

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

IN THE MATTER OF THE APPLICATION	)	HP 07-001
BY TRANSCANADA KEYSTONE PIPELINE,	)	
LP FOR A PERMIT UNDER THE SOUTH	)	
DAKOTA ENERGY CONVERSION AND	)	<b>APPLICANT'S</b>
TRANSMISSION FACILITIES ACT TO	)	<b>REPLY BRIEF</b>
CONSTRUCT THE KEYSTONE PIPELINE	)	
PROJECT	)	

Pursuant to the briefing schedule established by the Commission at the close of the evidentiary hearing in this proceeding, TransCanada Keystone Pipeline, LP (“Keystone”) hereby submits its Reply Brief in support of its application for a Permit under the South Dakota Energy Conversion and Transmission Facilities Act, with respect to the Keystone Pipeline Project.

In its Initial Brief, Keystone demonstrated that it satisfied its burden of proof under the South Dakota Energy Conversion and Transmission Facilities Act, as established at SDCL 49-41B-22. Specifically, Keystone demonstrated that: (i) the proposed facility will comply with all applicable laws and rules; (ii) 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; (iii) the facility will not substantially impair the health, safety or welfare of the inhabitants; and (iv) 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. Accordingly, Keystone asserted that the Commission should grant its permit application. The only other parties to file initial briefs were the Commission’s Staff (Staff) and WEB Water Development Association (WEB Water). In this Reply Brief, Keystone responds to certain positions taken in the Initial Briefs filed by Staff and WEB Water.

## **I. REPLY TO COMMISSION STAFF BRIEF**

The Commission's Staff states in its initial brief that Keystone has met its burden of proof and, along with Staff's recommended measures, the proposed facility will not pose unreasonable harm or threat to South Dakota. Staff further finds that no evidence to the contrary was introduced into the record. Taking a position that is fully consistent with the Supreme Court's recent interpretation of the statute in affirming the Commission's Big Stone II decision, as discussed *infra*, Staff states that "[f]acilities such as the proposed pipeline may clearly be built in the State of South Dakota when all applicable laws are followed and the subject pipeline will not pose risks above and beyond an acceptable level." Staff Brief at 3. Keystone fully concurs with all of these assertions.

Staff's Brief, beginning at page 15, sets forth a number of recommendations for the Commission to consider including as conditions in Keystone's permit. Keystone agrees with most of Staff's recommendations. Keystone suggests that clarification or modification would be appropriate with respect to certain recommendations, as set forth below.

### **A. WEED CONTROL.**

Staff suggests that Keystone should allow landowners the option of granting Keystone blanket approval to use its discretion and professional judgment to spray herbicides using the method Keystone finds best. Alternatively, the landowner would have the right to opt out of blanket approval and require notice and specific consent for each application. Staff recommends that Keystone consider the landowner to have given blanket consent upon failure to receive a response from the landowner within a number of days specified by the Commission in its order. Staff Brief at 2.

Keystone submits that deeming a landowner to have given blanket consent by default in the event the landowner does not respond to an opt-out request within a set time, and requiring Keystone to apply herbicide without express landowner permission in that circumstance, is not an appropriate requirement. In his testimony, Staff witness Tom Janssen recommended that Keystone should obtain written landowner consent prior to herbicide application, inform landowners of the brand name/active ingredient, application method, and application rate for each herbicide planned for use, and make available the herbicides MSDS information. Staff 7 at Table 1; *see also* Bay West Application Review Report at 39. At the hearing, Mr. Janssen modified his recommendation to suggest that landowner blanket approval of herbicide use might be appropriate, however, he commented that a landowner who was away from his property and who is deemed to have granted blanket authorization because he did not respond to an opt-out request, would likely be unhappy with that outcome. As Chairman Johnson observed, South Dakota landowners hate weeds but they hate someone going on their property without permission more. T. 1670-73. Moreover, application of herbicide without express permission creates potential liability for Keystone and its contractors. Keystone submits that any weed control requirement should recognize the need for express landowner approval prior to herbicide application and should not penalize Keystone for failure to apply herbicide in those circumstances.

## **B. DUST CONTROL**

Staff notes that Keystone agrees to cover open-bodied trucks while on paved roads. Staff Brief at 17. At the hearing, Keystone construction manager L.A. Gray testified that it would be reasonable to require Keystone to cover open bodied dump trucks carrying sand and soil on paved roads. T. 190:13-24. Mr. Gray explained, however, that Keystone would also have pick-

up trucks and open-bodied lowboy trucks that carry heavy equipment and that it is not practical to cover those types of trailers. T. 190:24-191:2. Any condition requiring trucks to be covered should be limited to the type of trucks that are likely to result in dust concerns. Accordingly, Keystone requests that any condition requiring the covering of open-bodied trucks be limited to open-bodied dump trucks carrying sand and soil on paved roads.

**C. TOPSOIL REMOVAL AND STORAGE**

Staff's brief discusses Keystone's Construction Restriction Binding Agreements, which will be executed with landowners. Staff recommends that landowners receive an explanation of various topsoil removal (stripping) methods and that Keystone be required to follow the landowner's preference. The brief states that "[a]t a minimum, however, the Applicant shall separate topsoil from subsoil." Staff Brief at 17. Keystone assumes that this statement is not intended conflict with Keystone's Construction Mitigation and Reclamation Plan ("CMR Plan") which provides for topsoil stripping in agricultural areas, and is not intended to extend that requirement to non-agricultural areas. Nothing in the testimony suggests extending topsoil stripping to non-agricultural areas. To avoid possible confusion, Keystone submits that any condition in this area should reference topsoil stripping in agricultural areas, as provided in the CMR Plan.

**D. EASEMENT AND WORKSPACE IN WETLAND CROSSINGS**

Staff recommends that, unless a wetland is actively cultivated or rotated cropland, extra work areas shall be located at least 50 feet away from wetland boundaries. Staff Brief at 18. Keystone recognizes the concern with locating extra work areas in proximity to wetlands, however, Keystone requests that the Commission permit an exception where site-specific conditions do not permit a 50-foot setback. This exception is consistent with the Federal Energy

Regulatory Commission's Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures), Section 6. *See* <http://www.ferc.gov/industries/gas/enviro/wetland.pdf>.

**E. EASEMENT AND WORKSPACE IN WATERBODIES AND RIPARIAN LAND**

Staff recommends that extra work areas be located at least 50 feet from the water's edge except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. Again, for practical reasons, Keystone requests that this requirement include an exception where site-specific conditions do not permit a 50-foot setback. *See* FERC Procedures, Section V.B.2.

Staff further recommends that spoil from minor and intermediate water body crossings and upland spoil from major waterbody crossings shall be placed in the construction right of way at least 10 feet from the water's edge on in additional extra work areas. Keystone recommends that this condition be moderated to permit temporary in-stream spoil storage for streams greater than 30-feet in width. Allowing Keystone this flexibility would avoid the need to handle spoil twice in-stream, which would increase the duration of in-stream activities. Temporary in-stream storage adjacent to the trench reduces sediment generation and significantly reduces the duration of in-stream construction and disturbance.

**F. CONTINUED HCA IDENTIFICATION AND RECOGNITION OF ADDITIONAL SENSITIVE AREAS**

Staff recommends that Keystone be required to conduct ongoing study and assessment regarding High Consequence Areas (HCA), and that Keystone be required to include HCAs in its Emergency Response Plan (ERP) and Integrity Management Plan (IMP) "upon discovery." Staff Brief at 20. Keystone is required by federal regulations to continually assess HCAs. The regulation requires that HCAs that the pipeline could potentially affect be included within the

IMP within one year of discovery. 49 C.F.R. § 195.452(d)(3). Keystone submits that any condition in the Commission's certificate should be consistent with federal regulations.

Staff further recommends that the proposed pipeline route should be continually evaluated and, prior to Keystone commencing operation, all unusually sensitive areas as defined by 49 C.F.R. Section 195.6 should be identified and added to any IMP that may exist. Staff Brief at 20. Again, Keystone is required by federal regulations to continually assess for Unusually Sensitive Areas (USA), as a subset of HCAs. 49 C.F.R. § 195.452(d)(3)(ii). Keystone is required to include those areas in its IMP within one year of discovery. However, while the federal regulations require that Keystone submit its ERP to the federal Pipeline Hazardous Materials Safety Administration (PHMSA) prior to commencing operations, the regulations do not require that Keystone's IMP be filed with PHMSA until one year after the start of operations. 49 C.F.R. § 195.452(b)(1). Keystone submits that any condition in the Commission's certificate should be consistent with federal regulations.

Finally, Staff recommends that Keystone identify the Middle James Aquifer as a hydraulically sensitive area in its IMP and ERP. Staff Brief at 20. Keystone submits that it may be appropriate to identify the first two miles of the pipeline in the State, starting at the North Dakota/South Dakota border, as an area having potential connection to a hydraulically sensitive area (the Middle James Aquifer). However, other than that two-mile segment, the remaining pipeline route is covered by glacial till, preventing any connection to the Middle James Aquifer. *See Tillquist TC-7R1 at 6-7.* Thus, there is no reason to include that area as a hydraulically sensitive area in Keystone's IMP or ERP.

## **G. EMERGENCY PLANNING**

Staff recommends that Keystone be required to file all emergency response and integrity management documents with the Commission. Staff suggests that, although the Commission has no jurisdiction and cannot dictate the contents of the documents, filing the information for informational purposes allows easy access for all. Staff Brief at 21. Keystone objects to a requirement that it file all integrity management and emergency response documents publicly with the Commission. Keystone's Integrity Management Plan contains proprietary risk and integrity models, which represent a competitive advantage to Keystone and TransCanada. Similarly, the ERP requires thousands of man-hours to prepare, TC-8R at 10-11, and public disclosure would provide a potential competitive advantage to Keystone's competitors. In addition, the public disclosure of the detailed pipeline safety, integrity, and emergency response information in the IMP and ERP raises potential homeland security concerns. Given the federal government's oversight over integrity management and emergency response, the lack of Commission jurisdiction in this area, and the potential commercial disadvantage damage and security concerns that public disclosure would cause, Keystone submits that requiring public filing of this material would be unnecessary and inappropriate. In the alternative, the Commission could consider requiring informal submittal to the Commission Staff for non-public review.

## **II. REPLY TO WEB WATER BRIEF**

WEB Water submitted a post-hearing brief and proposed findings of fact and conclusions of law. WEB Water urges the Commission to deny Keystone's permit application or, in the alternative, to require Keystone to comply with a number of conditions. Keystone will not endeavor to respond to all of the many allegations raised in WEB's testimony and brief. Most

are either irrelevant or unsupported. However, Keystone will respond to a number of the positions put forth in WEB Water's brief.

**A. THE EVIDENCE REGARDING SPILL FREQUENCY AND LEAK DETECTION DEMONSTRATES A LOW LEVEL OF RISK**

WEB Water alleges that "there is a real possibility that a leak could occur in South Dakota and such a leak could go undetected for a considerable period of time." WEB Water Brief at 1. As discussed below, the record in this case is replete with support for finding that the risk of a significant pipeline leak is low and that Keystone will implement complementary systems and methods adequate to detect any leaks that may occur.

In its proposed findings of fact, WEB Water asserts that Keystone engineer Meera Kothari and Keystone's independent expert DNV both identified six possible causes of a pipeline leak that are applicable to Keystone. WEB Water Proposed Findings of Fact Nos. 43, 44. Ms. Kothari did testify that Keystone conducted a pipeline threat analysis as part of the requirements for the NEPA process, using the pipeline industry published lists of threats under ASME B31.8S and PHMSA to determine the applicable threats to the Keystone Pipeline. This analysis identified the following threats: (i) manufacturing defects; (ii) construction damage; (iii) corrosion; (iv) mechanical damage; and (v) hydraulic events. However, WEB Water neglects to mention Ms. Kothari's further testimony that Keystone developed and will implement specific safeguards to protect against each of these potential threats. Kothari TC-6D at 7-8. Ms. Kothari articulated each of those safeguards in her testimony. Kothari TC-6D at 8-10.

One of the key safety measures that Keystone will implement is use of a Fusion Bond Epoxy (FBE) coating on the pipe to avoid corrosion. WEB Water states that there is a chance of human error when such coating is applied in the field. WEB Water Proposed Finding of Fact

No. 65. At the hearing, Ms. Kothari testified that there are safety measures in place in the event there was an instance of human error in the field application of the FBE coating. Once the line is in operation, Keystone is required to have an IMP in place. Under the IMP, any external corrosion would be found through the required periodic inspections. T. 352-53. Moreover, there are additional measures taken to avoid external corrosion, including a cathodic protection system. TC-8D at 9. WEB Water notes that FBE coating is not used on the inside of the pipeline. WEB Water Proposed Finding of Fact No. 65. Ms. Kothari's testimony details the measures that are taken to avoid internal corrosion. TC-8D at 9.

WEB Water also states that Keystone witness Brian Thomas identified a number of potential causes of abnormal pipeline operation. WEB Water Proposed Finding of Fact No. 45. Again, WEB Water neglects to mention that Mr. Thomas was describing the federal pipeline safety regulations that require hazardous liquid pipelines to prepare manuals and procedures for responding to each of the types of abnormal operations cited in his testimony. TC-8D at 2-5. *See also* 49 C.F.R. § 195.402.

WEB Water cites Keystone witness Tillquist testimony at T. 387 for a proposed finding that "[h]istorically, crude oil pipelines have had a poor safety record." WEB Water Proposed Finding of Fact No. 38. WEB Water ignores the rest of Ms. Tillquist's testimony which states that, in the last five-year period, crude oil pipeline spills have declined by 57 percent and the volume of spills has declined by over half. Much of this improvement is attributable to improvement in corrosion detection and spill prevention. T. 387:2-9. *See also* Miller, T. 837-38 (his research indicates there has been a trend of significant improvement in hazardous liquid pipeline performance since the 1970's).

DNV estimated the chance of a leak from the Keystone Pipeline to be no 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. TC-7D at 5. The spill frequency and volume estimates are conservative by design so that they overestimate risk. TC-7D at 5. Keystone's risk assessment overemphasizes the probable size of a spill. The spill data used by DNV was based on a 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 pipeline spill has been three barrels. Thus, if a spill were to occur on the Keystone pipeline, the data affirm that the spill is likely to be very small. TC-7D at 6; TC-7R2 at 2.<sup>1</sup>

In its proposed findings of fact, WEB Water asserts that a leak of 1.5 to 2.0 percent of pipeline flow could go undetected for up to 90 days. WEB Water calculates the number of gallons that would be released if a leak of that volume went undetected for 90 days. WEB Water Proposed Findings of Fact Nos. 47, 50-55. As discussed in its initial brief, Mr. Thomas, Keystone's Coordinator of Oil Movements, described the complimentary leak detection systems and methods that will be available in the Keystone Operational Control Center (OCC), which are overlapping in nature. See Keystone Initial Brief at 24-26. Mr. Thomas further testified that, if

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<sup>1</sup> Mr. Miller presented testimony suggesting that Keystone's projected spill frequency rate is significantly lower than the actual industry track record that he obtained from three pipeline spill data sources. Miller-1, Exhibit H. Mr. Miller testified, however, that those data sources contained pipelines constructed many decades ago. He testified that there has been a trend of significant improvement in hazardous liquid pipeline performance since the 1970s. T. 837. In addition, the Enbridge Pipeline data source that he used reported spills on a per mile of right-of-way basis. Mr. Miller acknowledged that Enbridge has as many as four or more pipelines in many miles of its right-of-way. Thus, his use of the Enbridge data overstated the number of spills per mile of pipeline. T. 840-46. Finally, Mr. Miller lacks any experience or expertise in pipeline risk or spill analysis. T. 836, 838. In sum, his testimony and exhibit does nothing to diminish the credibility of Keystone's projections.

Keystone's OCC suspects a leak or a leak is reported to the OCC, the response would be to implement an emergency pipeline shutdown. TC-8D at 10.

Mr. Thomas specifically responded to the suggestion that oil leaks at 1.5 percent of Keystone's flow rate could continue to leak for 90 days before they are detected. He testified that such a conclusion was unrealistic and inconsistent with the capabilities of Keystone's comprehensive leak detection systems. In particular, since Keystone will employ the accumulated gain/(loss) system, as well as direct observation, Mr. Thomas testified that it is not reasonable to assume that a 1.5 percent of pipeline volume leak could continue for 90 days prior to detection. TC-8R at 2.

WEB Water further asserts that a pinhole leak would not be detected by aerial inspection unless oil was coming to the surface, citing Ms. Kothari's testimony at T. 283. WEB Water Proposed Finding of Fact No. 49. WEB neglects to note that Ms. Kothari clarified her testimony to point out that, while direct detection would require oil on the surface, there are secondary characteristics associated with a pinhole leak, such as dead or dying vegetation, that would allow aerial detection of a pinhole leak that had not reached the surface. T. 315:10-21.

**B. KEYSTONE WILL HAVE A COMPLETE EMERGENCY RESPONSE PLAN IN PLACE PRIOR TO COMMENCING OPERATIONS, AS REQUIRED BY FEDERAL REGULATION**

WEB Water asserts that "little has been done" with regard to planning for a pipeline leak. WEB Water Brief at 1. In fact, the record reflects that Keystone is required by the federal pipeline safety regulations to undertake extensive planning to avoid and respond to any pipeline leak.

Keystone will develop and implement a detailed Integrity Management Plan, as required by the PHMSA regulations. 49 C.F.R. § 195.452; Kothari, T. 319:4-7. In addition Keystone's Special Permit requires enhanced pipeline integrity measures, as a condition of the permit. See TC-11; T. 319:7-11.

With respect to emergency response planning, Keystone witness Mr. Thomas testified that Keystone will develop a comprehensive Emergency Response Plan, as required by the PHMSA regulations at 49 C.F.R. Part 194. Keystone filed a preliminary ERP under Exhibit C of its application. As Mr. Thomas testified, because the ERP is a very detailed document and addresses specific pipeline and related facility locations, the ERP will be finalized after routing and design are finalized. The ERP will be completed in the first quarter of 2009 and submitted to PHMSA prior to commencing pipeline operations. TC-8R at 10-11. *See also* Hannan Staff-3 at 5:145-50.

Keystone explained in its Initial Brief that emergency response planning takes into account project-specific sensitive areas, identified through the risk and consequence assessment, based on a worst-case scenario. In the event of a leak, emergency responders will be available as required by 49 C.F.R. Section 194.115; TC-8D at 11. *See also* Keystone Response to Staff Data Request 2-10. 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. Emergency responders will generally be 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 archeological resources. TC-8D at 19. If adverse conditions

limit access to a site, emergency responders will be dispatched from multiple locations and will have alternative means of transportation available. TC-8D at 12.

**C. THE SPECIAL PERMIT GRANTED TO KEYSTONE BY PHMSA DOES NOT REDUCE THE SAFETY OF THE PIPELINE**

WEB Water notes that Keystone received a Special Permit from PHMSA. WEB Water Proposed Findings of Fact Nos. 85-90. WEB Water asserts that one of the primary reasons for seeking the special permit was cost savings. As discussed in Keystone's Initial Brief, Keystone was granted a "Special Permit" by PHMSA in 2007, which allows TransCanada to design and operate the Keystone pipeline using a 0.8 design factor (also referred to as operating at hoop stresses up to 80 percent of specified minimum yield strength or SMYS). Canadian Standards already allow operators to operate hazardous liquid pipelines at 80 percent SMYS, TC-6D at 12; TC-11 at 16, and TransCanada operates approximately 11,000 miles of pipelines in Canada at a 0.8 design factor. Therefore, the special permit will ensure consistency across the TransCanada system. Moreover, PHMSA has moved to adopt this design factor for new and existing US natural gas pipelines, as of 2006. Further, as Keystone acknowledged, there is an economic benefit from use of the 0.8 design factor. TC-6D at 12-13; T. 275:3-13. At the transcript page cited by WEB Water, Ms. Kothari stated that cost savings was not the primary factor, but was just one of several factors, for pursuing the Special Permit. T. 290:1-6.

More importantly to the Commission and to South Dakota, while 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, the use of "thinner" wall pipe does not reduce the safety of the pipeline. TC-6D at 12. After a rigorous technical review, PHMSA granted a special permit

subject to 51 conditions related to the design, construction and operation of the Keystone Pipeline. *See* TC-11. In granting the special permit, PHMSA made two specific findings regarding safety. First, PHMSA found that granting the special permit to Keystone was “not inconsistent with pipeline safety.” TC-11 at 2. Second, PHMSA found that granting the special 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.” TC-11 at 2.

WEB Water also states that, in some areas, the thickness of the pipe will be increased for safety purposes. WEB Water Proposed Finding of Fact No. 90. There are four categories of areas which are not covered under the special permit: (i) commercially navigable waterways; (ii) population areas; (iii) highway, railroad and road crossings; and (vi) pump station valve assemblies and pigging and measurement facilities. T. 275:3-276:23. In these areas, Keystone will operate its pipeline at the 0.72 design factor. These areas are excluded from the special permit primarily because of stress concerns during installation. T. 276:4-278:8.

**D. THE PROPOSED PIPELINE ROUTE DOES POSE A SIGNIFICANT RISK OF IMPACT TO THE MIDDLE JAMES AQUIFER**

WEB Water raises concerns regarding the route of the pipeline in northeastern Marshall County, suggesting that a spill in that area could impact the Middle James Aquifer. WEB Water Proposed Findings of Fact Nos. 16-26. WEB Water expresses concern that the Middle James Aquifer is the only source of drinking water for the BDM system. WEB Water Proposed Finding

of Fact No. 21. WEB Water further states that it is looking at developing wells in the Middle James Aquifer to serve the Day County area. WEB Water Proposed Finding of Fact No. 24.<sup>2</sup>

Ms. Tillquist testified that the Middle James and Oakes aquifers in certain areas of Marshall and Brown Counties are shallow with a depth to groundwater of less than 50 feet. However, these aquifers are generally overlain by isolating surficial silts and clays, restricting the penetration of oil to the underlying aquifer. TC-7D at 7. The James Aquifer is generally confined under 50-100 feet of clay or till through Marshall County, so that contamination of the James Aquifer is unlikely. Based on the location of the proposed route with respect to the James Aquifer, the direction of groundwater movement, and the location of water supply withdrawals for BDM, impacts on BDM water supply are unlikely. TC-7R1 at 6-7.

Of course, any evaluation of risk to the Middle James Aquifer also must be evaluated in the overall context of risk of a spill event in that area. As discussed above, the chance of a spill anywhere along the pipeline is low and any spill is likely to be small. The chance of a significant spill in the few areas where a shallow aquifer is not overlain by isolating soils is highly remote. Further, even in the unlikely event that a spill were to occur and reach an aquifer, the contaminant plume migrates very slowly so that the areal extent of any contamination would be quite small. TC-7D at 7-8.

WEB Water promotes the testimony of its witnesses Rahn and Davis, suggesting that concerns regarding the Middle James Aquifer could be alleviated by moving the pipeline route to the east. WEB Water Proposed Finding of Fact No. 25. Davis has no expertise in pipeline integrity, design, or routing. Davis did not conduct any independent analysis regarding

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<sup>2</sup> Mr. Hohn testified that WEB Water gets its water from the Missouri River and that it is currently doubling its capacity to take water from the Missouri River. T. 1344-45.

likelihood of a spill, spill frequency, volume, fate, or transport. With respect to the proposed reroute, he did not take into account its potential impact on cultural resources, grasslands, threatened and endangered species, or wetlands. He testified that the scale map he provided shows only that “there might be a better route.” T. 1056-59. Rahn has no expertise in pipeline routing. In developing his proposed reroute, he did not take into account the impact on cultural resources, grasslands or other sensitive features, or threatened and endangered species. T. 1080-81. Neither Davis nor Rahn have presented a credible alternative route proposal.

**E. THE ADEQUACY OF KEYSTONE’S CULTURAL RESOURCE SURVEYS IS DETERMINED BY THE DEPARTMENT OF STATE**

WEB Water argues that the South Dakota State Historic Preservation Office (SHPO) witness, Ms. Olson, testified that she would recommend a 100 percent survey of the entire pipeline route in the state, but that Keystone conducted cultural resource surveys on only 17 percent of the route. WEB Water Brief at 3; WEB Water Proposed Finding of Fact No. 127. In her testimony, however, Ms. Olson stated that it was not her call as to whether a 100 percent survey should be done in this case. T. 1011:7-9. She made clear that, under the governing federal statute, it is the Department of State – not the SHPO -- that determines how best to identify historic properties. T. 1011:15-19. This includes making the determination as to whether the survey design and the level of survey that is done for cultural resources is adequate. Tr. 1015:1-6. Thus, this is not a matter for the Commission or the SHPO to decide.<sup>3</sup>

**F. THERE WAS ADEQUATE PUBLIC NOTICE OF THE PROJECT**

WEB Water states that, although TransCanada has been working on the Keystone project for two or three years, “the public only just recently became aware of the project.” Not

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<sup>3</sup> Ms. Olson did note that 100 percent surveys typically are not done for rural water system pipeline construction. T. 1012:18-23.

surprisingly, WEB Water does not cite any record support for this statement. Keystone filed its detailed permit application on April 27, 2007. The Commission provided notice to landowners within one-half mile of the proposed pipeline route on May 24, 2007. Additional notice was provided by publication. The Commission then held four public input sessions at locations along the proposed pipeline route. Each of those sessions continued until anyone who wanted to make a comment had been heard.

In addition to the formal notice and opportunity to comment provided through the Commission's process, Keystone has been publicizing its project in the State since 2005, including a series of open houses held in 2005. Moreover, the Department of State noticed and held NEPA scoping meetings in the Fall of 2006, followed by additional public meetings to receive comments on the Draft EIS in the Fall of 2007.

**G. THERE IS NO NEED TO REQUIRE THICKER WALL PIPE WHERE CROSSING RURAL WATER LINES AND AQUIFERS AND RELOCATION OF RURAL WATER LINES**

WEB Water requests that the Commission condition Keystone's permit on a requirement that Keystone use thicker pipe where it crosses rural water lines and aquifers and relocate rural water lines. The evidence shows that this requested condition is unnecessary. First, PHMSA has found that the .80 pipe that Keystone is authorized to use under the Special Permit provides an equal or greater level of safety than .72 pipe. Therefore, there is no need to use the .72 pipe in the area of rural water utility lines.

Second, the testimony of Ms. Tillquist with respect to the American Water Works Association (AWWA) paper on the impact of hydrocarbons on PE/PVC pipes and pipe gaskets demonstrates that there is minimal risk to ductile iron and PVC water pipes even in the unlikely event of a crude oil spill in the area of a water utility system. The AWWA paper indicates that

permeation incidents on PVC pipes are rare and no permeation incidents were reported with ductile iron, regardless of the type of gasket used. PVC pipe is highly resistant to gasoline, benzene, toluene, and their water solutions. The AWWA study states that “[l]aboratory results indicate that PVC and ductile iron pipes can be safely used in areas of soil contamination regardless of the level of contamination.” TC-7R1 at 7-8 and attached AWWA Paper.

Third, Ms. Tillquist’s testimony demonstrates that there is no need to use the .80 pipe where the route crosses aquifers. Most South Dakota aquifers are located at depths of more than 100 feet. The shallow areas of the Middle James and Oakes Aquifers in certain parts of Marshall and Brown Counties are generally overlain by isolating surficial silts and clays, restricting the penetration of oil to the underlying aquifer. TC-7-D at 7. As discussed above, the James Aquifer is generally confined under 50-100 feet of clay or till through Marshall County, so that contamination of the James Aquifer is unlikely.

### **III. THE SOUTH DAKOTA SUPREME COURT HAS CONFIRMED THAT THE STATUTE REQUIRES THE COMMISSION TO CONSIDER THE ACCEPTABILITY OF ANY RISK TO THE ENVIRONMENT**

Both Staff and WEB Water recognize that SDCL 49-41B-22 requires an applicant for a permit under the Energy Conversion and Transmission Facilities Act to demonstrate, in part, that the proposed facility will not pose a threat of serious injury to the environment. Subsequent to the filing of initial briefs herein, the South Dakota Supreme Court has clarified the meaning of “the threat of serious injury to the environment” as used in the statute. This clarification confirms that the Commission should find that the Keystone project does not pose a threat of serious injury to the environment.

On January 16, 2008, the Court decided In re Otter Tail Power Co., 2008 SD 5 (Jan. 16, 2008) (“Big Stone II”). Big Stone II involved an application for a permit to construct a coal-fired energy conversion facility. Intervenors in opposition to the project argued that the carbon dioxide (CO<sub>2</sub>) emissions from the project would contribute to global warming, thereby posing a threat of serious injury to the environment. On this basis, Intervenors argued that the facility should not be constructed. Big Stone II, mimeo at P13.

The Commission noted evidence that the plant would produce 18 percent less CO<sub>2</sub> than other existing coal fired plants, because of the advanced technology used, and that the plant would increase U.S. emissions of CO<sub>2</sub> by approximately 0.0007 percent. On that basis, the Commission concluded that, although the facility will emit CO<sub>2</sub>, the amount “will not pose a threat of serious injury to the environment or to the social and economic conditions of the inhabitants or expected inhabitants in the siting area.” Big Stone II, mimeo at P24.

Intervenors appealed the Commission’s finding that the proposed facility would not pose a threat of serious injury to the environment. In reviewing the Intervenors’ challenge, the Court noted that the Commission had addressed the potential harm from the facility by comparing the projected level of CO<sub>2</sub> emissions from the facility to the level of emissions nationally. The Court found that the Commission’s conclusion that the facility would not pose a threat of serious injury to the environment was well reasoned and informed. Particularly significant for the Commission’s consideration of the Keystone application is the Court’s finding that:

While global warming and CO<sub>2</sub> emissions are considered harmful by the scientific community, what will pose a threat of *serious* injury to the environment under SDCL 49-41B-22 is a judgment call initially vested with the PUC by the Legislature. Nothing in SDCL Chapter 49-41B so restricts the PUC as to require it to prohibit facilities posing any threat of injury to the environment. Rather, it is a question of the acceptability of a possible threat. Resolving what is acceptable for the people of South Dakota is not for this Court. The Legislature and Congress must balance the competing interests of economic development and protection of our environment.

Big Stone II, mimeo at P35 (emphasis added).

The Court's holding is instructive for the PUC's evaluation of Keystone's application. In determining whether the proposed Keystone pipeline meets the statutory requirement, the Commission is not required to find that the pipeline poses zero threat to the environment. Indeed, if that were the threshold, the Commission could never grant a permit to an energy or other industrial facility in the state. Rather, the Commission is to focus on whether any potential threat is reduced to a level that is "acceptable," in the Commission's judgment. Under the Supreme Court's interpretation, it is the Commission's assessment of the acceptability of a threat that gives meaning to the statutory term "threat of serious injury to the environment."

In this case, Keystone has presented extensive testimony which demonstrates that the level of risk of harm to the environment imposed by construction and operation of the project is very low, and that plans and procedures will be in place to minimize and remediate any harm that may occur in the unlikely event of a pipeline failure. As outlined in Keystone's initial brief, this evidence addressed: (i) the careful routing of the pipeline to minimize environmental impacts; (ii) extensive environmental and cultural resource surveys; (iii) Keystone's comprehensive Construction Mitigation and Restoration Plan; (iv) the design, construction, testing, and operation of the pipeline in accordance with all applicable requirements; (v) the fact that

Keystone's Risk and Consequence analysis demonstrates the risk of a spill is low and that any spill is likely to be small; and (vi) Keystone's extensive planning for abnormal operational circumstances, including leak detection and emergency response planning.

In addition, the Commission Staff commissioned Bay West Inc., an independent expert, to review the proposed Keystone Pipeline project in areas related to pipeline spill risk and environmental consequences, determination of High Consequence Areas and adequacy of mitigation measures for such areas, adequacy of emergency response plan, adequacy of proposed construction mitigation and reclamation plan, adequacy of proposed spill remediation, sensitive hydrogeologic and geologic sensitive areas, and other environmental impact issues of consequence. Staff 4 at 3-4. Bay West was charged with making a determination whether the proposed project will pose a safety risk, particularly for spill damage, above the norm for a crude oil pipeline.

The overall objective of Bay West's assignment was to support a Commission determination, in part, whether the project will pose a threat of serious injury to the environment or the inhabitants in the siting area. *Id.* at 4. Based on its review, Bay West concluded that "[t]he proper implementation of the regulatory design requirements, construction and operational requirements, TransCanada's proposed mitigation measures, and the recommendations contained 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." *Id.* at 14.

Accordingly, the evidence in this case, including the opinion of the Commission's own independent experts, demonstrates that the risk of a possible threat to the environment posed by the Keystone project is consistent with currently recognized industry standards. Indeed,

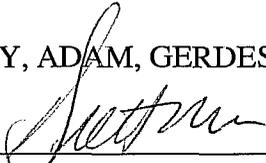
Keystone's own evidence is that the project meets or exceeds all applicable requirements, such that the level of risk may well be even less than under industry standards. Under the Supreme Court's holding in Big Stone II, the Commission's task is to determine whether that level of risk is "acceptable." Moreover, this determination is to take into account the competing interests of economic development and protection of the environment. In this light, it is clear that the Commission should find the Keystone project does not pose a threat of serious injury to the environment and should be granted a permit.

#### IV. CONCLUSION

As shown by the evidence offered at hearing, the argument presented in Keystone's Initial and Reply Briefs, and upon the points and authorities recited, Keystone has met its burden and should be granted a permit to construct its facility.

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