BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. HP07-001

IN THE MATTER OF THE APPLICATION OF TRANSCANADA KEYSTONE PIPELINE, LP FOR A PERMIT UNDER THE SOUTH DAKOTA ENERGY CONVERSION AND TRANSMISSION FACILITY ACT TO CONSTRUCT THE KEYSTONE PIPELINE PROJECT

Direct Testimony of Dan Hannan on behalf of the
Staff of the South Dakota Public Utilities Commission
October 31, 2007

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DIRECT TESTIMONY OF DAN HANNAN

Q: Please state your name and address for the record.

A: Dan Hannan, 1087 100th St., Roberts, WI 54023

Q: What is your position at Bay West?

A: My title is Corporate Health and Safety Manager. In that capacity I am responsible for ensuring compliance with and administration of employee health and safety programs. I also provide support for emergency response operations including our on-call program. I was formerly the Emergency Response Manager for Bay West from 2000-2006.

Q: Please state your professional qualifications.

A: I have a B.S. degree in Biology from the University of Minnesota. I also hold the accredited titles of Certified Safety Professional (CSP) and Certified Hazardous Materials Manager (CHMM). From 1990 until 2000 I was employed by the State of Minnesota environmental regulatory agency, Minnesota Pollution Control Agency (MPCA). For the ten years at the MPCA I severed as an Emergency Response Specialist and managed small and large hazardous material emergency incidents including pipeline releases. Duties there included enforcement of state regulations, oversight of responsible party cleanup activities and environmental impact assessment. While at Bay West as the Emergency Response Manager from 2000 to 2006 I was responsible for managing contracted cleanup services following releases of hazardous materials from train derailments, pipeline breaks, tanker truck accidents and on-water oil spills. Principle duties included assessing project needs and resources, dispatching personnel and equipment and reporting to regulatory officials.

Q: Have you provided your resume?

A: Yes

Q: In what capacity are you involved in the TransCanada Keystone Pipeline, LP (Keystone) project?

A: The Staff of the South Dakota Public Utilities Commission (Staff) has hired Bay West to review certain application documents. The results of Bay West's review are presented in

the attached Limited Application Review Report dated October 31, 2007. The purpose of the Bay West review was to:

Task 1 - Assess spill risk based on the spill frequency volume study.

Task 2 - Evaluate the pipeline risk assessment and environmental consequences filings.

Task 3 - Identify unusually sensitive areas (USAs) and High Consequence Areas (HCAs) and determine the adequacy of the mitigation measures for all such areas.

Task 4 - Determine the adequacy of the emergency response plan.

Task 5 - Determine the adequacy of the proposed construction, mitigation and reclamation plan to restore affected areas back to full productivity in a reasonable timeframe.

Task 6 - Determine the adequacy of the proposed remediation efforts related to spills.

Task 7 - Identify hydrogeological and geological sensitive areas vulnerable to crude oil spills and evaluate proposed mitigation measures.

Task 8 - Review the application, the draft environmental impact statement and associated docket filings for compliance with the applicable sections of ARSD 20:10:22 and all applicable environmental regulations in regards to all environmental issues.

Task 9 - Search for any other environmental impact issues of consequence not previously identified and shall propose mitigation measure for any found.

Task 10 - Make a determination as to whether the proposed project will pose a safety risk, particularly for spill damage, above the norm for a crude oil pipeline due to both pipeline risk factors and environmental vulnerability of the land crossed.

In completing the evaluation of the tasks described above, the overall objectives identified by the PUC included a determination of whether the project will: pose a threat of serious injury to the environment or the inhabitants within the siting area; substantially impair the health, safety or welfare of the inhabitants in the siting area; comply with all applicable laws and rules; interfere with the orderly development of the region with due consideration being given the views of governing bodies of affected local units of government.

Q: With respect to Task #1, can you please summarize the objective of the task and explain your findings?

A: This task addresses the evaluation of the document entitled Appendix A—Frequency / Volume Study of Keystone Pipeline. The document was prepared by DNV Consulting, a risk management company, and is dated May 2006. The study evaluates the risk of a

release (spill) from the pipeline in terms of frequency and volume. In completing this task Bay West obtained input from pipeline engineering and safety professionals. My findings and recommendations from completing this task include:

Keystone has assumed that a pipeline response crew could be dispatched to plug small- and medium- sized holes in a reasonable amount of time. No timeframe was provided and such repair work would require considerable coordination and time to shut the line down, locate the release, uncover the line and then make the repair. The statement implies a fairly quick fix to such an occurrence. This assumption underestimates the level of effort and time necessary to make the required repairs to the pipeline.

The study should be revised to better account for the likelihood of damage to the pipeline caused by the following excavation activities:

- Agricultural activity where practices include plowing, tiling, etc. over the line,
- Land development, both commercial and residential, where sub-grade activities would be necessary,
- Utility maintenance—necessary repairs to utilities near or adjoining the pipeline right-of-way (ROW); and
- Emergency conditions requiring immediate excavation activities, such as following a hazardous material spill incident.

Q: With respect to Task #2, can you please summarize the objective of the task and explain your findings?

A: This task involves the evaluation of the document entitled Pipeline Risk Assessment and Environmental Consequence Analysis prepared by ENSR, June 2006. The purpose of the document is to evaluate the risk resulting from a pipeline release event and the associated consequences to public safety, public health or the environment.

With respect to Section 4.2.2.1 of the document, Soil Impacts, the statement regarding the accumulation of oil in the backfill of the pipeline trench. In several notable cases the presence of farm field drain tile systems or judicial ditches have allowed surface oil to flow some distance from the release site—impacting surface water. The report should be amended to reflect this potential and in those cases where such structures exist in HCA or USA locations, strategies should be developed to address that eventuality.

With respect to Section 4.2.2.2 of the document, Water Resources, the statement made regarding the notification of municipal drinking water supplies where surface water supplies the water. The risk assessment filings indicate that notification of downstream users is essential upon discovery of a contamination event. The assessment mentions that such a notification would enable the closure of water intakes to allow floating or dissolved phases of the oil to bypass. However, such action may only be sustained for a short duration, several hours to days depending upon the design of the municipal system, as reserves of water may be limited. A large oil release event may sustain the fouling of a drinking water source for an extended period of time up to several days. This would require an alternate source of drinking to be supplied to the community during that time frame.

Q: With respect to Task #3, can you please summarize the objective of the task and explain your findings?

A: Task #3 is being addressed by Mr. Bryan Murdock of Bay West

Q: With respect to Task #4, can you please summarize the objective of the task and explain your findings?

A: This task involves the evaluation of regulatory required response plans prepared by TransCanada and to a greater extent the adequacy of their overall level of preparedness with respect to a pipeline release incident.

Q: Which regulatory documents are required to be prepared and which ones were reviewed?

A: There are three primary documents that contain information about how TransCanada is preparing for and will respond to a release during construction and operation of the pipeline. Those federal requirements include the preparation of a Spill Prevention Control and Countermeasures (SPCC) plan (40 CFR part 112); a Oil Spill Response Plan (49 CFR 194.107) and an Integrity Management Plan (49 CFR part 195.452).

Q: Were any of those planning documents complete and could they be reviewed for adequacy?

A: No. Data requests received regarding that issue indicated that those documents will be prepared at a later date nearer to the start of line construction. In the case of the SPCC

plan a corporate template document was provided as an example but lacked much of the information needed to complete a review.

Q: What statements and recommendations can you provide regarding those planning documents?

A: An SPCC plan is required to be completed and then approved by a professional engineer prior to tank facility operation. Submittal to the federal EPA or the state for approval is not required. At this time Keystone has not prepared such plans pending determination of the exact location of the contractor yards. It is recommended that all such prepared plans be submitted for review 30 days prior to operation.

The Oil Spill Response Plan referenced in Appendix C of the draft EIS has been submitted in template form and is incomplete at this time. The Oil Spill Response Plan, when completed, is required to be submitted to the federal DOT (Pipeline and Hazardous Material Safety Administration) prior to operation for review and comment. Approval of the plan is not required to allow pipeline operation but noted deficiencies must be addressed within a specific time frame. It is recommended that this plan be by the SD PUC or their designee for adequacy 30 days prior to operation of the pipeline.

An Integrity Management Plan is required to be submitted to the federal DOT within one year following the start of operation of the pipeline. Certain plan content regarding emergency response planning is believed to be vital to for preparing for effective response to a release incident. It is recommended that the following information be collected prior to pipeline operation and contained in detail in the Oil Spill Response Plan. This information should be reviewed by the SD PUC or their designee 30 days prior to pipeline operation. With respect to identified HCA and USA locations, at a minimum, the following should be completed:

- Identification of access locations for water and land based emergency response equipment. Detailed site-specific access information should include: land ownership and agreements, after-hour access requirements and other pertinent logistical information.

The following site-specific information should be required to be collected and contained in the Oil Spill Response Plan and otherwise be readily available during an emergency.

- Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area,
- Elevation profile
- Characteristics of the product transported
- Amount of product that could be released
- Possibility of a spillage in a farm field following the drain tile into a waterway
- Ditches along side a roadway the pipeline crosses
- For releases potentially entering moving water bodies, identify downstream at-risk resource(s), pre-determine booming locations and response resources and pre-plan to evaluate priorities and objectives. Based upon available response equipment location(s), mobilization time, river current and other factors, the assumption of a 5 mile downstream planning distance does not appear be considerate of a catastrophic release or a release that occurs during a simultaneous event that significantly complicates the release interception/response. It is recommended that downstream planning distances on the order of 20 miles be evaluated. This information should be contained in the Oil Spill Response Plan.
- Identification of site-specific acceptable and unacceptable response tactics/countermeasures and techniques based upon effectiveness, intrusiveness (subsequent damage caused by the cleanup effort) and other considerations as determined relevant. It is recommended that such activity be completed with input from the South Dakota DENR and other local environmental trustees. This information should be contained in the Oil Spill Response Plan.

A model for response planning activity has been completed for the Minneapolis/St. Paul Sub-Area through the efforts of state and federal agencies and industry. Coordination of response strategy planning activities on the Mississippi River can be found at the following link: http://www.umrba.org/isa.htm. It is recommended that such sources be reviewed when preparing response planning activities.

Page 24 of the draft Oil Pipeline Response Plan references that response actions will be directed by the responding FOSC. It is recommended that this statement be modified to indicate that during the public safety phase of an incident, the most senior

public safety official (usually the local fire chief), is in charge and has full authority over the hazardous material incident and scene. As cleanup operations are undertaken the role of the responding FOSC (typically on scene several hours into the incident) is to monitor cleanup progress. The pipeline operator, as the responsible party, is ultimately responsible for the cleanup outcome and will likely be collaborating (via a unified command structure) with SD DENR staff to establish cleanup priorities and objectives. The intent of the FOSC is not to direct or to takeover a response, unless requested or if it is necessary.

For state agency staff responding to pipeline releases, it is recommended that at a minimum the following training be obtained:

- OSHA compliance training (40 hour HAZWOPER)—safety requirement for field personnel involved in emergency response operations,
- Incident Command System (ICS)—organizational scheme required at all hazardous material incidents,
- Tabletop/functional exercises developed with representation from pipeline officials. These activities allow for the testing of response plan, organizational function and the use of response resources, and
- Inland and on-water oil spill control tactics (including containment boom deployment). Such training allows a better understanding of logistical obstacles and limitations of response equipment.

Q: **What preparedness activities do you recommend TransCanada undertake to better their ability to respond to a land-based or water-based release from their pipeline:**

A: Recommended preparedness activities include:

- Work cooperatively with the State of South Dakota Department of Environment and Natural Resources and Department of Fish, Game and Parks, local and regional environmental trustees, first-responders and cleanup contractors to complete the following:
    - Identify at-risk resources, pre-determine response priorities and objectives and develop site-specific response tactics.

- Determine response equipment needs and stage such equipment at strategic locations to allow for an expedited deployment. For river systems, immediate deployment is critical for containing a release and minimizing environmental impact.
- Complete exercises or drills annually in identified areas to develop a clear understanding of the uniqueness and dynamics that each location presents in varying weather conditions and seasons.

Q: **With respect to Task #5, can you please summarize the objective of the task and explain your findings?**

A: This task involves the evaluation of the TransCanada Keystone Pipeline L.P. (Keystone) Construction Mitigation and Reclamation Plan (Plan) prepared by Universal Ensco, Inc. to assess its adequacy to ensure areas affected by project-related activities would be restored to original productivity within a reasonable timeframe along the proposed Keystone Pipeline Project route.

Q: **With respect to Task #6, can you please summarize the objective of the task and explain your findings?**

A: The purpose of this task is to evaluate the proposed remediation efforts related to spills. Much of this information was found to be contained in the Oil Spill Response Plan as required by (49 CFR 194.107) and relates to immediate and long-term activities that would be necessary to perform investigation, remediation and environmental restoration. The techniques and technologies cited in the plan are consistent with industry practices.

Specific applications of each are not cited as each incident requires an evaluation to determine the most effective means of achieving its goal. Following a release to the environment the rate and degree of remediation is commonly driven by the lead state environmental protection agency. The assessment of damages to and restoration of the environment, including monetary compensation for the lost natural resource, is provided through the Natural Resource Damage Assessment process (15 CFR Part 990), with the following definition.

"This goal is achieved through the return of the injured natural resources and services to baseline and compensation for interim losses of such natural resources and services from the date of the incident until recovery. The purpose of this part is to promote expeditious and cost-effective restoration of natural resources and services injured as a

result of an incident. To fulfill this purpose, this part provides a natural resource damage assessment process for developing a plan for restoration of the injured natural resources and services and pursuing implementation or funding of the plan by responsible parties. This part also provides an administrative process for involving interested parties in the assessment, a range of assessment procedures for identifying and evaluating injuries to natural resources and services, and a means for selecting restoration actions from a reasonable range of alternatives."

Q: With respect to Task #7, can you please summarize the objective of the task and explain your findings?

A: Task #7 is being addressed by Ms. Brenda Winkler of Bay West.

Q: With respect to Task #8, can you please summarize the objective of the task and explain your findings?

A: The purpose of this task is to ensure that the documents reviewed by Bay West are consistent with and in compliance with state rule ARSD 20:10:22

Documents reviewed by Bay West in association with this project were found to be in compliance with applicable sections of ARSD 20:10:22 and other regulations regarding environmental issues.

Q: With respect to Task #9, can you please summarize the objective of the task and explain your findings?

A: The purpose of this task was to call attention to and proposes mitigation for other environmental impact issues of consequence not previously identified. The ability to identify environmental issues of consequence were somewhat limited by the documents reviewed as part of Bay West's scope of work. During the review of project documents, environmental issues of consequence, other than what were already identified by others or by Bay West (in other Tasks), have not been identified.

Q: With respect to Task #10, can you please summarize the objective of the task and explain your findings?

A: The purpose of this task is to make a determination as to whether the proposed project will pose a safety risk, particularly for spill damage, above the norm for a crude oil

pipeline duet to both pipeline risk factors and environmental vulnerability of the land crossed.

During the course of its evaluation Bay West did not find any undue safety risk, or associated spill damage, not otherwise associated with normal or emergency pipeline operations. It is imperative that the first responder community be adequately trained to ensure protection of nearby populations.

Q: With respect to Tasks1,2,3,4, 6, 8, 9 & 10, can you please state whether the project will: pose a threat of serious injury to the environment or the inhabitants within the siting area; substantially impair the health, safety or welfare of the inhabitants in the siting area; comply with all applicable laws and rules; or interfere with the orderly development of the region with due consideration being given the views of governing bodies of affected local units of government.

A: The construction of the proposed Keystone Pipeline presents both significant and insignificant risk to the environment and inhabitants of South Dakota. The proper implementation of the regulatory design requirements, construction and operational requirements, TransCanada's proposed mitigation measures, and the recommendations provided within this document, reduces, to currently recognized industry standards, the:

- threat (risk) of serious injury to the environment or the inhabitants within the siting area;
- impairment of the health, safety or welfare of the inhabitants in the siting area; and,
- complies with all applicable laws and rules (as they pertain to the Tasks 1 through 10 of this document);
- interference with the orderly development of the region with due consideration being given the views of governing bodies of affected local units of government.

TransCanada would be required to comply with all applicable laws and rules during construction

Dan Hannan, CHMM, CSP
Health and Safety Manager

Education:
- BS Biology—University of Minnesota

Registrations/Certifications/Licenses:
- Certified Safety Professional (CSP)
- Certified Hazardous Materials Manager (CHMM)
- 40-hr OSHA Training
- 8-hr OSHA Supervisor Training
- OSHA Boat Handling and Boom Deployment Training/On-Water Spill Response
- Radiation Safety @ Superfund Sites, EPA, 40-hrs
- Inland Water Oil Spill Control, 56-hrs, TX A&M
- Inland Oil Spill Response, 24 hrs
- Hazardous Awareness & Remediation Associated
- with Weapons of Mass Destruction, State of MN
- Cold Weather Spill Response, 24-hr Training
- First Aid/CPR Certified

Years Relevant Experience: 17

Mr. Hannan has 17 years experience managing and performing safety and health activities on environmental remediation projects.

The first 10 years of Mr. Hannan's career was spent working for the Minnesota state environmental regulatory agency (MN Pollution Control Agency) as an emergency response specialist. His responsibilities included oversight of responsible parties during cleanup actions, including pipeline incidents. In 2000, Mr. Hannan was hired by Bay West in the capacity of Emergency Response Manager and served in that position for 6 years. It was Mr. Hannan's responsibility to coordinate personnel and equipment resources to complete emergency response projects including pipeline releases.

Presently, Mr. Hannan provides health and safety direction for corporate operations including emergency and non-emergency response projects. Duties include conducting HAZWOPER training, hazard evaluation, and developing project health and safety plans (HASPs). Mr. Hannan routinely reviews and prepares spill response plans for commercial customers to comply with SPCC and FRP requirements under OPA 90 and various state preparedness rules. Additionally, Mr. Hannan has been responsible for maintaining compliance with Bay West's Oil Spill Removal Organization (OSRO) classification with the US Coast Guard and has managed the Drug Enforcement Administration (DEA) chemical removal program for "meth lab" response sites.

RELATED PROJECT EXPERIENCE:

- **Response Manager, Lakehead Pipeline Incident, Grand Rapids, MN**—Oversaw cleanup operations for the >1M-gallon crude oil release. Operations included land recovery, tile line removal, oil recovery on an under the frozen Prairie River (ice slotting and harvesting) and subsequent soil investigations.
- **Response Manager, Enbridge Pipeline Incident, Superior, WI**—Managed cleanup of 100,000-gallon crude oil spill at the Murphy Oil Refinery. Coordinated round-the-clock resources including subcontracted services. Oil recovery included operations on the frozen Nemadji River which required ice slotting and harvesting.
- **Response Manager, Minnesota Pipeline Incident, Little Falls, MN**—Manage Bay West operations for cleanup of >100,000-gallon crude oil spill. Coordinated 24-hour operations including subcontracted services. Activities included the harvesting of oil-coated trees, on-site processing (grinding), and off-site disposal.
- **Project Manager, Hazardous Materials Threat Assessments (HMTAs), Various Sites Nationwide**—Developed HMTAs for facilities of a large national banking company in Portland, OR, Kansas City, KS, and St. Paul, MN. HMTAs identified/assessed risk that hazardous materials pose to the facilities' operations. Of particular interest are incidents that could disrupt company operations, such as an evacuation, arising from a nearby train derailment, pipeline break or toxic chemical fire.
- **Project Manager, Sensitive Area Mapping, Upper Midwest Waterways**—Managed the development and updating of sensitive area maps and spill response strategies for waterways on the Mississippi, Minnesota and St. Croix Rivers. Work was performed in conjunction with US EPA, US Fish and Wildlife, state environmental agencies, local waterway associations, and industry. Identified at-risk receptors (wildlife, populated area, drinking water sources, economic areas [marinas, beaches], tribal areas, etc.), developed location-specific response strategies, and assisted with the placement of spill response equipment "boom boxes" for quick deployment of on-water equipment to minimize risk to the at-risk resources.