

1.0 INTRODUCTION

On September 19, 2008, TransCanada Keystone Pipeline, LP (Keystone) applied to the U.S. Department of State (DOS) for a Presidential Permit for the proposed construction, connection, operation, and maintenance of a pipeline and associated facilities at the United States border for importation of crude oil from Canada. The Keystone application is for its proposed Keystone XL Project (the proposed Project). DOS served as the lead federal agency for the environmental review of the proposed Project under the National Environmental Policy Act (NEPA). DOS receives and considers applications for Presidential Permits for such oil pipeline border crossings and associated facilities pursuant to the President's constitutional authority over foreign relations, and as Commander-in-Chief, which authority the President delegated to DOS in Executive Order (EO) 13337, as amended (69 Federal Register [FR] 25299). DOS jurisdiction to issue a Presidential Permit includes only the border crossing and the associated facilities at the border.

DOS authority over the border crossing does not include the legal authority to regulate petroleum pipelines within the U.S. The Department of Transportation's Pipelines and Hazardous Materials Safety Administration (PHMSA) is responsible for promulgating regulations regarding issues of petroleum pipeline construction, operation, and maintenance. Individual states have the legal authority to approve petroleum pipeline construction in their states, including selecting the routes for such pipelines. Different states have made different choices in how or whether to exercise that authority. Some states, such as Montana, have chosen to grant the authority to a state agency to approve pipeline routes through that state. Other states, such as Nebraska, have chosen not to grant any state agency such authority. In preparation of this EIS, DOS has consulted extensively with those federal and state agencies that possess regulatory authority over petroleum pipelines, as well as local, state, tribal and federal agencies that have jurisdiction with particular expertise regarding evaluating potential impacts of the proposed Project.

In addition to its application to DOS, Keystone also filed a right-of-way (ROW) application under Section 28 of the Mineral Leasing Act of 1920 (MLA), as amended, with the Bureau of Land Management (BLM) for the proposed Project across federal lands.

DOS issued a draft environmental impact statement (EIS) for public review on April 16, 2010. The public comment period for the draft EIS closed on July 2, 2010 (see Section 1.9.1). After the draft EIS was issued, new information and additional information became available on the proposed Project and on issues and resources related to the potential impacts of the proposed Project. To provide the public with the opportunity to review this information and to ensure openness and transparency in the NEPA environmental review process of the proposed Project, DOS issued a supplemental draft EIS (supplemental draft EIS) for public review on April 22, 2011. The public comment period for the supplemental draft EIS ended on June 6, 2011 (see Section 1.9.2).

This final EIS includes information generated in response to comments on both the draft and supplemental draft EIS, as well as information related to surveys and studies along the proposed Project corridor completed after the relevant sections of the draft and supplemental draft EIS were published (e.g., studies and surveys within properties where access was not previously available). The EIS also includes the latest available information on the proposed Project plan resulting from ongoing negotiations with federal, state, and local regulatory agencies. The remainder of this section addresses the following topics:

- Overview of the Proposed project (Section 1.1);
- Purpose and Need (Section 1.2);
- Presidential Permit Process (Section 1.3);
- Overview of the Crude Oil Market (Section 1.4);
- Agency Participation (Section 1.5);
- Indian Tribe Consultation (Section 1.6);
- SHPO Consultation (Section 1.7);
- Environmental Review of the Canadian Portion of the Proposed keystone XL Project (Section 1.8);
- Preparation and Review of the EIS (Section 1.9);
- Permits, Approvals, and Regulatory Requirements (Section 1.10); and
- References (Section 1.11).

1.1 OVERVIEW OF THE PROPOSED PROJECT

Keystone proposes to construct and operate a crude oil pipeline and related facilities to transport Western Canadian Sedimentary Basin (WCSB) crude oil from an oil supply hub near Hardisty, Alberta, Canada to destinations in the south central United States, including a new tank farm in Cushing, Oklahoma and delivery points in Nederland (near Port Arthur) and Moore Junction (in Harris County), Texas (see Figure 1.1-1). In total, the proposed Keystone XL Project would consist of approximately 1,711 miles of new, 36-inch-diameter pipeline, with approximately 327 miles of pipeline in Canada and approximately 1,384 miles in the United States. The proposed Project would cross the international border between Saskatchewan, Canada, and the United States near Morgan, Montana. The proposed Project initially would have a nominal transport capacity of 700,000 barrels per day (bpd) of crude oil. Up to 200,000 bpd of crude oil would be delivered to the proposed Cushing, Oklahoma tank farm, which is in Petroleum Administration for Defense District (PADD) II, with the remainder of the crude oil transported to the delivery points in Texas, which are in the Gulf Coast portion of PADD III. By increasing the pumping capacity in the future, the proposed Project could ultimately transport up to 830,000 bpd of crude oil.

At the time of publication of the draft EIS, Keystone had applied to the U.S. Department of Transportation (USDOT), Pipeline and Hazardous Materials Safety Administration (PHMSA) for consideration of a Special Permit request to operate the proposed Project at a slightly higher pressure than would be allowed using the standard design factor in the regulations. As reported in the draft EIS, the maximum crude oil throughput for that proposed system would have been 900,000 bpd. On August 5, 2010, Keystone withdrew its application to PHMSA for a Special Permit. As a result, the maximum throughput of the proposed Project decreased and is currently proposed to be approximately 830,000 bpd. However, to enhance the overall safety of the proposed Project, DOS and PHMSA continued working on Special Conditions specific to the proposed Project and ultimately established 57 Project-specific Special Conditions. As a result, the proposed Project would be designed, constructed, operated, maintained, and monitored in accordance with the existing PHMSA regulatory requirements and in compliance with the more stringent 57 Project-specific Special Conditions that Keystone agreed to incorporate into the proposed Project. In consultation with PHMSA, DOS determined that incorporation of those Special Conditions would result in a Project that would have a degree of safety greater than any typically constructed domestic oil pipeline system under current regulations and a degree of safety along the entire length of the pipeline system that would be similar to that required in high consequence areas as defined

in the regulations. Appendix U presents the Special Conditions and a comparison of the conditions with the existing regulatory requirements.

The proposed Project would primarily deliver WCSB crude oil, which would likely be heavy crude oil based on current market forecasts, to three delivery points in the U.S. that in turn provide access to many other U.S. pipeline systems and terminals. The ultimate destinations of the crude oil beyond these delivery points would not be contracted with Keystone and are not a part of the proposed Project. While the exact destinations of the crude oil that would be transported by the proposed Project are uncertain, there are 15 refineries within the proposed delivery area in Texas that would have direct access to crude oil delivered by the proposed Project (Purvin & Gertz 2009). Those refineries currently process heavy crude oil that is similar in composition to the oil that would be delivered by the proposed Project (Purvin & Gertz 2009).

1.2 PURPOSE AND NEED

The primary purpose and need of the proposed Project is to provide the infrastructure necessary to transport WCSB heavy crude oil from the border with Canada to delivery points in PADD III in response to the market demand of refineries in PADD III for heavy crude oil. This market demand is driven by the need of refiners in PADD III to replace declining feed stocks of heavy crude oil obtained from other foreign sources with crude oil from a more stable and reliable source. Keystone currently has firm, long-term contracts to transport 380,000 bpd of WCSB crude oil to existing PADD III delivery points. Keystone also has firm contracts to transport 155,000 bpd of WCSB crude oil to Cushing, Oklahoma in the existing Keystone Oil Pipeline Project, which includes the Keystone Mainline and the Keystone Cushing Extension. An additional purpose of the proposed Project is to transport WCSB heavy crude oil to the proposed Cushing tank farm in response to the market demand of refineries in PADD II for heavy crude oil. If the proposed Project is approved and implemented, Keystone would transfer shipment of crude oil under those contracts to the proposed Project. While there is existing transboundary pipeline capacity to accommodate projected additional imports of WCSB crude in the short to medium term, there is extremely limited pipeline transport capacity to move such crude oils to PADD III refineries.

Further, since the time of the Presidential Permit application, Keystone has provided the opportunity to shippers to access the proposed Project to transport crude oil from the Williston Basin and from portions of PADD II to delivery points in PADDs II and III. Shippers in those areas have committed to transport 65,000 bpd of crude oil on the proposed Project (see Sections 2.5.3 and 2.5.4). As noted in the previous section, the proposed Project would provide an initial capacity of 700,000 bpd, with the ability to increase capacity to 830,000 bpd by increasing pumping capability.

DOS evaluated the proposed Project to determine whether approving it and granting a Presidential Permit for “construction, connection, operation, or maintenance at the borders of the United States of facilities for the exportation or importation of petroleum, petroleum products, coal, or other fuels to or from a foreign country” is in the national interest. The Secretary of State has the authority to approve or deny such applications, and to issue such permits on terms and conditions that the Secretary determines are appropriate under EO 13337, as amended. Although the primary focus of DOS is related to the conduct of foreign affairs, in considering the national interest for purposes of applications for Presidential Permits, DOS takes into account many factors, including domestic impacts associated with issuance of a permit, such as environmental, cultural, and economic considerations, consistent with the relevant federal statutes and Executive Orders identified in Sections 1.5, 1.6, and 1.10 of this EIS.

In response to comments on the draft EIS, the market analysis relevant to purpose and need has been reorganized in the EIS, and the following section on the Presidential Permit review process (Section 1.3) has been added. The extensive information on crude oil markets is included in this EIS because the

United States has a largely unregulated market for obtaining crude oil (the primary use of which is the production of transportation fuel). Thus, understanding the basic dynamics of the crude oil market is key to understanding the potential alternatives to the proposed Project (including the No Action Alternative). In addition, the analysis of the crude oil market has been expanded in response to comments to include scenarios that base projections on alternate policy scenarios, including adoption of more aggressive policies that address climate change by reducing crude oil consumption.

The BLM's purpose and need for the proposed Project is to respond to the Keystone application under Section 28 of the Mineral Leasing Act of 1920, as amended (MLA; 30 USC 185) for a right-of-way (ROW) grant to construct, operate, maintain, and decommission a crude oil pipeline and related facilities on federal lands in compliance with the MLA, BLM ROW regulations, and other applicable federal laws. The BLM will decide whether to approve, approve with modification, or deny issuance of a ROW grant to Keystone for the proposed Project, and if so, under what terms and conditions. The proposed ROW action appears consistent with approved BLM land use planning.

1.3 PRESIDENTIAL PERMIT REVIEW PROCESS

Consistent with the President's broad discretion in the conduct of foreign affairs, DOS has significant discretion in the factors it examines in making a National Interest Determination (NID). The factors examined and the approaches to their examination are not necessarily the same from project to project. However, previous NID processes can provide insights into the factors DOS is likely to consider in evaluating the present application. Some of the key factors considered in past decisions include the following:

- Environmental impacts of the proposed projects;
- Impacts of the proposed projects on the diversity of supply to meet U.S. crude oil demand and energy needs;
- The security of transport pathways for crude oil supplies to the U.S. through import facilities constructed at the border relative to other modes of transport;
- Stability of trading partners from whom the U.S. obtains crude oil;
- Impact of a cross-border facility on the relations with the country to which it connects;
- Relationship between the U.S. and various foreign suppliers of crude oil and the ability of the U.S. to work with those countries to meet overall environmental and energy security goals;
- Impact of proposed projects on broader foreign policy objectives, including a comprehensive strategy to address climate change;
- Economic benefits to the U.S. of constructing and operating proposed projects; and
- Relationships between proposed projects and goals to reduce reliance on fossil fuels and to increase use of alternative and renewable energy sources.

This list is not exhaustive, and DOS may consider additional factors in the NID process. After publication of the final EIS, the federal agencies identified in EO 13337 (see Section 1.5.1) will have 90 days to provide their input on whether or not approving the proposed Project would be in the national interest. Additionally, DOS will solicit public comments on determination of national interest during a public comment period after publication of this EIS.

1.4 OVERVIEW OF THE CRUDE OIL MARKET

DOS conducted its own thorough assessment of market dynamics of the crude oil market for purposes of fully understanding how those dynamics relate to the purpose and need of the proposed Project as a part of the environmental review under NEPA. This assessment relied upon expertise within DOS from staff with extensive knowledge of international energy markets, on consultations with other federal agencies, in particular the Department of Energy, and on consideration of relevant information from the many independent sources as described below. The sources relied upon included in particular information presented in reports published by government agencies such as the Energy Information Administration (EIA), the International Energy Agency (IEA), and the Alberta Energy Resource Conservation Board (ERCB). The mandates of these three agencies are described below:

- The EIA is a statistical agency of the U.S. Department of Energy (DOE). Its mission is to provide policy-independent data, forecasts, and analyses to promote sound policy making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment. By law, EIA's products are developed independently and are not subject to clearance by DOE or other government agencies. EIA neither formulates nor advocates any policy positions, and its views may not reflect those of DOE or the Administration. EIA issues a wide range of weekly, monthly, and annual reports on energy production, stocks, demand, imports, exports, and prices. It also prepares analyses and special reports on topics of current interest in response to requests from the Congress, DOE, and other government agencies.
- The IEA is an intergovernmental organization which acts as energy policy advisor to 28 member countries in their effort to ensure reliable, affordable, and clean energy for their citizens. Its current mandate incorporates the "Three E's" of balanced energy policy making: energy security, economic development, and environmental protection. IEA currently focuses its work on climate change policies, market reform, energy technology collaboration, and outreach to the rest of the world, especially major consumers and producers of energy such as China, India, Russia, and the OPEC countries.
- The ERCB is an independent, quasi-judicial agency of the Government of Alberta, Canada. It regulates development of Alberta's energy resources, including oil, natural gas, oil sands, coal, and pipelines. The ERCB's mission is to ensure that the discovery, development, and delivery of Alberta's energy resources take place in a manner that is fair, responsible, and in the public interest. The information and knowledge responsibility of the Board includes the collection, storage, analysis, appraisal, dissemination, and stakeholder awareness of information about energy and utility matters.

In its assessment of proposed Project Purpose and Need, DOS also reviewed information from industry associations, such as the Canadian Association of Petroleum Producers, and private companies such as Purvin and Gertz and IHS Cambridge Energy Research Associates (IHS CERA).

The assessment was also informed by two recent reports contracted by the Department of Energy Office of Policy & International Affairs (PI) and conducted by EnSys Energy and Systems, Inc (EnSys 2010 and 2011) that evaluated different North American crude oil transport scenarios through 2030 the potential impacts of those different transport scenarios (in particular the presence or absence of the proposed Project) on U.S. refining and petroleum imports, on production and disposition of WCSB oil sands crude, and on international crude oil markets. Because the EnSys reports informs many aspects of the EIS, they are described more fully here.

The EnSys (2010) analysis examined key metrics under seven different scenarios, each representing a different combination of existing and potential pipeline transportation systems in Canada and the U.S.

that could deliver WCSB crude oil to U.S. PADDs II and III and to world oil markets. Market dynamics for each pipeline combination were explored for two different projections of U.S. oil demand,¹ resulting in 14 separate scenarios.

DOE requested that EnSys address the following issues:

- What is the outlook for the U.S. refining industry's competitive position as measured by U.S. refinery throughputs, utilizations, investments, CO₂ emissions, product import dependency and oil import costs?
- How does the level and composition of crude oil imports into the U.S. change with and without the incremental WCSB crude oil transport capacity of the proposed Project?
- What are the changes in crude oils that would supply PADD III refineries with and without the transportation of incremental WCSB crude oils into PADD III?
- What are the changes in world regional demands for incremental WCSB crude oils with and without the incremental pipeline capacity to U.S. refineries?
- What are the U.S. petroleum product supply and price impacts, and also U.S. oil import cost impacts, with and without the incremental imports of WCSB crude oil to the U.S.?
- What impacts, if any, would disallowing the proposed Project have on WCSB crude oil flows into the U.S.?
- What would be the impacts of much lower U.S. product demand (consistent with the EPA low demand outlook) on U.S. refining, Canadian, and other oil imports and the implications for WCSB crude oil export capacity?

The study employed the EnSys World Oil Refining Logistics & Demand (WORLD) model to provide an integrated analysis and projection of the global petroleum industry that encompasses total liquids, captures the effects of developments, changes and interactions between regions, and projects the economics and activities of refining crude oils and products. WORLD has been used for DOE's Office of Strategic Petroleum Reserve since 1987, and has been applied in analyses for many organizations, including EIA, EPA, the American Petroleum Institute, the World Bank, the OPEC Secretariat, the International Maritime Organization, Bloomberg, and major and specialty oil and chemical companies. The EnSys (2011) study revisited the No Expansion scenarios presented in the EnSys (2010) report and reassessed in more depth the factors that could render the No Expansion scenarios probable or improbable.

Although the EnSys (2010 and 2011) studies are contractor reports and do not necessarily represent the views of any U.S. government agency, they were conducted in close collaboration with, and had significant input from DOE. The EnSys (2010 and 2011) reports are presented in Appendix V. Section 1.11 presents a list of the references used in developing the need assessment for the proposed Project. Owing largely to its availability, energy density, and ease of transport, crude oil is currently the world's most important energy resource. It is traded in a global market that includes crude oils that vary in their points of delivery, densities, sulfur contents, and prices. For example, in December of 2010 the price of crude oil ranged from \$73 per barrel for heavy, sour WCSB crude oil to over \$88 per barrel for light, sweet crude oil such as West Texas Intermediate or Arab Light. These prices represent a balance between supply and demand in the global crude oil market. In that market, each oil field can be thought of as a potential supply source. In the past, most crude oil came from fields that produced relatively light crude

¹ EnSys (2010) included a low-demand outlook based on a February/March 2010 study by EPA which examined "more aggressive fuel economy standards and policies to address vehicle miles traveled".

oil, and while those fields are distributed throughout the world, the leading producers were in Saudi Arabia, the United States, Russia (the former USSR), and Iran. More recently, the world oil market has experienced an increase in the supply of crude oil from unconventional sources. These unconventional oil fields, primarily in Canada and Venezuela, produce a very heavy crude oil that is often referred to as bitumen.²

On the demand side of the market, each refinery can be thought of as a crude oil consumer. Each refinery makes decisions as to which crude oil to buy based on the characteristics of the crude (e.g., the point of delivery, density, sweetness, and price) and the refinery's unique ability to transform the crude oil into a refined petroleum product that can be profitably sold.³

Much effort has gone into predicting future conditions in the crude oil market. Individuals, organizations, and countries attempt to forecast supply, demand, and price based on economic trends, governmental regulations, the cost and availability of substitute forms of energy, and many other factors. While these predictions are uncertain, there is a general consensus that the volume of crude oil consumed worldwide is unlikely to decrease substantially over the next 30 years, even under policy scenarios that more aggressively address global climate change (EIA 2009c, EIA 2010a, and IEA 2010), and that the mix of crude oil consumed in the future will include an increased proportion of oil from high-cost unconventional sources and/or heavy crude oil.

For example, IEA (2010) included three policy scenarios, a Current Policies Scenario, which assumed no change in policies in place in mid-2010; a New Policies Scenario, which assumed that countries act on their announced policy commitments and plans to address climate change; and a scenario designed to stabilize greenhouse gas emissions at 450 parts per million of CO₂-equivalent, which would be consistent with an increase in global temperature of approximately 2 degrees Celsius (the 450 Scenario). There are significant differences for estimates of total global crude oil demand among the three scenarios, but in all three scenarios, the estimated total demand is greater in 2020 than in 2010. Only in the 450 Scenario is the total estimated global demand in 2035 less than in 2010. There was a significant difference in the projections of total unconventional oil production among the three scenarios, but in all three scenarios, the total estimated production from unconventional sources was projected to increase by at least 5 million bpd by 2035.

1.4.1 Supply of Heavy Crude Oil from the WCSB

The WCSB is now widely accepted as having one of the largest crude oil reserves in the world. The ERCB (2009) and CAPP (2009) estimated that Canada's oil sands contain 170 to 173 billion barrels of proven oil reserves while the Central Intelligence Agency (CIA) estimated WCSB reserves to be 175.2 billion (CIA 2010).⁴ However, the mere presence of oil in a field does not mean that oil will be produced. For oil to be produced, field operators must be convinced that they can extract and deliver the oil to the marketplace in a profitable manner (i.e., the price per barrel that consumers are willing to pay is high enough for producers to make a profit). Therefore, decisions regarding unconventional crude oil production in the WCSB are affected by the price of conventional crude oil.

² For the purposes of this EIS, oil from the WCSB is referred to as heavy crude. Section 3.13.5.1 provides information on the composition of the WCSB crude oil.

³ EIA (2009a) reported that crude oil is generally fungible, i.e., one crude oil can be substituted for another. However, many refineries are optimized to refine crude oil with specific qualities, and switching from one crude oil to another can be costly.

⁴ Proven oil reserves are those that can be economically extracted given current and projected market conditions.

Given this market dynamic, CAPP (2009) reported that:

“Over the past 12 months (June 2008 to June 2009) the industry has witnessed a dramatic change in oil prices. The benchmark West Texas Intermediate (WTI) crude oil price dropped from a peak in July 2008 of over \$140 per barrel to less than \$40 per barrel by year’s end. CAPP’s estimate of industry capital spending for oil sands development was reduced to \$10 billion dollars for 2009 compared to \$20 billion in 2008. The forecast for market demand growth is also lower than in the previous report, which is in line with the slower forecasted growth in supply.”⁵

Most industry analysts predict that there will be growth in market demand as the global economy recovers from the recent world financial crisis. Consequently, many oil sands projects that were put on hold in 2009 were revived in 2010.

In earlier reports, CAPP (2009) projected that heavy crude production in the WCSB will increase from its 2008 level of 0.9 million bpd to between 1.4 and 1.6 million bpd by 2015 and then remain at relatively elevated levels until the end of the projection periods. These projections were largely consistent with: (1) the 2009 EIA forecast, which also projected that the unconventional oil supply from Canada will become an increasingly important source of global crude oil supply over time (EIA 2009a); and (2) projections made by ERCB (2009), the National Energy Board of Canada (NEB 2009), and Strategy West (2009). At the current and projected production levels, production from the estimated proven reserves in the WCSB could continue into the later part of the 21st century.

Three of the studies and projections referenced above were updated for 2010. CAPP (2010) projected that the WCSB will produce more than 2.1 million bpd by 2015; this is up from the 1.4 to 1.6 million bpd projected in 2009. CAPP (2011) shows further increases in WCSB crude oil production projections. These increased projections are largely consistent with the reference price case reported in EIA (2010a, 2010b, and 2011⁶) and Strategy West (2010) which project significant increases in WCSB crude oil production over the next 10 to 25 years. EnSys (2010) suggested that total WCSB crude oil production would reach approximately 4.4 million bpd by 2030 in almost all pipeline construction scenarios it considered. EnSys (2010) also projected oil sands production to grow to 4.2 million bpd by 2030 in the low-demand outlook for all pipeline construction scenarios except the No Expansion scenario. IEA (2010) projected that by 2035, oil sands production would increase to 4.6 million bpd under the Current Policies scenario, 4.2 million bpd in the New Policies scenario, and 3.3 million bpd under the 450 Scenario.

Historically, the majority of the WCSB crude oil has been exported to the U.S. CAPP (2010) and EIA (2010) continue to project that the vast majority of WCSB production will be exported to the U.S. Much of this will be transported to PADD II through the existing Enbridge pipeline system, including the recently constructed Alberta Clipper Pipeline and the Keystone Oil Pipeline. As described in Section 4.1.3, the proposed Enbridge Northern Gateway and the Kinder Morgan Trans Mountain pipelines, if implemented, would ship WCSB crude oil to the west coast of Canada for potential marine-based export to refineries in Asia and along the west coast of the U.S. If implemented, the proposed Project or a similar project would provide access to refineries in PADD III.

EnSys (2010) suggested that cross-border WCSB deliveries will more than double from the current 1.2 million bpd to between 2.6 and 3.6 million bpd by 2030. The volume of future U.S. imports of WCSB

⁵ Crude oil benchmarks are reference points for the various types of oil that are available in the market. The WTI is the most commonly used benchmark in the U.S.

⁶ The EIA (2011) early release previewed several revisions to its reference case projections for the 2011 release, and projected that oil sands growth would reach 5.1 million bpd by 2035.

crude oil will be dependent on the available transport capacity for WCSB crude oil into the U.S., the level of demand for WCSB crude oil from Asian refiners, and the overall level of crude oil demand in the U.S.

1.4.2 Demand for Heavy Crude Oil in PADD III

The U.S. petroleum industry is divided into five PADDs. Refineries within a PADD tend to have more in common with each other (e.g., pipeline infrastructure and supply streams) than they do with refineries in other PADDs.

The majority of the crude oil that would be transported by the proposed Project would be shipped to delivery points in PADD III, which has 58 refineries. These refineries represent a total refining capacity of approximately 8.4 million bpd, and for the past 20 years have run at between 80 and 100 percent of maximum throughput (EIA 2010b). PADD III refineries provide significant volumes of refined petroleum product to both the U.S. East Coast and Midwest via pipeline. For example in 2008, approximately 50 percent of the gasoline consumed on the East Coast and 18 percent of the gasoline consumed in the Midwest was supplied by PADD III refineries.

The PADD III Gulf Coast refineries have the capacity to refine over 5 million bpd of heavy crude oil (EnSys 2010). In 2009, PADD III imported approximately 2.9 million bpd of heavy crude oil (EnSys 2010). Typically, heavy crude oils sell at a discount as compared to light, sweet crude oils, and refiners that can process heavy crude oils can take advantage of that price differential. Once refiners have made the capital investments in equipment and processes to refine heavy crude oil or to increase the capacity of heavy crude oil refining, they cannot easily move back to refining a lighter crude oil slate. PADD III has a particularly high heavy crude oil processing capacity in part because of the large supplies of heavy crude oil in Mexico and Venezuela. Mexico and Venezuela, through their state-controlled oil companies, encouraged expansion of the heavy oil refining capacity through joint-venture investments in Gulf Coast refineries to create a more profitable market for their heavy crude oil resources.

There are ongoing or completed major refinery upgrades at several PADD III refineries that would have direct pipeline access to oil transported through the proposed Project (i.e., Motiva, Port Arthur; Valero, Texas City; and Total, Port Arthur) and at several PADD III refineries without direct pipeline access (Borger, Texas; Artesia, New Mexico; and Garyville, Louisiana). There are also continuing plans for upgrades in Port Arthur and revived plans in St. Charles and Tuscaloosa, Alabama, and smaller-scale upgrades designed to increase heavy crude oil refining capacity in PADD III. In PADD II, expansions and upgrades have been proposed or implemented in Oklahoma (Sinclair), Illinois (WRB Refining and ConocoPhillips Refinery), Michigan (Marathon), and Indiana (Whiting). There is no indication that the availability of oil transported via the proposed Project would directly result in specific expansions of existing refineries and development of new refineries (none have been built in the U.S. in 30 years). Recently implemented refinery expansions and upgrades in PADDs II and III were primarily focused on increasing the capacity to refine heavy crude oil. This diversification strategy could put downward pressure on PADD III crude oil prices, provided that sufficient transportation capacity is available for heavy crude oil.

In 2009, PADD III refineries imported approximately 5.1 million bpd of crude oil from more than 40 countries, and the top four suppliers were Mexico (21 percent), Venezuela (17 percent), Saudi Arabia (12 percent), and Nigeria (11 percent) (EIA 2010b). Of this amount, approximately 2.9 million bpd was heavy crude oil (EnSys 2010). In addition, PADD III refinery runs are projected to grow by at least 500,000 bpd by 2020 (Purvin & Gertz 2009, EnSys 2010). However, as noted by EnSys (2010), crude oil imports from Mexico and Venezuela, which flow predominantly into Gulf Coast refineries, have been in steady decline and are projected to continue to drop over the next several years, from 2.9 million bpd in 2004 to about 0.8 million bpd by 2020. Although the supply of crude oil from Saudi Arabia to the U.S.

appears to be fairly stable, the remaining major PADD III suppliers face declining or uncertain production horizons as summarized below.

- Capital expenditures by Mexico’s national oil company have been insufficient to offset natural declines in oil field output. As a result, the production of heavy crude from Mexico has been falling and there has been a 250,000-bpd decrease in production of Mexican heavy crude since 2006. In particular, production from the offshore Cantarell field (which produces most of the Maya heavy crude supplied to the U.S.) is falling rapidly (Hook et al 2009, IEA 2008, and EnSys 2010). In addition, expansion of the Minatitlan refinery was completed in January 2011 and the expanded refinery processes at least 110,000 bpd of Mexican crude oil, which further reduced the volume exported to the U.S.
- Most of Venezuela’s oil production is heavy crude, and over half of the production has been exported to the U.S. (Purvin & Gertz 2009). However, Venezuela is increasingly diversifying its oil customers to lessen its dependence on the U.S. Exports to the U.S. as a portion of Venezuela’s total output have therefore decreased (Alvarez and Hanson 2009), and EnSys (2010) predicts that this trend will continue.
- Nigeria is Africa’s largest oil producer. However, “since December 2005, Nigeria has experienced increased pipeline vandalism, kidnappings and militant takeovers of oil facilities in the Niger Delta...The instability in the Niger Delta has caused significant amounts of shut-in production and several companies declaring *force majeure* on oil shipments. EIA estimates Nigeria’s effective oil production capacity to be around 2.7 million barrels per day (bbl/d) but as a result of attacks on oil infrastructure, 2008 monthly oil production ranged between 1.8 million bbl/d and 2.1 million bbl/d. Additional supply disruptions for the year were the result of worker strikes carried out by the Petroleum and Natural Gas Senior Staff Association of Nigeria (PENGASSAN) that shut-in 800,000 bbl/d of ExxonMobil’s production for about 10 days in late April/early May” (EIA 2009e).
- Angola, Algeria, and Iraq, which were among the top 15 suppliers of crude oil to the U.S. in 2009 (EIA 2010b), have each experienced armed conflict or significant political unrest within the last decade.

In all domestic pipeline scenarios considered by EnSys (2010), increased U.S. imports of Canadian crude oil would reduce U.S. imports of foreign oil from sources outside of North America. Reductions in U.S. oil demand would result in reductions of oil imports from non-Canadian foreign sources, with no material reduction in imports of WCSB crude oil (EnSys 2010). Additionally, the firm, long-term commitment of shippers to transport 380,000 bpd of WCSB crude oil to PADD III destinations through the proposed Project indicates a market preference for WCSB heavy crude oil. In addition to those commitments, on August 15, 2011 Keystone launched a binding Open Season to obtain additional firm commitments from interested parties for shipments of crude oil on the Houston Lateral portion of the proposed Project.

1.4.3 Transport of Crude Oil from the WCSB to PADDs II and III

Prior to 2010, two major crude oil pipelines transported crude oil from the WCSB directly to U.S. markets: the Enbridge Pipeline System and the Kinder Morgan Express Pipeline. Combined, those pipeline systems have a total capacity of about 2.1 million bpd. Of that total capacity, approximately 63 percent is heavy crude, and in 2008 both pipelines operated at or around 100 percent capacities (CAPP 2009). Two new pipeline systems were recently constructed and began transporting crude oil from the WCSB to areas in the U.S. outside of PADD III: the Keystone Oil Pipeline Project (including the Cushing Extension) and the Enbridge Alberta Clipper Pipeline. CAPP (2009) and Smith (2009) reported that, with those pipelines, the transport capacity of crude oil from Canada to the U.S. is sufficient to provide the

needs of all areas outside of PADD III through 2019. EnSys (2010) projected that excess cross border capacity for areas of the U.S. outside of PADD III would exist until about 2019 to 2030, depending on the development of pipeline or other transport capacity to the British Columbia Coast. However, the capacity to transport WCSB crude oil to PADD III is currently limited. There is only one pipeline that provides PADD III refineries access to WCSB crude, the ExxonMobil Pegasus Pipeline. This pipeline has a maximum capacity of only 96,000 bpd (CAPP 2009). Thus, limited pipeline capacity continues to constrain the supply of WCSB crude oil to PADD III (CAPP 2009 and 2010, Purvin & Gertz 2009), and PADD III represents the largest refining capacity, both overall and for heavy crude, in the U.S. Limited transport capacity to PADD III was also identified by EnSys (2010):

“a market opportunity exists short term (2010 – 2015) as well as longer term for pipeline capacity to deliver heavy WCSB crudes to U.S. Gulf Coast refiners; this to fill a gap being created by declining supply from traditional heavy crude suppliers, notably Mexico and Venezuela, a gap it is projected would otherwise be filled by increases in other foreign supplies, notably from the Middle East.”

The conclusions of CAPP (2009 and 2010), Purvin & Gertz (2009), and EnSys (2010) are consistent with observed marketplace behavior. In September 2008, when shippers were given an opportunity to enter into contractual commitments for capacity on the proposed Project, several firms executed binding contracts with Keystone for a total of 380,000 bpd of WCSB crude to be transported to PADD III for an average of 18 years. In addition, Valero, a major refinery operator in the Houston area, stated that it expects to be one of the largest recipients of heavy crude oil from the proposed Project pending regulatory approval (Valero 2008), and Canadian Natural Resources Limited (CNRL) has agreed to supply 100,000 bpd of heavy crude oil to an unnamed U.S. Gulf Coast refiner (CNRL 2008).

1.5 AGENCY PARTICIPATION

1.5.1 Federal Lead Agency – U.S. Department of State

For cross-border oil pipelines, DOS is responsible for issuance of Presidential Permits. Therefore, DOS is the lead agency for both the NEPA environmental review and the Section 106 of the National Historic Preservation Act (NHPA) process for the proposed Project. As the lead agency, DOS directed the preparation of the EIS for the proposed Project consistent with NEPA and also directed the Section 106 process consistent with the NHPA (16 U.S.C § 470 et seq.). As the lead federal agency, DOS initiated both informal and formal consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA; 16 U.S.C § 1536) to determine the likelihood of effects on listed species.

DOS also coordinated the evaluation of the proposed Project’s compliance with the Coastal Zone Management Act (CZMA) of 1972. Components of the proposed Project are within the coastal zone of Texas. The Texas General Land Office administers the federally approved Texas Coastal Management Program and will determine if the proposed Project is consistent with the program. This determination will only apply to portions of the Gulf Coast Segment and the Houston Lateral.

DOS coordinated with the cooperating and assisting agencies to ensure compliance with laws and regulations within their authority as well as to ensure compliance with the following executive orders:

- EO 11988 – Floodplain Management;
- EO 11990 – Protection of Wetlands;
- EO 12114 – Environmental Effects Abroad of Major Federal Actions;

- EO 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations;
- EO 13007 – Indian Sacred Sites;
- EO 13112 – Invasive Species;
- EO 13175 – Consultation and Coordination with Indian Tribal Governments;
- EO 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds;
- EO 13212 – Actions to Expedite Energy-Related Projects; and
- EO 13337, as amended (69 FR 25299) – governs the DOS issuance of Presidential Permits that authorize construction of pipelines carrying petroleum, petroleum products, and other liquids across U.S. international borders. Within DOS, the Bureau of Economic and Business Affairs, Office of International Energy and Commodity Policy, receives and processes Presidential Permit applications. Upon receipt of a Presidential Permit application for a cross-border pipeline, DOS is required to request the views of the Secretary of Defense, the Attorney General, the Secretary of the Interior, the Secretary of Commerce, the Secretary of Transportation, the Secretary of Energy, the Secretary of Homeland Security, the Administrator of the U.S. Environmental Protection Agency (EPA), and other government department and agency heads as the Secretary of State deems appropriate. DOS must conclude that the proposed Project is in the national interest in order to issue a Presidential Permit.

1.5.2 Cooperating Agencies

The following agencies have agreed to be cooperating agencies in the NEPA process. A cooperating agency is any federal or state agency other than a lead agency which has jurisdiction by law or special expertise relevant to a proposed action.

1.5.2.1 U.S. Environmental Protection Agency (EPA)

Under Section 402 of the Clean Water Act (CWA; 33 U.S.C §1251 et seq.), EPA has jurisdiction over the discharge of pollutants from a point source into waters of the United States. Administration of permit programs for point-source discharges that require a National Pollutant Discharge Elimination System (NPDES) permit has been delegated to the states affected by the proposed Project. EPA maintains oversight of the delegated authority. Regulated discharges include, but are not limited to, sanitary and domestic wastewater, gravel pit and construction dewatering, hydrostatic test water, and storm water (40 CFR 122).

Under Section 404 of the CWA (33 U.S.C § 1251 et seq.), EPA reviews and comments on U.S. Army Corps of Engineers (USACE) Section 404 permit applications for compliance with the Section 404(b)(1) guidelines and other statutes and authorities within its jurisdiction (40 CFR 230).

Under Section 309 of the CAA (42 U.S.C § 7401 et seq.), EPA has the responsibility to review and comment in writing on the EIS for compliance with CEQ’s Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500 to 1508).

Under Sections 3001 through 3019 of the Resource Conservation and Recovery Act (RCRA; 42 U.S.C § 3251 et seq.), EPA establishes criteria governing the management of hazardous waste. In accordance with 40 CFR 261.4(b)(5), any hazardous waste generated in conjunction with construction or operation of the proposed Project would be subject to the hazardous waste regulations.

The proposed Project would extend through EPA Regions 6, 7, and 8. Region 8 is the lead for EPA's involvement as a cooperating agency.

1.5.2.2 U.S. Department of the Interior, Bureau of Land Management (BLM)

BLM has authority to issue right-of-way (ROW) grants for all affected federal lands under the Mineral Leasing Act (MLA) of 1920, as amended (30 U.S.C 181 et seq.), excluding National Park Service (NPS) lands, and the public lands BLM administers under the Federal Land Policy and Management Act (FLPMA) of 1976. BLM will consider the issuance of a new ROW grant and issuance of associated temporary use permits that would apply to BLM-managed lands crossed by the proposed Project, as well as all other federal lands affected. Conformance with land use plans and impacts on resources and programs will be considered in determining whether to issue a ROW grant. BLM staff participated in interagency meetings with DOS and other federal agencies and reviewed and approved proposed routing across BLM managed lands, including canals and water pipelines operated by the Bureau of Reclamation.

BLM is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.3 U.S. Department of the Interior, National Park Service (NPS)

NPS provided technical review of the proposal in the vicinity of NPS-administered lands affected by the proposed Project. NPS retained this role despite the BLM authority on U.S. public federal lands since the MLA authorization administered by BLM is not applicable to NPS lands. Keystone's proposed route crosses several National Historic Trails that are managed with the assistance of the NPS. As a result, NPS was a cooperating agency for the NEPA environmental review of the proposed Project and a consulting party under Section 106 of the NHPA. NPS is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.4 U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS)

USFWS is responsible for ensuring compliance with the ESA. Section 7 of the ESA, as amended, states that any project authorized, funded, or conducted by any federal agencies should not "...jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical..." (16 U.S.C § 1536[a][2] [1988]). USFWS also reviews project plans and provides comments regarding protection of fish and wildlife resources under the provisions of the Fish and Wildlife Coordination Act (FWCA; 16 U.S.C § 661 et seq.). USFWS is responsible for the implementation of the provisions of the Migratory Bird Treaty Act (16 U.S.C § 703) and the Bald and Golden Eagle Protection Act (16 U.S.C § 688). Easements are protected under the National Wildlife Refuge Systems Administration Act (16 U.S.C § 668dd[c]).

1.5.2.5 U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)

NRCS administers the Wetlands Reserve Program (WRP; 16 U.S.C § 3837 et seq.), under which it purchases conservation easements and provides cost share to landowners for the purposes of restoring and protecting wetlands. Under the WRP, the United States may purchase 30-year or permanent easements. Land eligibility for the WRP is based on NRCS's determination that the land is farmed or converted wetland, that enrollment maximizes wildlife benefits and wetland values, and that the likelihood of successful restoration merits inclusion into the program. Lands under WRP easement are subject to development and other use restrictions to ensure protection of wetland and wildlife conservation values. NRCS also administers the Emergency Watershed Protection Program (Floodplain Easements) and the

Healthy Forests Reserve Program, and shares management of the Grasslands Reserve Program with the Farm Service Agency (FSA). NRCS is also responsible for the Farmland Protection Policy Act (7 CFR Part 658), including protection of prime and unique agricultural lands. As proposed, the Project would cross easements within one or more of the NRCS conservation reserve programs.

NRCS is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.6 U.S. Department of Agriculture, Farm Service Agency (FSA)

The Farm Service Agency (FSA) is a unit of the U.S. Department of Agriculture (USDA) and administers several land conservation programs, including the Conservation Reserve Program (CRP), the Conservation Reserve Enhancement Program (CREP), the Farmable Wetlands Program, and the Grasslands Reserve Program. These programs provide annual rental payments and cost-share assistance to establish long-term resource conservation measures on eligible farmland. The terms of rental agreements are from 10 to 30 years, during which most agricultural uses of the affected lands are prohibited. The Grasslands Reserve Program is managed jointly with NRCS and includes provisions for rental agreements up to 30 years, 30-year-easements, and permanent easements. The proposed Project would cross lands included in FSA land conservation programs.

FSA is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.7 U.S. Department of Agriculture, Rural Utilities Service (RUS)

RUS is an agency that administers the U.S. Department of Agriculture's Rural Development Utilities Programs. These programs include the provision of loans and loan guarantees to electric utilities and other entities to serve customers in rural areas, through the construction or expansion of generation, transmission, and distribution facilities. Applications for financing have been submitted to RUS by several rural electric cooperatives to provide electricity to the proposed Project's pump stations. RUS is responsible for NEPA compliance for facilities proposed by the cooperatives to provide these services.

RUS is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.8 U.S. Army Corps of Engineers (USACE)

The USACE has jurisdictional authority pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S. Code [USC] 1344), which governs the discharge of dredged or fill material into waters of the United States, and Section 10 of the Rivers and Harbors Act (33 USC 403), which regulates any work or structures that potentially affect the navigable capacity of a waterbody. Because the USACE must comply with the requirements of NEPA before issuing permits under these statutes, it has elected to participate as a cooperating agency in the preparation of this EIS. The USACE would adopt this EIS pursuant to 40 CFR 1506.3 if, after an independent review of the document, it concludes that its comments and suggestions have been satisfied.

As an element of its review, the USACE must consider whether a proposed project avoids, minimizes, and compensates for impacts on existing aquatic resources, including wetlands, to achieve a goal of no net loss of values and functions. Although this EIS addresses environmental impacts associated with the proposed Project as it relates to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, it does not serve as a public notice for any USACE permits. Such notice will be issued separately. The

USACE's Record of Decision (ROD) resulting from consideration of this EIS and materials submitted by Keystone will formally document the agency's decision on the proposed Project, including the Section 404 (b)(1) analysis and the required environmental mitigation commitments.

USACE is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.9 U.S. Department of Energy (DOE), Office of Policy and International Affairs (PI)

The role of the Office of Policy and International Affairs (PI) is to deliver unbiased advice to the Department of Energy's leadership on existing and prospective energy-related policies, based on integrated and well-founded data and analysis. PI has primary responsibility for the DOE international energy activities including international emergency management, national security, and international cooperation in science and technology. At the request of DOS, PI has provided expert assistance in the analysis of the proposed Project in light of world crude oil market demand, and domestic and global energy challenges ranging from energy price and market volatility to the long-term technology transitions related to greenhouse gas emission reduction, energy efficiency, and the use of renewable resources. As part of this assistance, PI commissioned EnSys Energy and Systems, Inc. (EnSys) to conduct two studies specific to the proposed Project (EnSys 2010 and 2011).

1.5.2.10 U.S. Department of Energy, Western Area Power Administration (Western)

Western is a federal power-marketing agency within the U.S. Department of Energy (DOE) that sells and delivers federal electric power to municipalities, public utilities, federal and state agencies, and Native American tribes in 15 western and central states. A portion of the proposed Project is within Western's Upper Great Plains Region, which operates and maintains nearly 90 substations and more than 8,000 miles of federal transmission lines in Minnesota, South Dakota, North Dakota, Montana, Nebraska, and Iowa.

Western has received requests from customers on its network for unplanned network load delivery points to serve unplanned load growth associated with the proposed Project in Montana and South Dakota.

Western is the network balancing authority and as such is required to perform joint system engineering studies to determine the effects that additional facilities or services might have on system reliability and stability. To accommodate these requests, the transmission system grid would require modification of existing electrical grid facilities, including installation of a new electric substation and construction of new transmission lines. According to DOE's NEPA Implementing Procedures (10 CFR Part 1021), these actions require environmental review.

The joint system engineering studies conducted in response to the requests for electrical power associated with the proposed Project determined that power demands for pump stations in South Dakota with the proposed Project operating at maximum throughput (830,000 bpd) would require that the existing area power grid be expanded to include a new 230-kilovolt (kV) electrical transmission line (the Big Bend to Witten 230- kV transmission line [formerly termed the Lower Brule to Witten 230-kV transmission line]), modification of an existing substation (Witten), construction of a new switchyard/substation (Lower Brule), and construction of a new double-circuit transmission line (from Big Bend to Lower Brule). According to DOE's NEPA Implementing Procedures (10 CFR Part 1021), these actions require environmental review. These actions are considered connected actions to the proposed Project as defined by 40 CFR 1508.25(a)(1) since they would be needed as a direct result of implementation of the proposed Project (see Section 2.5.2).

In responding to the need for agency action, Western must abide by the following:

- Address Interconnection Requests: Western’s *General Guidelines for Interconnection* establishes a process for addressing applications for interconnection. The process dictates that Western respond to the applications as presented by the network customers.
- Protect Transmission System Reliability and Service to Existing Customers. Western’s purpose and need is to ensure that existing reliability and service is not degraded. Western’s *General Guidelines for Interconnection* provides for transmission and system studies to ensure that system reliability and service to existing customers is not adversely affected. If the existing power system cannot accommodate an applicant’s request without modifications or upgrades, the applicant may be responsible for funding the necessary work unless the changes would provide overall system benefits.

Western consulted with DOS to ensure cultural resources potentially affected by any Western transmission lines are taken into account. Western is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.2.11 U.S. Department of Transportation (USDOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS)

PHMSA is responsible for protecting the American public and the environment by ensuring the safe and secure movement of hazardous materials to industry and consumers by all transportation modes, including the nation’s pipelines. Through PHMSA, the USDOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation’s 2.3-million-mile pipeline transportation system and the nearly 1 million daily shipments of hazardous materials by land, sea, and air. Within PHMSA, OPS has the safety authority for the nation’s natural gas and hazardous liquid pipelines.⁷ For those pipelines, PHMSA identifies and evaluates risks; develops and enforces standards for design, construction, operations and maintenance of pipelines; responds to accidents/incidents; educates operators and the public; conducts research on promising technologies; provides grants to states in support of their pipeline safety programs; and reviews oil spill response plans, with a special focus on protecting unusually sensitive areas. The regulations for Transportation of Hazardous Liquids by Pipeline are presented in 49 CFR Part 195; the regulations for Response Plans for Onshore Oil Pipelines are presented in 49 CFR Part 194. PHMSA, as a cooperating agency, provided technical expertise to DOS in the assessment of the proposed Project and in identifying appropriate mitigation measures.

1.5.2.12 Montana Department of Environmental Quality (MDEQ)

MDEQ is the lead agency for compliance with the State of Montana Environmental Policy Act (MEPA). Additionally, Keystone is required to obtain a Certificate of Compliance (Certificate) from MDEQ under the Montana Major Facility Siting Act (MFSA) before the proposed Project may begin construction or acquire easements in Montana through the eminent domain process. MDEQ must also consider issuance of permits under the Montana Water Quality Act, including turbidity authorizations for in-stream construction activities and Section 401 certification under the CWA. MDEQ’s issuance of a Certificate must be based on substantive findings pursuant to Section 75-20-301(1), Montana Code Annotated (MCA) and Administrative Rules of Montana (ARM), Sections 17.20.1604 and 17.20.1607. Issuance of the Certificate would be a state action for which MDEQ is required to prepare an EIS under MEPA. Appendix I provides the environmental analyses required by MEPA to supplement the environmental

⁷ For simplicity within this EIS, “PHMSA” is used for this agency and incorporates OPS.

assessments presented in the main body of the EIS, which was prepared in accordance with the requirements of NEPA.

MDEQ is also a signatory consulting party for the Programmatic Agreement developed under Section 106 of the NHPA.

1.5.3 Assisting Agencies and Other State Agencies

The U.S. Department of Interior, Bureau of Reclamation (Reclamation) is a water management agency with a Strategic Plan that includes many programs, initiatives, and activities designed to help the western states, Native American tribes, and others meet new water needs and balance the multitude of competing uses of water in the West. The mission of Reclamation is to assist in meeting the increasing water demands of the West while protecting the environment and public investments in these structures. The agency emphasizes fulfilling its water delivery obligations, water conservation, water recycling and reuse, and developing partnerships with its customers, states, and Native American tribes, and in finding ways to bring together the variety of interests to address the competing needs for limited water resources.

The federal lands that would be included within the MLA application for the proposed Project include eight canals, water lines, and ditches managed by Reclamation in Montana, South Dakota, and Nebraska. Reclamation must determine whether or not to issue “use authorization” for the proposed Project in accordance with requirements of 43 CFR 429.3 and whether or not the ROW grant issued under MLA by BLM is in compliance with Reclamation standards. Those standards for each facility are presented in Appendix E. Reclamation consulted with DOS and BLM regarding the ROW grant and the use authorization.

The following county governments in Nebraska assisted DOS in addressing their concerns regarding local planning processes and laws: Fillmore, Greeley, Holt, Merrick, Nance, Saline, and Wheeler. The Lower Big Blue Natural Resources and Upper Elkhorn Natural Resources districts in Nebraska have also served as assisting agencies.

In addition to these assisting agencies, many other state and local resource agencies from each of the states crossed by the proposed Project have responsibilities for state and local permit issuance. The permits required by the various state and local jurisdictions crossed by the proposed Project are listed in Section 1.10.

1.6 INDIAN TRIBE CONSULTATION

In its Notice of Intent (NOI) to prepare an EIS for the proposed Project (see Section 1.9.1), DOS also presented its intent to conduct a parallel Section 106 consultation under the NHPA. DOS and BLM initially contacted potentially affected Indian tribes to determine whether the tribes were interested in reviewing the proposed Project under NEPA and whether they were interested in participating in consultation under Section 106. As the lead federal agency for the proposed Project, DOS is continuing to engage in consultation with identified consulting parties, including federal agencies, state agencies, State Historic Preservation Officers (SHPOs), the Advisory Council on Historic Preservation (ACHP), and interested federally recognized Indian tribes (70 FR 71194) in the vicinity of the proposed Project. Tribes potentially affected by the undertaking were invited to become consulting parties under Section 106 of the NHPA regulations. Consultation was initiated on May 12, 2009 and included the development of a Programmatic Agreement (PA) between the consulting parties that would guide the continuing compliance with Section 106 if Keystone receives all necessary permits and implements the proposed Project. Consultation to date has included many Section 106 consultation meetings in both the northern and southern regions of the proposed Project and a meeting at the DOS offices in Washington, D.C. in

December, 2010. A list of these meeting dates and locations is included in Section 3.11. DOS recognizes its responsibility for government-to-government consultation with federally recognized tribes, and is engaging in such consultation as requested by appropriate tribal officials. The final PA is included as Appendix S.

1.7 SHPO CONSULTATION

Consultation with the SHPOs was initiated on April 21, 2009. Consultation to date has included consultation meetings in Lincoln, Nebraska, Helena, Montana, Pierre, South Dakota, and Austin, Texas. The SHPOs were invited to all Section 106 consultation meetings held in the vicinity of the proposed route. The SHPOs, other agencies, and Indian tribes have been active participants in providing feedback to DOS on the PA, the Tribal Monitoring Plan, and the Historical Trails and Archaeological Monitoring Plan (attachments to the PA). Additional meetings were held with the Texas and Montana SHPOs to address the development of mitigation measures for adverse effects to historic properties in Texas and Montana that would occur if the proposed Project is implemented.

1.8 ENVIRONMENTAL REVIEW OF THE CANADIAN PORTION OF THE PROPOSED KEYSTONE XL PROJECT

As a matter of policy, in addition to its environmental analysis of the proposed Project in the United States, DOS monitored and obtained information from the ongoing environmental analysis of the Canadian portion of the proposed Keystone XL Project. In so doing, DOS was guided by EO 12114 (Environmental Effects Abroad of Major Federal Actions) which stipulates the procedures and other actions to be taken by federal agencies with respect to environmental impacts outside of the United States. The Canadian government conducted an environmental review of the portion of the proposed Keystone XL Project in Canada. As a result, and consistent with EO 12114, DOS did not conduct an assessment of the potential impacts of the Canadian portion of the proposed Keystone XL Project. However, as a matter of policy, DOS has included information in this EIS on the Canadian government's assessment of potential direct and indirect impacts of the proposed Keystone XL Project in Canada (see Section 3.14.4).

The Canadian environmental analysis process began on July 18, 2008 when Keystone submitted a Preliminary Information Package (PIP) regarding the proposed Keystone XL Pipeline to Canada's National Energy Board (NEB). Upon receipt of the PIP, the NEB issued a Federal Coordination Notice that formally initiated an environmental assessment process pursuant to the Canadian Environmental Assessment Act (CEAA). In early 2009, Keystone submitted an application to NEB for a Certificate of Public Convenience and Necessity for the Canadian portion of the proposed Keystone XL Project pursuant to Section 52 of the NEB Act. The NEB solicited comments from provincial governments and agencies and other potential intervening parties in the process and held hearings on Keystone's application from September 15 through October 2, 2009. Information presented in those hearings is included in portions of this EIS.

On March 11, 2010, the NEB issued its Reasons for Decision granting Keystone's application. The NEB's Reasons for Decision included an Environmental Screening Report (ESR) that was prepared to meet the requirements of CEAA for the Canadian portion of the proposed Keystone XL Project. The ESR concluded that implementation of the proposed Keystone XL Project in Canada would not likely result in significant adverse environmental effects with incorporation of Keystone's proposed measures to avoid or minimize impacts and with Keystone's acceptance of the NEB's regulatory requirements and recommended conditions attached to the ESR. The CEAA and the NEB's Reasons for Decision are presented in Appendix R.

1.9 PREPARATION AND PUBLICATION OF THE DRAFT, SUPPLEMENTAL DRAFT, AND FINAL EISs

The principal objectives of the EIS are as follows:

- Identify and assess potential impacts on the natural and human environment that would result from implementation of the proposed Project in the United States;
- Describe and evaluate reasonable alternatives, including no action, to the proposed Project that would avoid or minimize adverse effects to the environment;
- Identify the DOS-preferred alternative;
- Identify and recommend specific mitigation measures, as necessary, to avoid or minimize environmental impacts; and
- Facilitate public, tribal, and agency involvement in identifying significant environmental impacts.

This section provides a description of the preparation, publication, and public review of the draft EIS (Section 1.9.1) and the supplemental draft EIS (Section 1.9.2), and the preparation and publication of the final EIS (Section 1.9.3).

1.9.1 Draft EIS

1.9.1.1 Scoping and Draft EIS Preparation

The sources of information DOS used to obtain details regarding the proposed Project are listed in Section 1.0. Based on that information, on January 28, 2009, DOS issued an NOI to prepare an EIS to address reasonably foreseeable impacts from the proposed action and alternatives, and to conduct a parallel consultation process under Section 106 of NHPA.

The NOI informed the public about the proposed action, announced plans for scoping meetings, invited public participation in the scoping process, and solicited public comments for consideration in establishing the scope and content of the EIS. The NOI was published in the Federal Register and distributed to the following stakeholders:

- Landowners along the proposed route;
- Federal, state, and local agencies;
- Municipalities and counties;
- Native American Tribes;
- Elected officials;
- Non-governmental organizations;
- Media; and
- Interested individuals.

The scoping period was originally planned to extend from January 28 to March 16, 2009. Weather conditions in South Dakota precluded holding the scoping meetings on this schedule, and an amended NOI published on March 23, 2009 extended the scoping period until April 15, 2009 to provide time to allow rescheduling of two South Dakota scoping meetings.

DOS held 20 separate scoping meetings in the vicinity of the proposed route to give the public the opportunity to provide comments regarding the scope of the EIS. The dates and locations of the meetings are listed below, along with the attendance at each meeting (in parentheses).

February 9 – Beaumont, Texas (10)
February 10 – Liberty, Texas (15)
February 11 – Livingston, Texas (15)
February 12 – Tyler, Texas (60)
February 17 – Durant, Oklahoma (34)
February 18 – Ponca City, Oklahoma (12)
February 19 – El Dorado, Kansas (10)
February 19 – Clay Center, Kansas (20)
February 23 – York, Nebraska (62)
February 23 – Baker, Montana (39)
February 24 – Atkinson, Nebraska (65)
February 24 – Terry, Montana (30)
February 25 – Murdo, South Dakota (46)
February 25 – Circle, Montana (100)
February 25 – Plentywood, Montana (7)
February 25 – Glendive, Montana (45)
February 26 – Glasgow, Montana (53)
February 26 – Malta, Montana (32)
April 8 – Faith, South Dakota (12)
April 8 – Buffalo, South Dakota (31)

DOS received verbal, written, and electronic comments during the scoping period. All verbal comments formally presented at the meetings were recorded and transcribed. Additional written comments were received on comment forms provided to the public at the meetings and in letters submitted to DOS. A summary of public comments related to the scope of the EIS is presented in Table 1.9.1-1 along with the EIS section that addresses the concern. Additional details on the scoping comments are provided in Appendix A.

**TABLE 1.9.1-1
Comments Received on Environmental Issues during the Public Scoping Process
for the Proposed Project**

Issue	Comment	Section Where Comment/Issue Addressed in EIS:
Purpose and Need	Purpose and economics of this proposed Project needs to be explained, including forecasts for Canadian sand oil production and U.S. crude oil demand and evaluate the proposed Project in the context of overall U.S. oil production, transportation, storage and refining. How much supply comes from which nations and what is the stability of those sources? Describe commercial terms for commitments to the proposed Project. Indicate how long the oil supply for the pipeline is projected to last at the throughput volumes planned for the proposed Project.	1.2
Project Description	Pipeline installation methods should minimize impacts to the surrounding environment. Effects of installation, maintenance, operation, life expectancy, and removal of the pipeline.	2.0
Alternatives	Process to select alternatives, evaluation of a no-action alternative, route adjustments, route selection, routes that avoid sensitive areas and risks to homes and farming operations, use of other methods of transportation, shipping refined products instead of a crude oil pipeline, renewable energy sources, collocation with other ROWs.	4.0
Geology	Seismicity in the Brockton-Froid fault zone. Lower portion of the Niobrara River is underlain by Pierre shale, which is a very weak rock prone to fracturing and slumping.	3.1
Soils and Sediments	Methods to reduce erosion, repair of erosion channels, sediment control, topsoil segregation during construction and replacement of topsoil after construction and abandonment, restoring right-of-way land to previous state, pipeline effects on soil temperature, effects of frost/moisture on bring rocks to the soil surface, construction related erosion impacts on sand dunes.	3.2
Water Resources	Impacts on public and private water sources, water supply contingencies in the event of a spill, stream channel erosion, impacts to reservoirs, availability of hydrostatic testing water. The EIS should provide a clear description of aquatic resources that may be impacted.	3.3
Wetlands	Identification of potentially impacted wetlands, impact and mitigation measures, replacement or restoration of loss wetlands, and avoidance of wetland drainage as a result of trenching.	3.4
Vegetation	Impacts and mitigation to native vegetation along pipeline ROW, revegetation measures, impact to tree shelter belts, spread of invasive weeds, effects to rare plant communities.	3.5
Fish, wildlife, and endangered species	Impacts to fisheries, potential impacts and mitigation to threatened and endangered species, fragmentation of habitat, off-site mitigation to compensate for impacts, and effects of power lines on avian collision.	3.6, 3.7 and 3.8
Land Use	Restrictions of land use over pipeline and cost of reclamation to agriculture land. Protection measure to protect landowner's ability to graze cattle, run equipment, and to be free of noxious weeds.	3.9

**TABLE 1.9.1-1
Comments Received on Environmental Issues during the Public Scoping Process
for the Proposed Project**

Issue	Comment	Section Where Comment/Issue Addressed in EIS:
Recreation and Special Interest Areas	Impacts to state parks, National Historic Trails, and National Scenic Rivers; impacts to boating, tubing and other activities; and degradation of recreational opportunities.	3.9
Visual Resources	Visual impacts of above-ground facilities, use of "Standard Environmental colors", impacts of fuel spills and visible sediment plumes in rivers and lakes, impacts on historic landscapes and National wild and scenic rivers.	3.9
Socioeconomics	Impacts to property values, impacts on property taxes, and Project-related tax revenues to municipalities and counties associated with the pipeline.	3.10
Transportation and Traffic	Impacts to county and private roads, methods used to cross roadways, and restoration of damaged roads.	3.10
Cultural Resources	Impacts to archaeological sites, paleontological resources, prehistoric and historic sites, and historic landscapes; route should visually inspect for historic properties; route should avoid any significant cultural resource on public land as well as hunting and subsistence areas. Potential major adverse impacts to cultural resources associated with El Camino Real de los Tejas in Nacogdoches County, Texas.	3.11
Air Resources	Air emissions and air pollution abatement from pump stations, and air quality impacts of refining tar sands.	3.12
Noise	Effects of pump station operational noise on humans and cattle, impacts due to construction noise, and effects of pipeline vibrations on nearby structures and cattle.	3.12
Reliability and Safety	Local county input to Emergency Response Plan; training for local responders; protection from vandalism, terrorist activities and fire risk; ROW security; safety of pipeline crossings; spill contamination and cleanup procedures; maximum potential spill volumes; state-of-the art leak detection, and detection of small leaks in particular; monitoring of pressure; automatic shut-down procedures; corrosive nature of Canadian tar sands; pipeline integrity; compensation to landowners affected by spills; spill clean up and restoration plans; TransCanada's operational experience and safety record; water supply contamination due to oil spills; and impacts of spills on animals and humans.	3.13
Cumulative Impacts	Impacts from building another pipeline on properties that may already have up to four other pipelines running through them; impact of mining, making, refining and using tar sands oil; impacts from activities such as new roads, gas or oil wells, power lines, wind farms, coal mines, etc.; and the impacts of adding additional volumes of crude oil to Wood River and Cushing terminals.	3.14

The draft EIS was developed consistent with the scoping process required under NEPA, the Council on Environmental Quality (CEQ) NEPA regulations under 40 CFR 1500, and the DOS regulations for implementing NEPA under 22 CFR 161. It included relevant issues raised by the public and the agencies during the scoping period.

1.9.1.2 Public Review

The draft EIS for the proposed Project was issued for public review on April 16, 2010. The notice of availability (NOA) for the draft EIS was published in the Federal Register on April 20, 2010 (75 FR 20653). The NOA included notice of 19 public comment meetings to be held during a 3-week period in May, 2010 in the vicinity of the proposed pipeline route in Texas, Oklahoma, Kansas, Nebraska, South Dakota, and Montana. The NOA also provided additional information regarding the draft EIS and requested the submission of all comments by May 31, 2010. The NOA was also sent to agencies, elected officials, media organizations, Indian tribes, private landowners, and other interested parties.

Approximately 2,000 copies of printed and/or electronic copies of the draft EIS were sent to libraries, elected officials, agencies, landowners, Indian tribes, and other interested parties. Electronic versions of the draft EIS were also available for download on the DOS website. The distribution list for the draft EIS is presented in Appendix Z.

In response to requests from several organizations, on April 30, 2010 DOS extended the public comment period on the draft EIS until June 16, 2010 (75 FR 22890). During that period, DOS received additional requests to extend the review period and, in response, DOS again extended the public comment period, this time until July 2, 2010 (75 FR 33883).

The public comment meetings were held from May 3 through May 20, 2010 to solicit both verbal and written comments on the draft EIS. The meetings were held in the vicinity of the proposed route and corresponded with the locations of the scoping meetings held between February and April of 2009. The dates and locations of the 19 meetings are listed below:

May 3 – Durant, Oklahoma

May 4 – Stroud, Oklahoma

May 5 – El Dorado, Kansas

May 6 – Fairbury, Nebraska

May 10 – York, Nebraska

May 11 – Atkinson, Nebraska

May 12 – Murdo, South Dakota

May 13 – Faith, South Dakota

May 13 – Buffalo, South Dakota

May 17 – Beaumont, Texas

May 17 – Malta, Montana

May 18 – Glasgow, Montana

May 18 – Terry, Montana

May 18 – Liberty, Texas

May 19 – Livingston, Texas

May 19 – Circle, Montana

May 19 – Glendive, Montana

May 20 – Baker, Montana

May 20 – Tyler, Texas

In response to requests to hold additional public comment meetings in the Houston area and in Washington, D.C., DOS conducted additional comment meetings in Channelview, Texas (near the eastern border of Houston) on June 18, 2010 and in Washington, D.C. on June 29, 2010. In addition to receiving written and verbal comments at the draft EIS comment meetings, DOS received comments by email, website link (e-comments), telephone, and U.S. mail.

DOS received comment letters, postcards, emails, and faxes from 1,753 individuals or organizations. Verbal comments were received from 233 people at the 21 public comment meetings. The verbal comments were recorded and transcribed by a court reporter. DOS also received 1,520 letters, cards, emails, e-comments, and telephone conversation records. From these submissions DOS distilled approximately 5,600 separate substantive comments. These comments and the DOS response to these comments are provided in Appendix A.

In addition to the public review process described above, DOS conducted agency consultations to identify issues to be addressed in the EIS. From June 2010 through April 2011 DOS participated in interagency teleconferences and meetings and corresponded with concerned agencies.

1.9.2 Supplemental Draft EIS

1.9.2.1 Preparation of the Supplemental Draft EIS

Some commenters on the draft EIS expressed concern that the document did not provide a sufficient analysis of the impacts of the proposed Project and requested that DOS issue a supplemental draft EIS for public review. As part of its continuing evaluation of the adequacy of the draft EIS, DOS analyzed the new and additional information that became available after the draft EIS was issued and made a determination that the new information does not show that the proposed Project would affect the quality of the environment in a significant manner or to a significant extent not already considered in the draft EIS. The analysis further noted that there are no new alternatives that are outside of the spectrum of alternatives already analyzed in the draft EIS.

Although the determination of adequacy indicated that it would not be mandatory to issue a supplemental document to comply with NEPA, DOS decided that decision-makers and the public would benefit from additional public review of and comment on both the information that was not available at the time the draft EIS was issued and the portions of the EIS that were revised to address the new information and comments on the draft EIS. As a result the supplemental draft EIS was prepared.

To focus public attention on the topics that DOS determined would be of value for additional review, the supplemental draft EIS provided only information directly or indirectly related to those topics and did not include all sections that were presented in the draft EIS. However, the supplemental draft EIS incorporated the draft EIS by reference in compliance with CEQ NEPA regulations. The supplemental draft EIS included revised information on proposed Project facilities; design, construction and maintenance, regulatory requirements; and potential connected actions. It also included additional information on groundwater, potential spill impacts, alternatives to the proposed Project, Environmental Justice considerations, crude oil composition, potential refinery emissions, and greenhouse gas (GHG) and climate change considerations.

1.9.2.2 Public Review

The supplemental draft EIS was circulated consistent with CEQ NEPA regulations and DOS guidelines (*Using Existing Environmental Analyses*). It included copies of new reports and other documents relevant to the proposed Project and revisions to portions of the EIS.

The supplemental draft EIS was issued for public review on April 15, 2011 and the NOA was published in the Federal Register on April 22, 2010 (75 FR 20653). The NOA was also sent to agencies, elected officials, media organizations, Indian tribes, private landowners, and other interested parties. Approximately 2,000 copies of printed and/or electronic copies of the draft EIS were sent to libraries, elected officials, agencies, landowners, Indian tribes, and other interested parties. Electronic versions were also available for download on the DOS website. The distribution list for the supplemental draft EIS is presented in Appendix Z.

DOS received a total of approximately 280,000 “form letters,” including letters submitted by U.S. mail, postcards, and electronic submissions (emails and CDs). In addition, DOS received approximately 3,000 unique submissions, including letters, faxes, emails, and submissions on the DOS website. DOS distilled from all form and unique submissions approximately 5,360 separate substantive comments. These comments and the DOS response to these comments are provided in Appendix A.

In addition to the public review process described above, DOS continued to conduct agency consultations after the supplemental draft EIS was published to identify issues to be addressed in the final EIS. From April 2011 through July 2011, DOS participated in interagency teleconferences and meetings and corresponded with concerned agencies.

1.9.3 Final EIS

1.9.3.1 Preparation of the Final EIS

Portions of the EIS were revised in response to comments received on the draft and supplemental draft EISs and as a result of updated information that became available after the issuance of the supplemental draft EIS. Appendix A contains comment response matrices that include:

- Comments distilled from the various submissions received on the draft EIS and supplemental draft EIS; and
- Individual responses to the distilled comments received on the draft EIS and supplemental draft EIS.

Appendix A also includes the “Consolidated Responses” referenced in the individual responses that address issues raised by multiple commenters.

As required by CEQ, a subject index for the EIS is provided at the end of the EIS.

The extraction of oil sands in Canada and construction and operation of the Canadian portion of the Keystone XL Project are under the jurisdiction of the Canadian government. Canadian governmental agencies reviewed those activities, found them to be in compliance with the relevant environmental laws and regulations, and approved them. As set forth by NEPA, CEQ, and the Executive Orders and CFR regulations authorizing NEPA, review by DOS of the activities in Canada are beyond the NEPA authority of DOS and therefore were not evaluated in this EIS. However, a summary of the environmental reviews conducted by the Canadian government is presented in the EIS (see Section 3.14.4).

Refining of the oil that would be transported by the proposed Project is not part of the proposed Project. Keystone would not own the oil and would not determine its destination or what refined products ultimately would be processed from the oil (such as fuel, plastics, and lubricants). Further, Keystone would have no control over the end use of the oil. In addition, as described in Section 1.4, construction and operation of the proposed Project would be independent of the level of oil refining in PADD III and would not directly result in increased or significantly changed refinery emissions in Gulf Coast refineries.

Therefore, neither refining nor end use could reasonably be considered part of the NEPA review of the proposed Project, although they are discussed in the Cumulative Impacts analysis of this EIS (Section 4.14).

DOS received comments stating that the EIS must incorporate future changes in national and international policy, campaign promises, and pending legislation. In accordance with CEQ guidance, the NEPA analysis in this EIS was based on existing federal and state laws, regulations, and policy. The purpose of NEPA in preparing a project-specific EIS is to provide a public disclosure document that takes a hard look at the specific impacts of a proposed project (including alternatives and cumulative impacts) to inform decision makers on the potential environmental impacts in accordance with existing laws and regulations. In accordance with NEPA, this EIS is not intended to dictate national or international policy or to speculate on potential changes to laws or policies that may occur at some undetermined time in the future. Therefore, the EIS for the proposed Project does not address such issues. DOS recognizes that the proposed Project, if approved, would need to adhere to all applicable laws that exist at the time of construction and operation.

1.9.3.2 Publication of the Final EIS

The final EIS was issued on August 26, 2011 to allow EPA to publish the NOA in the Federal Register on September 2, 2011. The NOA was also sent to agencies, elected officials, media organizations, Indian tribes, private landowners, and other interested parties. Approximately 2,000 copies of printed and/or electronic copies of the draft EIS were sent to libraries, elected officials, agencies, landowners, Indian tribes, and other interested parties. Electronic versions were also available for download on the DOS website. The distribution list for the final EIS is presented in Appendix Z. In accordance with the CEQ regulations implementing NEPA, no agency decision on the proposed action may be made until 30 days after the NOA for this final EIS is published.

1.9.3.3 Public Input on the National Interest Determination

After publication of the EIS, DOS will hold meetings in: Glendive, Montana; Pierre, South Dakota; Lincoln, Nebraska; Atkinson, Nebraska; Topeka, Kansas; Oklahoma City, Oklahoma; Austin Texas; Port Arthur, Texas; and Washington, DC. These meetings will give individuals an opportunity to voice their views on whether granting or denying a Presidential Permit for the pipeline would be in the national interest and to comment on economic, energy security, environmental and safety issues relevant to that determination.

1.10 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

The cooperating agencies and the assisting federal, tribal, state, and local agencies with jurisdiction over various aspects of the proposed Project participated in the EIS process by providing direct input to DOS or through the EIS review and comment process (see Sections 1.5.2, 1.5.3, and 1.6).

DOS received many comments on the draft EIS expressing concerns regarding Keystone's application to PHMSA for a Special Permit. The Special Permit would have required additional safety conditions to allow Keystone to use stronger steel pipe and operate the pipeline at a higher pressure than would be allowed using the standard design factor specified in 49 CFR 195.106. As noted in Section 1.1, on August 5, 2010, Keystone withdrew its application to PHMSA for a Special Permit.

If approved, the proposed Project would be constructed in accordance with the regulatory requirements in 49 CFR 195 and also in accordance with the 57 Project-specific Special Conditions developed by

PHMSA and agreed to by Keystone. These special conditions are described in Sections 2.3 and 3.13.1.1 and are presented in Appendix U.

Table 1.10-1 lists the major permits, licenses, approvals, authorizations, and consultation requirements for the proposed Project that would be required by federal, state, and local agencies prior to implementation of the proposed Project.

TABLE 1.10-1 Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a		
Agency	Permit or Consultation/Authority	Agency Action
Federal		
U.S. Department of State (DOS)	Presidential Permit, Executive Order 13337 of April 30, 2004 (69 Federal Register [FR]. 25299, et seq.)	Considers approval of cross-border facilities.
	National Environmental Policy Act (NEPA)	Lead federal agency for the environmental review of major projects considered for Presidential Permits require environmental impact statements
	Section 106 of the National Historic Preservation Act (NHPA)	Supervises and coordinates compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Bureau of Land Management (BLM)	Right-of-way (ROW) grant(s) and short-term ROWs under the Federal Land Policy and Management Act of 1976 as amended (FLPMA) and Temporary Use Permit under Section 28 of the Mineral Leasing Act (MLA)	Considers approval of ROW grant and temporary use permits for the portions of the proposed Project that would encroach on public lands
	Archeological Resources Protection Act (ARPA) Permit	Considers issuance of cultural resource use permit to survey, excavate or remove cultural resources on federal lands
	Notice to Proceed	Following issuance of a ROW grant and approval of the proposed Project's Plan of Development (POD), considers the issuance of a Notice to Proceed with Project development and mitigation activities for federal lands
	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Corps of Engineers (USACE) – Omaha, Tulsa, Fort Worth, and Galveston Districts	Section 404, Clean Water Act (CWA)	Considers issuance of Section 404 permits for the placement of dredge or fill material in Waters of the U.S., including wetlands
	Section 10 Permit (Rivers and Harbors Act of 1899)	Considers issuance of Section 10 permits for pipeline crossings of navigable waters
	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA) Section 7 Consultation, Biological Opinion	Considers lead agency findings of an impact of federally-listed or proposed species; provide Biological Opinion if the proposed Project is likely to adversely affect federally-listed or proposed species or their habitats
U.S. Bureau of Reclamation (Reclamation)	ROW Grant and Temporary Use Permit under Section 28 of the MLA	Determines if ROW grant issued under MLA by BLM is in compliance with Reclamation standards
	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies

**TABLE 1.10-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a**

Agency	Permit or Consultation/Authority	Agency Action
Federal Highway Administration (FHA)	Crossing Permit	Considers issuance of permits for the crossing of federally funded highways
U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety	49 CFR Part 195 – Transportation of Hazardous Liquids by Pipeline	Reviews design, construction, operations, maintenance, and emergency operations plan (termed Emergency Response Plan [ERP] in this EIS), inspection of pipeline projects, including Integrity Management Programs and identifying high consequence areas prior to installation
	49 CFR Part 194 – Response Plans for Onshore Pipelines	Reviews Response Plans (termed Pipeline Spill Response Plan [PSRP] in this EIS) prior to initiation of operation and within 2 years of startup approves the PSRP.
U.S. Environmental Protection Agency, Regions 6, 7, and 8	Section 401, CWA, Water Quality Certification	Considers approval of water use and crossing permits for non-jurisdictional waters (implemented through each state's Water Quality Certification Program)
	Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	Reviews and issues NPDES permit for the discharge of hydrostatic test water (implemented through each state's Water Quality Certification Program, where required)
U.S. Department of Agriculture – Natural Resources Conservation Service	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Department of Agriculture – Farm Service Agency	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Department of Agriculture – Rural Utilities Services (RUS)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Western Area Power Administration (Western)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Advisory Council on Historic Preservation	Consultation	Advises federal agencies during the Section 106 consultation process; signator to the Programmatic Agreement
U.S. Department of Treasury – Bureau of Alcohol, Tobacco, and Firearms	Treasury Department Order No. 120-1 (former No. 221), effective 1 July 1972	Considers issuance of permit to purchase, store, and use explosives should blasting be required
Montana		
Montana State Historic Preservation Office (SHPO)– Montana Historical Society ^c	Section 106 consultation regarding National Register of Historic Places (NRHP) eligibility of cultural resources and potential Project effects on historic properties, Compliance with Montana State Antiquities Act	Reviews and comments on activities potentially affecting cultural resources
Montana Department of Environmental Quality (MDEQ)	Certificate of Compliance under the state Major Facility Siting Act (MFSA)	Considers issuance of a certificate of compliance under MFSA for construction and operation

**TABLE 1.10-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a**

Agency	Permit or Consultation/Authority	Agency Action
MDEQ – Permitting and Compliance Division – Water Protection Bureau	Montana Ground Water Pollution Control System and Nondegradation Review (three levels of water protection based on water classification, i.e., outstanding resource waters etc.), Standard 318 (Permitting conditions for Pipeline Crossings at Watercourses – short term turbidity)	Considers issuance of permit for stream and wetland crossings; provides Section 401 certification consults for Section 404 process
	Montana Pollutant Discharge Elimination System (MPDES)	Considers issuance of permit for hydrostatic test water discharge into surface water, trench dewatering, and stormwater discharge
MDEQ – Permitting and Compliance Division – Waste and Underground Tank Management Bureau	Septic Tank, Cesspool, and Privy Cleaner New License Application Form (for work camps)	Reviews and licenses Cesspool, Septic Tank and Privy Cleaners, inspects disposal sites for septic tank, grease trap and sump wastes
MDEQ – Permitting and Compliance Division – Air Resources Bureau	Air Quality Permit Application for Portable Sources; Air Quality Permit Application for Stationary Sources	Considers issuance of air quality permit(s) for work camps dependant on source of power such as portable diesel generator or use of non-electrical equipment is used during construction or operation of the pipeline (i.e., diesel powered pumps during hydrostatic testing)
MDEQ – Permitting and Compliance Division – Public Water Supply Bureau	Water and Wastewater Operator Certification (for work camps)	Reviews and licenses operators of certain public drinking water and wastewater treatment facilities; issues approval to construct, alter or extend public water or sewer systems (including hauling, storage and distribution of water)
Montana Department of Natural Resources and Conservation (DNRC) – Water Resources Division (General)	Water Appropriation Permit (Beneficial Water use Permit) and/or Water Wells Drilling/ Alteration	Considers issuance of permit for water use for hydrostatic testing or waters for dust control
Montana DNRC State Board of Land	Management of timber, surface, and mineral resources for the benefit of the common schools and the other endowed institutions in Montana	Considers approval of permanent easements across state land
Montana DNRC State Board of Land and, Real Estate Management Division	Administers all activities on lands classified as "Other" and all secondary activities on lands classified as grazing, agriculture, or timber	Considers issuance of license to use state land
Montana DNRC Trust Land Management Division	Navigable Rivers/Land use License/Easement	Consults on and considers issuance of permit for projects in, on, over, and under navigable waters
Montana DNRC, Conservation Districts	Natural Streambed and Land Preservation Act (also known as the 310 Law)	Consider issuance of permits for construction in perennial streams, rivers, or designated reservoirs on private land
Montana Fish, Wildlife and Parks	Natural Streambed and Land Preservation Act (also known as the 310 Law)	Provide technical oversight to DNRC Conservation Districts in review of applications for 310 permits
Department of Transportation – Glendive District	State and Highway Crossing Permit for pipeline and access roads that encroach state highway ROW, with traffic control based on the Manual on Uniform Traffic Control Devices	Considers issuance of permits for crossings of state highways
Department of Transportation – Helena Motor Carrier Services (MCS) Division Office	Oversize/Overweight Load Permits, where required	Considers issuance of permit for oversize/overweight loads on state maintained roadways

**TABLE 1.10-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a**

Agency	Permit or Consultation/Authority	Agency Action
Montana Public Service Commission	Grant Common Carrier Status	Considers whether or not an applicant qualifies as a common carrier under Montana Annotated Code (MAC) 69-13-101; if a common carrier, the commission would supervise and regulate operations under MCA Title 69 allowing Keystone to cross state highways and state streams.
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of state highways
County Floodplain Departments	County Floodplain permitting	Considers issuance of permits and review of work in floodplains
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process (Note: These permits are not required after a Certificate of Compliance under MFSA is issued)
County Weed Control Boards	Approval of reclamation plan	Considers approval of a reclamation/weed control plan (Note: These approvals still required after Certificate of Compliance under MFSA is issued)
South Dakota^b		
South Dakota Historical Society ^c	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
South Dakota Public Utilities Commission	Energy Conversion and Transmission Facilities Act	Considers issuance of permit for a pipeline and appurtenant facilities
Department of Environment and Natural Resources, Surface Water Quality Program	Section 401, CWA, Water Quality Certification	Considers issuance of permit for stream and wetland crossings; consult for Section 404 process
	Hydrostatic Testing/Dewatering & Temporary Water Use Permit (SDG070000)	Considers issuance of General Permit regulating hydrostatic test water discharge, construction dewatering to waters of the state, and Temporary Water use Permit
	SDCL 34A-18 (oil spill response plans).	Review and consider approving crude oil pipeline spill response plans.
Department of Game, Fish, and Parks	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Nebraska		
Nebraska State Historic Preservation Office (SHPO) ^c	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources

**TABLE 1.10-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a**

Agency	Permit or Consultation/Authority	Agency Action
Department of Environmental Quality, Division of Water Resources	Section 401, CWA, Water Quality Certification	Considers issuance of permit for stream and wetland crossings; consult for Section 404 process
	Excavation Dewatering and Hydrostatic Testing Permit Form NEG6720000 Dewatering Form NEG6721000 Relocation	Considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
Department of Natural Resources	Water Appropriations – Groundwater and Surface Water	Considers issuance of permit to use Public Waters (for hydrostatic test water or dust control)
Game and Parks Commission	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Kansas		
Department of Health and Environment, Bureau of Water	Hydrostatic Testing Permit (if applicable)	For pump station piping, may be below permitting thresholds
	Water Withdrawal Permit (if applicable)	For pump station piping, may be below permitting thresholds
Department of Wildlife and Parks	Non-game and Endangered Species Action Permit (if applicable)	Reviews of new pump station locations
SHPO ^c	Historical Resources Review (if applicable)	Reviews of new pump station locations
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
Oklahoma		
Oklahoma State Historical Society ^b	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
Oklahoma Archaeological Survey (OAS)	Consultation	Reviews and comments on activities potentially affecting archaeological sites
Department of Environmental Quality (DEQ), Division of Water Resources	Section 401, CWA, Water Quality Certification.	Considers issuance of permit for stream and wetland crossings; consults for Section 404 process; Critical Water Resources.
	Excavation Dewatering and Hydrostatic Testing Permit (OKG270000)	Considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
DEQ, Air Division	Minor Source Air Permit	For tank farm near Cushing
Department of Wildlife Conservation	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads

**TABLE 1.10-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project^a**

Agency	Permit or Consultation/Authority	Agency Action
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Texas		
SHPO ^c	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
Texas Commission on Environmental Quality (TCEQ)	Section 401, CWA, Water Quality Certification.	Consults for Section 404 process; permit regulating hydrostatic test water discharge, and construction dewatering to waters of the state
	General Conformity Determination	Determines conformity of the federal action to the State Implementation Plan (SIP)
Parks and Wildlife Department	Consultation 31 TAC 69 - Marl, Sand, and Gravel Permits	Consults regarding natural resources, considers issuance of stream crossing permits
Texas General Land Office	Coastal Zone Management Program	Considers issuance of Coastal Zone Consistency Determination
	State owned lands	Considers approval of easement grants for ROW cover state-owned lands
Railroad Commission of Texas	State lead on oil and gas projects; Excavation Dewatering and Hydrostatic Testing Permit	Considers issuance of permit to operate the pipeline; considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Jefferson County Drainage District	Crossing Permits	Considers issuance of permits for crossing of drainage canals
Lower Neches Valley Authority	Crossing Permits	Considers issuance of permits for crossing of drainage canals

^a All permits are considered attainable and consistent with existing land use plans based on consultation with the relevant agencies listed in the table.

^b Permits associated with construction camps are described in Section 2.2.7.4.

^c The SHPO has the opportunity to review federal agency decisions under Section 106 of the National Historic Preservation Act, but it is not a legal obligation.

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