transmission network is operated through a highly advanced Supervisory Control and Data Acquisition System (SCADA) system. The system has a superior record of availability and is designed to be redundant so that, in the event of a failure of the primary server, a redundant server would automatically perform all SCADA functions without effecting normal operations. Numerous end devices and protocols can be supported. We offer secure, remote views of our systems and data through a variety of telecommunications links including satellite, underground communication cable, and cellular radio towers.

A recent innovation that we have developed provides high-level advisory information intended to complement the SCADA system. The resulting "Advisory System" is based upon capturing a Controller's knowledge and importing it into an expert system that is integrated in real-time with SCADA. The Advisory System continually exercises this knowledge, seeking and identifying possible causes for irregular hydraulic conditions and presents its conclusions through a web-

enabled user interface. In this way, Control Centers are provided with early notification of operational anomalies so that decisions can be made either to acknowledge or remedy the situation quickly. A second fully functional control center, known as the TransCanada Backup Control Center, is used as a backup in case the OCC becomes unavailable for any reason. The TransCanada Backup Control Center is ready for service at all times. Each control center has redundant communication to monitor pipeline status.

ASSET MANAGEMENT

TransCanada has demonstrated a commitment to designing, building, operating and maintaining safe and efficient assets for over 60 years. TransCanada considers asset reliability and life-cycle management to be a strategic advantage for the company. TransCanada's expertise is demonstrated through the comprehensive Asset Management System (AMS) it employs to develop detailed asset management strategies designed to maximize the safety, reliability, efficiency and optimized life-cycle cost of each project. These strategies, coupled with operating and maintenance philosophies, procedures and performance expectations, form the basis for the planning and preparation of integrity management programs, asset maintenance management strategies and primary technical support across the organization.

Asset Management System

The policies, processes and procedures that drive the operations, maintenance and integrity of an asset are captured within TransCanada's Asset Management System (AMS). Consistent with industry standards and world class level performance, the AMS embraces P-D-C-A (Plan, Do, Check, Act) application to ensure continuous improvement throughout our operations and maintenance activities. As part of overall asset reliability and life-cycle management, TransCanada has implemented specialized processes, systems and functions, allowing the prediction, design and operation of assets at a desired reliability and performance. The AMS defines these processes, techniques and tools to provide an integrated and scalable approach in decision-making based on risk and the inherent value of specific assets. This enables TransCanada's assets to continuously meet performance requirements and targeted, availability, efficiency, quality, regulatory, safety and environmental objectives. By leveraging current strategies and plans for operations and maintenance, existing and future assets are aligned with TransCanada's maintenance management philosophies and practices.

TransCanada has developed company specific operating practices consisting of detailed procedures, maintenance task instructions, site operating procedures and forms that are utilized by field personnel managing TransCanada assets. Utilization of these company operating procedures is a key component of a project's Asset Management Strategy. In addition to the inclusion of procedures, asset specific documents are prepared as part of the Asset Management Strategy which includes:

- Asset management plans
- Operating and maintenance plans
- Facility management plans
- Integrity management plans
- Site Specific Instructions.

Asset integration plans, per standard practice, ensure the asset meets expected reliability and commercial performance, the original design intent, and that the asset is safe to introduce energy or

hydrocarbons into. This is achieved by field personnel who are fully prepared in advance of the asset in-service date, as well as support departments throughout the organization.

The key strategies include ensuring asset reliability through TransCanada's sophisticated integrity management programs, and extensive expertise in pipelines. Detailed plans and strategies are developed to ensure safe operation of the asset as well as to ensure compliance. TransCanada also strives to be prepared in advance of the in-service date, in order to fully integrate the asset into TransCanada's industry-leading pipeline asset base.

On its 36,500 mile gas pipeline and 2,150 mile oil system, TransCanada has an exemplary record of safety, compliance and reliability. This is the direct result of our Integrity and Reliability Management Programs, processes and documentation that support its implementation.

Facility Integrity and Reliability Management

The Facility Integrity and Reliability Management threat management process identifies and performs risk assessment and analyses of facility equipment threats, which are used to prioritize and inform decision making on activities to mitigate and/or resolve those identified threats. Activities for managing threats are managed by the integrity planning process and addressed by risk management programs.

Activities for managing threats identified by the Facility Integrity and Reliability Management process for facility equipment are captured in annual maintenance plans or general plant maintenance capital projects and can be categorized by the following purposes:

- Monitoring – such as risk-based inspections of equipment – to detect the presence of threats;
- Prevention methods to protect against the likelihood of damage and failure;
- Assessment methods – such as general inspections of buildings and equipment, as well as pressure vessel equipment inspection – to determine the actual conditions of the facility;
- Remediation – such as equipment overhauls, equipment repairs, tank repairs, and replacement of obsolete equipment – to correct known equipment condition issues; and
- Mitigation methods – such as containment, fire suppression, fail safe automation controls, and relief controls – to reduce the consequences of a failure.

Integrity Management Program

The Integrity Management Program (IMP) for our pipeline network strives to achieve the following goals:

- Zero safety impact to the public and TransCanada employees
- Zero pipe failures
- Compliance with regulatory requirements, including special conditions, special permit and waiver requirements
- Minimal impact on the environment
- Maximum service availability
- Lowest lifecycle costs

The IMP threat management program conducts risk analyses for pipeline segments identified as susceptible to a potential threat. Results of the risk analyses are used to determine and prioritize activities to manage and/or remediate identified threats.

Activities for managing threats identified by the IMP process for pipeline segments are captured annually in the Pipeline Maintenance Plan (PMP) and can be categorized by the following purposes:

- Monitoring activities – including patrols, leak detection, CP surveys, and operating conditions – to identify, assess, and manage threats;
- Prevention methods – such as CP, physical barriers, Public Awareness Programs, line markers and signs – to protect against the likelihood of damage and failure;
- Assessment methods – such as in-line inspection (ILI), hydrostatic testing, and direct assessment – to determine the actual condition of the pipeline;
- Remediation – such as recoating or pipe repairs – to correct known pipeline condition issues; and
- Mitigation methods – such as pressure reduction, pipeline replacement, or relocation – to reduce the consequences of a failure.

TransCanada's Hazardous Liquid Pipelines IMP and associated procedures will be reviewed and modified if required to ensure alignment and enforcement of any additional integrity requirements that arise from a Presidential Permit.

Compliance Management

TransCanada's management systems ensure that design; construction, operation and maintenance activities at Company assets are conducted in accordance with applicable standards, codes and legislative requirements. In addition, these systems provide effective tools and processes for responding to and managing any incidents that occur, whether field-based or corporate in nature and from minor to emergency in magnitude, with the outcome of protecting health, safety and the environment, preserving system integrity and satisfying all stakeholder requirements for information, including those of our regulators. As illustrated in the diagram below, the cornerstones of our compliance management process are the *Incident Management Policy*, the *Emergency Management System*, the *Issue Management Program* and the *Regulatory Management System*.

Each system fulfills a distinct role and purpose in managing compliance and these are described in the following sections. However, at the same time, they all share certain common characteristics as follows:

- The systems have been developed in accordance with a management system model that emphasizes the development of comprehensive documentation, the provision of effective technical support and training, regular performance measurement and compliance audits, and a focus on operational excellence and continuous improvement;
- The systems are scalable, meaning that they can be integrated easily into new business ventures and environments (e.g., power);
- The systems include reviews with TransCanada's legal department to ensure that system outcomes are legally consistent and appropriate; and
- The systems extensively utilize our Incident & Issue Tracking tool, which has won a "Best in Class" Award from the Canadian Energy Pipeline Association (CEPA).

Regulatory Management

TransCanada monitors legislation for any regulatory change that may have the potential to impact TransCanada's operation in Canada, the United States and Mexico. TransCanada focuses on legislative change and changes in industry best practices that engineering standards, specifications, operating procedures, task packages and programs. The process is designed to ensure appropriate reviews, approvals, procedures, training and documentation are completed for changes that are not considered "replacement in kind."

SAFETY MANAGEMENT

Safety is part of TransCanada's core values. All contractors are pre-qualified and safety is a non-negotiable component of all TransCanada contracts. The Company is focused on safety in the way contractors are managed. Prior to commencing a specific construction project, a formal job safety analysis is conducted with contractor(s) in which both parties define all potential safety risks and agree on which party/ individual on site is primarily accountable for each risk. Additionally, TransCanada requires project-specific safety plans for each phase of the work to be in place. Formal safety training is required for contractor personnel.

Safety of Our Pipelines

TransCanada's pipelines are designed, built, and operated to ensure the safety of our natural gas and oil transportation system. We work to meet or exceed industry and government standards to ensure public safety.

Design: Our design requirements specify only top quality steel and welding techniques will be used throughout the system. Additional safety precautions are taken where pipelines cross roads and railway tracks or where waterways are located near communities. Precautions include using thicker-walled pipe and burying the pipeline deeper in areas of higher population.

Construction: During construction, all welds are checked by an X-ray or ultrasonic process that can detect very small defects. To protect against corrosion, pipelines are coated.

Testing the Pipeline: Once the pipeline is welded together, it is typically pressure tested to ensure there are no defects. During these tests, the pipeline is subjected to pressures that are much higher

than normal operating conditions to ensure safety under all conditions.

Operation: The entire gas transmission system is monitored 24 hours a day by highly trained TransCanada staff from computerized control centers. From there, our staff can detect changes in pressure along our pipeline and ensure that all facilities are operating properly. Pipeline control valves are located approximately every 20 miles along the pipeline. Should pressure in the pipeline drop, the valves are designed to automatically shut off the flow of product. This limits the amount of gas or oil that is released.

During operations, a very low-voltage electric current called cathodic protection is applied to the pipe. This is another way we protect against corrosion.

Each region is fully staffed with qualified technicians who ensure the safe, efficient, and reliable operation of our facilities in the area. In addition, regional offices have access to health, safety, and environmental coordinators, compliance, engineering and pipeline integrity specialists.

Monitoring: We regularly inspect the entire pipeline route from low-flying helicopters and planes. We look for signs of leaks, unauthorized activity, soil disturbances on the pipeline right-of-way, or any other conditions that could affect the safety of the pipeline. TransCanada employees may also inspect sections of the pipeline on foot or all-terrain vehicles.

Maintenance: Electronic in-line inspection devices, known as "smart pigs", are periodically used on sections of the pipeline system to detect defects. Hydrostatic testing and investigative digs visually inspect the pipe condition.

TransCanada works to meet or exceed all industry and government standards.

Spills and Releases

TransCanada strives to minimize and prevent all incidents, including spills, and has engineering and administrative controls in place to ensure safe operation of pipelines and equipment. When spills do occur, we investigate even minor and "near-hit" spills to identify areas where we could improve our performance. We respond to all spills to ensure proper cleanup and to minimize any potential impact to the environment.

Number and volume of reportable crude oil commodity spills

Country	Spills	2011	2012	2013
Canada	Total	38	44	27
	Barrels	3	1.8	1.9
U.S.	Total	8	0	2
	Barrels	413	0	0.6

Metric not applicable to Mexico as TransCanada did not own oil pipelines in Mexico in 2011, 2012 and 2013. In Canada, all spills (including small leaks and weeps at all equipment) are reportable to the federal regulator. At the time of the production of this document the 2014 data was not available.

In 2013, we had the following:

- Two spills > 5 barrels (both were equipment-related: pump, valve repair and maintenance activity — not pipe-related releases — and were contained to our site)
- 27 spills > 1 barrel

In Canada, every drop of oil, including a drip from a fitting or seal, is reportable to the Transportation Safety Board (TSB), but may not be of a significant enough quantity or impact to the environment to be reportable to the provincial regulator. We have had no pipeline leaks and all leaks have occurred within our station facilities that are designed to capture any leak. The design includes drip pans, sump tanks, permeable membranes and brims. None of the above spills was significant enough to the environment to require reporting to a provincial agency in Canada, other than to the TSB. The two commodity spills in the United States were reportable to the Pipeline and Hazardous Materials Administration (PHMSA).

Health, Safety, and Environment Management System (HSEMS)

Our safety culture is supported by systems and policies, such as our comprehensive Health, Safety and Environment Management System (HS&E MS). The HS&E MS has been developed and implemented to provide a systematic and organized approach to assure TransCanada's HS&E governance. In addition, the HS&E management system conforms to industry standards and is aligned with the management system requirements outlined in the applicable federal and state regulations.

The HS&E management system includes specific elements that:

- Establish well-defined controls for proactive management of health, safety, and environmental impacts and hazards;
- Create the protection programs required by federal and state regulations to protect the environment and the safety of employees and the public;
- Define roles and responsibilities to assure appropriate financial, human, and organizational resources are provided to plan, implement, and sustain the health, safety, and environmental management system and related protection programs;
- Confirm compliance with all applicable regulatory requirements and relevant industry standards;
- Facilitate systematic elimination of underlying or root causes of HS&E incidents and issues;
- Support development of the corporate safety management program to ensure ongoing processes and procedures are in place to prevent accidents and injuries to personnel; and
- Support development of environmental protection plans to ensure environmental hazards are identified, mitigated, and minimized throughout the lifecycle of pipeline systems.

The HS&E management system applies to all:

- Full-time and part-time employees;
- Contractors and independent consultants to TransCanada; and
- TransCanada wholly-owned subsidiaries and operated entities in Canada, the US, and Mexico.

Corporate Safety Culture

Excellence in HS&E practices is considered to be vital and essential to all aspects of TransCanada's business. TransCanada is committed to continuously promoting and improving safety on the job, from planning through to execution.

On the job, employees keep safety front-of-mind, maintain required training, and make use of the guides and tools available to ensure that work is planned and executed with the goal of zero incidents. TransCanada's internal Safety 24/7 Program is one of the ways in which TransCanada urges all employees to develop and maintain round-the-clock habits that will keep them and their families safe and healthy every day.

TransCanada believes that strong and consistent management of all safety aspects associated with contracted project services will enhance the health and safety protection provided to employees, contractors, and communities. As such, TransCanada considers it essential to partner with contractors that implement programs and processes that are equal to or exceed TransCanada's health and safety standards.

INCIDENT MANAGEMENT POLICY

The purpose of the Incident Management Policy is to ensure that TransCanada satisfies its health, safety and environmental commitment to meet or exceed all applicable laws and regulations by applying a systematic, timely process for anticipating, preventing and managing unplanned or unforeseen events which result or may result in undesirable consequences for the Company, its personnel and stakeholders.

The Policy encompasses the following three (3) processes designed to address the unique conditions and responses required with an Incident in accordance with its risk profile and ultimate origin or source (non-operational, operational).

- **Incident Management Program:** TransCanada's Incident Management Program (IMP) is one of the components of the Health, Safety and Environment Management System. Its purpose is to ensure Incident response, notification, investigation, documentation, follow-up and sharing of Learnings is completed in a uniform, thorough, and timely manner, to promote continuous improvement and to help prevent recurrence of similar Incidents.
- **Emergency Management:** TransCanada's Emergency Management System applies to all aspects of preparedness and response, but in particular means doing whatever is practicable to ensure the safety and security of the public, regardless of the cause of the company's emergency or assignment of fault. The purpose of the system is to protect the health, safety or welfare of people, or to limit damage to property, company operations and the environment. A critical component of Emergency Management is Business Continuity. TransCanada's Business Continuity Program is structured to ensure that each business area clearly understands the impact to their business processes from a resource disruption perspective and to assist in the identification of appropriate mitigation strategies. This program has been designed to help effectively manage incidents in a way that ensures an enterprise approach to problem solving, and to be flexible and scalable, ensuring continuous alignment with TransCanada business direction and strategies.
- **Crisis Management:** Crisis Management is set up to effectively deal with the challenges of: a possible extortion attempt, kidnapping, hostage taking, crisis involving a bomb or bomb threat, fatal aircraft accident, pipeline catastrophe, natural disasters, civil disturbances, sabotage events, or any other incident of a similar magnitude. Such incidents generally differ from those of a regional or localized basis, because of their wide-ranging impact and influence. Resolutions normally require more than a routine

coordinated operations approach. For these reasons the crisis organized team response is mounted as the situation dictates, and to assume responsibility in looking after the best interests of TransCanada and its employees.

Emergency Management System

TransCanada's Emergency Management System is an integrated system of procedures and plans that ensure an efficient and effective response to emergency situations at all Company natural gas transmission, natural gas storage, oil transmission and power generation facilities. The Emergency Management System details the procedures and accountabilities associated with the activation, notification and response phases of an emergency and in addition, facilitate preparedness.

As part of the program, an Emergency Response Plan ("ERP") will be developed 6 months prior to commencing new pipeline operations and submitted to the pipeline safety regulators for approval. TransCanada will consult with local officials to ensure coordination with local and state offices of emergency services as the Plan is further developed. TransCanada will also conduct training for internal and external responders and outreach with Emergency Responders to ensure alignment in the need for response to a pipeline emergency.

The overall strategy behind the ERP is to manage risks and to ensure that TransCanada is able and prepared to address any potential consequences in the event of an emergency including a release. TransCanada will have internal personnel, contractors and equipment situated in strategic locations along the pipeline route to facilitate an immediate and safe response to an emergency. The ERP would describe how spills would be responded to in the event of a release from the Project resulting from any cause (i.e., corrosion, third-party damage, natural hazards, materials defects, hydraulic surge). The plan would address the maximum spill scenario and procedures that would be in place to deal with the maximum spill.

Components of the program include: an Emergency Response Plan (ERP), Facility Response Plans (FRPs) (one for each facility), identification of response resources (personnel and equipment) and ensuring availability, personnel training, and engaging and informing community first responders and other stakeholders. The ERP would outline the following:

- Measures to protect the health and safety of responders and the public
- Internal and external notification procedures including to emergency services, government/regulatory agencies and contractors
- Initial and sustained response actions
- Response equipment and personnel resources
- Environmental Sensitivities and High Consequence Areas
- Tactical control points
- Training requirements
- Maintenance requirements
- Other regulatory required elements

TransCanada will consult with emergency service agencies, including local, state, and federal agencies as the Plan is further developed. TransCanada will also conduct training for internal and external responders and outreach with Emergency Responders to ensure alignment in the need for response to a pipeline emergency. The ERP would be submitted to PHMSA prior to operations. The FRPs would be submitted to EPA Region 8 prior to the initiation of Project operations.

Environmental Management

TransCanada is an industry leader in environmental management with extensive environmental permitting and planning strength.

- We have a well-established health, safety and environmental management system.
- TransCanada has consistently achieved outstanding performance in environmental planning, execution and compliance on a number of large pipeline projects within North America.

We are committed to protecting the environment. Not just because we have to, but because we want to. As one of North America's leading energy infrastructure companies, we respect the diversity of the landscapes in which we operate and always consider the environmental and cultural aspects of our business activities.

**UPLAND PIPELINE, LLC
UPLAND PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT B**

**NOTE: THE CONTENTS IN THIS APPENDIX CONTAIN CRITICAL INFRASTRUCTURE
INFORMATION AND HAVE BEEN REMOVED FROM THIS PUBLIC FILING. THE
REDACTED INFORMATION CAN BE FOUND IN THE CONFIDENTIAL FILING.**

**UPLAND PIPELINE, LLC
UPLAND PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT C**

Pipeline Specification

The following summarizes pipeline specifications for the Upland Pipeline Project.

1.0 DESIGN FORMULA

The design parameters for steel pipe shall be determined in accordance with the following equation: (See 49 CFR 195.106- Internal Design Pressure)

$$P = 2St/D \times F \times E$$

where:

- P = Internal Design Pressure, psig
- S = Specified minimum yield strength, psi
- D = Nominal outside diameter of the pipe, inches
- t = Specified wall thickness of the pipe, inches
- F = Design Factor
- E = Seam joint factor

2.0 DESIGN FACTOR DETERMINATION

The design factor (F) will be determined as a result of conditions or a combination of conditions such as crossings, fabrications, and station piping.

2.1 Mainline and Facilities

The pipeline will be designed consistent with 49 CFR Part 195. The design factor of 0.72 will be used for the mainline and facilities.

2.2 Crossings

Though a lower design factor is not specified by 49 CFR Part 195 for selected crossings and fabricated assemblies, a conservative design will be considered.

A design factor of 0.6 will be applied to all road and cased railroad crossings after ensuring the pipeline does not exceed allowable stresses as per the calculations in API 1102 Steel Pipe Crossing Railroads and Highways.

A 0.5 design factor will be applied to all uncased railroad crossings and directionally drilled installations after ensuring the pipeline does not exceed allowable stresses as per the calculations in API 1102 Recommended Practice and best practices in PRCI Technology for Energy Pipelines, Installation of Pipelines by Horizontal Directional Drilling.

3.0 LINE PIPE REQUIREMENTS

Line pipe for the Upland Pipeline shall be electric welded and at a minimum in accordance with 45th Edition of API 5L, Specifications for Line Pipe.

The manufacturing, coating, and loading processes shall be inspected at the mill by an authorized TransCanada inspector. Pipe shall be tested at the mill following Canadian CSA or API/ASTM specification requirements and TransCanada specifications.

Pipe shipped by rail shall be made in accordance with the 7th Edition of API Recommended Practice 5L1. If shipped by barge or marine transport, the shipment must be in accordance with the 3rd Edition of API Recommended Practice 5LW.

4.0 MINIMUM WALL THICKNESS AND YIELD STRENGTH

Mainline pipe nominal wall thickness (w.t.) will be determined by the design formula, included in section 1.0:

The pipeline will operate at a Maximum Operating Pressure of 1480 psig with an operating specified minimum yield strength up to 72 percent. Accordingly, the design will reflect the following minimum wall thicknesses:

20" O.D. x 0.344" w.t., API 5L PSL-2 X-60 (0.72 design factor)

20" O.D. x 0.375" w.t., API 5L PSL-2 X-60 (0.66 design factor)

20" O.D. x 0.412" w.t., API 5L PSL-2 X-60 (0.60 design factor)

20" O.D. x 0.494" w.t., API 5L PSL-2 X-60 (0.50 design factor)

5.0 PIPE WALL THICKNESS TRANSITIONS

End preparation for joining pipe of unequal wall thickness will be done in accordance with standard API 1104 21st Edition and ASME B31.4.

6.0 MINIMUM PIPE LENGTH

Minimum pipe length to be installed on pipeline construction will be eight (8) feet. This does not apply to fabricated assemblies.

7.0 PIPE BENDING

Upland Pipeline will utilize both field bending and 3D forged fittings in the construction of the pipeline. Field bending will be in accordance with 49 CFR Part 195.212 and ASME B31.4 and 3D forged fittings will be in accordance with ASME/ANSI B16.9. The pipeline will allow for 100% passage of inline inspection tools.

8.0 COATING CONSIDERATIONS

A. Below Ground Piping

The primary coating for the exterior surface of below ground line pipe shall be fusion bonded epoxy (FBE) in accordance with TransCanada's coating specifications. Abrasion resistant overcoat will be applied to the FBE coating on pipe installed at all bored road and railroad crossings and directionally drilled crossings.

B. Above Ground Piping

Aboveground piping would be coated using paint products that are suitable for the environmental conditions in which the piping is installed in accordance with TransCanada's painting specifications. Colors shall be specified by Upland Pipeline.