Rebuttal Testimony of Lillian Anderson

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PUC 866-757-6031

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY TRANSCANADA KEYSTONE PIPLINE, LP FOR A PERMIT UNDER THE SOUTH DAKOTA ENERGY CONVERSION AND TRANSMISSION FACILITIES ACT TO CONSTRUCT THE KEYSTONE PIPELINE PROJECT	)))))))	**REBUTTAL TESTIMONY OF LILLIAN ANDERSON**

Q1. State your name and occupation

A. Lillian Anderson, 12189 – 415th Ave, Langford, SD 57454. My husband and I owner and operator a livestock and grain farm in Marshall County located west of Langford, SD.

Q2. Did you provide direct testimony in this proceeding?

A. Yes

Q3. To whose rebuttal testimony are you responding in this rebuttal testimony?

A. I am responding to the rebuttal testimony of Mr. Michael Koski.

Q4. Which portion of Mr. Koski's rebuttal testimony are you responding to?

A. I am responding to Mr. Koski's statement that he does not anticipate any significant overall effects to crops and vegetation associated with heat generated by operation of the Keystone Pipeline. In his rebuttal testimony Mr. Koski states that based on the research he cited, he does not anticipate any significant overall effects to crops and vegetation associated with heat generated by operating the Keystone pipeline. First of all, much of the literature he cited is based on studies conducted in Texas, Missouri and southeastern United States and is not representative of South Dakota soil and weather conditions. South Dakota has changing seasons with hot dry summers and bitter cold winter weather which drives frost down into the soil 4 to 5 feet deep. The cumulative effects of a higher soil temperature throughout the year

and its effect on plant development have not been taken into consideration by Mr. Koski or the applicant TransCanada-Keystone. Scott Anderson's testimony correctly stated that insects, disease and weeds could become a problem for farmer s and landowners along the route of the pipeline if the ground is unable to sustain a hard annual freeze because of the heat of the oil line buried 4 feet deep. Rodents and varmits will find the warmth of the trench line inviting which will result in colonies establishing along the heated line.

Q5: Mr. Koski's rebuttal states that while soil temperature should not adversely affect crop or vegetation growth, the information he includes does indicate that low soil moisture, corresponding drought and high air temperatures will. Do you have a response to that statement?

A: Yes. Anyone who has lived and farmed in South Dakota for any length of time has dealt with drought conditions and high air temperatures on an annual basis. As described in the Soil Survey of Marshall County published by the USDA-NRCD, several soil types which make up most of eastern Marshall County are susceptible to soil blowing and erosion. The addition of a heated buried pipeline along the pipeline route will exacerbate those conditions, drying out the top soil and make the top soil far less productive and possibly even useless for normal farm production as we know it in this area. The heat of the oil in the pipe would act much like a tube pipe system installed under a garage floor and attached to a boiler or heat source. The buried coil or pipe heats the concrete floor mass which in turn heats the room. When a car is driven into a garage during the winter with ice and snow on it by morning the ice has melted away, the floor is dry and all that is left is the road dirt and sand that has fallen off the vehicle. The heat

from the Keystone Pipeline will impact the farm land it crosses in the same way. The soil will be dry and warm year around, top soil will be dried and moisture will be gone, and the easement right of way secured or condemned by TransCanada will be of no value for agricultural purposes and acres of land will be lost to production along the 220 miles pipeline route.

Alternately, those highly fertile areas in eastern Marshall County may see reduced fertility due to the heat of the pipeline and its effects on the surrounding soil, by drying out the soils, and limited crop cover to reduce soil blowing and erosion. As noted in the Soil Survey of Marshall County, South Dakota, due to the nature of the soils in eastern Marshall County the primary concerns are conserving soil moisture, reducing evaporation, limiting runoff, controlling erosion and soil blowing.

Q6 TransCanada has indicated that the heat from the pipeline will range from 75-80 degrees.

A: Mr. David Schramm's testimony, on behalf of the SDPUC, states that TransCanada indicates a maximum temperature value on the pipeline at 100.4 degrees F. The effect on crops and vegetation with a heated oil pipeline at this temperature will have long term negative impacts on crops grown in South Dakota? Corn, soybeans, alfalfa and other crops grown and flourish with the changing seasons and changing temperature. Crops need sun light and can tolerate warm days and cool summer nights but they will not grow in soil that is a sustained 100 degree temperature. TransCanada claims that the landowner will have full use of their the right of way area to farm once the pipeline is installed but that is not true because of the pipeline will raise the temperature of the soil reducing productivity.

Q7 Does that conclude your remarks?

71 A. Yes, at this time.

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73 Date this 29th day of November, 2007 Lillian Anderson

74 Lillian Anderson