

Before the Public Utilities Commission of the State of South Dakota

<p>IN THE MATTER OF THE PETITION OF TRANSCANADA KEYSTONE PIPELINE, LP FOR ORDER ACCEPTING CERTIFICATION OF PERMIT ISSUED IN DOCKET HP14-001 TO CONSTRUCT THE KEYSTONE XL PIPELINE.</p>	<p>Docket HP14-001 Post Hearing Brief of Cindy Myers Individual Intervener</p>
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I'm an R.N. and have been completely involved throughout this process as an individual intervener. Because of my extensive research and what I've learned from expert witnesses, it is my professional opinion this project has the potential to substantially impair the health, safety or welfare of the South Dakotans.

Drinking water sources are threatened, there is no health impact assessment, and there is no evidence of an emergency response plan to guide first responders and S.D. health care facilities.

Benzene has been the focus of my testimony. Heidi Tillquist, expert witness for TransCanada, agreed and stated benzene is "by far the constituent of interest" because of its solubility in water and potent toxicity.

Corey Goulet testified in a deceptively confusing manner: "There's not really chemicals added to bitumen to form oil sands", "usually NAPTHA", "just hydrocarbons", "so no benzene", "benzene is a natural component of oil, lighter crude".

Heidi Tillquist testified "NAPTHA" is an older term used for diluent and stated the term "condensates" is more of a current term. She testified that benzene is a component of the diluent. According to Wikipedia, dilbit is a bitumen diluted with one or more lighter petroleum products, typically natural-gas condensates, such as NAPTHA.

FSEIS 4.13-25 states “Because diluted bitumen crude oils have a significant amount of lighter hydrocarbons added, they tend to have higher benzene concentrations than many other heavy oils....” The condensates, added as diluent, greatly increases the amount of benzene in the tar sands product since almost half of the product to be shipped in KXL is expected to be diluent.

Heidi Tillquist agreed with FSEIS 3.13-10 “Dilbit can precipitate out in water and its resistance to biodegradation, makes it more difficult to clean up.”

Heidi Tillquist agreed with FSEIS 3.3-42 “The proposed project route would cross several tributaries to the Missouri River with the potential to affect the Missouri River.”

Heidi Tillquist agreed with FSEIS 3.3-42 “Spills or releases into surface waters could travel through these tributary systems and could potentially result in impacts to affect the Missouri River, aquatic habitats, as well as the MWRWSS.”

Yet unbelievably, Heidi Tillquist testified that a spill reaching the Cheyenne River water intake only 76 miles downstream from the Cheyenne River KXL crossing was “not in the realm of possibilities.” I’m quite troubled with this statement. Ms. Tillquist was not familiar with the Silvertip pipeline spill into the Yellowstone River in July 2011. According to the Montana DEQ, oil from that spill traveled 70 miles downstream.

Regarding the KXL Cheyenne River crossing, Dr. Davis states a spill “could potentially be transported about 60 miles downstream in 12 hours. If a leak cannot be controlled or is undetected for 24 hours, it could be transported about 120 miles downstream.”

FSEIS 3.13-3 states sinking oil in flowing water systems could be transported downstream without the obvious oiling of stream banks. The FSEIS, which was used as an environmental review for this project, only studied spill impact 10 miles downstream.

Heidi Tillquist has no sound study to base her assertion that an oil spill would not affect the Cheyenne River Water Intake 76 miles downstream from the KXL Cheyenne River crossing.

Heidi Tillquist agreed with FSEIS 4.3-6 “BTEX chemicals pose the most potential for toxic exposure because they are more soluble in water.” Benzene is one of the chemicals in this compound.

Heidi Tillquist agreed with FSEIS 4.3-6 “In general, the higher the concentration of BTEX in the petroleum material, the greater risk to groundwater quality and groundwater users.”

105 wells are within a mile of the KXL route in S.D., including Colome’s city water supply. Drinking water contamination is quite concerning in Tripp County where the pipeline route is only 1000 feet away from Colome’s city wells, and only 175 feet from the buffer zone. Colome’s water contact with DENR believes TransCanada moved the route only minimally to acquire an easement. The first route actually dissected Colome’s acreage where the two city wells are located.

The first route was moved in North Central Nebraska because of the high water level and sandy soils. The same conditions exist in Southern Tripp County, which is an extension of this area in Nebraska.

Meera Kothari testified that KXL crosses the Mni Wiconi water system at mile marker 471. At this location the water line is PVC pipe. Heidi Tillquist testified that PVC pipe is permeable to benzene, but the PVC pipe would need to be dipped in benzene to allow permeability. Undetected, continual oozing around the PVC water pipe could actually create a situation in which the benzene-laden oil actually pools around the PVC water pipe. There will only be a distance of 6 feet between a toxic infrastructure and a freshwater drinking supply.

According to the Iowa Department of Natural Resources Plastic Water Line Survey: “Thirteen states have known problems with permeation of plastic pipe. Of those thirteen states, seven states have specifically had permeation incidents involving PVC.”

No evidence supports the existence of an emergency medical response plan which would provide for the safety of first responders, detailed

information for emergency monitoring of benzene in the air and water, and preparation of the medical community to treat victims of oil spills.

No evidence supports that S.D. Public Water Treatment Plants are prepared for tar sands oil spills into waterways, and tributaries of those waterways, which supply their intakes. The FSEIS states: "...analysis indicates the need for rapid notification of managers of municipal water intakes downstream of a spill so that any potentially affected drinking water intakes could be closed to bypass river water containing crude oil." This is absolutely imperative because conventional water treatment systems do not remove benzene.

Dr. Arden Davis' testimony supports my assertions of the very potential risk of water contamination: "Benzene is soluble in water and can be transported downgradient toward receptors such as public water-supply wells, private wells, and springs or seeps. In certain cases, benzene can be transported more than 500 or 1000 feet downgradient in aquifers."

Dr Davis further states: "At these river crossings and downstream, the proposed pipeline poses serious risks and could have devastating effects on surface water and associated environmental resources, potentially affecting water supplies and surface-water users."

Dr. Davis also points out that benzene is the toxin of concern. He confirmed my calculations that indicate only 17 drops of benzene would contaminate Colome's water tower filled with 50,000 gallons of water.

I am an intervener simply because I believe KXL threatens public health. S.D. law should not be waived because this is a recertification of the permit. Since the permit was issued more than five years ago, there has been an exponential increase in awareness about tar sands product and health implications.

There have been major tar sands oil spills in Mayflower, Arkansas and the Kalamazoo River in Michigan which have demonstrated medical communities are ill prepared to respond to dilbit disasters.

FSEIS 4.13-25 states: "Based on the combination of toxicity, solubility, and bioavailability, benzene was determined to dominate toxicity

associated with potential crude oil spills.” The ATSDR, Dr. Davis and Heidi Tillquist all concur with my concern about benzene.

Benzene causes cancer. Benzene kills in high concentrations in only a matter of minutes. Benzene crosses the placental barrier, and so the lives of the pre-born must also be taken into consideration. *There has been no health impact assessment completed for this project.*

According to Paul Seamans, 62.3% of South Dakota’s population depends on Missouri River water. The wisest choice is to protect this valuable resource in order to assure the health, safety and welfare of South Dakotans.

Dated this 9th day of September, 2015

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