BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF TRANSCANADA KEYSTONE PIPELINE, LP FOR ORDER ACCEPTING CERTIFICATION OF PERMIT ISSUED IN DOCKET HP09-001 TO CONSTRUCT THE KEYSTONE XL PIPELINE	**ROSEBUD SIOUX TRIBE'S RESPONSE TO KEYSTONE'S MOTION TO EXCLUDE TESTIMONY OF RICHARD KUPREWICZ** **HP14-001**

The Rosebud Sioux Tribe, by and through counsel, requests that the PUC deny Keystone's Motion to Exclude Testimony of Richard Kuprewicz. In support therein Rosebud submits the following response in support:

Introduction

The Rosebud Sioux Tribe filed the direct testimony, report and resume of one of its expert witnesses, Richard Kuprewicz, on April 24, 2015. The direct testimony, report and resume of the witness are attached hereto as Exhibit 1, 2 and 3 respectively and are incorporated by reference herein as if reiterated in full. Keystone moves to exclude most of Kuprewicz's report. The Kuprewicz findings directly relate to three of four elements of proof under SDCL 49-41 B-22, which is part of the PUC's jurisdiction and which the PUC has the authority to consider.

Keystone relies on three bases of law to support its motion. Keystone alleges that the subjects in the Kuprewicz report are either (1) preempted by federal law, (2) are within the exclusive jurisdiction of the Pipeline Hazardous Materials Safety Administration (PHMSA), and (3) are statutorily beyond the scope of the PUC's jurisdiction. The arguments are spurious and PHMSA itself has already rejected similar arguments. In May 2014, PHMSA explicitly

informed TransCanada that (i) federal law recognizes the right of states to adopt federal safety standards and to inspect, regulate and take enforcement action against the operators of pipelines within their borders; and that (ii) no federal agency has the power to determine the siting of oil pipelines and therefore this responsibility rests largely with the individual states. Furthermore, as will be discussed below, the Kuprewicz report is directly relevant to a meaningful evaluation of the key elements of proof that the PUC considers based on SDCL 49-41B-22. Keystone's motion to exclude testimony is therefore baseless and without merit and should be denied accordingly.

Each theory used to support Keystone's motion will be identified and addressed in turn. This will be followed by an examination of the proper basis that the PUC should consider in determining the admissibility of expert testimony. In considering the motion, it is of particular importance for the PUC to examine some of the existing permit conditions, particularly that of Amended Permit Condition 1.

The existing permit rests on the finding that Keystone can satisfy the requirements of SDCL 49-41B-22 "Applicant's burden of proof" if they operate and construct the pipeline. Throughout these proceedings compliance with SDCL 49-41B-22 is a continuing obligation.

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.

The findings of the Kuprewicz report directly relate to three of four elements of proof ((2), (3) and (4)) under SDCL 49-41 B-22, which is part of the PUC's jurisdiction. The Kuprewicz report is admissible since it is directly relevant to a meaningful evaluation of the key elements of proof that the PUC considers in its decision making process.

With respect to the first element of proof (1), in issuing the current permit for the facility and in order to comply with the requirements of SDCL49-41B-22, Amended Permit Condition 1 requires Keystone to comply with all applicable laws and regulations in its construction, and operation of the Project. Amended Condition 1 specifically includes, among other requirements, compliance with "other various pipeline safety statutes currently codified at 49 USC 60101 et sec., (collectively the Pipeline Safety Act) and Department of Transportation regulations implementing the PSA, particularly 49 CFR Parts 194 and 195." These are areas that originate beyond the jurisdiction of the PUC and regulated (but not preempted) in South Dakota exclusively by the PHMSA. The current permit conditions require Keystone to comply with requirements that are beyond the regulatory jurisdiction of the PUC.

Preemption is not a new legal theory advanced by Keystone as evidenced by the May 28, 2014 letter from the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration addressed to Mr. Russell K. Girling, President of TransCanada Corporation. This letter is attached hereto as RST Exhibit 4, the contents of which are incorporated by reference as if reiterated in full herein. PHMSA's clarification to TransCanada's CEO in this letter is again directly applicable to Keystone's motion to exclude the testimony of

Richard Kuprewicz. Indeed, PHMSA's own words soundly refute Keystone's allegations that the subjects in the Kuprewicz report are either (1) preempted by federal law, (2) are within the exclusive jurisdiction of the Pipeline Hazardous Materials Safety Administration (PHMSA), or (3) are statutorily beyond the scope of the PUC's jurisdiction.

In response to numerous inquiries that PHMSA had received regarding the rights of state and local governments to affect the siting, design, construction operation and maintenance of interstate hazardous liquid pipelines, in connection with TransCanada's Keystone XL Pipeline, PHMSA sent the May 28, 2014 letter to TransCanada. In this letter, PHMSA explicitly informs TransCanada that no federal agency has the power to determine the siting of oil pipelines and therefore the responsibility rests largely with the individual states.

> As you know, Congress has invested the U.S. Department of Transportation (DOT) with the authority to regulate the design, construction, operation and maintenance of gas and hazardous liquid (primarily oil) pipelines and to protect life, property and the environment from hazards associated with pipeline operations. While the Federal Energy Regulatory Commission (FERC) has exclusive authority to regulate the siting of interstate gas transmission pipelines, no federal agency has the power to determine the siting of oil pipelines. **Therefore, the responsibility for siting new interstate oil pipelines such as Keystone XL rests largely with the individual states through which the lines will operate and is governed by state law.** (RST Exhibit 4 at page 2, emphasis added)

The PHMSA letter further emphasized that the "message being conveyed by PHMSA that all three levels of government – federal, state and local – play an important role in ensuring that the Nation's pipeline system operates safely and efficiently to supply vital energy for the American economy." (RST Exhibit 4 at page 1.) PHMSA went on to clarify the role of state pipeline regulators, the role of local governments and the role of PHMSA as it relates to the operation of interstate hazardous liquid pipelines.

PHMSA explained that Congress had vested the U.S. Department of Transportation with the authority to regulate the design, construction, operation and maintenance of gas and hazardous liquid (primarily oil) pipelines and to protect life, property and the environment from hazardous associated with pipeline operations." (RST Exhibit 4 at page 2)

As Exhibit 4 explains, the existing regulatory scheme and federal pipeline safety laws, require PHMSA to be the federal agency responsible for carrying out the nationwide program that regulates most of the oil and gas pipelines in the United States. The standards for pipeline safety, design, construction operation and maintenance are found in 49 C.F.R. Parts 190-199 as the PUC is aware. Exhibit 4 goes on to explain the role of State pipeline regulators to TransCanada by stating that "[f]ederal law recognizes the right of states to adopt federal safety standards and to inspect, regulate and take enforcement action against the operators of pipelines within their borders." (RST Exhibit 4 at page 2) PHMSA also acknowledges that this includes the recognition that states have the right to impose safety standards that are more stringent than the federal minimum requirements, so long as the two sets of regulations are compatible. According to the PHMSA letter, "[f]ederal preemption of pipeline safety means that neither state nor local governments have any independent authority to regulate pipeline safety," with each deriving "any such authority from federal law." (RST Exhibit 4 at page 2)

Lastly, regarding the role of local governments, PHMSA in RST Exhibit 4 acknowledges the role the local governments play in pipeline safety. Regarding preemption, PHMSA explained to Keystone that there is nothing in federal law that infringes on the rights of local governments to regulate traditional land use and property development in the vicinity of pipelines, "so long as local officials do not attempt to regulate the field of pipeline safety that is preempted by federal law." (RST Exhibit 4 at page 2).

1. The PUC is preempted by Federal Law

Keystone first asserts that the offered testimony should be excluded because the subject matter of Kuprewicz's testimony is preempted by federal law, particularly the Pipeline Safety Act 49 USC 60101-60140 (herein after PSA) and its implementing regulations found at 49 CFR parts 194 and 195. It is without question that the PSA, as amended, applies to the proceedings currently before the PUC. Keystone's motion to exclude at page 2 states that the PSA applies to the current proceeding and Rosebud agrees with that assertion. Although Rosebud concludes that preemption is not relevant to this PUC proceeding or the matter presently before it, a more detailed response is nonetheless provided.

The PSA regulates "to provide adequate protection against risks to life and property posed by pipeline transportation and pipeline facilities by improving the regulatory and enforcement authority of the Secretary of Transportation." *Olympic Pipeline Co. vs. City of Seattle*, 437 F. 3d 872 (9th Cir. 2006). Additionally, the PSA provides a manner in which "a national liquid pipeline safety program with nationally uniform minimum standards and with enforcement administered through a Federal-State partnership, citing 49 C.F.R. part 195, appx. A." *City of Seattle* at 878.

The PSA addresses both inter and intra state liquid hazardous materials (oil pipelines) transportation facilities. Regarding interstate pipelines the PSA provides that "state and local authorities generally may not adopt or continue in force safety standards for interstate pipeline facilities or interstate pipeline transportation." 49 U.S.C. 60104 (c). Concerning safety regulations regarding intrastate pipelines, the PSA provides that a state enforcement agency that "has submitted a current certification under section 60105 (a) of this title may adopt additional or

more stringent safety standards for intrastate pipeline facilities and intrastate pipeline transportation only if those standards are compatible with the minimum standards prescribed under this chapter." 49 U.S.C. 60104 (c).

The law provides two exceptions to the prohibition regarding intrastate pipelines. First, where a state has entered into a pipeline safety agreement for the DOT, the state may participate in the oversight of interstate pipeline facilities. Secondly, the DOT may designate an agent with authority to participate in the oversight process. The law regarding intrastate pipelines for design, construction and operation is preempted, with two exceptions that provide for state participation in the oversight and operations of interstate pipelines. Regarding intrastate pipelines, the PSA provides at 49 U.S.C. 60104(c) that states may, through an annual certification process pursuant to section 60105, regulate and impose safety standards that exceed the minimum requirements of federal law if they have applied for and are approved for the certification process from 60105 and the standards are compatible with federal minimum standards.

The simple statement made by Keystone, that a state is preempted by the PSA, without a full and complete explanation, is an incorrect assertion of law in this matter. The assertion is an incorrect interpretation of federal preemption, particularly as it relates to matters of pipeline safety and the application of the overall regulatory scheme regarding the transportation of liquid fuels through the lands of the United States and its States. A preemption analysis would be appropriate if the PUC were attempting to enforce, or require compliance with pipeline safety standards that were conflicting with the PSA. This is not such a case. There are three ways in which state laws could be preempted by federal law. Generally speaking, state law will be

preempted by federal law when state law (or local land use ordinances) conflicts with or frustrates federal law.

"It is familiar doctrine that there are three primary ways that federal law may preempt state law." *Northern Nat'l Gas Co. v. Iowa Utilities Board*, 377 F.3d 817, 824 (8th Circuit 2004). "First, state law is preempted where Congress has expressly stated that it intends to prohibit state regulation in an area." *Lorillard Tobacco Co. v. Reilly,* 533 U.S. 525, 541, 121 S.Ct. 2404, 150 L.Ed.2d 532 (2001). Second, Congress may implicitly preempt state regulation of an area through occupation of a field. *Id.* A field is occupied when the federal regulatory scheme is "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it." *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230, 67 S.Ct. 1146, 91 L.Ed. 1447 (1947). Finally, even if Congress has not completely precluded the ability of States to regulate in a field, state regulations are preempted to the extent they conflict with federal law. *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248, 104 S.Ct. 615, 78 L.Ed.2d 443 (1984). Such a conflict will be found "when it is impossible to comply with both state and federal law, or where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress." *Id.* (citations omitted)." Quoting in its entirety from *Northern Nat'l Gas Co. v. Iowa Utilities Board*, 377 F.3d 817, 821 (8th Circuit 2004).

Conveniently in its motion, Keystone leaves out the preceding section of 49 U.S. C. 60104 (c) which states that "[a] State authority that has submitted a current certification under section 60105 (a) of this title may adopt additional or more stringent safety standards for intrastate pipeline facilities and intrastate pipeline transportation only if those standards are compatible with the minimum standards prescribed under this chapter." 49 U.S.C. 60104 (c). Although this is not a case involving an intrastate pipeline, it is included as an example that the

PSA does not completely preempt pipeline safety. There is nothing in the record that the State of South Dakota, the PUC or any local government has taken any action to enact or enforce pipeline safety standards that are in excess of the minimum federal standards embodied in the Pipeline Safety Act and 49 CFR 194 and 195.

This is not a case concerning preemption of state authority under the PSA, rather it is a case to determine if the facts underlying the conditions upon which Keystone's permit was granted remain the same: a case clearly within the PUC's jurisdiction. Keystone's compliance with applicable federal laws is one of those conditions. Clearly, the SD PUC has the jurisdictional authority to determine if facts underlying conditions have changed and if the current information submitted along with the Petition for Certification is in compliance with all applicable laws and conditions upon which the permit was granted. Compliance with the PSA is just one of many laws and conditions from the original permit that Keystone must comply with and show that all conditions associated with the same remain unchanged since 2010 pursuant to the requirements of statute.

South Dakota's legislative scheme does not provide for more stringent safety standards than federal law. The manner in which the PUC carries out its duties and responsibilities under law is not contrary to federal law, nor does it conflict with the purpose of federal law. This is not a case involving preemption. Accordingly, nothing from the federal preemption doctrine supports the exclusion of the report submitted by Richard Kuprewicz. The preemption doctrine is not appropriate to consider when determining the admissibility of expert testimony. Such considerations are governed by SDCL 15-6-43(a) and 19-15-2. Rather, the regulatory and permitting scheme encourages the inclusion of such testimony in order to assist the PUC in making an informed decision regarding Keystone's Certification Petition.

2. The subject matter is within the exclusive jurisdiction of the Pipeline Hazardous Materials Safety Administration (PHMSA)

Keystone's next argument is that the subject matter of Kuprewicz's report and testimony are within the exclusive jurisdiction of the Pipeline Hazardous Materials Safety Administration (PHMSA) and should be excluded. This is a variation of the previously stated preemption argument. The same analysis and reasoning used to reject the preemption argument can be applied here. Following Keystone's logic will lead the PUC to an unacceptable result. This result is not contemplated by the law. Nor is it a result that comports with the fact finding mission which is necessary to carry out the mandates of the law through this certification proceeding.

In this docket, Keystone is asking the PUC to issue an order that satisfies the requirements of SDCL 49-41B-27. Examining and making a determination regarding Keystone's application for the order of certification requires the PUC to identify the conditions of the permit and to hear testimony and take evidence regarding compliance with those conditions. Keystone is asking the PUC to not allow evidence related to conditions because they originate in federal law. All matters of pipeline safety originate in federal law. While the primary enforcement may rest with the jurisdiction of PHMSA, the overall permitting scheme that exists in the United States as evidenced through congressional actions (the Pipeline Safety Act along with other federal statutes), applicable agency regulations (49 C.F.R. Parts 190-199) and various state permitting legislative schemes created a regulatory system that provides for minimum federal standards regarding pipeline safety and operations, creates a system whereby the federal government, through the Department of Transportation (PHMSA) works in a series of

partnerships, agreements and certifications with various states and local governments to enforce federal and state pipeline safety regulations and laws.

3. The Subject of the Testimony is Statutorily Beyond the Scope of the PUC's Jurisdiction.

Finally, Keystone asserts that the portions of the Kuprewicz report address opinions related to matters that are statutorily beyond the scope of PUC's jurisdiction. The subject matter of the report relates to the requirements of the permit which includes compliance with the PSA and C.F.R. Parts 194 and 195. The argument is not supported in law and is misplaced. It is yet another variation of the first two arguments presented to exclude relevant testimony. It should be rejected accordingly.

Keystone's motion claims that "Kuprewicz's opinions about (1) the sufficiency of Keystone's risk assessment; (2) the adequacy of the number and placement of valves and (3) the safety of the pipeline due to its routing in areas of high landslide potential, should be excluded." As discussed above, the May 2014 PHMSA letter (RST Exhibit 4 at page 2) explicitly informed TransCanada that no federal agency has the power to determine the siting of oil pipelines and therefore this responsibility rests largely with the individual states. Moreover, the letter also specifies that "[f]ederal law recognizes the right of states to adopt federal safety standards and to inspect, regulate and take enforcement action against the operators of pipelines within their borders." (RST Exhibit 4 at page 2) As such, it is clear from RST Exhibit 4 that the Kuprewicz report does not address issues of pipeline safety that are outside the scope of the PUC's jurisdiction.

A discussion of the PUC's jurisdiction is required. The PUC derives its jurisdiction from SDCL 49-41B, SDCL 49-01 and 1-26. Pursuant to SDCL 49-01 "Public Utilities Commission,"

the PUC may promulgate rules subject to the requirements of SDCL 1-26 "Administrative Procedures Act." As it relates to the current motion, the PUC's rulemaking authority is limited to the confines and parameters of SDCL 1-26 and SDCL 49-34B-3 "Pipeline safety inspection program created" and SDCL 49-34B-4 "Promulgation of safety standards Considerations."

SDCL 49-34B-3 created the PUC's pipeline safety inspection program and provides that the federal safety standards adopted as Code of Federal Regulations, title 49 Parts 191, 192, 193, and 199 as amended to January 12, 2012, are adopted as the minimum safety standards for this chapter. The same statute also requires the PUC to establish and implement a compliance program to enforce these safety standards. The program is required to be established and implemented in a manner that fully complies with the requirements for state certification under the United States Code, title 49, section 60105, as amended to January 12, 2012 which the PUC has done. See http://www.puc.sd.gov/pipelinesafety/default.aspx SDCL 49-34B-3 specifically omits C.F.R. 49 parts 194 and 195, the implementing regulations for the PSA. If Keystone is trying to assert that the PUC is somehow acting contrary to its duties under the law regarding the creation and enforcement of pipeline safety standards in violation of law, then that matter could be taken up elsewhere.

This is not a case where there are any allegations that the PUC has sought to do so. This is a certification proceeding under SDCL 49-41B-27 whereby the applicant must prove that the facts underlying the conditions upon which the permit was granted are the same today as they were when the permit issued. Preemption is a doctrine used to challenge the authority of state or local government actions in certain areas of law, rather than a mechanism designed to be used to exclude testimony. If the ability of the PUC to issue permits for the construction and operation

of pipeline facilities was truly preempted by federal law, then the PUC would not have the authority to issue these permits.

Clearly the PUC does not have state or federal authority to enact or enforce crude oil pipeline safety standards. There is no indication that it is attempting to do so. The PUC has the statutory jurisdiction and authority to issue permits for the construction and operation of energy transmission facilities; to require that facilities that are granted a permit apply with all applicable laws; (including laws that originate federally) the PUC has the jurisdiction to examine compliance with all required permits and applicable laws, to revoke or suspend permits, to prosecute for violations of the same, to deny applications for permits and to certify conditions of permits. In order to carry out its functions under law, the PUC must be able to examine the contents and requirements of the permits it issues, apply testimony and evidence and make determinations as to compliance with permit conditions.

The PUC possesses what could be referred to as "investigatory jurisdiction." The PUC has the jurisdiction to fully investigate all of the matters that are properly before it. By statute, the PUC has the power to make rules necessary to carry out the law, is required to have regular hearings, to remain in continuous operation, to issue orders, to regulate the manner in which parties conduct themselves before the commission, to issue subpoenas, to hear contested cases, to require written testimony to be prefiled, to follow the South Dakota Rules of Civil procedures in its proceedings, to deny, revoke or suspend permits among other powers. Clearly the PUC must have the power and jurisdiction to investigate all of the matters that are properly put before it under the law and to make appropriate decisions accordingly.

Keystone makes reference to Conclusion of Law 12 to support its motion to exclude testimony as well. Conclusion of Law 12 states that "PHMSA is delegated exclusive authority

over the establishment and enforcement of safety-orientated design and operational standards for hazardous materials pipelines. 49 USC 60101, et.seq." Rosebud takes no exception to this reference. If this were a case whereby the PUC was attempting to "establish or enforce" safety-orientated design and operational standards for hazardous material pipelines that are in excess of minimum federal standards, as previously stated, those actions would not be permissible consistent with South Dakota and federal laws. The SD legislative scheme does not permit the PUC to enact or enforce pipeline safety laws that are more stringent than federal standards. SDCL 49-34B-4 and SDCL 49-34B-3.

The PUC regularly considers evidence and testimony regarding laws that originate at the federal level in many of its transactions. The Commission has done so in this docket and other interstate pipeline dockets as well. We can only assume that it will continue to do so for as long as the law requires it to do so. Keystone is asking the PUC to stop engaging in that process by requesting that Kuprewicz's testimony be excluded.

By way of example, and not limited to the following, Keystone has submitted direct testimony from the following witnesses Heidi Tillquist and Meera Kothari regarding matters that have their origin in federal law and are outside of the PUC's jurisdiction. Under Keystone's theory, that testimony should also be excluded. Through direct testimony, these witnesses are testifying at a minimum, to Keystone's current compliance with the PSA and PHMSA compliance regarding 49 C.F.R. parts 194 and 195 each of which requires compliance with laws and regulations that originate beyond the PUC's jurisdiction.

Furthermore, the PUC heard testimony from these and other witnesses in HP 09-001 on matters that originate beyond the scope of the PUC's jurisdiction. The PUC did not reject those requirements and laws, rather the PUC adopted some of them and required those laws and

requirements to be part of the permit conditions. Clearly, the PUC has previously considered matters that originate outside of its jurisdiction and required that Keystone comply with each of those requirements as evidenced by Amended Permit Condition 1.

Specifically related to the pending docket, Keystone offers the testimony of Heidi Tillquist, an environmental toxicologist and consultant for Keystone. Her direct testimony (attached as RST Exhibit 5, is attached and incorporated by reference herein) in the present docket states that she will testify about risk assessments related to the project, route changes in the project, the probability of spills occurring within High Consequence Areas (RST Exhibit 5 at at page 2) and issues related to worst case spill scenarios, environmental clean-up and the potential impacts to groundwater resources (RST Exhibit 5 at page 3). All of these topics are related to compliance with requirements of the PSA, an area of federal law that originates beyond the jurisdiction of the PUC, yet is still a requirement of the permit. She also testified for Keystone in Docket HP 07-001 and in Docket HP 09-001 on similar issues.

In Docket HP 09-001 Ms. Tillquist testified about the risks associated with siting the pipeline in high risk landslide areas and the manner in which the risk assessment for seismic and landslide areas was performed. Again, the acceptance of this testimony demonstrates the Commission's concern and authority to require compliance with federal laws and safety regulations in the context of the permitting process. Keystone seeks to exclude Kuprewicz's testimony, which addresses some of the same issues. Said motion should be denied accordingly.

To further demonstrate Keystone's understanding that Keystone must comply with the requirements of federal law in operation of the Project (and that such compliance is related to the PUC's regulatory and investigative jurisdiction over the matter before it), Keystone also offers the testimony of Meera Kothari, manager, technical services pipeline engineering for Keystone

oil projects. This testimony is attached as RST Exhibit 6 and incorporated by reference herein. This witness has oversight responsibility for design and engineering for the Project. (RST Exhibit 6 at page 1.) This witness also testified before the PUC in Docket HP 07-001 and HP 09-001. In the current proceeding, the witness will testify to portions of Appendix C of the Application, finding numbers 60, 61, 62, 63, 68, 83, 90 and 107 in addition to design and construction of the project and PHMSA compliance. (RST Exhibit 6 at page 2.) At a minimum the testimony related to PHMSA compliance is associated with matters and requirements that originate in federal law, but are not out of the reach of the PUC 's investigative jurisdiction.

There was nothing in the original permit proceeding that prohibited the PUC from applying and requiring compliance with laws and regulations that originate in federal law. In fact, many of the current permit conditions require compliance with federal laws, often times whose compliance and enforcement are outside of the province of the PUC itself. Many other PUC permits require compliance with federal laws. There is nothing in the certification statute or other state statutes which prohibits the PUC from examining the permit conditions along with Keystone's certification petition and reaching a conclusion as to (1) whether Keystone can continue to meet the Amended Permit Conditions and (2) whether there have been changes in the findings of fact on which the Amended Permit Conditions and the PUC's 2010 Decision to grant the permit were based.

The Proper Standard to Consider

The Rosebud Sioux Tribe has prefiled the direct testimony of Mr. Kuprewicz as expert testimony and intends on offering the in person testimony of Mr. Kuprewicz as a pipeline safety expert at the evidentiary hearing scheduled for July 27-30 and August 3 and 4, 2015, consistent

with the requirements of the Rules of Civil Procedure. The admission of this witness' expert testimony is governed by SDCL 19-15-2 (Rule 702), not the preemption doctrine.

The admission of expert testimony is governed by SDCL 19-15-2 (Rule 702), which provides:

> If scientific, technical, or otherwise specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise. State vs. Guthrie, 627 N.W.2d 401 (2001).

Courts must address two preliminary issues prior to determining the admissibility of expert testimony. First, expert testimony must be relevant to the matter in question and secondly the opinion must assist the fact finder in understanding the evidence or deciding the issues. *State vs. Guthrie*. Keystone has not asked the PUC to consider either of these factors, nor have they asked the PUC to consider SDCL 19-15-2 (Rule 702) in its decision.

Relevant evidence is "evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." SDCL 19-12-1. The Kuprewicz report is directly relevant to a meaningful evaluation of the key elements of proof that the PUC considers based on SDCL 49-41B-22. The report offers opinions about (1) the sufficiency of Keystone's risk assessment; (2) the adequacy of the number and placement of valves and (3) the safety of the pipeline due to its routing in areas of high landslide potential. These opinions will assist the PUC in examining the permit conditions along with Keystone's certification petition and reaching a conclusion as to (1) whether Keystone can continue to meet the Amended Permit Conditions and (2) whether there have been changes in the findings of fact on which the Amended Permit Conditions and the PUC's 2010 Decision to grant the permit were based.

The relevant questions in determining the admissibility of expert testimony are (1) is the evidence sought to be excluded relevant, (2) if it is relevant is the testimony based on reliable methods and experiences and (3) if it is based upon a reliable foundation, does the opinion on the ultimate issue help the finder of fact with deciding the issue. By these proper standards, the Kuprewicz report is highly admissible. In its motion to exclude Kuprewicz's testimony, Keystone has ignored these rules for determining admissibility.

Conclusion

If accepted by the PUC, Keystone's arguments and theories would place the PUC in the untenable position of not being able to look at evidence on matters relating to the PSA and 49 C.F.R. parts 194 and 195 to determine if the applicant has met its burden of proof for certification, simply because the topic of pipeline safety and design operational standards originate within federal law. Granting Keystone's motion also calls into question the authority of the PUC to even issue permits that require compliance with the PSA and 49 C.F.R. parts 194 and 195 for the construction and operation of crude oil pipelines. This is an absurd interpretation of the law, resulting in an even more absurd result, and must be denied.

The report offers opinions about (1) the sufficiency of Keystone's risk assessment; (2) the adequacy of the number and placement of valves and (3) the safety of the pipeline due to its routing in areas of high landslide potential. These opinions will assist the PUC in examining the permit conditions along with Keystone's certification petition and reaching a conclusion as to (1) whether Keystone can continue to meet the Amended Permit Conditions and (2) whether there have been changes in the findings of fact on which the Amended Permit Conditions and the PUC's 2010 Decision to grant the permit were based

Based on the foregoing, the Rosebud Sioux Tribe respectfully requests that the motion to exclude testimony be denied.

Dated this 2nd day of June, 2015.

RESPECTFULLY SUBMITTED:

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CERTIFICATE OF SERVICE

I certify that on the 2nd day of June, 2015, on behalf of the Rosebud Sioux Tribe, the original Response to Motion to Exclude Testimony of Richard Kuperewicz, RST Exhibits 1, 2, 3, 4, 5 and 6 in Case Number HP-14-001 was filed with the Public Utilities Commission of the State of South Dakota e-filing website and also that on this day a true and correct copy was sent via email and/or U.S. Mail first class postage prepaid to the following persons, as designated:

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Matthew L. Rapppold
Matthew L. Rappold

RST Exhibit 1

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF TRANSCANADA KEYSTONE PIPELINE, LP FOR ORDER ACCEPTING CERTIFICATION OF PERMIT ISSUED IN DOCKET HP09-001 TO CONSTRUCT THE KEYSTONE XL PIPELINE	DIRECT TESTIMONY OF RICHARD KUPREWICZ HP14-001

Q: Please state your name?

A: Richard Kuprewicz.

Q: Who is your employer?

A: I am the President of Accufacts, Inc.

Q: Describe your relevant educational, experience and employment background?

A: I took my M.B.A. from Pepperdine University in 1976, my B.S. in Chemical Engineering and B.S. in Chemistry from University of California Davis in 1973. I currently serve as a member representing the public on the federal Technical Hazardous Liquid Pipeline Safety Standards Committee (THLPSSC which is a technical committee established by Congress to advise PHMSA on pipeline safety regulations whose committee members are appointed by the United States Secretary of Transportation. I have previously served on an Executive subcommittee that advised Congress and PHMSA on a report that culminated into new federal rules concerning Distribution Integrity Management Program (DIMP) gas distribution pipeline safety regulations.

Additional relevant educational and employment background history is contained in my resume and CV which is attached and incorporated by reference as if reiterated in full herein as Rosebud Sioux Tribe (RST) Exhibit 8.

Q: What type of services does Accufacts, Inc. provide?

A: As President of Accufacts, Inc., I serve as a pipeline regulatory advisor, incident investigator, and expert witness on all matters related to gas and liquid pipeline siting, design, operation, maintenance, risk analysis, and management. I specialize in gas and liquid pipeline investigation, auditing, risk management, siting, construction, design, operation, maintenance, training, SCADA, leak detection, management review, emergency response, and regulatory development and compliance. I have consulted for various local, state and federal agencies, NGOs, the public, and pipeline industry members on pipeline regulation, operation and design, with particular emphasis on operation in unusually sensitive areas of high population density or environmental sensitivity.

Q: On whose behalf are you here today?

A: I am appearing as an expert witness on behalf of the Rosebud Sioux Tribe.

Q: Were you involved in the preparation of any reports regarding the applicants Petition for Order Accepting Certification of the Permit Issued on Docket HP09-001 to Construct the Keystone Xl Pipeline?

A: Yes, I prepared a report dated April 23, 2015 for the Rosebud Sioux Tribe documenting Accufacts, Inc., expert opinion which addresses certain aspects of TransCanada's petition for Certification currently pending before the Public Utilities Commission.

Q: Does the report contain opinions and conclusions regarding the applicants petition for Order Accepting Certification of the Permit issued on Docket HP09-001? If so, what are the conclusions in your report based on?

A: The report contains opinions and conclusions that are drawn from my knowledge, skill, experience, training, and education. The report is based on sufficient data and is the product of the application of reliable principles and methods which were reliably applied to the facts of this case.

Q: To your knowledge, has this report been submitted to the South Dakota Public Utilities Commission for consideration in these proceedings?

A: Yes, Accufacts, Inc. report dated April 23, 2015 is attached as RST Exhibit 9 and incorporated by reference as if reiterated in full herein.

Q: Since the date of your report, have there been any changes to the information contained in the report referred to as RST Exhibit 9?

A: No, there have not been any changes to the information contained in the report referred to in RST Exhibit 9.

Q: Does this conclude your testimony in this matter?

A: Yes, my testimony is contained in the report referred to in RST Exhibit 9 and I would welcome the opportunity to speak regarding the information, findings and conclusions as contained in the report referred to in RST Exhibit9.

RST Exhibit 2

Curriculum Vitae.

Richard B. Kuprewicz

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Profile:

As president of Accufacts Inc., I specialize in gas and liquid pipeline investigation, auditing, risk management, siting, construction, design, operation, maintenance, training, SCADA, leak detection, management review, emergency response, and regulatory development and compliance. I have consulted for various local, state and federal agencies, NGOs, the public, and pipeline industry members on pipeline regulation, operation and design, with particular emphasis on operation in unusually sensitive areas of high population density or environmental sensitivity.

Employment:

Accufacts Inc. **1999 – Present**

Pipeline regulatory advisor, incident investigator, and expert witness on all matters related to gas and liquid pipeline siting, design, operation, maintenance, risk analysis, and management.

Position: President
Duties:
> Full business responsibility
> Technical Expert

Alaska Anvil Inc. **1993 – 1999**

Engineering, procurement, and construction (EPC) oversight for various clients on oil production facilities, refining, and transportation pipeline design/operations in Alaska.

Position: Process Team Leader
Duties:
> Led process engineers group
> Review process designs
> Perform Hazard analysis
> HAZOP Team leader
> Assure regulatory compliance in pipeline and process safety management

ARCO Transportation Alaska, Inc. **1991 - 1993**

Oversee Trans Alaska Pipeline System (TAPS) and other Alaska pipeline assets for Arco, after Exxon Valdez event.

Position: Senior Technical Advisor
Duties:
> Access to all Alaska operations with partial Arco ownership
> Review, analyse major Alaska pipeline projects

ARCO Transportation Co. **1989 – 1991**

Responsible for strategic planning, design, government interface, and construction of new gas pipeline projects, as well as gas pipeline acquisition/conversions.

Position: Manager Gas Pipeline Projects
Duties:
> Project management
> Oil pipeline conversion to gas transmission
> New distribution pipeline installation
> Full turnkey responsibility for new gas transmission pipeline, including FERC filing

Four Corners Pipeline Co. **1985 – 1989**

Managed operations of crude oil and product pipelines/terminals/berths/tank farms operating in western U.S. including, regulatory compliance/spill response, and telecommunications & SCADA organizations supporting operations.

Position: Vice President and Manager of Operations
Duties:
> Full operational responsibility
> Major ship berth operations
> New acquisitions
> Several thousand miles of common carrier and private pipelines

Arco Product CQC Kiln **1985**

Operations manager of new plant acquisition, including major cogeneration power generation, with full profit center responsibility.

Position: Plant Manager
Duties:
> Team building of new facility that had been failing
> Plant design modifications and troubleshooting
> Setting expense and capital budgets, including key gas supply negotiations
> Modification of steam plant, power generation, and environmental controls

Arco Products Co **1981 - 1985**

Operated Refined Product Blending, Storage and Handling Tank Farms, as well as Utility and Waste Water Treatment Operations for the third largest refinery on the west coast.

Position: Operations Manager of Process Services
Duties:
> Modernize refinery utilities and storage/blending operations
> Develop hydrocarbon product blends, including RFGs
> Modification of steam plants, power generation, and environmental controls
> Coordinated new major cogeneration installation, 400 MW plus

Arco Products Co **1977 - 1981**

Coordinated short and long-range operational and capital planning, and major expansion for two west coast refineries.

Position: Manager of Refinery Planning and Evaluation
Duties:
> Establish monthly refinery volumetric plans.
> Develop 5-year refinery long range plans
> Perform economic analysis for refinery enhancements
> Issue authorization for capital/expense major expenditures

Arco Products Co **1973 - 1977**

Operating Supervisor and Process Engineer for various major refinery complexes.

Position: Operations Supervisor/Process Engineer
Duties:
> FCC Complex Supervisor
> Hydrocracker Complex Supervisor
> Process engineer throughout major integrated refinery improving process yield and energy efficiency

Qualifications:

Currently serving as a member representing the public on the federal Technical Hazardous Liquid Pipeline Safety Standards Committee (THLPSSC), a technical committee established by Congress to advise PHMSA on pipeline safety regulations.
Committee members are appointed by the Secretary of Transportation.

Served seven years, included position as its chairman, on the Washington State Citizens Committee on Pipeline Safety (CCOPS).
Positions are appointed by the governor of the state to advise federal, state, and local governments on matters related to pipeline safety, routing, construction, operation and maintenance.
Served on Executive subcommittee advising Congress and PHMSA on a report that culminated into new federal rules concerning Distribution Integrity Management Program (DIMP) gas distribution pipeline safety regulations.

As a representative of the public, advised the Office of Pipeline Safety on proposed new liquid and gas transmission pipeline integrity management rulemaking following the pipeline tragedies in Bellingham, Washington (1999) and Carlsbad, New Mexico (2000).

Member of Control Room Management committee assisting PHMSA on development of pipeline safety Control Room Management (CRM) regulations.

Certified and experienced HAZOP Team Leader associated with process safety management and application.

Education:

MBA (1976)	Pepperdine University, Los Angeles, CA
BS Chemical Engineering (1973)	University of California, Davis, CA
BS Chemistry (1973)	University of California, Davis, CA

Publications in the Public Domain:

1. "An Assessment of First Responder Readiness for Pipeline Emergencies in the State of Washington," prepared for the Office of the State Fire Marshall, by Hanson Engineers Inc., Elway Research Inc., and Accufacts Inc., and dated June 26, 2001.

2. "Preventing Pipeline Failures," prepared for the State of Washington Joint Legislative Audit and Review Committee ("JLARC"), by Richard B. Kuprewicz, President of Accufacts Inc., dated December 30, 2002.

3. "Pipelines - National Security and the Public's Right-to-Know," prepared for the Washington City and County Pipeline Safety Consortium, by Richard B. Kuprewicz, dated May 14, 2003.

4. "Preventing Pipeline Releases," prepared for the Washington City and County Pipeline Safety Consortium, by Richard B. Kuprewicz, dated July 22, 2003.

5. "Pipeline Integrity and Direct Assessment, A Layman's Perspective," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated November 18, 2004.

6. "Public Safety and FERC's LNG Spin, What Citizens Aren't Being Told," jointly authored by Richard B. Kuprewicz, President of Accufacts Inc., Clifford A. Goudey, Outreach Coordinator MIT Sea Grant College Program, and Carl M. Weimer, Executive Director Pipeline Safety Trust, dated May 14, 2005.

7. "A Simple Perspective on Excess Flow Valve Effectiveness in Gas Distribution System Service Lines," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated July 18, 2005.

8. "Observations on the Application of Smart Pigging on Transmission Pipelines," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated September 5, 2005.

9. "The Proposed Corrib Onshore System An Independent Analysis," prepared for the Centre for Public Inquiry by Richard B. Kuprewicz, dated October 24, 2005.

10. "Observations on Sakhalin II Transmission Pipelines," prepared for The Wild Salmon Center by Richard B. Kuprewicz, dated February 24, 2006.

11. "Increasing MAOP on U.S. Gas Transmission Pipelines," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated March 31, 2006. This paper was also published in the June 26 and July 1, 2006 issues of the Oil & Gas Journal and in the December 2006 issue of the UK Global Pipeline Monthly magazines.

12. "An Independent Analysis of the Proposed Brunswick Pipeline Routes in Saint John, New Brunswick," prepared for the Friends of Rockwood Park, by Richard B. Kuprewicz., dated September 16, 2006.

13. "Commentary on the Risk Analysis for the Proposed Emera Brunswick Pipeline Through Saint John, NB," by Richard B. Kuprewicz, dated October 18, 2006.

14. "General Observations On the Myth of a Best International Pipeline Standard," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated March 31, 2007.

15. "Observations on Practical Leak Detection for Transmission Pipelines – An Experienced Perspective," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated August 30, 2007.

16. "Recommended Leak Detection Methods for the Keystone Pipeline in the Vicinity of the Fordville Aquifer," prepared for TransCanada Keystone L.P. by Richard B. Kuprewicz, President of Accufacts Inc., dated September 26, 2007.

17. "Increasing MOP on the Proposed Keystone XL 36-Inch Liquid Transmission Pipeline," prepared for the Pipeline Safety Trust by Richard B. Kuprewicz, dated February 6, 2009.

18. "Observations on Unified Command Drift River Fact Sheet No 1: Water Usage Options for the current Mt. Redoubt Volcano threat to the Drift River Oil Terminal," prepared for Cook Inletkeeper by Richard B. Kuprewicz, dated April 3, 2009.

19. "Observations on the Keystone XL Oil Pipeline DEIS," prepared for Plains Justice by Richard B. Kuprewicz, dated April 10, 2010.

RST Exhibit 3

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"Clear Knowledge in the Over Information Age"

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Date: April 23, 2015

To: The Rosebud Sioux Tribe

Re: Accufacts Expert Observations on Certain Aspects in the Matter of the TransCanada Keystone XL Pipeline Before the Public Utilities Commission of the State of South Dakota ("PUC")

1. Introduction

Accufacts Inc. ("Accufacts") was asked to review TransCanada's ("TC") latest submission for a permit approval to the PUC, and comment on various aspects related to the proposed 36-inch Keystone XL Pipeline as to its possible effect on the Rosebud Sioux Tribe ("RST"), especially their water resources. Given the apparent failure to clearly answer Information Requests ("IRs") to provide certain key information about the pipeline on an elevation profile within South Dakota, and the compressed as well as accelerated timing of the permit process, my observations will focus on three specific areas of concern:

1. Risk Assessment Approaches
2. Oil Spill Response Plans, and
3. related Worst-Case Scenarios.

The proposed routing in South Dakota is in areas of steep elevation changes containing high risk geohazards associated with possible massive landslide. Accufacts concludes that the proposed routing in South Dakota places the proposed pipeline at undue risk of rupture with massive release of oil, even with the proposed valving suggested under Special Conditions No. 32. Such a rupture release would not, in all likelihood, threaten the RST water sources identified to Accufacts, although effective cleanup/remediation of ruptures into the rivers would be most unlikely, despite extensive and expensive efforts in this challenging terrain, and could be devastating to the state. No pipeline can be designed or appropriately mitigated to withstand abnormal loading forces from massive landslide that usually result in rupture, not even new so-called "robust" pipelines. The high risk of landslide identified in the Final Supplemental Environmental Impact Statement ("FSEIS") should be verified in South Dakota; if confirmed, the pipeline should be rerouted to avoid areas with high risk of

landslide or additional valving installed to reduce draindown volume in the event of a rupture in these high-risk locations.[1]

As discussed below, a rupture will likely release a very large volume of oil in these unique and steep locations that will not be effectively mitigated in this challenging environment. An oil spill plan should also include dealing with a possible release in the critical Ogallala Aquifer; this type of release will also require a large remediation effort, but it will be very different from the effort required for a rupture. The Keystone XL oil spill plans should be independently reviewed and made public to assure their effectiveness when needed, given the many demonstrated past failures of such plans to be truly effective, the unusually high potential volume of oil that may be released in this terrain, and the remarkably low amount of released oil that will actually be recovered in the event of a spill.

2. Keystone XL Submitted Risk Assessments

The Pipeline Elevation Profile is Key to a PUC Keystone XL Evaluation

Elevation profiles, such as the attached Figure 1, are the soul of a liquid pipeline design, siting, operation, and risk management evaluation, and are basic to any liquid pipeline project consideration. To suggest that development of a pipeline elevation profile including related and required operational information (such as MOP and hydraulic profile that should be included on this important exhibit) is onerous as indicated by TC representatives, is disingenuous. Critical additional information should be placed on Figure 1 to convey simple but important concepts, such as prudent routing regarding this pipeline. It is worth noting that additional information requested in previous IRs related to the elevation profile (particularly RST IR 1 (Round 2)) has not been provided by TC to date. This information, which would permit a truly informed evaluation of the project route proposal in South Dakota, will be further discussed below.

Figure 1 is a "South Dakota Elevation Profile with Valves" finally produced by TC (after much effort by the RST attorney) with some additional information added by Accufacts. Accufacts has added:

1. river names that will be crossed by Horizontal Directional Drilling, or HDD,
2. pump station, or PS, numbers, and
3. general areas identified in the Keystone XL FSEIS as LSHR High Risk usually indicative of landslide sensitive areas.[2]

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[1] Keystone XL Project Final Supplemental Environmental Impact Statement, "Table 3.1-6, Location within LSHR High- Risk Category along the Proposed Project Corridor," p. 3.1-31.

In addition, Accufacts has added to Figure 1 the approximate Keystone milepost locations for: 1) two sensitive water source pipeline crossings, 2) the proposed pipeline segments that cross the Ogallala Aquifer including the approximate RST well locations in the aquifer in relation to the pipeline milepost, and 3) the Cheyenne River pipeline crossing. All of these have been identified as important water supply sources to the RST.

The nature of a pipeline release falls into two major categories: 1) leaks - lower rate releases through fixed pipe wall penetrations such as crack or pit hole corrosion, which can be intermittent, and 2) ruptures – high rate releases through large openings associated with pipe fracture mechanics associated with larger anomalies that can fail, or girth weld failure/separation from massive land movement that generates severe abnormal loading, such as a sudden "breakaway" landslide.

Accufacts concludes that the risk of the Keystone XL proposal to the two RST water supply pipeline crossings (see Figure 1) is not a substantial risk as pipeline operation can easily prevent interaction that could interfere with either the oil or water pipelines. It is my understanding that much of the state gets its water from the Missouri River so the impact on the state's overall water supply should the pipeline rupture and threaten this resource needs to be properly evaluated. An overall state water impact supply study was not done by Accufact's as our work scope was limited to water sources directly supplying RST. Likewise, the threat of oil spill contamination to the Cheyenne River, while a major source of water supply to RST, will not likely reach this RST water supply located more than 100 miles downstream of the oil pipeline's crossing that also has a dam before the water intakes. Accufacts by no means is trying to downplay the consequences of a Keystone XL Pipeline oil spill rupture in the Cheyenne River to the local economy. Of the RST water supplies reviewed, I see the greater potential threat to RST water concerns related to a possible pipeline leak release in the segment spanning the Ogallala Aquifer. Even a slow rate leak release, while very difficult to identify in a timely manner, would most likely, however, not endanger the RST aquifer water wells located some four miles distance from the pipeline. Release into the non-karst Ogallala Aquifer could be remediated as the spread of contamination would be restricted significantly when the released warmed oil thickens as it cools, slowing underground transport velocities. Thus Accufacts concludes, while the questions and concerns by the RST on water sources are understandable, the water sources are not really threatened by the pipeline's proposal.

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[2] Figure 1 still has important information missing that was requested of TransCanada in IRs to allow a more thorough analysis by Accufacts.

Keystone XL Submitted Risk Assessments

It is often a misconception that historical databases such as those currently utilized by the Pipeline and Hazardous Material Safety Administration ("PHMSA"), the federal agency charged with the jurisdiction of pipeline safety, actually capture risks associated with pipeline operation, especially a specific pipeline. While improvements have been made in the past decade in reporting pipeline incident data to this federal pipeline safety organization, these databases are far from complete, and there is no real penalty for introducing incomplete, misleading, or false data into the reporting databases (PHMSA is not even allowed to correct such misinformation). The fact of the matter is that government pipeline "accident" databases are not auditable by an independent party to assure completeness or accuracy. Thus, historical databases must be applied with a major degree of caution when trying to determine possible threat risks to a specific pipeline. It is also important that for a specific pipeline that is especially "different," that risk threat analysis focus on those threats that may be specific to the particular pipeline, its operation, and its location, which can be highly unique. Such is the case as demonstrated in Figure 1 where steep terrain located in areas of "High Risk" to landslides are present. In such situations historical "incident" databases are fairly irrelevant, even misleading, resulting in poor risk management practices that miss very real risks that can lead to rupture.

A "looking backward" risk assessment approach is especially incomplete given my many investigations in which the number of incidents and volume of oil spilled release estimates based on industry spill reports were historically inaccurate. Industry oil spill release reported volumes tend to understate the actual oil released, especially in rupture release events. This has been demonstrated in numerous pipeline releases where reported oil releases volumes were woefully understated and Oil Spill Response seriously delayed, ill equipped, inadequate, and ineffective resulting in very little released oil actually being recovered.[3] The critical issue is whether the proposed pipeline, for its flow rate and in its location, would be capable of releasing oil volumes that have nothing to do with unrelated past pipeline releases. The elevation profile and additional information that should be included on such a document, and as requested in submitted IRs, is the primary method utilized to ascertain possible risks and oil spill release volumes, especially as they relate to worst-case release estimates. Elevation profiles are also pivotal in decisions related to placing and establishing key pipeline equipment (such as valving), their operation and effectiveness evaluation (i.e., remote monitoring, actuation vs. manual), and other important pipeline considerations key to pipeline siting, design, safety, decisions as well as Oil Spill Response development.

[3] For example, the Enbridge Marshall, MI, the Exxon Mobil Yellowstone River and Pegasus Pipeline, and the Poplar Pipeline Yellowstone River recent pipeline ruptures.

To perform a true risk assessment on a specific pipeline, the elevation profile (graph of pipeline elevation versus milepost) must:

1. include the milepost location of pump stations and mainline valves along the pipeline (including general valve type (e.g., check valve), and whether remotely or manually operated,
2. indicate the maximum operating pressure, or MOP, along the pipeline as its can vary, depending on design,
3. include the hydraulic profile (operating pressure vs milepost) for the stated maximum flow rate case,[4]
4. clearly identify areas of possible massive land movement or possible abnormal loading along the pipeline as such movement can result in pipeline rupture,
5. identify HCAs, such as sensitive water sources, and other areas along the pipeline that might be affected in the event of an oil release.

The above information incorporated in one document (depending on the segments being reviewed) along with certain other key pipeline information allows for easy and quick risk assessment screening on a specific pipeline.

Despite repeated IR requests for the above information, TC did not provide the information that would permit such a professional and prudent analysis. Some information, see Figure 1 (without the HCA designations), was finally produced by TransCanada and supplied to Accufacts on April 13, 2015 labeled as "South Dakota Elevation Profile with Valves." This elevation profile was supplemented with information from the FSEIS, as well as water resource information from representatives of the RST. And the supplemented elevation profile allowed Accufacts to perform a preliminary risk analysis based on certain key assumptions, such as to rate and reported geohazard analysis.[5] It has been stated that the capacity of Keystone XL will be 830,000 B/D, or barrels per day, which Accufacts has interpreted as barrels per calendar day (an annual rate) of heavy crude (e.g., dilbit).[6] Hydraulic profiles should be produced on the higher 24-hour B/SD, or barrels per stream day, rate of 922,000 B/SD.[7] There is no way at this time given the limited information provided,

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[4] For example, some pipelines inject drag reducing agents, or DRA to increase the flow rate on a pipeline. Such a DRA case thus sets the maximum flow rate hydraulic profile that should be shown on the elevation profile.

[5] Keystone XL Project Final Supplemental Environmental Impact Statement, "Table 3.1-6, Location within LSHR High- Risk Category along the Proposed Project Corridor," p. 3.1-31.

[6] Energy Systems Battelle Memorial Institute, "Keystone XL Pipeline Independent Engineering Assessment Final Report," December 31, 2013, p. 66.

[7] I have assumed a 90% efficiency to convert B/CD to B/SD. This efficiency factor has been utilized in other dilbit pipeline applications such as those related to recent Presidential Permits.

to determine the impact that injection of drag reducing agent, or DRA, might have on increasing the stream day throughput to an even higher rate. Spill estimated volumes as discussed later will thus utilize a 922,000 B/SD rate.

Certain general conclusions, however, can be derived from the elevation profile information provided by TransCanada supplemented with additional information, as shown in Figure 1. Assuming that the pump stations have bypass arrangements with check valves and remotely operated valving, the pump stations are situated approximately every 50 miles, and mainline valving appears to have been placed to meet Special Condition PHMSA Recommendation No. 32, placing mainline valves at less than (though not much less than) 20 miles to isolate segments of the pipeline. While there is no exact science to valve placement on a pipeline, the elevation profile plays a major role in such valving decisions. When LSHR High Risk areas associated with possible landslide are incorporated as shown in Figure 1, and worst-case rupture scenarios calculated, it becomes clear that the proposed TC valving is seriously inadequate for a high throughput large diameter pipeline in a location of considerable elevation changes.

3. Oil Spill Response Plans

A review of Figure 1 will reveal that the most likely event that could cause rupture in South Dakota appears to be a landslide associated with natural hazards. Landslides are most likely to cause pipeline rupture as pipe cannot withstand the massive forces associated with such sudden breakaway events. The steepness of the terrain also indicates that a rupture release will result in considerable surface migration, either over the ground surface or via river transport should a rupture release reach a river that crosses the pipeline. The potential to rapidly spread in this environment raises a serious question as to whether the 12-hour or even the 6-hour Tier 1 time limit in federal regulations will be appropriate. Landslides are most likely to be associated with high water/rain events (e.g., flash floods) where rivers and streams will be at higher flow. As recent ruptures have indicated in the Yellowstone River, Oil Spill Response can be highly ineffective at containing or recovering spilled oil, which can rapidly spread tens of miles downstream in major riverways. As outlined in the next section, proposed TC valving as suggested from Special Condition Recommended by PHMSA No. 32 is inadequate in certain down sloping segments of this proposed large diameter pipeline located in high-risk landslide hazard areas. Dismissing landslide threats by suggesting they can be mitigated during construction are unrealistic as gravity is never turned off.

In Oil Spill Response plans, it is often problematic that low probability release events such as rupture are unwisely accepted as "no probability" events, resulting in poor planning and staging of equipment, which in turn undermines the effectiveness of such plans when they

are actually needed. This illusion of "no probability" is further compounded by the deception that integrity management programs result in invincible pipe steel. In the cases of too many recent pipeline ruptures, the author has observed management teams whose plans failed to incorporate some degree of challenge or reality check to assure spill risk was really low. Consequently, these plans left companies highly unprepared for a release and especially a rupture. Missing or downplaying landslide risk associated with this poor routing proposal is a classic example of what I call "Space Shuttle Syndrome." By this I mean the erroneous belief that low risk is no risk, when a more frank analysis should easily demonstrate there are linkages that will drive the system to release, especially in environments where Oil Spill Response will not be effective (see Figure 1).

Within the Tripp County pipeline segment spanning the Ogallala Aquifer, Figure 1 clearly indicates that landslide is not a risk of concern for this sensitive RST water supply (see point 2 on Figure 1 for the closest milepost to RST water wells). I conclude that leaks are probably the most likely risk of concern to the water wells located approximately 4 miles from the proposed pipeline. In the event of a pipeline rupture the massive volume of release would show up on the surface of the ground. In the case of leaks, however, such a release cannot be assured to reach the surface to be discovered, but could migrate underground, possibly delaying discovery, especially as internal computer monitoring of this pipeline would make leak detection unreliable for such slower rate releases. It is my conclusion that on this sensitive segment, undiscovered leaks are the most insidious threats. The pipeline will be operating with primarily heavy crude oils (i.e., dilbit) with pipeline operating temperatures greater than 120 °F. Given the unique sensitivity of dilbit viscosity to temperature, it is my opinion that a leak release of dilbit in this area will cool quickly substantially increasing its viscosity and slowing underground migration until it eventually rises to the surface, where it would eventually be discovered well before it might possibly migrate to critical RST water wells. Oil Spill Response and remediation for this segment should focus on surrounding the release site with "reverse flow" injection and soil capture and remediation methods to limit its spread and involves removing underground soil contaminated from spill plumes that may be developed. Such a remediation effort would be very expensive and could take considerable time, but it is not a new science.

4. Worst-Case Release Scenarios

The Keystone XL Pipeline Project, to their credit, has agreed to design and operate their pipeline liquid full, which is called nonslack line, or no column separation. Liquid full design can improve the reliability of the internal remote computer monitoring pipeline systems to more rapidly identify pipeline rupture. Reliability can be improved only if proper transient dynamics have been incorporated into a rupture detection alarming system, and

procedures are in place that require shutdown and isolation of pipeline segments along the system where a rupture may be suspected.[8]

While nonslack line operations are more likely to reduce time to remotely identify a rupture, the elevation profile (see Figure 1) indicates that a combination of factors such as the large pipeline diameter and static drainage will still release substantial volumes of oil in the event of rupture given the current valving proposal, which complies with Special Condition No. 32 for this project, but is still inadequate for this unique terrain. For a flow rate of 922,000 B/SD, identification and shutoff of mainline valves during a rupture within 15 minutes (a fairly aggressive and even optimistic response time given my extensive investigation experience) would produce a worst-case release of slightly over 60,000 barrels of oil subject to a wide variation given the highly transient calculation nature of rupture dynamics in this challenging steep terrain. Control Room pump shutdown response time is not the most leveraging to this value (i.e. not the most important variable affecting the worst-case discharge), but valve closure time is critical. An increase in Control Room pump shutdown response by 15 minutes (not unusual during Control Room emergencies) account for approximately 8,000 incremental barrels from pumping (as a sensitive case).

The drainage, or static draindown volume, at certain locations within South Dakota is the major contributing factor to this Worst-Case Scenario given the large diameter pipeline and the unique and steep elevation profile within landslide areas (which can result in full bore ruptures) in the state for this poor proposed pipeline route (See Figure 1). Additional valves could be added at certain downhill locations. However, gravity can move a lot of oil out of a steep downhill gradient pipeline very quickly. I would therefore advise that rerouting the pipeline out of landslide areas that can cause rupture is the prudent choice that avoids the significant threat to the pipeline at these locations. Given the wide variation in transient calculations associated with full bore rupture dynamics on a large diameter, high-pressure pipeline in steep downhill elevation terrains, the PUC should require TC to produce an estimated oil spill outflow versus pipeline milepost graph for the pipeline reflecting full bore rupture within South Dakota. Additional similar sensitivity graphs reflecting additional 15-minute valve closure intervals should also be produced. Accufacts believes this information will demonstrate the large amount of oil that can be released in this unique terrain for the proposed route.

[8] As demonstrated by many recent pipeline rupture releases, not all pipelines are designed to permit control room operator emergency procedures that require that the pipeline be shut down and isolation valves quickly closed, isolating suspected release segments for various reasons.

5. Conclusions

First, TransCanada should be compelled to provide clear specific information requested in previous IRs (particularly RST IR 1 (Round 2)) concerning additional information that should be incorporated into Figure 1. This information is essential to assist the PUC in making an informed and prudent decision concerning the Keystone XL routing in highly challenging and sensitive terrain within South Dakota.

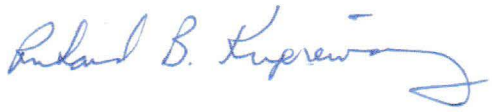
Second, further information is warranted to clarify how much of this terrain identified as High Landslide Hazard Area is really at risk to such massive abnormal loading forces. No pipeline, even new modern "robust" steel pipeline, can withstand the massive abnormal loading forces associated with breakaway landslides. Such forces are much greater than those associated with earthquakes. The science of designing for earthquake faults is well developed, but to date no one has been able to design a pipeline that can withstand a massive landslide that usually results in pipeline rupture.

Third, as described above, the PUC should require TC to produce an estimated oil spill outflow versus pipeline milepost graph for the pipeline reflecting full bore rupture within South Dakota, as well as additional similar sensitivity graphs reflecting additional 15-minute valve closure intervals.

Finally, if the high risk of landslide identified in the Final Supplemental Environmental Impact Statement ("FSEIS") is confirmed with accompanying risk of a massive oil spill, the pipeline should be rerouted to avoid areas with high risk of landslide. If the PUC does not have the authority to reroute the Project, then it should deny the current Petition. If a new permit application is needed, TC should consider mitigating the landslide risks by rerouting the Project.

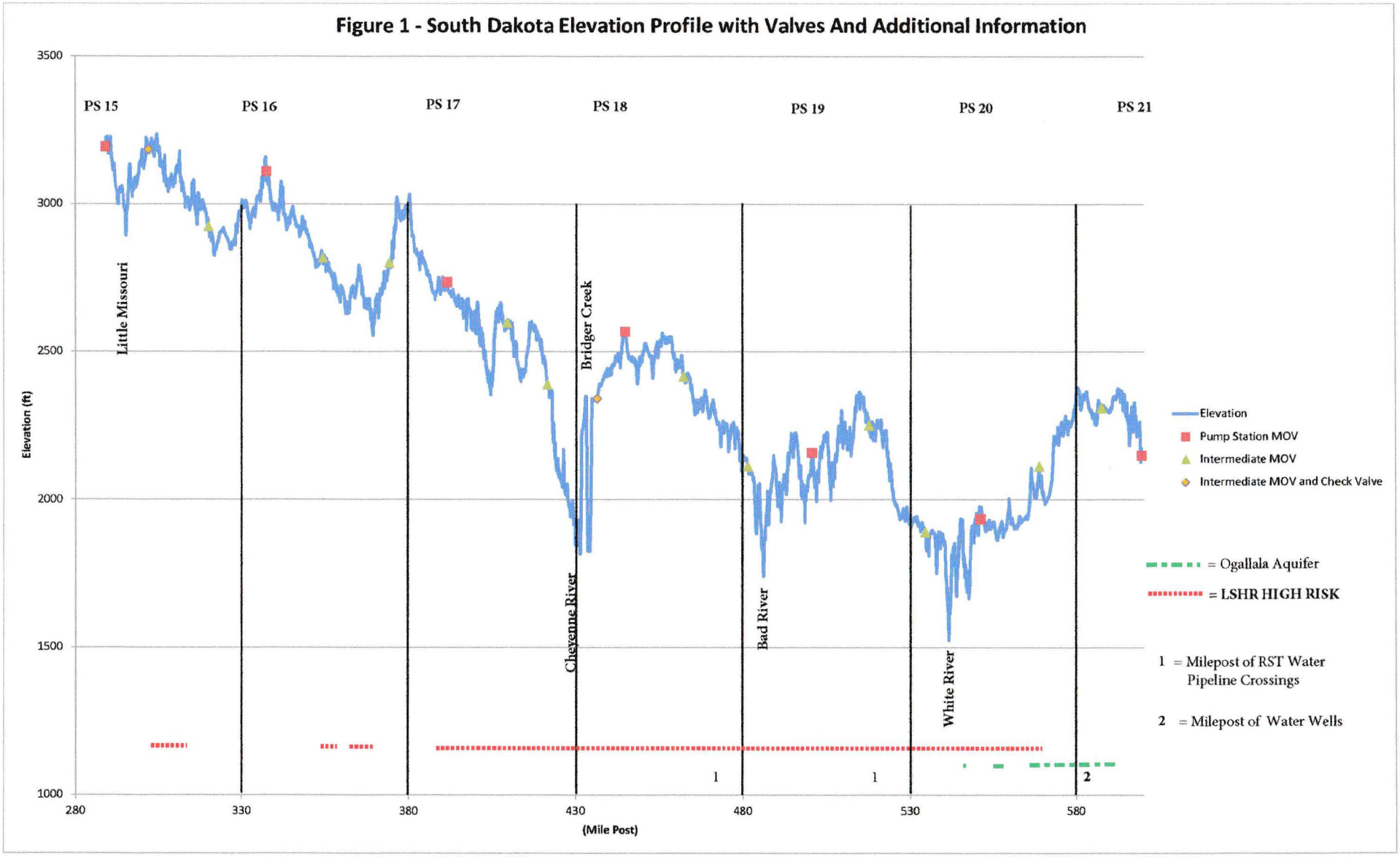
The 59 Special Conditions Recommended by PHMSA underscore why pipeline operators do not want to only comply with minimum federal pipeline safety regulations. Of the 59 Conditions, some are more critical/leveraging toward preventing pipeline failure. None, however, can compensate for poor pipeline route selection through areas at risk from breakaway landslides. As mentioned above, a clear review of Figure 1 will show at-risk landslide segments that cannot be properly dealt with by meeting the Special Conditions (e.g., No. 32). These Special Conditions might be satisfactory for many pipelines, but not this pipeline on this proposed routing, given the very unique risks in South Dakota as discussed above. Rerouting out of such sensitive and risky areas is the only viable solution to preventing pipeline rupture.

While priority is usually not focused on Oil Spill Response planning in great detail for a pipeline that has not been authorized, such plans should eventually incorporate the considerable amount of oil that would be released in this unique and challenging terrain. This is a route where even staged spill response equipment may not be applied fast enough to prevent serious oil release and contamination in an environment where tourism driven by pristine environment is very important. Lastly, special detail is warranted that quantifies how leak releases in the sensitive Ogallala Aquifer would be remediated to assure that an effective and appropriate Oil Spill Response Plan has been developed in advance rather than trying to develop such a scheme when it becomes needed.



Richard B. Kuprewicz
President,
Accufacts Inc.

Figure 1 - South Dakota Elevation Profile with Valves And Additional Information



RST Exhibit 4

U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

May 28, 2014

Mr. Russell K. Girling
President
TransCanada Corporation
450 - 1 Street SW
Calgary, Alberta, Canada
T2P 5H1

RE: Role of U.S. Local Governments in Pipeline Safety

Dear Mr. Girling:

Over the past few months, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has received a number of inquiries regarding the rights of state and local governments to affect the siting, design, construction, operation and maintenance of interstate hazardous liquid pipelines, particularly in light of TransCanada's proposed Keystone Gulf Coast (Keystone XL) Pipeline. While such questions are a normal part of the run-up for any major pipeline project, I wanted you to be aware of the message being conveyed by PHMSA that all three levels of government – federal, state, and local – play an important role in ensuring that the Nation's pipeline system operates safely and efficiently to supply vital energy for the American economy.

As you know, Congress has invested the U.S. Department of Transportation (DOT) with the authority to regulate the design, construction, operation and maintenance of gas and hazardous liquid (primarily oil) pipelines and to protect life, property and the environment from hazards associated with pipeline operations. While the Federal Energy Regulatory Commission (FERC) has exclusive authority to regulate the siting of interstate gas transmission pipelines, no federal agency has the power to determine the siting of oil pipelines. Therefore, the responsibility for siting new interstate oil pipelines such as Keystone XL rests largely with the individual states through which the lines will operate and is governed by state law.

The Role of PHMSA

Under the Federal pipeline safety laws, PHMSA is the DOT agency charged with carrying out a nationwide program for regulating most of the country's oil and gas pipelines. PHMSA takes this responsibility seriously and has developed a regulatory scheme, embodied in 49 C.F.R. Parts 190-199, that sets standards for the design, construction, operation and maintenance of the Nation's 2.6 million miles of pipeline. PHMSA enforces these standards and regulations for interstate pipelines through a civil and criminal enforcement process.

The Role of State Pipeline Regulators

This national regulatory scheme relies heavily upon the efforts of our state partners, who employ roughly 67% of all pipeline inspectors and whose jurisdiction covers approximately 80% of the pipelines subject to minimum Federal standards. Federal law recognizes the right of states to adopt Federal safety standards and to inspect, regulate and take enforcement action against the operators of pipelines within their borders (i.e., intrastate pipelines). This includes the right to impose more stringent safety standards than the Federal minimums, provided the two are compatible.[1]

With passage of the Federal pipeline safety laws, Congress has determined that pipeline safety is best promoted through PHMSA's development of a nationwide set of minimum Federal standards. To ensure compliance with these standards, the Federal pipeline safety laws (49 U.S.C. §§ 60101, *et seq.*) expressly provide that PHMSA and state regulators may share inspection and enforcement responsibilities, subject to PHMSA certification or agreement. Federal preemption of pipeline safety means that neither state nor local governments have any independent authority to regulate pipeline safety but must derive any such authority from federal law. In the case of local governments not subject to federal delegation, they may exercise other powers granted to them under state law but none affecting pipeline safety for those pipelines subject to federal jurisdiction.[2]

The Role of Local Governments

Despite Federal preemption of pipeline safety regulation, the role and powers of local authorities to affect pipeline safety is critical. Local governments have traditionally exercised broad powers to regulate land use and property development, including in the vicinity of pipelines.[3] Nothing in Federal law impinges on these traditional prerogatives of local government, so long as local officials do not attempt to regulate the field of pipeline safety preempted by Federal law. In fact, PHMSA believes that pipeline safety is a responsibility shared by all three levels of government – federal, state, and local – as well as by pipeline operators, excavators, and property owners.

In recognition of this shared responsibility, in 2010 PHMSA launched the Pipelines and Informed Planning Alliance (PIPA) (http://www.pipa-info.com), an initiative to help all

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[1] As of 2013, 14 states have hazardous liquid programs certified by PHMSA under 49 U.S.C. §60105(a) to regulate intrastate pipelines. In addition, PHMSA has approved five states to inspect interstate liquid pipelines within their borders as the agency's "interstate agents."

[2] *Texas Midstream Gas Services, LLC v. City of Grand Prairie,* 608 F.3d 200, 210-211 (5th Cir. 2010). *See also, Schneidewind v. ANR Pipeline Co.,* 485 U.S. 293, 299-300 (1988); *Hillsborough County v. Automated Medical Laboratories, Inc.* 471 U.S. 707, 712 (1985), *citing Gibbons v. Ogden,* 22 U.S. 1 (1824).

[3] A number of local governments have enacted or are developing ordinances to regulate land use and development near transmission pipelines within their respective jurisdictions, including: St. Peters, Missouri; Edison Township, New Jersey; Austin, Texas; Olathe, Kansas; Redmond and Whatcom County, Washington; and Brookings County, South Dakota.

pipeline safety stakeholders define their respective roles related to land use practices near transmission pipelines and to develop best practices. I would encourage TransCanada, as well as other pipeline operators, to adopt these best practices in protecting their existing and proposed rights-of-way, and to engage all stakeholders in promoting the safety of interstate pipelines.[4]

Each community affected by an existing or proposed transmission pipeline faces unique risks, and the control and mitigation of such risks involves a combination of measures employed by facility operators, regulatory bodies, community groups and individual members of the community, in order to be optimally effective. As residences and businesses are increasingly located in close proximity to transmission pipelines, it is important for all stakeholders to carefully consider land use and development plans in order to make risk-informed choices that protect the best interests of both the general public and the individual parties involved.

Depending upon State law, local governments have contributed in many ways to ensuring pipeline safety for their citizens. We have seen localities consider various measures, including:

1. Controlling dangerous excavation activity near transmission pipelines;

2. Limiting certain land use activities along pipeline rights-of-way;

3. Restricting land use and development along transmission pipeline rights-of-way through zoning, setbacks and similar measures;

4. Requiring the consideration of transmission pipeline facilities in proposed local development plans;

5. Designing emergency response plans and training for regulators and operators;

6. Requiring specific building code design or construction standards near pipelines;

7. Improving emergency response and evacuation plans in the event of a transmission pipeline incident; and

8. Participating in Federal environmental studies conducted under the National Environmental Policy Act (NEPA) and similar State laws for new pipeline construction projects.

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[4] The portion of the PIPA website speaking directly to pipeline operators can be found at: http://primis.phmsa.dot.gov/comm/Industry.htm.

Each state treats these issues differently, so pipeline operators should be prepared to deal directly with each locality and state body interested in the siting and construction process. Bringing a pipeline into a community is often a complicated process that requires tremendous coordination and open communication among various stakeholders in order to be successful. We greatly value the efforts of pipeline operators who spend the time and energy to make sure the process goes smoothly and is responsive to all parties involved.

Thank you for your cooperation in this effort.

Sincerely,

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

RST Exhibit 5

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

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HP 14-001

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

DIRECT TESTIMONY OF
HEIDI TILLQUIST

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Pursuant to the Commission's Order Granting Motion to Define Issues and Setting Procedural Schedule, Petitioner TransCanada Keystone Pipeline, LP, offers the following direct testimony of Heidi Tillquist.

1. Please state your name and address for the record.

Answer: My name is Heidi Tillquist. My business address is Stantec Consulting Services Inc., 2950 E. Harmony Road, Suite 290, Fort Collins, CO 80528.

2. Please state your position and provide a description of your areas of responsibility with respect to the Keystone XL Project.

Answer: I am a contractor of Keystone. I am employed as an environmental toxicologist and Director of Oil & Gas Risk Management with Stantec Consulting Services Inc. I have provided environmental consulting services to Keystone with respect to the Keystone XL Project. I am responsible for evaluating risk posed by the Project to human and environmental resources.

3. Please state your professional qualifications and experience with pipeline operations.

Answer: My professional background is stated in my resume, a copy of which is attached as Exhibit A. My education consists of a bachelor's degree in fishery and wildlife biology, and a master's degree in environmental toxicology. In general, I have over 25 years of experience in environmental consulting, including environmental toxicology and conducting environmental risk assessments and water quality assessment and analysis. I have previously testified before the Commission in the permit proceedings concerning the Keystone Pipeline in Docket HP 07-001 and concerning the Keystone XL Pipeline in Docket HP 09-001.

4. Are you responsible for portions of the Tracking Table of Changes attached as Appendix C to Keystone's certification petition?

Answer: Not directly. In general, I can testify to the risk assessments related to the Keystone XL Pipeline, including spill frequency. I am familiar with the design changes addressed in the Tracking Table as a result of Keystone's decision to withdraw its Special Permit application with PHMSA, as well as the minor route variations in South Dakota. The design and route changes have not affected the overall conclusion of the spill frequency analysis to which I testified in connection with the permit application. With respect to Finding No. 50, the minor route changes have caused slight changes resulting in a reduced probability of a spill occurring within High Consequence Areas. As a result, the statement that a spill that could affect an HCA would occur no more than once in 250 years would now be altered to no more than once in 460 years, based on 15.8 miles of HCAs crossed in South Dakota. The 2009 Keystone XL Risk

Assessment, which is Appendix P to the Final Supplemental Environmental Impact Statement, and its conclusions remain valid. .

5. Are you able to address issues related to worst case spill scenarios, environmental cleanup in the event of a spill, and the potential impacts to groundwater resources?

Answer. Yes. I participated in answering discovery in this proceeding with respect to all of these issues. While nothing with respect to these issues has changed since the Amended Final Decision and Order, I can answer questions at the hearing related to these issues.

6. Are you aware of any reason that Keystone cannot continue to meet the conditions on which the Permit was granted by the Commission?

Answer: No. I have reviewed the conditions contained in the Amended Final Decision and Order. With respect to risk assessment and environmental toxicology, the changes discussed in the Tracking Table do not affect Keystone's ability to meet the conditions on which the Permit was granted.

7. Does this conclude your prepared direct testimony?

Answer: Yes.

Dated this 31 day of March, 2015.

Heidi Tillquist

RST Exhibit 6

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

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HP 14-001

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

DIRECT TESTIMONY OF MEERA KOTHARI, P.ENG.

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Pursuant to the Commission's Order Granting Motion to Define Issues and Setting Procedural Schedule, Petitioner TransCanada Keystone Pipeline, LP, offers the following direct testimony of Meera Kothari.

1. Please state your name and address for the record.

Answer: My name is Meera Kothari. My business address is 700 Louisiana Street, Houston, Texas 77002.

2. Please state your position with Keystone and provide a description of your areas of responsibility with respect to the Keystone XL Project.

Answer: I am currently Manager, U.S. Business Development, Liquids Pipelines, for TransCanada, as well as Manager, Technical Services Pipeline Engineering for Keystone Oil Projects. I have oversight responsibility for design and engineering for the Keystone XL Pipeline Project.

3. Please state your professional qualifications and experience with pipeline operations.

Answer: My professional background is stated in my resume, a copy of which is attached as Exhibit A. In general, I am a Professional Engineer, with a degree in mechanical and manufacturing engineering. Beginning in October, 2005, I served as the Lead Project Engineer for the Keystone Pipeline Project. I was the Project Manager for the Cushing Extension Pipeline Project from April 2010 to January 2011. I was the Reclamation Project Manager for the Cushing Extension Pipeline from January 2011 to November 2011. I have testified before the Commission in the permit proceedings concerning the Keystone Pipeline in Docket HP07-001 and concerning the Keystone XL Pipeline in Docket HP 09-001.

4. Are you responsible for portions of the Tracking Table of Changes attached as Appendix C to Keystone's certification petition?

Answer: Yes. I am individually or jointly responsible for the information provided with respect to Finding Numbers 60, 61, 62, 63, 68, 83, 90, and 107. In general, I can testify to design and construction of the Keystone XL Pipeline and PHMSA compliance.

5. Please summarize the updated information regarding Finding No. 60.

Answer: Since the Amended Final Order dated June 29, 2010, Keystone withdrew its request to PHMSA for a special permit ("Special Permit") on August 5, 2010. The decision was explained in a media advisory issued on August 5, 2010, a copy of which is attached as Exhibit B. As a result of the withdrawal, Keystone will implement 59 additional safety measures as set forth in Appendix Z to the Department of State Final Supplemental Environmental Impact

Statement. These measures provide an enhanced level of safety equivalent to or greater than those that would have applied under the previously requested Special Permit.

6. Please summarize the updated information regarding Finding No. 61.

Answer: This finding is no longer relevant as Keystone has withdrawn its request for a Special Permit.

7. Please summarize the updated information regarding Finding No. 62.

Answer: This finding is no longer relevant as Keystone has withdrawn its request for a Special Permit.

8. Please summarize the updated information regarding Finding No. 63.

Answer: As a result of withdrawing the Special Permit application, Keystone will build the Keystone XL Pipeline using the as-proposed high strength steel, API 5L grade X70M steel with a nominal wall thickness of 0.465 inches, but will operate the pipeline at a lower pressure of 1,307 psig to comply with internal pressure design requirements in accordance with federal code of regulation title 49 CFR 195.106. For location specific low elevation segments close to the discharge of pump stations, the maximum operating pressure will be 1,600 psig. Pipe associated with these segments of 1,600 psig MOP will have a design factor of 0.72 and a nominal pipe wall thickness of 0.572 inches (X-70M).

9. Please summarize the updated information regarding Finding No. 68.

Answer: This Finding was updated because TransCanada has four more years of experience in the use of FBE coated pipe. On one occasion when TransCanada excavated pipe to validate FBE coating performance, there was one instance in which an adjacent foreign utility interfered with the cathodic protection system in a shared utility corridor. The situation was

remedied, and no similar situation could exist in South Dakota because there are no shared utility corridors.

10. Please summarize the updated information regarding Finding No. 83.

Answer: Keystone will use Horizontal Directional Drilling ("HDD") for the Bridger Creek and Bad River crossings, in addition to the Little Missouri, Cheyenne, and White River crossings. Attachment B to Keystone's Tracking Table of Changes contains the preliminary site-specific crossing plans for the HDD crossings of the Bad River and Bridger Creek.

11. Please summarize the updated information regarding Finding No. 90.

Answer: The updated information for this finding is based on the withdrawal of the Special Permit application. Keystone will comply with the 59 additional conditions as set forth in the FSEIS, Appendix Z, which provide an enhanced level of safety equivalent to or greater than those that would have applied under the Special Permit.

12. Please summarize the updated information regarding Finding No. 107.

Answer: To the extent that Finding No. 107 included reference to the Special Permit, Keystone has withdrawn its application, but will comply with the 59 additional conditions as set forth in the FSEIS, Appendix Z.

13. Are you aware of any reason that Keystone cannot continue to meet the conditions on which the Permit was granted by the Commission?

Answer: No. I have reviewed the conditions contained in the Amended Final Decision and Order dated June 29, 2010. The changes discussed in Finding Nos. 60, 61, 62, 63, 68, 83, 90, and 107 do not affect Keystone's ability to meet the conditions on which the Permit was granted.

14. Does this conclude your prepared direct testimony.

Answer: Yes.

Dated this 1 day of April, 2015.

Meera Kothari

Meera Kothari P.Eng.