

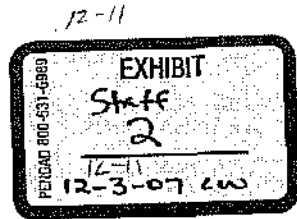
BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. HP07-001

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

Direct Testimony of Bryan Murdock on Behalf of the
Staff of the South Dakota Public Utilities Commission

October 31, 2007



1 **BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION**

2 **DIRECT TESTIMONY OF BRYAN MURDOCK**

3
4 **Q: Please state your name and address for the record.**

5 A: Bryan Murdock, 26723 Halite Court, Wyoming, Minnesota

6
7 **Q: What is your position and responsibilities at Bay West?**

8 A: My title is Environmental and Industrial Services Manager. Since joining Bay West in
9 July of 2007, I have been responsible for managing four service divisions of Bay West,
10 including the Emergency Response Division, the Household Hazardous Waste Division,
11 the Commercial Environmental Consulting Division, and the Industrial Services/Waste
12 Disposal Division.

13 **Q: Please state your professional qualifications.**

14 A: I have a B.S. degree in Biology with a Minor in Chemistry from Mankato State University.
15 I have worked in the environmental consulting industry for 19 years. Project experiences
16 include many environmental assessment and remediation projects, emergency response
17 projects, large livestock, power, and grain industry facility siting and permitting projects,
18 post construction environmental natural gas pipeline inspection, and analytical chemistry
19 extraction and analysis projects.

20 **Q: Have you provided your resume?**

21 A: Yes

22
23 **Q: In what capacity are you involved in the TransCanada Keystone Pipeline, LP
24 (Keystone) project?**

25 A: The Staff of the South Dakota Public Utilities Commission (Staff) has hired Bay West to
26 review certain application documents. The results of Bay West's review are presented in
27 the attached Limited Application Review Report dated October 31, 2007. Specifically,
28 my involvement includes the performance of Task 3 and Task 9 below.

29 Task 3 - Identify Unusually Sensitive Areas (USAs) and High Consequence Areas
30 (HCAs) and determine the adequacy of the mitigation measures for all such areas.

31 Task 9 - Search for any other environmental impact issues of consequence not
32 previously identified and shall propose mitigation measure for any found.

33
34 **Q: Please describe the objectives of Task 3?**

35 A: The objective of Task 3 was to identify if HCAs/USAs had been accurately identified in
36 the proposed Keystone Pipeline application filings and assess the adequacy of the
37 mitigation measures proposed for the identified HCAs/USAs.

38

39 **Q: Where there limiting factors that made it difficult meet the objectives of Task #3?**

40 A: Bay West requested specific shape file HCA/USA data from the United States
41 Department of Transportation and TransCanada, however it was not provided. The lack
42 of available data made it difficult to understand if the HCA/USA data used by
43 TransCanada to prepare their documents was inclusive of all available data and if it had
44 been updated in recent years. The absence of this HCA/USA shape file data was
45 limiting and resulted in more general recommendations and additional requires
46 additional regulatory follow up.

47

48 **Q: Please Explain the Findings, Conclusions and Recommendations associated with**
49 **the performance of Task #3?**

50 For the HCA/USAs identified by TransCanada, it appears they have appropriately
51 identified the contributory pipeline segments and have a good start in planning mitigation
52 measures for these identified HCA/USAs. More specific planning and mitigation
53 assessment is necessary and will be part of the Integrity Management Plan that is
54 required to be completed within one year of pipeline start up. However, the following
55 recommendations are necessary based on the findings of Task 3.

56 Variance in the number and location of Community Drinking Water (CWS) Source Water
57 Protection Areas (SWPA) provided by the South Dakota Department of Environment and
58 Natural Resources (SD DENR) and the drinking water HCAs identified by TransCanada
59 create a concern that TransCanada may not have all of the relevant data needed to
60 identify drinking water HCAs. TransCanada and the SD DENR shall collaborate and
61 review the SWPA data that is not presented in TransCanada's HCA maps and make a
62 determination if there is any additional drinking water SWPAs that meet the definition of
63 a Drinking Water HCA and/or require specific protective measures.

64 TransCanada has corresponded with the South Dakota Department of Game,
65 Fish, and Parks (SD GFP) and the United States Fish and Wildlife Service (USFWS)
66 regarding sensitive ecological resources located near the proposed pipeline route in
67 South Dakota. TransCanada has identified the location of certain sensitive ecological
68 resources that meet the definition of an USA in their HCA maps. In significant detail,

69 TransCanada has identified sensitive ecological resources and proposed detailed
70 protective and restoration mitigation measures in the Draft Environmental Impact
71 Statement. In order to provide the most appropriate protection/mitigation for the
72 identified ecological resources, the SD GFP (in cooperation with other related agencies)
73 should begin actively collaborating to finalize TransCanada's proposed mitigation
74 activities associated with each ecologically sensitive population.

75 TransCanada does not appear to give sufficient consideration to how the
76 presence of field drain tile systems could affect subsurface transport. Due to the ability
77 of field drain tile systems to be direct conduits for transport away from the spill site, the
78 presence of these drain tile systems shall be specifically accounted for in the
79 development of the Integrity Management Plan.

80 TransCanada states that contributing pipe segments (CPS) were identified
81 through the review of topographic maps and information. This level of review may not
82 capture the subtle changes in topography that may influence flow patterns away from the
83 pipeline. HCA maps provided by TransCanada indicate that the pipeline is located in
84 areas that are relatively flat and sometimes atop topographic peaks or divides between
85 watershed areas. Field verification of topographic changes near the pipeline should be
86 performed to more accurately identify CPS and adequately protect HCAs.

87 TransCanada provides the following text regarding downstream transport; "the
88 assumption is made that transport is to be constant and a spill would be intercepted
89 within five miles downstream of the release location." That assumption does not appear
90 to be considerate of a catastrophic release or a release that occurs during a simultaneous
91 event that significantly complicates the release interception/response. The description of
92 a worst case discharge, contained within the pending Pipeline Oil Spill Response Plan,
93 calls for planning for a very large release, probably near or into a very sensitive area
94 (HCA) during inclement weather conditions. With stream/river flow velocities of five
95 miles per hour or more during rain storm events; it is very unlikely that all or even some
96 of the oil would be contained within five miles down stream of the release point. As a
97 point of reference, planning requirements for fixed facilities under the Oil Pollution Act of
98 1990 (OPA 90), must calculate downstream planning distances for worst case
99 discharges. In most instances, these distances are 15-20 miles or more. This
100 calculation formula takes into account the dynamics of water body, travel time,
101 properties of the oil product and others. The staging of limited response resources,
102 finite access and recovery locations and other logistical issues make complete

103 containment (interception) to a moving water release within five miles downstream an
104 unlikely occurrence. To improve upon response success, the development of HCA-
105 specific response strategies, including planning for more significant downstream
106 transport is highly recommended. This topic is also discussed as part of Task 4.

107
108 **Q: With respect to Task 9, can you please summarize the objective of the task and**
109 **explain your findings?**

110 **A:** The purpose of this task was to call attention to and proposes mitigation for other
111 environmental impact issues of consequence not previously identified. The ability to
112 identify environmental issues of consequence were somewhat limited by the documents
113 reviewed as part of Bay West's scope of work. During the review of project documents,
114 environmental issues of consequence, other than what were already identified by others
115 or by Bay West (in other Tasks), have not been identified.

116
117 **Q:** With respect to Tasks 3 and 9, can you please state whether the project will: pose a
118 threat of serious injury to the environment or the inhabitants within the siting area;
119 substantially impair the health, safety or welfare of the inhabitants in the siting area;
120 comply with all applicable laws and rules; or interfere with the orderly development of the
121 region with due consideration being given the views of governing bodies of affected local
122 units of government.

123
124 **A:** The construction of the proposed Keystone Pipeline presents both significant and
125 insignificant risk to the environment and inhabitants of South Dakota. The proper
126 implementation of the regulatory design requirements, construction and operational
127 requirements, TransCanada's proposed mitigation measures, and the recommendations
128 provided within this document, reduces, to currently recognized industry standards, the:

- 129 • threat (risk) of serious injury to the environment or the inhabitants within the siting
130 area;
- 131 • impairment of the health, safety or welfare of the inhabitants in the siting area;
132 and,
- 133 • complies with all applicable laws and rules (as they pertain to the Tasks 3
134 through 9 of this document);

- 135 • interference with the orderly development of the region with due consideration
136 being given the views of governing bodies of affected local units of government. -
137 TransCanada would be required to comply with all applicable laws and rules during
138 construction.

BRYAN MURDOCK
Project Manager/Scientist

Education

- BS Biology (Chemistry Minor), Mankato State University, 1988

Training and Certifications

- 40-hr OSHA training w/current refresher
- Minnesota Pollution Control Agency Hazardous Waste Compliance Training
- CPR and First Aid training

Professional Activities

- National Association of Industrial and Office Properties (NAIOP)
- International Council of Shopping Centers (ICSC)

Years Experience: 19

Years with Bay West: 6

Mr. Murdock is a program and project manager, and heads up Bay West's Environmental and Industrial Service Group. He has 19 years of experience in the environmental assessment, remediation, and chemistry fields. His technical experience includes real estate due diligence assessments for commercial and agricultural properties; management of large agricultural chemical assessment and remediation projects, emergency response projects, petroleum assessment and remediation, Brownfield redevelopment, groundwater and surface water assessment programs, pre-demolition surveys, and asbestos/mold assessments.

Mr. Murdock also has experience in livestock facility site selection, management and permitting; preparation of environmental review documents; organic chemistry analysis; biological toxicity testing; fish collection studies; and petroleum and agrichemical emergency responses.

PROJECT EXPERIENCE:

- Project Manager, Real Estate Due Diligence Assessments, Various Customers, throughout US - Directed/reviewed hundreds of due diligence assessments at commercial, agricultural and industrial sites throughout the country. Services included Phase I / II assessments, Property Condition Assessments, mold, asbestos, and radon assessments. Customers included owners, buyers, sellers, developers, and

financial institutions. Work included numerous pre-disposition assessments that assist seasoned real estate professionals in understanding the potential environmental risks that may be associated with a potential property sale. Customers use pre-disposition assessment data to; 1) speed the transaction by identifying and mitigating environmental conditions before a sale, 2) disclose the findings within the real estate listing, 3) identify the appropriate sale price, and 4) decide if the identified environmental conditions would prohibit the sale of the property.

- Project Manager, Environmental Services, Speedway Super America, MN - Coordinated/performed a wide range of environmental services related to operation, purchase, sale, and re-development of retail petroleum service stations. Work included assessment and remediation of a former dry cleaner site as part of a store redevelopment, Phase II assessments performed as part of pre-purchase due diligence, and emergency response coordination/reporting.
- Project Scientist, Site Restoration of Pipeline Right-of-Way, Great Lakes Gas, MI - Responsible for monitoring restoration of a large natural gas pipeline right-of-way following its construction. Surveyed the restoration areas for instances of non-compliance with environmental regulations.
- Project Scientist, Permitting for Proposed Alfalfa Power Generation Facility, Granite Falls, MN - Identified permitting requirements for construction of a proposed 75-megawatt biomass energy production facility.
- Project Scientist Feedlot Permitting, Golden Oval Eggs-Churchill Coop, Renville, MN - Prepared permits and environmental submittals for a 2M-bird egg laying facility and swine producer. Gathered and prepared information for environmental assessments, reports, feedlot permits, contingency plans and engineering design.
- Project Scientist, NPDES Characterization, International Paper, Little Falls, MN - Performed extensive toxicity reduction evaluation on NPDES discharge to characterize the toxic components of the waste stream.