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

Surrebuttal Testimony of Dan Hannan on Behalf of the Staff of the South Dakota Public Utilities Commission

November 28, 2007

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

SURREBUTTAL TESTIMONY OF DAN HANNAN

Q: Please state your name and address.

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

Q: Did you provide direct testimony in this proceeding?

A. Yes.

Q: To whose rebuttal testimony are you responding?

A: I am responding to the testimony of Curt Hohn, and the rebuttal testimony of Heidi Tillquist.

Q: In the second paragraph of page 7 of Curt Hohn's testimony, Mr. Hohn states "TransCanada is asking South Dakota to accept an unreasonable risk of a crude oil leak or spill occurring resulting in irreversible damage to 220 miles and thousands of acres of productive farmland, millions of acre feet of ground water, hundreds of creeks and streams, wetlands, and the groundwater aquifers, rivers, creeks, wetlands and private property in eastern South Dakota." Can you comment on Mr. Hohn's statement that a crude oil leak or spill would result in "irreversible damage"?

A: Yes. The petroleum industry has been responding to releases of varying sizes for many years. Many petroleum remediation and containment technologies have been successfully used to mitigate petroleum impacted soil, surface water, and groundwater. Spills or releases of petroleum pipelines vary in size and complexity. The remediation technique selected for a spill or release is site specific and based on environmental risk factors. In many cases, spills or releases are remediated quickly and the release area is

restored to pre-existing conditions. Where the short term remediation of petroleum cannot completely remove all impacted materials, groundwater monitoring systems, remediation systems, or other forms of mitigation are employed to facilitate an environmental gain. The level of effort required of the pipeline operators to achieve the appropriate level of remediation that is protective of the environment and public health will be dictated by the South Dakota Department of Environment and Natural Resources. An example of how recovery, remediation and restoration efforts can mitigate the damage caused and create an environmental gain is provided below.

A 150,000 gallon crude oil release occurred near Little Falls, Minnesota in June of 2006 from a Koch Pipeline (operated by Minnesota Pipeline). The site location was a 75 acre farmstead that contained stands of aspen trees and pothole wetlands. The release was the result of a sudden rupture that prompted the immediate shut down of the pipeline. The release was initially contained via heavy equipment with the construction of earthen berms. The initial cleanup phase of the incident involved the recovery of approximately 79,000 gallons of crude oil via vacuum trucks, the excavation of approximately 31,000 tons (20,000 cubic yards) of heavily impacted soil, the removal of approximately 212,000 gallons of contaminated ground water from dewatering activities at the base of the excavation and from adjoining wetlands. Soil samples were collected from the excavation boundaries to confirm the removal of impacted soils and the excavation was backfilled. The Minnesota Pollution Control Agency found the soil clean up acceptable and required the installation and quarterly testing of a groundwater monitoring network in July 2007.

Although the results of groundwater monitoring identified low levels of petroleum constituents in the shallow groundwater (a non drinking water aquifer located near the

ground surface), site specific conditions revealed that only limited migration of contaminants would occur. No further remediation was required and ongoing monitoring was required to assess the success of natural attenuation of groundwater impacts.

The crude oil release primarily impacted farmland with some damage being caused to aspen trees and a small wetland. Restoration objectives included the restoration of the impacted wetland and uplands to a condition as good as or better than existed at the time of the release. In this case, Koch Pipeline was required to create a new wetland and upland wildlife habitat (totaling eight acres) to offset the temporary loss of ecological function of the four acres actually impacted for the time between the oil release and the completion of cleanup and restoration activities. This restoration also included establishing native plant communities appropriate to the region and the property.

Q: **Ms. Heidi Tillquist's rebuttal testimony (item 5) included comments on downstream planning distances relating to pipeline releases. Her rebuttal testimony confirms that Keystone plans to further assess and determine the appropriate downstream planning distances for releases associated with the pipeline. It appears Keystone intends to meet the objectives of 49 CFR Part 195. Do you have additional comments and reasonable recommendations for Keystone that would be protective of the South Dakota environment and public health?**

A: Planning requirements per 49 CFR parts 194 and 195 require pipeline operators to take appropriate actions to prevent and be prepared to respond to releases from their line including a "worst case discharge" during inclement weather. A release from a pipeline rupture is capable of approaching those of fixed facilities with large storage tank capacity (one million gallons plus). Under the 40 CFR part 112 regulations (OPA 90), fixed

facilities are required to calculate downstream planning distances for worst case discharge scenarios. For large river systems the planning distances often exceed 20 miles or more. Rivers can experience quickly changing conditions (100 year rain events, spring melt or floods) that can make containment and recovery on a river very challenging even for the most experienced on-water personnel. For these reasons, and those described below, planning distances beyond 5 miles are greatly encouraged.

The length of time it takes to mobilize and deploy equipment: and the driving distances and logistics of reaching launch and recovery locations can take considerable time. River current velocities can exceed 5 knots (greater than 5 miles) per hour. That means that after one hour, the leading edge of a release would be 5 miles down river. Inclement weather and the dynamics of the waterway including river size (depth and width), current velocities, seasonal effects (water volume, speed) and the presence of structures such as wing dams, locks and dams, "dead heads" (submerged or floating trees), sand bars, back water channels, etc. can all prove to be very challenging. In some cases, strong winds can result in oil blowing upstream of the release point a considerable distance. Although relatively simple in concept, the effective deployment of containment booms requires regular practice on varying types of river systems and during different times of the year/weather conditions.

For releases to moving waterways time is of the essence. Mobilization and deployment of distant response resources equates to a potential greater degree of environmental impact. The training and staging of response resources with local first responders (fire departments) has been employed in the neighboring state of Minnesota. The collective efforts of the River Defense Network and Wakota CAER in Minnesota utilize no less than 18 independent community fire departments and 10 industry partners to stage

equipment, drill and respond in time of need while providing hundreds of miles of protection for the Mississippi River. It has been identified in Minnesota that the most effective planning occurs when those that have a vested interest are involved, including local environmental resource managers, contracted spill response personal, and first responders. We recommend that in addition to the minimum requirements for release response planning, Keystone follow the model program implemented by the River Defense Network and Wakota CAER in Minnesota.

Q: Does this conclude your testimony?

A: Yes.