

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

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 PIPELINE)
PROJECT)

HP 09-____

**DIRECT TESTIMONY OF
RICHARD GALE**

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

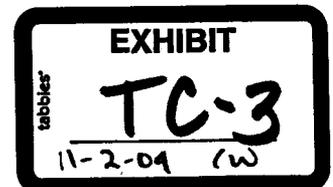
Answer: My name is Richard Gale. My business address is 1300 Metropolitan Boulevard, Suite 200, Tallahassee, Florida 32308.

2. What is your role with the Keystone XL Pipeline Project?

Answer: I am Vice President, US Operations of Trow Engineering Consultants, Inc, the prime consultant for the Keystone XL Project (Project). Trow is managing the US portion of the Project and leading the team of engineering, land and environmental consultants. I am serving as the Regulatory and Engineering Manager for the Project.

3. Please state your professional qualifications.

Answer: I have been employed at Trow Engineering Consultants, a multidisciplinary engineering consulting company for the past 9 years. My primary experience with Trow has been involvement with the initial development and feasibility of energy projects and the corresponding support and preparation of permit applications and regulatory filings for oil and gas pipelines throughout the United States, Canada, and Mexico. I have served as a project engineer, manager, and director for large and small energy projects. Prior to joining Trow, I worked for Colonial Pipeline Company, a



refined petroleum products pipeline company for slightly over 9 years. During that time, I served in a variety of capacities in several locations throughout the southeastern United States in engineering, construction, and operations. I received my Bachelors of Science degree in Civil Engineering from Florida State University.

4. Have you provided a resume?

Answer: Yes, my resume is attached as Exhibit A.

5. What are your responsibilities on the Keystone XL Project?

Answer: As part of a multidisciplinary team, I am Trow's project director for overseeing the project management, engineering, environmental and land team to ensure all the work necessary to secure the regulatory applications and to complete the work necessary to prepare for the construction of the Keystone XL Project.

6. Are you responsible for portions of the application which Keystone is filing with the South Dakota Public Utilities Commission seeking a permit under the Energy Conversion and Transmission Facilities Act?

Answer: Yes.

7. For which portions of Keystone's application are you responsible?

Answer: Yes, I am individually or jointly responsible for the information provided in the following sections:

- Section 4.1 - Route Selection, and all its subsections;
- Section 4.2 - Route Refinement, and all its subsections;
- Section 4.3 - Extent to which Reliance on Eminent Domain Powers Could Be Reduced;

- Section 5.7.3 – Compatibility with Existing Land Use and Measures to Ameliorate Adverse Impacts;
- Exhibit A – Land Use/Land Cover, Soil Map Units, and Off-ROW Pipe Storage Yard Maps; and
- Exhibit C – Water Crossings Table and Preliminary Site-Specific Crossing Plans.

8. Could you briefly summarize Section 4.1 – Route Selection of the application?

Answer: Section 4.1 describes the process of selecting the proposed route for the pipeline. The route selection process involved an iterative set of steps carried out by a multi-disciplinary team.

First, the high-level objectives were identified and acted as primary control points. These included: (i) the source of the crude oil in Canada; (ii) the US/Canadian border crossing location; (iii) the delivery points for the crude oil; and (iv) use of the existing Keystone Cushing Extension to minimize the mileage of new pipe (and associated environmental impacts) needed to deliver crude oil to the Texas Gulf Coast. The Steele City interconnection with the Keystone Cushing Extension became the control point that defined the easternmost portion of this segment of the Project.

Second, the general study area was defined based upon these primary control points. Physical data was collected in the study area from existing public sources.

Third, additional control points were identified, including (i) the Fort Peck, Montana, area, where land use compatibility and schedule limitations (i.e., attempting crossings of either the Charles M. Russell National Wildlife refuge to the west or the Fort Peck Indian Reservation to the east likely would result in permitting delays that would not meet the Project's schedule requirements) resulted in a very narrow gap through

which the pipeline could be routed, and (ii) crossing the Niobrara River at a location that is not designated as wild or scenic. Combined with the primary control points described above, control points served to define the route.

Fourth, from the data gathered, environmental constraints and opportunities were identified. Constraints are areas which should be avoided where possible. Opportunities are those features which are favorable features for pipeline construction. A multi-disciplinary analysis of environmental, engineering, and economic factors was conducted, comparing alternative routes, and resulting in the selection of a preliminary preferred route.

The next step involved an aerial and ground reconnaissance of the preferred route to refine the routing and collect additional constraint information.

Through the course of the route evaluation process, Keystone held public meetings, open houses, and one-on-one meetings with stakeholders (landowners and regulators) to discuss and review the proposed routing through South Dakota. The Department of State also held a public scoping meeting along the route in South Dakota to garner public comments on the route alternatives and other environmental issues of concern to the public.

9. Could you briefly summarize Section 4.2 – Route Refinement?

Answer: In the course of agency and landowner meetings, additional environmental information was collected that further defined control points, provided new constraints/opportunity data, and/or provided feedback on routing conducted at that point in time. In the course of those meetings and route reconnaissance conducted by

Keystone team members, it was determined that the White River crossing in Mellette County occurred at a location that was not conducive to minimizing construction and permitting issues. It was further determined that there were numerous properties with fractionated interests located at various sites throughout Mellette County and along the White River. Due to the uncertainty associated with obtaining an easement across these tracts and corresponding timing constraints, the decision was made to look for a route east of this area. It was also determined that the route crossing of the Niobrara River in Nebraska occurred in a stretch of river designated as scenic as defined in the Wild and Scenic Rivers Act. To minimize environmental impacts at both crossings, the route between the two rivers was shifted east to get both control points in crossing locations that minimized environmental and constructability impacts. The initial Mellette County alternative would have also passed through a surface water Source Water Protection Area (SWPA) for the city of Murdo. Rather than pass through the SWPA, Keystone chose to move the pipeline further north to completely avoid the SWPA and its watershed.

10. Is the routing process complete at this time?

Answer: No, route refinement is an on-going process. As Keystone continues to engage with landowners and agencies, as well as continuing ground reconnaissance, the route may be further refined to accommodate concerns and issues as they are identified.

11. Could you briefly summarize the information in Section 4.3 – Extent to Which Reliance on Eminent Domain Powers Could Be Reduced?

Answer: All of the route alternatives involve crossing privately owned lands. Keystone will require easements from landowners along the entire 313-mile route in

South Dakota. Keystone is endeavoring to negotiate easements with all landowners on a voluntary basis. There is no known viable alternative route that would reduce the possibility for reliance on eminent domain powers.

12. Was co-location along any existing rights-of-way considered in routing the pipeline and, if so, what was considered?

Answer: Yes, co-location was a routing opportunity that was examined as discussed above. However, the project proceeds in a northwest to southeast direction across South Dakota in order to connect to the control points discussed above. Because of the diagonal route across the state and the absence of powerline and pipeline infrastructure that crosses the state in a similar diagonal direction, Keystone did not identify any co-location opportunities for the project.

13. Could you briefly describe the information you are responsible for in Section 5.7.3 – Compatibility with Existing Land Use and Measures to Ameliorate Adverse Impacts?

Answer: I am responsible the pump station siting as it relates to compatibility with existing land use.

14. Could you briefly summarize the information that you are responsible for in Exhibit A of the application?

Exhibit A of the application includes land use/land cover, soil map units, and off-ROW pipe storage maps for the Project. I am responsible for the accuracy of the

centerline, mileposts, and associated facilities on these maps, while Witness Jon Schmidt is responsible for the soils and land use information.

15. Could you briefly summarize the information that you are responsible for in Exhibit C of the application?

Answer: Yes, together with Witness John Phillips, I am responsible for the Preliminary Site-Specific Crossing Plans.

16. Do you adopt the sections of the application identified above as your testimony in this case?

Answer: Yes, with the caveat that some sections are the joint responsibility of myself and other witnesses.

17. Does this complete your prepared direct testimony?

Yes, it does.

Dated this 26 day of February, 2009.

A handwritten signature in black ink, appearing to read "Richard Gale", written over a horizontal line.

Richard Gale

Exhibit A

Resume for Richard Gale



Richard Gale
Vice President US Operations, Energy Services Division

Richard Gale is currently Vice President US Operations of the Tallahassee office of Trow Engineering Consultants, Inc. He joined Trow in February 2000 as a Senior Engineer and became Branch Manager in 2002. The Energy Services Division operates out of Tallahassee, Florida with offices in Houston, Texas, Brampton, Ontario, and Calgary, Alberta. Trow also has project offices located in Houston, Texas and Kansas City, Missouri. Mr. Gale is responsible for overall operations and projects for the Energy Services Division.

Mr. Gale has extensive experience in engineering related to the pipeline industry including: pipeline and station construction, project management, river crossings, pipeline operations and maintenance, permit support, and emergency response.

Mr. Gale is currently serving as the Project Director for the US portion of the Keystone XL pipeline system, a 1375-mile 36" OD crude oil pipeline. Responsibilities include the management of the project consulting team, participation in the various regulatory processes, and overseeing all the work required to prepare for construction.

Prior to joining Trow, Mr. Gale has had a wide variety of experience in the pipeline industry in various capacities for Colonial Pipeline Company. While with Colonial, he held a variety of positions throughout the Southeastern United States and was responsible for the development and management of multi-million dollar projects.

Education

B.S. in Civil Engineering, Florida State University, 1990

Training

OSHA's Trenching and Excavation Standard – Competent Person Training, The Georgia Institute of Technology, 1991

24 Hour Hazardous Materials Emergency Response Course, Texas A&M University Extension Service, 1992

40 Hour Inland Oil Spill Control Course, Texas A&M University Extension Service, 1993

Ansul Fire School, Fire Technology Center, 1993

Appalachian Underground Corrosion Short Course, West Virginia University, 1994

Visual Weld Inspection, Hellier Technical Training and Consulting, 1994

Radiographic Film Interpretation, Hellier Technical Training and Consulting, 1995

Ultrasonic Thickness Testing, Hellier Technical Training and Consulting, 1996

Magnetic Particle and Ultrasonic Thickness Overview, Hellier NDT Institute, 1998

Tank School – API 650 and API 653 Design, Repair and Construction, Matrix Service Company, 1998

Introduction to Protective Coatings and Coatings Inspection Training, KTA-Tator, Inc., 1998

Qualification of Pipeline Welding Procedures and Welders, and Pipeline Maintenance and Repair, Keifner and Associates, 1999

Professional Affiliations

American Society of Civil Engineers

Employment

2008 – Present

Trow Engineering Consultants, Inc.
Vice President, US Operations
Tallahassee, Florida, USA

2002 – 2008

Trow Engineering Consultants, Inc.
Tallahassee Branch Manager, Energy Services Division
Tallahassee, Florida, USA

2002 – Present

Trow Engineering Consultants, Inc.
Senior Engineer, Energy Services Division
Tallahassee, Florida, USA

1999 – 2000

Colonial Pipeline Company
Control Center Engineer
Atlanta, Georgia, USA

1999

Colonial Pipeline Company
District Project Leader
Collins, Mississippi, USA

1994 – 1999

Colonial Pipeline Company
Project Manager
Collins, Mississippi, USA

1993 – 1994

Colonial Pipeline Company
Area Engineer
Chattanooga, Tennessee, USA

1992 – 1993

Colonial Pipeline Company
Project Engineer
Belton, South Carolina, USA

1990 – 1992

Colonial Pipeline Company
Associate Engineer
Atlanta, Georgia, USA

Typical Experience

Pipelines

- Developed and evaluated engineering and cost estimates for proposed pipeline projects.
- Supervised and managed construction and maintenance projects from inception to completion.
- Responsible for system integrity program in Texas, Louisiana and Mississippi, which included: internal inspection of pipelines, block valve installations, tank inspections, right-of-way maintenance and reclamation, etc.
- Established relationships with federal, state, and local agencies on major projects.
- Obtained necessary permits for construction and maintenance projects.
- Evaluated the erosion potential and developed a system of erosion control for pipeline water crossings.
- Conducted extensive on-site inspections and managed teams of inspectors for various aspects of pipeline construction.
- Managed the development of contract bid documents including project descriptions, contracts, drawings and specifications. Participated in the bid review and contractor selection process.
- Member of the Contingency Planning and Coordination Team for Colonial Pipeline Company which developed the Emergency Response Guide.

Environmental and Water Resources

- Prepared stream crossing guidelines based on environmental sensitivity and technique capabilities.
- Designed and supervised the implementation of oil/water separators and subsurface drainage systems.
- Prepared storm water management and sediment control plans for construction activities adjacent to sensitive streams and rivers.
- Acted as Operations Team Leader during emergency response situations and supervised the clean up of environmentally hazardous materials including the delineation of contaminated areas, containment and removal.

Project Management

- Manage consulting teams
- Prepared project execution plans for the design and construction of pipelines.
- Prepared capital and operating budgets and scheduled and prioritized pipeline related projects.
- Provided long term on-site construction supervision.

Pipeline Operations

- Prepared detailed nitrogen displacement plans for maintenance activities.
- Planned and prioritized all maintenance activities on Colonial Pipeline Company's 5,300 mile system.
- Acted as a member of the Emergency Response Team in the Control Center.

Key Projects

- Project Director for the Keystone XL Pipeline System
- Deputy Project Director for the Keystone Pipeline System
- Oversaw the development and completion of a pipeline lowering analysis report for Florida Gas Transmission
- Project Manager for Trow's involvement on the Seafarer Pipeline project
- U.S. Project Manager for Blue Atlantic Transmission System
- Lead Engineer for the 2003 In-service portion of the Gulfstream Pipeline project.
- Feasibility study specifically assessing leak detection and spill response for Kern River Pipeline Project in the Western United States.
- Senior Engineer for Trow's involvement for the Gulfstream Pipeline project in Mississippi, Alabama and Florida.
- Project Leader for a proposed pipeline barge dock project in Louisiana.
- Project Engineer on a 16" pipeline project in Tennessee that included modifications to several pipeline facilities.
- Project Engineer on a 16" pipeline project in South Carolina that included extensive modifications to two pipeline facilities.
- Project Manager for several 36" mainline block valve installations throughout Texas, Louisiana and Mississippi.