

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION BY	)	KEYSTONE'S PROPOSED
TRANSCANADA KEYSTONE PIPELINE, LP	)	FINDINGS OF FACT AND
FOR A PERMIT UNDER THE SOUTH DAKOTA	)	CONCLUSIONS OF LAW
ENERGY CONVERSION AND TRANSMISSION	)	
FACILITIES ACT TO CONSTRUCT THE	)	HP07-001
KEYSTONE PIPELINE PROJECT	)	

On April 27, 2007, TransCanada Keystone Pipeline, LP ("Applicant" or "Keystone") filed an application with the South Dakota Public Utility Commission ("Commission") for a siting permit as required pursuant to SDCL 49-41B-2.1(3) for the South Dakota portion of the Keystone Pipeline Project ("Project"). The Keystone Pipeline project is an approximately 1,800 mile pipeline with about 1,400 miles in the United States. Approximately 220 miles of the crude oil pipeline is located in South Dakota.

On May 24, 2007, the Commission issued its Notice of Application; Order for and Notice of Public Input Hearings; and Notice of Opportunity to Apply for Party Status in this docket. The notice provided that pursuant to SDCL 49-41 B-17 and ARSD 20:10:22:40, each municipality, county, and governmental agency in the area where the facility is proposed to be sited; any nonprofit organization, formed in whole or in part to promote conservation or natural beauty, to protect the environment, personal health or other biological values, to preserve historical sites, to promote consumer interests, to represent commercial and industrial groups, or to promote the orderly development of the area in which the facility is to be sited; or any interested person, may be granted party status in this proceeding by making written application to the Commission on or before June 26, 2007. On June 5, 2007, Commission Staff requested that the intervention deadline be extended to July 10, 2007, to give interested parties sufficient time to seek intervention. At its regularly scheduled meeting of June 5, 2007, the Commission unanimously voted to extend the intervention deadline to July 10, 2007. On June 6, 2007, Staff filed a Motion for Release of Information Filed Confidential. Numerous persons also filed requests for access to confidential information and Applications for Party Status.

At its ad hoc meeting held on June 12, 2007, the Commission considered a joint motion by Staff and Applicant to remove from Applicant's filing all documents not pertaining to South Dakota in order to make relevant material easier for parties to locate and access, Staff's Motion for Release of Information Filed Confidential, Applications for Party Status received from numerous parties and the noticed agenda item involving procedures to be followed at the June 25-27 public input hearings. The Commission finds that it has jurisdiction over this matter pursuant to SDCL 49-41 B, specifically 49-41B-2, 49-41B-16 and 49-41B-17 and ARSD 20:10:01:39 through 20:10:01:43. After hearing from the parties who appeared on these issues, the Commission determined (i) that the motion to remove non-South Dakota documents from the record should be denied, (ii) that documents that Applicant stipulated were appropriate for public release should be released, (iii) that Applicant should make a further review of its filing and authorize the release of additional

non-confidential information on or before June 15, 2007, (iv) that Applicant should file a letter with the Commission on or before June 15, 2007, advising the Commission if Applicant is unable to refile redacted versions of the documents originally filed as confidential by 5:00 p.m. on June 15, 2007, (v) that good cause exists pursuant to ARSD 20:10:01:15.02 to grant party status to those persons who had filed Applications for Party Status prior to the commencement of the meeting and (vi) that certain guidelines should be followed in the taking of public comments at the public input hearings on June 25-27, 2007.

On June 25, 2007, pursuant to the Commission's aforesaid May 24, 2007, order, and pursuant to SDCL 49-41B-15 and 49-41B-16, the Commission held public hearings on the application on Monday, June 25, 2007, at 11:00 a.m. CDT at the Yankton City Commission Chambers, 416 Walnut, Yankton, South Dakota, at which eighteen persons testified; on Monday, June 25, 2007, at 7:00 p.m. CDT at Hanson High School, Alexandria, South Dakota, at which twenty-six persons testified; on Tuesday, June 26, 2007, at 7:00 p.m. CDT at Clark Community Center, 120 North Commercial Street, Clark, South Dakota, at which twenty-one persons testified; and on Wednesday, June 27, 2007, at noon CDT at the Marshall County Community Building, 909 South Main, Britton, South Dakota, at which thirty-one persons testified. The purpose of the hearings was to hear public comment regarding Keystone's application. At the public input hearings, Keystone presented a brief description of the project, following which interested persons appeared and presented their views, comments and questions regarding the application.

On July 11, 2007, at its regular scheduled meeting, the Commission considered the applications for party status received from numerous parties after the commencement of the meeting of June 12, 2007, through the intervention deadline of July 10, 2007. The Commission found, pursuant to ARSD 20:10:01:15.05 that good cause exists to allow intervention for all applications for party status received through the intervention deadline of July 10, 2007.

At its regularly scheduled meeting of August 7, 2007, the Commission considered whether to require parties who intend to present evidence in the case to file prefiled testimony and whether to issue a scheduling order. The Commission heard comments and argument from Applicant, certain intervenors who appeared and Staff. The Commission decided to require parties who intend to present evidence in the case to file prefiled testimony and to issue a scheduling order based upon hearing dates of December 3-14, 2007, with Commission Counsel to hold a scheduling conference among those parties who had appeared and commented on the schedule in an effort to reach agreement on the schedule for testimony. Following the Commission's August 7 meeting, on August 8, 2007, the North Dakota Public Service Commission issued a Notice of Hearing Continuation on Keystone for additional hearings to be held on September 5-6, 2007, and on August 10, 2007, the United States Department of State issued the Draft Environmental Impact Statement and Keystone Pipeline Public Comment Meeting Schedule scheduling public comment meetings throughout the Project area from September 4-20, 2007. On September 4, 2007, Commission Counsel filed a draft Scheduling and Procedural Order. Following e-mail notice to the parties who had participated in scheduling discussions at the August 7, 2007, Commission meeting, on September 10, 2007, a scheduling conference was held telephonically among the participating parties. The participating parties agreed to a schedule for filing of prefiled testimony. At its regularly scheduled meeting on September 11, 2007, the Commission considered the matter of how to proceed regarding a scheduling and procedural order. The Commission voted unanimously to approve the schedule agreed to by the participating parties and to provide for electronic service by and upon persons having the capability to send and receive electronic service, with parties having

the right to request paper service of specific documents having particular characteristics or for other good cause.

On June 6, 2007, Staff filed a Motion for Release of Information Filed Confidential. Numerous persons also filed requests for access to confidential information. At its ad hoc meeting held on June 12, 2007, the Commission considered a joint motion by Staff and Applicant to remove from Applicant's filing all documents not pertaining to South Dakota in order to make relevant material easier for parties to locate and access and Staff's Motion for Release of Information Filed Confidential. The Commission unanimously voted (i) to deny the joint motion of Staff and Applicant to remove all documents filed by Applicant that did not involve South Dakota; (ii) that all documents identified as non-confidential by Applicant in its June 12, 2007, letter to the Commission are determined to be non-confidential and shall be made available for public access; and (iii) that Applicant advise the Commission by letter on or before 5:00 p.m. on Friday, June 15, 2007, if Applicant is unable to refile redacted versions of documents originally filed as confidential by 5:00 p.m. on June 15, 2007. At its regular meeting held on June 26, 2007, the Commission again considered the issue of confidential treatment of documents that were either wholly or partially filed as confidential by Applicant or by the Commission's administrative staff. After hearing from Staff and other parties who appeared, the Commission deferred action to take the matter under advisement and enable further legal research into the various categories of information that had not been fully disclosed. On August 6, 2007, Curt Hohn filed a supplemental request for access to information still filed as confidential, specifically the half-mile corridor landowner service list compiled by the Commission's administrative staff pursuant to SDCL 49-41 B-15(3) and the landowner list filed by Applicant in connection with its application, which is entitled "Tract Line List, Pump Station #15 Revision" and is referred to as the "Pump Station Line List" ("Line List"). On August 15, 2007, the Commission's administrative staff made an administrative decision to release the half-mile corridor landowner service list to Mr. Hohn and make it available for release to others upon request.

At its regularly scheduled meeting of August 28, 2007, the Commission considered the justification for confidential treatment of the Line List. The Commission found that the landowner names, addresses and property descriptions related to South Dakota properties contained on the Line List were not entitled to confidential treatment pursuant to ARSD 20:10:01:39 and 20:10:01:42 but that it was not appropriate to post this information on the Commission's public web site, that telephone numbers, including cell phone numbers contained on the Line List were entitled to confidential treatment and that decisions regarding access to information concerning landowners of non-South Dakota lands should be made by the states having jurisdiction over such lands. The Commission unanimously voted to release the Line List upon request but not to publish it on the Commission's public web site, with telephone numbers redacted and all information concerning owners of non-South Dakota properties redacted.

On September 6, 2007, Applicant filed a motion for entry of protective order. At its regular meeting on October 9, 2007, the Commission considered the motion. Finding that the parties had been unable to reach agreement on a confidentiality agreement or protective order and that good cause was shown pursuant to SDCL 15-6-26(c) that a general protective order would facilitate discovery while protecting information produced and filed by the parties entitled to confidential treatment, the Commission voted unanimously to approve Applicant's motion for entry of protective order and to direct its legal counsel to prepare a protective order for issuance by the Commission which contains provisions substantially in the form of those in either or a combination of the

protective orders issued in dockets EL05-016 and TC06-176. The Commission also directed that the order contain a clear directive that the parties exercise good faith in marking documents as confidential and only seek confidential treatment for information having a bona fide basis for confidential treatment. The Commission further directed that the order contain a provision advising parties to comply with SDCL 15-6-5(g) regarding filing of discovery materials and special provisions regarding the treatment of maps obtained by Applicant from the United States Department of Transportation ("USDOT") depicting the areas within the general project area designated by USDOT as "High Consequence Areas" ("HCA maps").

Following the Commission's scheduling and procedural order issued on September 14, 2007, on November 2, 2007, WEB Water Development Assn. ("WEB") filed a motion for extension of time to file direct testimony. November 5, 2007, Applicant filed a resistance to WEB's motion for extension of time to file direct testimony and Staff filed a motion in opposition to WEB's motion for extension of time to file direct testimony. On November 6, 2007, at its regular meeting, the Commission considered WEB's motion and voted by majority vote, with Commissioner Hanson dissenting, to grant an extension to WEB to November 13, 2007, to file its additional direct testimony, to be limited to the direct testimony of Dr. Perry Rahn, Dr. Arden Davis, Dr. Robert Coppock, Joe Nease and Kevin Meader, and with accompanying extensions granted to Staff and to Intervenor who filed direct testimony to file any surebuttal testimony responsive to WEB's direct testimony or Applicant's testimony responsive thereto on or before November 30, 2007. All other provisions of the original scheduling and procedural order remained in effect.

In accordance with the scheduling and procedural orders in this case, all parties filed prefiled testimony. The formal evidentiary hearing was held as scheduled on December 3-7 and December 10 and 11, 2007, in Room 412, State Capitol, Pierre, South Dakota; and the Public Input Hearing was held on December 6, 2007, in Room 412, State Capitol, Pierre, South Dakota, at 7:00 p.m.

The Commission finds that it has jurisdiction over this matter pursuant to SDCL 49-41B, specifically 49-41B-2, 49-41B-16 and 49-41B-17 and ARSD 20:10:01:39 through 20:10:01:43.

Having considered the evidence of record and applicable law, the Commission makes the following Findings of Fact, Conclusions of Law and Decision:

### **FINDINGS OF FACT**

#### **1.0 APPLICANT**

1. The application is made by TransCanada Keystone Pipeline, LP ("Keystone"), a Delaware Limited Partnership registered to do business in South Dakota. Keystone is a wholly-owned subsidiary of TransCanada Pipelines Limited., 450 First Street SW, Calgary, Alberta, Canada, T2P 5H1 ("TransCanada").

2. TransCanada is one of North America's leading energy infrastructure companies with more than 24 billion dollars in assets and with more than 50 years of construction and operating experience as it relates to pipelines.

3. TransCanada has more than 36,000 miles of pipeline in North America and relationships with over 40,000 landowners across North America.

4. Robert Jones is a Vice President of TransCanada Pipelines, a professional engineer and responsible for the Keystone Pipeline Project. As part of his testimony, Mr. Jones stated that the Keystone facility would comply with all applicable laws and rules.

## **2.0 INTERVENOR/PARTICIPANTS**

5. On June 12, 2007 the Public Utilities Commission granted party status to all persons that had requested party status prior to the commencement of the meeting. Applications for Party Status received after the commencement of the meeting on June 12, 2007, through the intervention deadline of July 10, 2007 were also granted. Intervenors include: Bernard V. Kayser; Thomas Johnston and Maxine Johnson; Ronald Jenkins; Thomas Riddle; Earl Keller; Daryl Heckenlaible; South Dakota Department of Game, Fish & Parks; Gladys Stromberg; Curt Hohn; Paul Fishbach, Chairman of Web Water Development Association, Inc.; Alan Aughenbaugh; Rodrick Tobin and Reed Rasmussen of Web Water Development Association, Inc.; Robert Papendick; Robert Hofer; Alvin Hofer; Donald Jarrett; Margaret Heard; David Mensch; Lillian Anderson; Lillian Anderson, Dakotans Concerned with the TransCanada Pipeline; Rory King representing MMP, Inc. and Merl Moeckly Co.; Duane Hacecky; Norman Papendick; MMP, Inc., Merl Moeckly Co., and Kent Moeckly; Gene Cassels; Alice Slate; Sam Stahl; Phyllis and Bill Tisher; Lloyd Huber; Ronald Opsahl; Mary Opsahl; Lorene Pokorny; Karen Edzards; Arlo Koerner; LaVia Merrick; South Dakota Resources Coalition; Marie Connell; Dean Farley on behalf of Dakota DeCaza; Jerry Burger; Robert and Gladys Stieha; Timothy Hofer; Sharon List; David Ewald on behalf of Gehl Company; John Adolph Rahn, Jr.; Dennis and Thelma Mentel; Ardella Gross; Maureen Friesen; Kelly Yankton Ventures Limited Partnership on behalf of Kelly Inns, Ltd.; Lawrence Novotny on behalf of South Dakota Resources Coalition; Susie Haas; Richard Schmit; Pamela Hofer; Delwin Hofer; Ramon Feller; Genevieve Liberty; Michael Burger; Max Burger; Merrill Walters; William Klimish; Ruby McAllister; Kim Alberty; Robert Farrar; Kenneth Tuschen; Adeline Creviston; Raymond Anderson; Kaley Madsen; Valerie Madsen; Kim Madsen; Kirk Madsen; Josh Kraft; Margaret Rahn; Carol Fischer; Bethlehem Norsk Evangelical Lutheran Church; Lawrence Roster; De Ette Gross; Edward Gross; Clark Moeckly; Viola Olson; Elmer Erickson; James Feller; LuAnn Dather; Bernie Hunhoff; Deborah Hausman; Phyllis Peterson; Raymond Wormke Trust; Oris Hove and Susan Hove; City of Yankton; Merrill Walters; Larry French; Gary Cwach; Norman Hofer; Ron Schaeffer; Marlis Dodds; John Sieh on behalf of Granary Rural Cultural Center; Leo Sibson; Betty Jean Fisher; Michael Nelson; New Port Hutterian Brethren; Scott Weber and Pamela Vinz Weber; Jean Burger; Wallace Hanson and Myrtis Hanson; Eileen Schmidt; Ryan Hastings; Mary Hastings; Richard Hastings; Teresa Hastings; Darlene Hastings; Chris Hastings; Donnell Hanson; City of Freeman; Lois Albin; Yankton Ag Service, Inc.; Michael Sibson; Susan Sibson; Scott Anderson; BDM Rural Water System, Inc.; Jerauld Glanzer and Elaine Glanzer; Delores and Raymond Love; Harlan Latimer; Angela Wermers; Richard Burghardt; Donald Fisher; Francis Heer; Judy Kaufman; Jonathan and Linda Dietrich; Sarah Stahl; Paul Decker; J. James New Trust; Theodore Sattler; Frank Kloucek; Oren Stahl; Bernard Wagner, Sr.; Karen Hansen; Vicki Larsen; Grace Plath, Trustee; Sharon Frank; Rhonda Hardina; Fredinand Barrie; Ila French; Jeanette Schramm; Clara Friesen; Floyd Carson; Julie Ann Lenius; Yankton County; Marlin Herrboldt; Hastings Land & Cattle Inc. Robert

Hastings, a/k/a Robert C. Hastings; Edward Novak; Melca DeJean; Dixie Conner; Arlene Marie Harper; Edward Munkrold; Janice Hofer; Carl Moschell; Munkvold Land & Cattle Company, Inc.; Richard and Earla Strid; Darrell Nelson; South Dakota Association of Towns and Townships; Cimpl's LLC; Anne Reisch; Gary L. Roby; Andrea Kilker; Elta Zens; Terrence Schramm; Joanne Schramm; Edward Schmit; East River Electric Power Co-op, Inc.; Edward Miller; and LaVia Merrick.

6. The Commission's staff ("Staff") is also a full-party participant in the case.

### **3.0 PROCEDURAL FINDINGS**

7. The application was signed on behalf of the Applicant on April 26, 2007, in Calgary, Alberta, Canada, and was filed with the Commission on April 27, 2007.

8. Keystone is required to obtain a Presidential Permit from the U.S. Department of State ("Department of State") authorizing the construction of facilities across the international border...

9. Because Keystone is required to obtain a Presidential Permit from the Department of State, the National Environmental Policy Act ("NEPA") requires the Department of State to prepare an Environmental Impact Statement ("EIS") for the entirety of the proposed pipeline route. The extensive environmental studies that Keystone provided to the Department of State and attached as Exhibit C to Keystone's South Dakota permit application are summarized in the Application. On August 10, 2007, the Department of State issued a Draft EIS ("DEIS"), which tentatively concluded that the Keystone Project would result in limited adverse environmental impacts both during construction and operation, and would be an environmentally acceptable action. The comment period on the DEIS closed on September 23, 2007, and a Final EIS ("FEIS") dated January 11, 2008 was released in January 2008, after testimony concluded in this matter. The FEIS reiterated that the Keystone project would result in limited adverse environmental impacts, if constructed and operated consistent with Keystone's plans and applicable permit conditions.

10. Pursuant to SDCL 49-41B-15 and 49-41B-16 the Commission held public hearings on Keystone's application at the following times and places:

- Monday, June 25, 2007, at 11:00 a.m. CDT at the Yankton City Commission Chambers, 416 Walnut, Yankton, SD; at which eighteen members of the public commented;
- Monday, June 25, 2007, at 7:00 p.m. CDT at Hanson High School, Alexandria, SD; at which twenty-six members of the public commented;
- Tuesday, June 26, 2007, at 7:00 p.m. CDT at Clark Community Center, 120 North Commercial Street, Clark, SD; at which twenty-one members of the public commented; and

- Wednesday, June 27, 2007, at noon CDT at the Marshall County Community Building, 909 South Main, Britton, SD at which thirty-one members of the public commented.

11. The purpose of the public hearings was to permit the Commission to hear public comment concerning Keystone's application. At the hearings, Keystone presented a brief description of the project, followed by persons who presented their views, comments and questions regarding the application.

12. Substantial written discovery was exchanged and Keystone responded to eight sets of Staff Data Requests.

13. The following testimony was prefiled in advance of the formal evidentiary hearing held December 3-7 and December 10 and 11, 2007, in Room 412, State Capitol, Pierre, South Dakota:

A. Applicant's September 24, 2007, Direct Testimony

- o Direct Testimony of Robert Jones
- o Direct Testimony of Scott Ellis
- o Direct Testimony of Brian Thomas
- o Direct Testimony of Michael Koski
- o Direct Testimony of Meera Kothari
- o Direct Testimony of L. A. Gray
- o Direct Testimony of Heidi Tillquist

B. Intervenors and Staff

- o 10/26/07 - Direct Testimony of Ed and DeEtte Goss
- o 10/29/07 - Direct Testimony of John M. Sieh
- o 10/30/07 - Direct Testimony of Richard Hastings
- o 10/30/07 - Direct Testimony of Delwin Hofer
- o 10/30/07 - Direct Testimony of Pam Hofer
- o 10/31/07 - Letter, Direct Testimony of James O. Edwards, Jr., East River Electric Power Cooperative, Inc., and Certificate of Service
- o 10/31/07 - Direct Testimony of Michael Sibson
- o 10/31/07 - Direct Testimony of Tim Hofer
- o 10/31/07 - Direct Testimony of Scott Anderson
- o 10/31/07 - Direct Testimony of George Piper for the Board of Directors South Dakota Resources Coalition
- o 10/31/07 - Direct Testimony of Edward D. Miller
- o 10/31/07 - Direct Testimony of David Wade of BDM Rural Water System, Inc.
- o 10/31/07 - Staff Direct Testimony:
  - Testimony of William Walsh
  - Testimony of Jenny Hudson
  - Testimony of David Schramm
  - Direct Testimony of John Muehlhausen

- Direct Testimony of Bryan Murdock
- Direct Testimony of Dan Hannan
- Direct Testimony of Tom Janssen
- Direct Testimony of Brenda Winkler
- 10/31/07 - Direct Testimony of Curt Hohn of Web Water Development Association, Inc.
  - Attachment 1 (Draft Programmatic Agreement Comments)
  - Attachment 2 (DEIS Comments)
  - Exhibit 1, Exhibit 2, Exhibit 3, Exhibit 4, Exhibit 5
  - Exhibit 6, Exhibit 7, Exhibit 8, Exhibit 9, Exhibit 10
  - Exhibit 11, Exhibit 12, Exhibit 13, Exhibit 14, Exhibit 15
  - Exhibit 16, Exhibit 17, Exhibit 18, Exhibit 19, Exhibit 20
  - Exhibit 21, Exhibit 22, Exhibit 23, Exhibit 24, Exhibit 25
  - Exhibit 26, Exhibit 27, Exhibit 28, Exhibit 29, Exhibit 30
  - Exhibit 31, Exhibit 32, Exhibit 33, Exhibit 34, Exhibit 35
  - Exhibit 36, Exhibit 37, Exhibit 38, Exhibit 39, Exhibit 40
  - Exhibit 41
- 11/01/07 - Direct Testimony of Kent Moeckley, Merl Moeckley Co. and MMP Inc.
- 11/01/07 - Direct Testimony of Gene Cassels
- 11/01/07 - Direct Testimony of Raymond and Lillian Anderson
- 11/01/07 - Direct Testimony of Raymond and Lillian Anderson
- 11/01/07 - Direct Testimony of Kim Madsen
- 11/01/07 - Direct Testimony of Valerie Madsen
- 11/01/07 - Direct Testimony of Kaley Madsen
- 11/01/07 - Direct Testimony of Jerry Burger
- 11/01/07 - Direct Testimony of Chris Hastings
- 11/01/07 - Direct Testimony of Kirk Madsen
- 11/01/07 - Direct Testimony of Jerauld Glanzer
- 11/01/07 - Direct Testimony of Ben Grote
- 11/02/07 - Direct Testimony of South Dakota Association of Towns and Townships
- 11/02/07 - Direct Testimony of Ron Schaeffer
- 11/07/07 - Direct Testimony of Leo Sibson
- 11/13/07 - Direct Testimony of Arden D. Davis, Ph.D., PE
- 11/27/07 - Direct Testimony of Perry H. Rahn, Ph.D., PE

C. Rebuttal Testimony

- 11/14/07 - Rebuttal Testimony of L.A. Gray
- 11/14/07 - Rebuttal Testimony of Michael Koski
- 11/14/07 - Rebuttal Testimony of Scott Ellis
- 11/14/07 - Rebuttal Testimony of Heidi Tillquist
- 11/15/07 - Rebuttal Testimony of Meera Kothari
- 11/23/07 - Rebuttal Testimony of Meera Kothari
- 11/26/07 - Rebuttal Testimony of Brian Thomas
- 11/27/07 - Rebuttal Testimony of Heidi Tillquist
- 11/30/07 - Rebuttal Testimony of Lillian Anderson



D. Surrebuttal Testimony of November 28, 2007

- Surrebuttal Testimony of Jenny Hudson
- Surrebuttal Testimony of John Muehlhausen (Part 1 and Part 2)
- Surrebuttal Testimony of Dan Hannan
- Surrebuttal Testimony of Tom Janssen
- Surrebuttal Testimony of Brenda Winkler
- Surrebuttal Testimony of William Walsh
- Surrebuttal Testimony of David Schramm
- 11/30/07 - Surrebuttal Testimony of Edward D. Miller

14. As provided for in the scheduling and procedural order, the Commission held a public input hearing in Room 412 of the State Capitol beginning at 7:00 p.m. on December 6, 2007. The following persons gave testimony at that hearing: Mary Duvall, Pete Bardeson, Byron Olson, Craig Lawrence, Terry Helms, Glenn Cunningham, Kim McLaury, Jim Aumlet, Sue Sibson, Richard Burghardt and Don Fisher.

#### **4.0 APPLICABLE REGULATIONS AND STATUTES**

15. The following Administrative Rules of South Dakota ("ARSD") are applicable: ARSD 20:10:22:01 through ARSD 20:10:22:26, ARSD 20:10:22:34 through ARSD 20:10:22:40.

16. The following South Dakota Codified Laws ("SDCL") are applicable: SDCL 49-41B-1 through 49-41B-2.1, 49-41B-4, 49-41B-5 through 49-41B-22, 49-41B-24, 49-41B-26, and 49-41B-35 through 49-41B-38...

17. The applicant's burden of proof in a proceeding seeking a Permit under the South Dakota Energy Conversion and Transmission Facilities Act is established by the applicable statute at S.D. Codified Laws § 49-41B-22. Pursuant to the statute, Keystone, as the applicant, has the burden of proof to establish that:

- (1) The proposed facility will comply with all applicable laws and rules;
- (2) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area;
- (3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and
- (4) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

#### **5.0 NAME OF OWNER AND MANAGER**

18. The facility will be owned, managed and operated by TransCanada Keystone Pipeline, LP.

## **6.0 PURPOSE OF FACILITY**

19. The purpose of the Keystone Pipeline Project is to transport incremental crude oil production from the Western Canadian Sedimentary Basin ("WCSB") to meet growing demand by refineries and markets in the United States. This supply will serve to replace U.S. reliance on less stable and less reliable sources of offshore crude oil. The initial phase of the project to Wood River and Patoka, Illinois will have a nominal capacity of 435,000 bpd. As a result of a successful open season, Keystone has received sufficient shipper commitments to support the extension of the project to Cushing, Oklahoma, which will include additional pumping capacity to expand the nominal capacity to 591,000 bpd.

20. The Applicant proposes to commence construction of the pipeline in South Dakota in April 2008, and to complete construction in November 2009. The Applicant expects to place its pipeline in service in November 2009. This in-service date is consistent with the requirements of the Applicant's shippers who have made the contractual commitments that underpin the viability and need for the project.

## **7.0 ESTIMATED COST**

21. The current estimated cost of the Keystone Project in South Dakota is \$500 million...

## **8.0 DEMAND FOR THE FACILITY**

22. The transport of incremental crude oil production from WCSB is necessary to meet growing demand by refineries and markets in the U.S. The need for the project is dictated by a number of factors, including increasing WCSB crude oil supply combined with insufficient export pipeline capacity; increasing crude oil demand in the U.S. and decreasing domestic crude supply; the opportunity to reduce U.S. dependence on foreign off-shore oil through increased access to stable, secure Canadian crude oil supplies; and binding shipper commitments to utilize the Keystone Pipeline Project.

23. According to the U.S. Energy Information Administration ("EIA"), U.S. demand for petroleum products has increased by over 17 percent or 3,000,000 bpd over the past 10 years and is expected to increase further. The EIA estimates that total U.S. petroleum consumption will increase by approximately 5.3 million bpd over the next 20 years, representing average demand growth of about 265,000 bpd per year (EIA Annual Energy Outlook 2006).

24. At the same time, domestic U.S. crude oil supplies continue to decline. For example, domestic crude production in the Petroleum Administration for Defense District II ("PADDII"), Keystone's initial target delivery area, continues to decline at an average rate of three percent per year. Over the past 20 years, PADDII crude oil production has decreased by over 600,000 bpd or 60 percent (Canadian Association of Petroleum Producers ["CAPP"] April 2005).

25. Keystone will provide a number of opportunities for refiners in the U.S. to utilize Canadian crude oil. Keystone's incremental pipeline capacity will provide the U.S. access to

secure and growing Canadian crude oil supplies. Access to incremental Canadian crude supply also will provide an opportunity for the U.S. to offset declines in domestic crude oil production and decrease its dependence on off-shore foreign crude supplies.

26. Reliable and safe transportation of crude oil will help ensure that U.S. energy needs are not subject to unstable political events. Established crude oil reserves in the WCSB are estimated at 179 billion barrels (CAPP 2005). Over 97 percent of WCSB crude oil supply is sources from Canada's vast oil sands reserves located in northern Alberta. The Alberta Energy and Utilities Board estimates there are 175 billion barrels of established reserves recoverable from Canada's oil sands. Alberta has the second largest crude oil reserves in the world, second only to Saudi Arabia.

## **9.0 GENERAL PROJECT AND SITE DESCRIPTION**

27. The Keystone Pipeline project involves the construction and operation of a pipeline and related facilities for the purpose of transporting incremental crude oil production from the Western Canadian Sedimentary Basin to markets in the United States. The project would commence at the crude oil supply hub near Hardisty, Albert, Canada, and extend to Wood River and Patoka, Illinois. Initially, the pipeline would have a nominal capacity to transport 435,000 barrels per day (bpd). Subsequently, the pipeline will be extended to a terminal at Cushing, Oklahoma and the nominal capacity will be expanded to 591,000 bpd.

28. The Keystone Pipeline project is an approximately 1,800 mile pipeline with about 1,400 miles in the United States.

29. The South Dakota portion of the pipeline will be approximately 220 miles in length and will extend from the North Dakota border in Marshall County to the Nebraska border in Yankton County. Detailed route maps are presented in TC Exhibit 1A.

30. The pipeline in South Dakota will extend from milepost 217.7 to milepost 437.4, approximately 220 miles. The pipeline will have a 30-inch nominal pipe size diameter and be constructed using API 5L X70 high-strength steel. An external fusion bonded epoxy ("FBE") coating will be applied to the pipeline and all buried facilities to protect against corrosion. Cathodic protection will be provided by impressed current. The pipeline will have batching capabilities and will be able to transport products ranging from light crude oil to heavy crude oil.

31. The pipeline will operate at a maximum operating pressure of 1,440 psi.

32. The Project will have four pump stations in South Dakota, located in Day, Beadle, Miner and Hutchinson Counties, and 14 mainline valves. The pump stations will be electrically driven and will be required to pump the crude oil through the pipeline. Pump units will be installed to meet the nominal design flow rate of 591,000.

33. The pipeline will be constructed within a 110-foot wide corridor, consisting of a temporary 60-foot wide construction right-of-way and a 50-foot permanent right-of-way. Additional workspace will be required for stream, road, and railroad crossings, as well as hilly terrain and other features. The Applicant will reduce the construction right-of-way to 85 feet in certain wetlands to minimize impacts.

34. The Project will be designed, constructed, tested, and operated in accordance with all applicable requirements, including the U.S. Department of Transportation, Pipeline Hazardous Materials and Safety Administration (PHMSA) regulations set forth at 49 CFR Part 195. These federal regulations are intended to ensure adequate protection for the public and the environment and to prevent crude oil pipeline accidents and failures.

## **10.0 ALTERNATIVE SITES**

35. The proposed Project route was developed through an extensive, iterative process, involving the participation of multiple disciplines, and including the solicitation and incorporation of input from the public, as well as relevant state agencies. In addition, subsequent to the identification of an initial proposed route, agency discussions resulted in a number of further refinements to the route. These refinements include the 55-mile Hecla Sandhills reroute to avoid environmentally sensitive areas and reduce wetland crossings, a reroute in Day county to avoid impacts to native prairie easements, a reroute to minimize impacts to the habitat of the Raymond Prairie Chicken Leks, and a reroute in the vicinity of the City of Yankton to accommodate future growth in the area. Linear facilities were also assessed that could serve as possible collocation opportunities, and the pipeline was collated at a number of locations in the state. Accordingly, the proposed location of the pipeline minimizes potential adverse impacts on the environment, natural resources, and citizens of South Dakota

36. Keystone considered the use of the I-29 corridor at one point in the project development, but later rejected it on the basis that it was not the best route for the Keystone pipeline. Keystone did not consider locating the project within the I-29 corridor due to safety, highway maintenance and expansion impediment issues. Keystone also rejected the option of locating the pipeline adjacent to the I-29 right-of-way for a number of reasons.

37. Exhibit TC-1C describes in great detail the manner in which the route was selected giving due consideration to environmentally sensitive areas, high value habitat, communities, aquifers and recreational use areas.

## **11.0 ENVIRONMENTAL INFORMATION**

38. The development of the Project has been subject to exhaustive environmental study. Because the Applicant is also required to obtain a Presidential Permit from the Department of State authorizing the construction of facilities across the international border, the National Environmental Policy Act (NEPA) requires the Department of State to prepare an Environmental Impact Statement (EIS) for the entirety of the proposed pipeline route. The extensive environmental studies that Keystone provided to the Department of State and attached as Exhibit C to Keystone's South Dakota permit application are summarized in the Application. These studies included surveys for threatened and endangered species and associated habitat, as well as extensive surveys for cultural resources.

39. Extensive consultations were conducted by the Applicant with federal and state environmental agencies in developing its application. Numerous federal and state agencies have either regulatory jurisdiction over aspects of construction of the Keystone project or input into the NEPA process. Specific examples include the U.S. Army Corps of Engineers, which exercises permitting authority under Section 404 of the Clean Water Act; the USFWS, which is responsible

for compliance with Section 7 of the Endangered Species Act; and the State Historical Preservation Office, which works with the Department of State and the federal Advisory Council on Historic Preservation to ensure compliance with Section 106 of the National Historic Preservation Act.

40. Through the NEPA process, the Department of State issued a Draft EIS (DEIS) in August 2007. The DEIS tentatively concluded that the Keystone project would result in limited adverse impacts both during construction and operation, and would be an environmentally acceptable action. Subsequent to the close of the record in this proceeding, the Department of State issued a Final EIS (FEIS) in January 2008. The FEIS reiterated that the Keystone project would result in limited adverse environmental impacts, if constructed and operated consistent with Keystone's plans and applicable permit conditions. See Final Environmental Impact Statement for the Keystone Oil Pipeline Project, United States Department of State, January 2008, at ES-35.

41. The Applicant's permit application filed with the Commission summarized the environmental impacts that are expected to remain after its Construction Mitigation and Reclamation Plan is implemented. TC-1 at Table 3. These impacts are generally short-term, minimal, and/or the subject of compensation. The project will be compatible with the predominant land use along the route, which is rural agriculture, because the pipeline will be buried to a depth of four feet in agricultural areas and will not interfere with normal agricultural operations. None of the impacts found to exist support a conclusion that the project could be harmful to the environment.

42. Aerial photograph maps that indicate the topography of the pipeline route in South Dakota appear in Exhibit TC1A. The route crosses the Dakota-Minnesota Drift and Lake-bed Flats physiographic subdivision, which is typified by low relief and is covered by glacial moraines and lake beds. The proposed route is in the James River Valley, a broad valley of low relief that trends north to south across the eastern portion of the state. The James River Valley was formed when the dam forming a large glacial lake (Lake Dakota) was breached and the outflow carved the valley. The James River Valley is situated between areas of higher elevation, the Coteau du Missouri to the west and the Coteau du Prairies to the east. A major point of relief occurs in Yankton County along the Missouri River.

43. Elevations along the route vary from around 1,300 feet AMSL in the north to about 1,150 feet AMSL in the south. There is very low relief along the route except where major drainages have cut into glacial deposits. About 140 feet of relief exists where the route crosses the James River, and about 100 feet of relief occurs where the route drops into the Missouri River Valley.

44. The geologic surficial deposits along the proposed route are composed of glacial drift consisting of till deposits made up of material derived from Cretaceous bedrock. The glacial till deposits can be hundreds of feet thick especially in the eastern part of the state. The surficial deposits also may include loess (fine grained glacial material redeposited by wind) and alluvium.

45. Sand, gravel and crushed stone are the only major mineral resources existing along the proposed route. No oil, natural gas, coal or metallic ore resources are located in the vicinity of the route, and it does not cross any active quarries or mines.

46. Soil maps for the route are provided in Exhibit TC-1A. In northern portions of the state, most of the soils have thick, dark top soils layers and mixed mineralogy. Houdek, Prosper and Clarno Soils series occur on nearly level to rolling glacial tilt plains. From central Miner County to the Nebraska state line, uplands are formed from both loess and medium textured glacial till. Additionally analysis details on general soil characteristics can be found in Keystone's November 2006 Environmental Report, Exhibit TC-1C.

47. Grading and excavating for the proposed pipeline and ancillary facilities will disturb a variety of agricultural, rangeland and wetland forest land soils. Prime farmland soils may be altered temporarily following construction due to short-term impact such as soil compaction from equipment traffic, excavation and handling. However, potential impacts to soils will be minimized or mitigated by the soil protection measures identified in the Construction Mitigation and Reclamation Plan (CMR Plan). The measures include procedures for segregating and replacing top soil, trench backfilling, relieving areas compacted by heavy equipment, removing surface rock fragments and implementing water and wind erosion control practices.

48. To accommodate potential discoveries of contaminated soils, Keystone will develop unanticipated contaminated soil discovery procedures in consultation with relevant agencies. These procedures will be added to the CMR Plan.

49. Surface water resources that occur along the proposed pipeline route are located in the Missouri River Water Resource Region. Primary drainages include Foster Creek and associated tributaries in southwestern Clark County; Pearl Creek and its tributaries in northeastern Beadle County; the Wolf Creek drainage in Hanson and Hutchinson Counties; and the James River, Beaver Creek and the Missouri River in Yankton County. The Missouri River at the proposed crossing is approximately 2,000 feet wide and the crossing will be located at the head of a braided reach downstream of the Highway 81 Bridge. Marne Creek and a riverside channel border the proposed approach to the river. Gavins Point Dam, a major control structure on the river, is located about three miles upstream of the proposed crossing. A large number prairie potholes, ponds and small lakes are located along the proposed route in southern Day County and Clark County.

50. The route maps in Exhibit TC-1A show the major water bodies that the pipeline crosses in South Dakota.

51. Keystone will utilize appropriate water crossing techniques during construction, including open cut wet crossings, open cut dry flumed crossings, open cut dry dam and pump crossings, and horizontal directional drill.

52. The pipeline will be buried at an adequate depth under channels, adjacent flood plains and flood protection levees to avoid pipe exposure caused by channel degradation and lateral scour. Determination of the pipeline burial depth will be based on site-specific channel and hydrologic investigations where deemed necessary.

53. The Pipeline corridor will pass through areas where shallow and surficial aquifers exist. Since the pipeline will be buried at a shallow depth, it is unlikely that the construction or operation of the pipeline will alter the yield from any aquifers that are used for drinking water purposes. Keystone will investigate shallow groundwater when it is encountered during

construction to determine if there are any nearby livestock or domestic wells that might be affected by construction activities. Appropriate measures will be implemented to prevent groundwater contamination and steps will be taken to manage the flow of any ground water encountered.

54. Rural water systems are expected to be encountered along the entire proposed construction route. In preparation for excavation activities, those lines will be duly located by working with local water and irrigation districts and private owners. Whenever possible, the pipeline will be routed under the existing water pipeline and any associated structures. Keystone expects to contact and discuss with rural water systems the specifics of crossings

55. Little or no risk of damage to existing water distribution facilities from leaking hydrocarbons exists. Testimony from both Keystone experts and a DENR expert conclusively shows that BTEX compounds found in hydrocarbons are not a risk to PVC distribution lines. This is supported by an Iowa State University study. BTEX contamination of a distribution line does not constitute a risk to the safety of inhabitants or an undue interference with orderly development.

56. Keystone commissioned DNV, an independent firm recognized as an industry expert on spill frequency and volume analysis, to conduct a preliminary spill frequency and spill volume risk assessment for the Project. DNV used information from a number of sources, including the national database that is controlled by PHMSA. Based on the results of this assessment, Keystone's environmental consulting firm for the Project, ENSR, used the spill frequency and volumes to estimate the environmental consequences through a risk assessment.

57. DNV estimated the chance of a leak from the Keystone Pipeline to be not more than once every seven to 11 years over the entire length of the pipeline in the United States, depending on product and throughput. Using the most frequent seven year interval, this equates to a spill no more than once every 41 years at any location along the 220 miles of pipeline in South Dakota.

58. The spill frequency and volumes estimates are conservative by design, overestimating the risk since the intent is to use the assessment for planning purposes. The risk assessment also overestimates the probably size of a spill. The spill data used by DNV was based on reporting criteria of 50 barrels or more. Since the PHMSA reporting criteria changed in 2002 to require reporting of spills of five barrels or more, the median size of a crude oil spill has been three barrels. If a spill were to occur on the Keystone pipeline, the data affirm that the spill is likely to be very small.

59. Risk assessment is an iterative process. Information is continually updated and refined in an effort to continually improve the accuracy of the assessment. Additional information will continually be incorporated into Keystone's contingency planning.

60. The Pipeline corridor will pass through areas where shallow and surficial aquifers exist. Eighty percent of the pipeline is underlain by low permeability soils that inhibit the infiltration of released crude oil into aquifers. Additionally most aquifers are more than 50 feet deep, significantly reducing the chance of contamination reaching the aquifer. The chance of a

spill occurring over an aquifer with high permeability soils is low. Consequently, the chance of a spill from the Keystone pipeline that would affect an aquifer is low.

61. In the unlikely event that a spill from the Keystone pipeline did reach an aquifer, the impact would be limited as crude oil accumulates on the groundwater surface, and dissolved crude oil constituents naturally attenuate generally resulting in contamination remaining within a short distance from the spill source.

62. Of the approximately 220-mile route in South Dakota, all but one-half mile is privately owned. The one-half mile segment is state-owned and managed. No tribal or federal lands are crossed by the proposed route.

63. Table Seven on Page 49 of the Application, Exhibit TC1, identifies the land uses affected by the pipeline corridor. Among other things, it shows that no mineral extraction sites will be crossed by the project based upon photo interpretation of existing aerial photos, the project will not cross or be co-located with any major industrial sites, the pipeline will not cross active farmsteads, but may cross near them, the pipeline will not cross suburban and urban residential areas and the project will not cross water sources for municipal water supplies or organized rural water districts.

64. The pipeline will be compatible with predominant land use, which is rural agriculture, because the pipeline will be buried to a depth of four feet in fields and will not interfere with normal agricultural operations. The pipeline will be placed below agricultural drain tiles, and drain tiles that are damaged will be repaired. The only above-ground facilities will be pump stations and block valves located at intervals along the pipeline.

65. The Applicant has prepared a detailed CMR Plan that describes procedures for crossing agricultural, cultivated lands, wetlands, streams and the procedures for restoring or reclaiming and monitoring those features crossed by the project. The CMR Plan is a summary of the commitments that Keystone has made for environmental mitigation, restoration and post monitoring compliance, and adoption of these procedures minimizes the impact associated with the project. In grasslands, Keystone's CMR Plan addresses the use of native seed mixtures where appropriate. A copy of the CMR Plan was filed as Exhibit B to Keystone's permit application.

66. Staff witness Janssen has recommended that grasslands crossings by the pipeline be conducted only in the fall to facilitate the regeneration of seeded grasses after construction. TransCanada witness Gray strongly objects to this recommendation because the entire route comprises an aggregate of approximately three miles of grasslands, but those three miles are made up of 30 or 40 disparate locations. He further points out that even if the locations could be reduced to five general locations, the lost time in efficiency and production to stop and start to go to separate locations would be prohibitively expensive and would unreasonably increase the expense of the project. During construction four or five hundred workers can be involved on any given day, and the expense of a day's work is \$300,000 to \$400,000 in construction costs. It is exceedingly difficult to pack up a work crew and move a work crew to a location for a short run construction stint. It is simply impractical.



67. The Applicant will use special construction methods and measures to minimize and mitigate impacts where warranted by site specific conditions. These special techniques will be used when constructing across paved roads, highways, railroads, water bodies, and wetlands, and in fenced areas. These special techniques are described in Keystone's application, TC-1 at 13-14; TC-5D at 2.

68. Keystone will acquire permits authorizing the crossing of county roads and township roads. These permits typically require Keystone to restore roads to their pre-construction condition. It is also Keystone's policy that if its construction equipment causes damage to county or township roads, Keystone will be responsible for the repair of those roads to pre-construction condition.

69. The procedures in the CMR Plan and the other construction plans and procedures that Keystone has adopted will ensure that the impacts to the environment and social and economic condition of inhabitants from construction of the pipeline will be minimized.

70. The CMR Plan establishes procedures to address a multitude of construction-related issues, including but not limited to the following:

- Training
- Advance Notice of Access
- Depth of Cover
- Noise Control
- Weed Control
- Dust Control
- Fire Prevention and Control
- Spill Prevention and Containment
- Irrigation Systems
- Clearing
- Grading
- Topsoil removal and storage
- Temporary Erosion and Sediment control
- Clean up
- Reclamation and Revegetation
- Compaction relief
- Rock removal
- Soil additives
- Seeding
- Construction in Residential and Commercial/Industrial areas
- Drain Tile Damage Mitigation and Repair

71. Seven major vegetation types or general land use categories are crossed by the proposed route including cropland, grassland/rangeland, upland forest, non-forested wetland,

forested wet land, open water and developed land. The predominant vegetation community is agricultural/cropland followed by grassland/rangeland, wetland/riparian and forest.

72. Keystone will utilize construction techniques that will retain the original characteristics of the lands crossed as detailed in the CMR Plan.

73. Wetlands and riverine habitats occupy approximately four percent of the proposed pipeline route. Approximately 95 percent of the wetlands crossed are characterized by palustrine, which includes classifications such as marshes, bogs and prairie potholes. The remaining five percent are riverine or areas that are contained within a channel. A portion of the palustrine wetlands potentially crossed by the right-of-way is identified as farmed wetlands. None of the proposed pump stations will be located in wetlands.

74. Five perennial streams are crossed by the proposed route. The Missouri River is the largest water body and is classified as a warm water permanent fishery. Of the other streams that have been classified, habitat is considered more limited as indicated by a warm water semi-permanent (James River) or warm water marginal (Wolf and Beaver Creeks) classification.

75. Keystone will directly drill the Missouri River crossing, which will aid in minimizing impacts to important game and commercial fish species and special status species. Open-cut trenching will be used at other perennial streams which can affect fisheries. Keystone will use best practices to reduce or eliminate the impact of crossings at the perennial streams, other than the Missouri River.

76. Water used for hydrostatic testing during construction and subsequently released would not result in contamination of aquatic ecosystems since the pipe is cleaned prior to testing and the discharge water is monitored and tested.

## **12.0 OPERATION AND MAINTENANCE**

77. The Keystone pipeline will be designed constructed, tested and operated in accordance with all applicable requirements, including the U.S. Department of Transportation, Pipeline Hazardous Materials and Safety Administration ("PHMSA") regulations set forth at 49 CFR Part . 195. These federal regulations are intended to ensure adequate protection for the public and the environment and to prevent crude oil pipeline accidents and failures. Keystone's compliance with these comprehensive regulations and standards will ensure that the pipeline does not pose the threat of serious injury to the environment or inhabitants of the State of South Dakota.

78. The safety features of Keystone's operations are governed by 49 CFR Part 195 and include aerial inspection 26 times per year not to exceed an interval of three weeks, right-of-way maintenance for accessibility, and continual monitoring of the pipeline to identify potential integrity concerns.

79. The surveillance activities will provide information on possible encroachments and nearby construction activities, erosion, exposed pipe and other concerns that may affect the

safety and operation of the pipeline. Evidence of population changes will be monitored and high consequence areas will be identified as required by federal regulations.

80. The Keystone Pipeline project will have a Supervisory Control and Data Acquisition (SCADA) system used to monitor and control the pipeline. The SCADA system will include: (i) a redundant, fully functional back-up system available for service at all times; (ii) automatic features within the system to ensure operation within prescribed limits; and (iii) additional automatic features at the local pump station level to provide pipeline pressure protection in the event that communications with the SCADA host are interrupted. The SCADA system will be designed independent of other corporate and business-related systems and will use encrypted industrial protocols such that it will be very difficult to hack into. Keystone's Operational Control Center will also have available complimentary leak detection systems and methods which are overlapping in nature.

81. The SCADA system is capable of a number of functions, including mainline valve position remote indication, mainline valve remote closing and opening control from a control center, remote indication of line pressure and temperature and remote indication of delivery flow and total flow. The pipeline will have a control center manned 24 hours per day 365 days per year with a highly-trained crew. A backup control center will also be constructed and maintained.

82. Communications systems will provide up-to-date information from pump stations and other locations to the control center plus the capability to contact field personnel. A backup communications system is included within the system design and installation.

83. To monitor abnormal conditions, Keystone will perform aerial surveillance of the pipeline right-of-way at least 26 times per year, not to exceed three weeks without surveillance in compliance with 49 CFR Part 195.

84. Keystone will use a series of complimentary leak detection systems and methods available at the Operational Control Center:

- The first leak detection will be remote monitoring performed by the OCC Operator. Remote monitoring consists primarily of pressure and flow data received from pump stations and valve sites and fed back to the OCC by the SCADA system. Remote monitoring is typically able to detect leaks down to approximately 25 to 30 percent of pipeline flow rate.
- The second leak detection system involves software-based volume balance systems that monitor injection and delivery volumes. These systems typically are able to detect leaks down to approximately five percent of pipeline flow rate...
- The third method of leak detection involves Computational Pipeline Monitoring or model-based leak detection systems that break the pipeline into smaller segments and monitor each segment on a mass balance basis. These systems compensate for line pack and typically are capable of detecting leaks down to approximately 1.5 to 2 percent of pipeline flow rate.
- Keystone will use direct observation methodologies, which include aerial patrols,<sup>1</sup> ground patrols and public and landowner awareness programs designed to

encourage and facilitate the reporting of suspected leaks and events that may suggest a threat to the integrity of the pipeline.

- Last, Keystone will use computer-based, non-real-time, accumulated gain/(loss) volume trending to assist in identifying low rate or seepage releases below the 1.5 percent by volume detection threshold. This involves performing calculations on routine time intervals (approximately 30 minutes) of the volume of oil gained or lost within a pipeline segment bounded by flow measurement equipment. By accumulating these gain/(loss) results over a succession of time intervals, the cumulative imbalance of the segment can be determined. Once this cumulative imbalance exceeds a prescribed threshold, further investigation and evaluation is undertaken. Thresholds will be established based upon the accuracy and repeatability of flow measurement equipment and the extent to which flow imbalances generated by the normal operation of the pipeline can be tuned out.

85. Abnormal operating procedures will be implemented when necessary as required by 49 CFR 195.402(d). If necessary, emergency response procedures will be implemented. If a leak is suspected and the pipeline is shut down, the operation of the segment will not be resumed until the cause of the alarm or the leak is identified and repaired. If a reportable leak were to occur, US DOT approval will be required to resume operation of the affected segment. As required by US DOT regulations, Keystone will prepare an emergency response plan for the system.

86. Keystone conducted a pipeline threat analysis. The design of the pipeline incorporates state-of-the-art design, analysis, manufacturing and construction. In preparation for the project, Keystone conducted a pipeline threat analysis, using the pipeline industry published list of threats under ASME B31.8S and the Pipeline and Hazardous Materials Safety Administration (PHMSA) to determine threats to the pipeline. Identified threats were manufacturing defects, construction damage, corrosion, mechanical damage and hydraulic event. Safeguards were then developed to address these threats.

87. Steel suppliers, mills and coating plants were prequalified using a formal qualification process consistent with ISO standards. The pipe is engineered with stringent chemistry to ensure weldability during construction. Each batch of pipe is mechanically tested to prove strength, fracture control and fracture propagation properties. The pipe is hydrostatically tested. The pipe seams are visually and manually inspected and also inspected using ultrasonic instruments. Each piece of pipe and joint is traceable to the steel supplier and pipe mill shift during production. The coating is inspected at the plant with stringent tolerances on roundness and nominal wall thickness. A formal quality surveillance program is in place at the steel mill and at the coating plant.

88. All mills supplying pipe for the Keystone project were pre-qualified by TransCanada and were personally visited by TransCanada to perform due diligence with respect to their compliance with these standards.

89. All pipe welds are examined 100 percent of the circumference using ultrasonic or radiographic inspection. The coating is inspected and repaired if required prior to lowering into the trench. After construction the pipeline is hydro tested in the field to 125 percent of its maximum operating pressure, followed by caliper tool testing to check for dents and ovality.

90. A safeguard fusion-bonded epoxy (FBE) is applied to the external surface of the pipe to prevent corrosion. A cathodic protection system is installed comprised of engineered metal anodes, which are connected to the pipeline. A low voltage direct current is applied to the pipeline, resulting in corrosion of the anodes rather than the pipeline. The two combined mitigate external corrosion. A tariff specification of 0.5 percent solids and water by volume (lower than the industry standard of one percent) is utilized to minimize the potential for internal corrosion. Further, the pipeline is designed to operate in turbulent flow to minimize water drop out, another potential cause of internal corrosion. During operations, the pipeline is cleaned using in-line inspection tools.

91. TransCanada has thousands of miles of this particular grade of pipeline steel installed and in operation. TransCanada has used FBE in its system for over 28 years. There have been no leaks on this type of pipe installed with FBE coating and cathodic protection within this time.

92. To mitigate mechanical damage to the pipeline it is buried with four feet of cover, one foot deeper than the industry standard, reducing the likelihood of mechanical damage. The steel specified for the pipeline is high-strength steel with engineered puncture resistance of approximately 51 tons of force. Pipeline industry research indicates that 99 percent of excavators in the United States do not have a digging force capable of exceeding 40 tons.

93. Mitigation for hydraulic damage seeks to avoid overpressure of the pipeline. This is accomplished by systems in place to monitor the pipeline by a SCADA system. Operator training also mitigates against hydraulic damage.

94. Keystone has received a special permit from the US DOT Pipeline and Hazardous Materials Safety Administration, providing a waiver of compliance from PHMSA's Pipeline Safety Regulation 49 CFR 195.106. This special permit allows Keystone to establish a maximum operating pressure using a 0.80 design factor in lieu of 0.72, subject to certain conditions. The special permit is in the record as Exhibit TC-11, and Keystone has specifically stated its agreement with the conditions of the special permit. The operation of the Keystone Pipeline consistent with the terms and conditions of the special permit will ensure that pipeline safety is not compromised.

95. TransCanada operates approximately 11,000 miles of pipelines in Canada with a 0.8 design factor and requested the special permit to ensure consistency across its system. PHMSA has moved to adopt this design factor for new and existing US natural gas pipelines.

96. An application to PHMSA is followed by a rigorous review by the technical committee of PHMSA. After a public comment period the comments were reviewed by the technical committee. PHMSA then granted the permit subject to 52 conditions related to the design, construction and operation of the Keystone Pipeline. In granting the permit PHMSA made two specific findings regarding safety: first, that granting the permit was "not inconsistent with pipeline safety, and second, that granting the permit subject to the 51 conditions "will provide a level of safety equal to, or greater than, that which would be provided if the pipelines were operated under the existing regulations."

97. Four categories are not covered under the special permit: navigable waterways, population areas, highway, railroad and road crossings, and pump station valve assemblies and pigging and measurement facilities. These areas are excluded from the special permit primarily because of stress concerns during installation.

98. Violation of any of the conditions of the special permit can result in revocation by PHMSA of the permit accompanied by a derating of the pipeline pressure such that the design factor would return to 0.72.

99. Application of the 0.8 design factor and API 5LPSL2 X70 high –strength steel pipe results in use of pipe with a 0.386 inch wall thickness, as compared with the 0.429 inch wall thickness under the otherwise applicable 0.72 design factor. This slightly reduced wall thickness does not reduce the safety of the pipeline.

100. Hazardous materials pipeline segments through High Consequence Areas (“HCAs”) are subject to the Integrity Management Rule. 49 CFR 195.452. To assure the integrity of pipeline segments that could affect high consequence areas, 49 CFR Section 195.452 requires an operator to conduct a variety of assessments. The assessments include baseline and continual integrity assessments of the line pipe and periodic evaluations of entire pipeline systems, to assure the integrity of the pipeline segments that could affect high consequence areas. This is accomplished through the continual identification and remediation of potential problems. Keystone will comply with these requirements. Keystone will perform a fate and transport analysis as a part of its integrity management plan.

101. HCAs were developed by PHMSA in cooperation with federal, state and non-governmental organizations. PHMSA uses recognized organizations and data sources for mapping HCA information. If previously unidentified HCAs are identified by Keystone through the consultation process with SD DENR, it will incorporate them within one year of identification, as required by 49 CFR section 195.452(d)(3).

102. Keystone has prepared a preliminary Emergency Response Plan (“ERP”) as prescribed by 49 CFR part 194 and contained in Exhibit C of the of the application. Keystone will prepare and submit a completed ERP to PHMSA in the first quarter of 2009, prior to the commencement of operations. Emergency response planning takes into account project-specific sensitive areas, identified through the risk and consequence assessment, based on a worst-case scenario.

103. Under the ERP and as required by 49 CFR Section 194.115, Keystone will have first responders (Keystone employees or contract personnel), on call 24 hours a day 365 days per year, located at various points along the Keystone pipeline, generally located in closer proximity to commercially navigable waterways and other crossings, populated and urbanized areas, unusually sensitive areas, including drinking water locations, ecological, historical, and archaeological resources. Under the ERP Keystone will deploy site specific emergency response equipment at various points along the pipeline. The location of emergency response personnel and resources will be determined as Keystone completes its ERP. Due to its proximity to the Missouri River, Keystone has identified Yankton as a location for a pipeline maintenance facility and will have emergency responders and other resources based accordingly.

104. If the Keystone pipeline should experience a leak, Keystone would be responsible for responding to and cleaning up the leak and repairing the pipeline. The South Dakota Department of Environment and Natural Resources ("DENR") would be involved in the assessment and abatement of the leak, and require the leak to be cleaned up and remediated. The DENR has been successful in enforcing remediation laws to ensure the effects of any pipeline releases are mitigated.

105. Local emergency responders may be required to initially secure the scene and ensure the safety of the public, and Keystone will provide training in that regard. Local responders would not be expected to actually respond to the leak itself.

106. The threat of serious injury to the environment or inhabitants of the State of South Dakota from a crude oil release is substantially mitigated by the leak detection and emergency response processes and procedures that Keystone will implement.

### **13.0 SOCIO-ECONOMIC FACTORS**

107. Socio-economic evidence offered by both Keystone and Commission Staff demonstrates that the welfare of the citizens of South Dakota will not be impaired by the project. The proposed project, with the incorporation of certain mitigation measures noted in his report, would not, from a socioeconomic standpoint: (i) pose a threat of serious injury to the socioeconomic conditions in the project area; (ii) substantially impair the health, safety, or welfare of the inhabitants in the project area; or (iii) unduly interfere with the orderly development of the region.

108. The project will pay property taxes to local governments on an annual basis estimated to be in the millions of dollars.

109. The proposed Keystone facility will bring jobs, both temporary and permanent, to the state of South Dakota and specifically to the areas of construction and operation.

110. The project will have minimal effect in the areas of agriculture, commercial and industrial sectors, land values, housing, sewer and water, solid waste management, transportation, cultural and historical resources, health services, schools, recreation, public safety, noise, and visual impacts. It follows that the project will not substantially impair the health, safety, or welfare of the inhabitants.

### **14.0 GENERAL**

111. Pursuant to SDCL 49-41B-12, on May 8, 2007 the Commission voted to assess Applicant a filing fee not to exceed \$351,100, with an initial deposit of \$8,000, the minimum amount of the fee. Receipt of the deposit of \$8,000 was acknowledged. Applicant has paid all fees and additional deposits required by the Commission in this matter.

112. Staff witness Muehlhausen has recommended that Keystone obtain a bond in the amount of \$3,000,000 in 2008 and \$12,000,000 in 2009 to ensure that any damage beyond normal wear and tear to public roads, highways, bridges or other related facilities be adequately compensated. Keystone does not object to this requirement.

113. Applicant has provided all information required by ARSD 20:10:22 and SDCL 49-41B.

114. To the extent that any of the below conclusions are more appropriately a finding of fact, that conclusions of law is incorporated by reference as a finding of fact.

Based on the foregoing Findings of Fact, the Commission hereby makes the following:

### **CONCLUSIONS OF LAW**

1. The Commission has jurisdiction over the subject matter and parties to this proceeding pursuant to SDCL Ch. 49-41B and ARSD 20:10:22. Subject to the findings made on the four elements of proof under SDCL 49-41B-22, the Commission has authority to grant, deny or grant upon reasonable terms, conditions or modifications, a permit for the construction, operation and maintenance of the TransCanada Keystone Pipeline.

2. The TransCanada Keystone Pipeline Project is a transmission facility as defined in SDCL 49-41B-2.1(3).

3. Applicant's permit application, as amended and supplemented through the proceedings in this matter, complies with the applicable requirements of SDCL Ch. 49-41B and ARSD 20:10:22.

4. The TransCanada Keystone Pipeline Project as defined herein will comply with all applicable laws and rules, including all requirements of SDCL Ch. 49-41B and ARSD 20:10:22.

5. The TransCanada Keystone Pipeline Project, if constructed in accordance with the terms and conditions of this decision, will not pose a threat of serious injury to the environment or to the social and economic conditions of inhabitants or expected inhabitants in the siting area.

6. The TransCanada Keystone Pipeline Project, if constructed in accordance with the terms and conditions of this decision, will not substantially impair the health, safety or welfare of the inhabitants of the siting area.

7. The TransCanada Keystone Pipeline Project, if constructed in accordance with the terms and conditions of this decision, will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

8. The Commission has authority to revoke or suspend any permit granted under the South Dakota Energy Facility Permit Act for failure to comply with the terms and conditions of the permit pursuant to SDCL 49-41B-33.

9. To the extent that any of the above made findings of fact are determined to be conclusions of law or mixed findings of fact and conclusions of law, the same are incorporated herein by this reference as a conclusion as if set forth in full.



10. Administrative rules have the force of law and are presumed valid. Feltrop vs. Department of Social Services, 559 NW2d 883, 884 (SD 1997). An administrative agency is bound by its own rules. Mulder vs. Department of Social Services, 675 NW2d 212, 216 (SD 2004).

11. The Applicant has met its burden of proof pursuant to SDCL 49-41B-22 and is entitled to a permit as provided in SDCL 49-41B-25.

12. Because a federal EIS is required in this project and because the federal EIS complies with the requirements of SDCL Ch. 34A-9, neither the Commission nor any other agency of the State of South Dakota is required to prepare a separate environmental impact statement. SDCL 34A-9-11. It is appropriate for the Commission to use the federal EIS. The requirements of SDCL 49-41B-21 have been met.

13. The burden of proof on the parties on which they have the burden is by the preponderance of evidence.

14. The Commission concludes as a matter of law that only the water intake for a community water system falls within the applicable regulations as a high consequence area. 49 CFR 195.450 and 195.6.

15. The Commission finds that it is reasonable for TransCanada to cross native grasslands in the construction process in the normal course of planned construction and in accordance with the applicable sections of the CMR Plan, rather than limiting construction activity in those areas to a specific period of time.

16. Keystone having agreed, the Commission concludes that it is appropriate for it to obtain a bond in the amount of \$3,000,000 in 2008 and \$12,000,000 in 2009 to ensure that any damage beyond normal wear to the public roads, highways, bridges or other related facilities is adequately compensated.

17. The Commission concludes that it needs no other information to assess the impact of the proposed facility or to determine if Applicant or any intervenor has met its burden of proof.

18. The Commission concludes that the application and all required filings have been filed with the Commission in conformity with South Dakota law. All procedural requirements required under South Dakota law have been met. All data, exhibits, and related testimony have been filed.

19. The Commission concludes that the application is supported by the testimony of the witnesses and the documentary evidence.

20. The Commission concludes that the application is legally and procedurally appropriate and complete. All formatting and timing requirements have been complied with. All public hearing requirements have been met.

21. A full and fair opportunity to litigate the issues involved in the application was given to all parties and those in privity with the parties prior to the Commission's decision.

22. The Commission concludes based on the evidence and findings of fact that all applicable fees and deposits have been paid; the Applicant has sustained its burden of proving the proposed facility will comply with all applicable laws and rules; the facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area; the facility will not substantially impair the health, safety or welfare of the inhabitants; and the facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of the governing bodies of affected local units of government.

Dated at Pierre, South Dakota, this \_\_\_\_\_ day of January, 2008.

BY ORDER OF THE COMMISSION:

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GARY HANSON, Chairman

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DUSTIN M. JOHNSON , Commissioner

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STEVE KOLBECK, Commissioner