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 PIPELINE PROJECT	))))))	HP 07-001 **DIRECT TESTIMONY OF BRIAN THOMAS**

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

Answer: My name is Brian Thomas. My address is 237 Wolf Willow Crescent, Edmonton, Alberta, Canada.

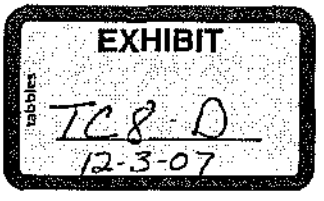
2. What is your role with the TransCanada Keystone Pipeline project?

Answer: I am the president of BRIWEST Energy Ltd. and I am currently providing consulting services to the Keystone project.

3. Please state your position with Keystone and provide a description of your areas of responsibility.

My position with Keystone is Coordinator, Oil Movements. My areas of responsibility for the Keystone project include the areas of Oil Movements and Operations. More specifically, Oil Movements includes the Operations Control Center along with the associated systems, as well as the pipeline scheduling and oil accounting functions. My responsibilities in the Operations area include the further development of Keystone's Emergency Response Plan (ERP) or Oil Spill Response Plan.

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



Answer: I am a registered professional engineer in the province of Alberta, Canada. I have approximately 27 years of technical, operations and management experience in pipeline, facilities development and operations.

5. Have you provided a resume?

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

6. Are you responsible for portions of the application which Keystone has filed with the South Dakota Public Utilities Commission seeking a siting permit for the Keystone Pipeline?

Answer: Yes.

7. Are you responsible for the information provided in Section 2.3.2 of the application, on "Abnormal Operations"?

Answer: Yes I am.

8. Would you please describe Keystones responsibilities with respect to abnormal operations?

Answer: Keystone must comply with the Code of Federal Regulations including 49 CFR Part 195.402 with respect to the preparation of manuals and procedures for responding to abnormal operations. Section 195.402(a) requires a pipeline operator to prepare and follow a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies.

Section 195.402(d) (Abnormal Operation) requires the manual to include procedures for the following to provide safety when operating design limits have been exceeded:

(1) Responding to, investigating, and correcting the cause of:

(i) Unintended closure of valves or shutdowns;

(ii) Increase or decrease in pressure or flow rate outside normal operating limits;

(iii) Loss of communications;

(iv) Operation of any safety device;

(v) Any other malfunction of a component, deviation from normal operation, or personnel error which could cause a hazard to persons or property.

(2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.

(3) Correcting variations from normal operation of pressure and flow equipment and controls.

(4) Notifying responsible operator personnel when notice of an abnormal operation is received.

(5) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.

Section 195.402(e) (Emergencies) requires the manual to include procedures for the following to provide safety when an emergency condition occurs:

(1) Receiving, identifying, and classifying notices of events which need immediate response by the operator or notice to fire, police, or other appropriate public officials and communicating this information to appropriate operator personnel for corrective action.

(2) Prompt and effective response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline facility, accidental release of hazardous

liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition, and natural disaster affecting pipeline facilities.

(3) Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.

(4) Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline system in the event of a failure.

(5) Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including possible intentional ignition in the cases of flammable highly volatile liquid.

(6) Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroads in the affected area, or taking other appropriate action.

(7) Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.

(8) In the case of failure of a pipeline system transporting a highly volatile liquid, use of appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous areas.

(9) Providing for a post accident review of employee activities to determine whether the procedures were effective in each emergency and taking corrective action where deficiencies are found.

Section 195.402(f) (Safety-related condition reports) requires the manual to include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of 49 CFR Section 195.55.

9. Would you please describe Keystones responsibilities with respect to normal operation?

Answer: Keystone must comply with Federal Regulations including 49 CFR Part 195.402 (c) with respect to the preparation of manuals and procedures as follows to provide safety during maintenance and normal operations:

(1) Making construction records, maps, and operating history available as necessary for safe operation and maintenance.

(2) Gathering of data needed for reporting accidents under subpart B of this part in a timely and effective manner.

(3) Operating, maintaining, and repairing the pipeline system in accordance with each of the requirements of this subpart and subpart H of this part.

(4) Determining which pipeline facilities are located in areas that would require an immediate response by the operator to prevent hazards to the public if the facilities failed or malfunctioned.

(5) Analyzing pipeline accidents to determine their causes.

(6) Minimizing the potential for hazards identified under paragraph (c)(4) of this section and the possibility of recurrence of accidents analyzed under paragraph (c)(5) of this section.

(7) Starting up and shutting down any part of the pipeline system in a manner designed to assure operation within the limits prescribed by § 195.406, consider the hazardous liquid or

carbon dioxide in transportation, variations in altitude along the pipeline, and pressure monitoring and control devices.

(8) In the case of a pipeline that is not equipped to fail safe, monitoring from an attended location pipeline pressure during start-up until steady state pressure and flow conditions are reached and during shut-in to assure operation within limits prescribed by § 195.406.

(9) In the case of facilities not equipped to fail safe that are identified under paragraph 195.402(c)(4) or that control receipt and delivery of the hazardous liquid or carbon dioxide, detecting abnormal operating conditions by monitoring pressure, temperature, flow or other appropriate operational data and transmitting this data to an attended location.

(10) Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned facilities left in place to minimize safety and environmental hazards. For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways the last operator of that facility must file a report upon abandonment of that facility in accordance with § 195.59 of this part.

(11) Minimizing the likelihood of accidental ignition of vapors in areas near facilities identified under paragraph (c)(4) of this section where the potential exists for the presence of flammable liquids or gases.

(12) Establishing and maintaining liaison with fire, police, and other appropriate public officials to learn the responsibility and resources of each government organization that may respond to a hazardous liquid or carbon dioxide pipeline emergency and acquaint the officials with the operator's ability in responding to a hazardous liquid or carbon dioxide pipeline emergency and means of communication.

(13) Periodically reviewing the work done by operator personnel to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found.

(14) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

10. Could you briefly describe how Keystone will operate its pipeline?

Answer: Keystone will utilize a Supervisory Control and Data Acquisition (SCADA) system to remotely monitor and control the pipeline system. In summary, highlights of Keystone's SCADA system will include:

- Redundant fully functional Backup system available for service at all times
- Automatic features installed as integral components within the SCADA system to ensure operation within prescribed pressure limits
- Additional automatic features installed at the local pump station level will also be utilized to provide pipeline pressure protection in the event communications with the SCADA host are interrupted

11. Could you describe the leak detection systems and methods Keystone will employ?

Answer: Keystone will have a number of complimentary leak detection methods and systems available within the Operations Control Center (OCC), which is manned on a 24(hrs/day) x 7(days/week) basis. These methods and systems are overlapping in nature and progress in leak detection thresholds.

- The first leak detection method is remote monitoring performed by the OCC Operator. Remote monitoring consists primarily of pressure and flow data received from pump stations and valve sites fed back to the OCC by the Keystone SCADA system. Remote monitoring is typically able to detect leaks down to approximately 25% – 30% of pipeline flow rate.
- Next are software based volume balance systems that monitor injection and delivery volumes. These systems are typically able to detect leaks down to approximately 5% of pipeline flow rate.
- Next are Computational Pipeline Monitoring or model based leak detection systems that break the pipeline system into smaller segments and monitor each of these segments on a mass balance basis. These systems compensate for line pack and are typically capable of detecting leaks down to a level approximately 1.5% - 2% of pipeline flow rate.
- Finally, we will use direct observation methodologies, which include aerial patrols, ground patrols and public and landowner awareness programs that are designed to encourage and facilitate the reporting of suspected leaks and events that may suggest a threat to the integrity of the pipeline.

12. Are there any corrections you would like to make to Section 2.3.2 of Keystone's application?

Answer: I would like to make two corrections. First, the last sentence of Section 2.3.2 at page 16 should be deleted. If a reportable leak were to occur, the USDOT regulations do not require the agency's approval prior to resuming operations. Second, at Section 2.3.2.1, page 16, the second sentence of the second paragraph should read "The ERP will be submitted to the USDOT for review, prior to operation." The USDOT then advises the operator of any concerns with the ERP.

13. Are you responsible for Section 6.4.2 of Keystone's application?

Answer: I am responsible, in part, for this section. My responsibilities are to ensure compliance with the operational requirements prescribed by the US DOT. This includes the areas of pipeline operation, maintenance and emergency response all of which are intended to ensure public and environmental protection and prevent accidents and failures. Keystone has submitted a preliminary Emergency Response Plan (ERP) to the Department of State. The ERP outlines the measures that will be undertaken to mitigate the impact of a crude oil release.

14. At the PUC public comment sessions, it was suggested that a leak of 1.5% of the pipeline volume could remain undetected for 90 days. Is this the case?

Answer: Keystone has indicated within its application that a leak under the detectable range of the Computational Pipeline Model (CPM) leak detection system could take up to 90 days to detect. This was intended to provide a very conservative estimate as to how long a minor leak (in the nature of drips/hr) might take to detect. However, it was not intended to indicate that a leak at or just slightly below the 1.5% - 2.0% CPM detection threshold would take 90 days to detect.

15. How long will it take Keystone to detect a leak below the CPM detection threshold?

Answer: Keystone has estimated the minimum detectable leak rate of its Computational Pipeline Monitoring System to be in the range of 1.5% - 2.0% of pipeline flow rate. A leak at that threshold level is expected to be detected in 140 minutes or less. It is only leaks below the 1.5% to 2% threshold that could remain undetected for periods of time longer than 140 minutes. Leak detection time thresholds for leaks below the minimum detectable limit of the CPM system can not be definitively estimated. These small leaks will not generate alarms via the CPM

system; however, there are other systems and methods in place that will serve to identify leaks of this size. For example, the OCC operators will monitor the CPM system and other volume balance systems for discrepancies. In the event that discrepancies are observed, OCC procedures such as a pipeline shutdown, callout of first responders, and shut in pressure testing will be employed. In addition, small leaks may also be detected and reported to the OCC by direct observation methods, including aerial patrol, employee, contractor, or other third party observation.

16. In the event Keystone suspects a leak or a leak is reported to the Operations Control Center, how would Keystone respond?

Answer: Keystone Operations Control Center would respond with an emergency pipeline shutdown. This would involve stopping all operating pumping units at all pump stations. Depending on the flow rate at the time of the incident this would mean stopping 2 – 3 pumping units at each of Keystones 39 pumping stations in the U.S. and Canada. This line shutdown is estimated to take approximately 9 minutes. Once all the operating pumping units have been shutdown, the OCC Operator would close the sectionalizing or isolation valves in the vicinity of the leak to limit any further drain down at the leak site. Closure of these isolation valves would take an additional 3 minutes. Therefore, from when the leak was reported or alarm received, it would take approximately 12 minutes to shutdown and isolate the pipeline.

17. Has Keystone prepared an Emergency Response Plan for its pipeline system?

Answer: TransCanada maintains a comprehensive Incident Management System, which includes emergency response plans for all facilities that it operates. Keystone has filed a preliminary Emergency Response Plan (Oil Spill Response Plan) under Exhibit C of the application and can be found with the file entitled July 06 Supplemental Filing.

18. Why ERP is not completed before permit granted.

Answer: Keystone's Emergency Response Plan cannot be completed and finalized until items including routing and designs are finalized since it is a very detailed and specific document related to the location of the pipeline and other facilities. Given the overall scope of the document that is prescribed under 49 CFR Part 194, it will take thousands of man hours to develop.

19. When will the ERP be finished and who is responsible for reviewing the ERP in the interest of the public?

Answer: Keystone's ERP will be completed in the first quarter of 2009 and submitted to the U.S. Department of Transportation's ("DOT") Pipeline and Hazardous Materials Safety Administration ("PHMSA") prior to commencing operations.

20. Who will respond in the event of a pipeline incident?

Answer: Keystone will maintain personnel on call on a 24(hrs/day) x 7(days/week) basis. These first responders will consist of both employees and contract personnel and will be based at various locations along the length of the pipeline.

21. How many responders will be on the emergency response team?

Answer: The number of emergency responders comprising specific response teams will be determined upon completion of Keystone's Emergency Response Plan (Oil Spill Response Plan) in the first quarter of 2009. Emergency responders will meet or exceed the requirements of 49 CFR Part 194.115, as further described within Keystone's response to Staff's Data Request 2-10.

Typically, emergency response teams would be comprised of Hazardous Waste Operations and Emergency Response ("HAZWOPER") trained personnel as follows:

Tier 1: 8 HAZWOPER trained personnel (includes Emergency Site Manager and Command Post Safety Officer).

Tier 2: 12 HAZWOPER trained personnel.

Tier 3: 24 HAZWOPER trained personnel.

22. In event of a leak under adverse situations, e.g. poor road conditions, bad weather, pipeline located in middle of a field, how do you get equipment out to assess and fix a leak?

Answer: Responders will be dispatched from multiple locations and will have access to alternative means of transportation if weather or other conditions limit access. Alternative means of transportation will include fixed wing aircraft, helicopter, boats and other watercraft, all terrain vehicles and snowmobiles.

23. Please provide the spill volumes and possible spill containment scenario for a catastrophic failure of the pipeline along the South Dakota portion of the route.

Answer: The spill volumes corresponding to the large event size provided in response to Staff's Data Request 2-14 are considered representative of a catastrophic failure.

24. Please explain spill volumes, personnel, equipment, response time and procedures for a spill at the Missouri River crossing at Yankton.

Answer: The following outlines a typical response scenario including the strategies for containment, recovery of product, and site restoration activities for a potential spill in the vicinity of the Missouri River crossing near Yankton, South Dakota.

Upon notification of a potential spill, as described in the response to Data Request 2-12, Keystone's Operations Control Center ("OCC") operator will perform an emergency pipeline

shutdown and close remotely operable isolation valves. Estimated time to complete an emergency pipeline shutdown and close remotely operable isolation valves are as follows:

- Stop pumping units at all pump station locations: 9 minutes
- Close remotely operable isolation valves: 3 minutes
- Total time: 12 minutes

In the case of the Missouri River crossing, Keystone will install a remotely controlled isolation valve on the upstream side of the crossing and an emergency flow restricting device ("EFRD") or check valve on the downstream side of the crossing. This EFRD automatically closes and prevents flow in the reverse direction to further limit any potential spill volume associated with product drain down.

In addition, as indicated in response to Staff Data Request 2-7, Keystone will have a pipeline maintenance facility located at Yankton. Accordingly, emergency responders including a Regional Emergency Operations Center ("EOC") Manager and other resources more fully described in response to Staff Data Request 2-8 will also be based in Yankton.

Following execution of the emergency pipeline shutdown, the OCC operator will perform internal notifications as described in the response to Staff Data Request 2-12 and dispatch first responders to the location identified. Key individuals would then be notified and Keystone's Oil Spill Response Plan activated as follows:

First Responder

- Notification of potential spill and dispatch received from OCC;
- Spill verified;
- Notification of Emergency Services, if required; and
- Verify with OCC:

- Pipeline shutdown and status;
- Pipeline segment isolation; and
- Regional EOC Manager and Qualified Individual (QI) notified.

Regional EOC Manager (QI)

- Notification received from OCC;
- Notification of spill details received from First Responder;
- Oil spill response plan activated;
- Emergency Site Manager (QI) notified;
- Regional EOC activated
- Mobilize response resources requested by Emergency Site Manager (QI);
- Corporate EOC Manager contacted; and
- Agency contacts including the National Response Center and other State and Local agencies contacted.

Emergency Site Manager (QI)

- Notification received from Regional EOC Manager (QI);
- On site First Responder contacted to obtain briefing on spill;
- On Site Command Post activated;
- Regional EOC advised of resource requirements; and
- First Responder relieved.

Response efforts are first directed to preventing or limiting any further contamination of the waterway, once any concerns with respect to health and safety of the responders have been addressed. This is typically accomplished primarily with containment booms and berms. The Emergency Site Manager assumes responsibility for selecting the appropriate locations for

construction of berms and deployment of booms as well as communicating any additional resource requirements to the EOC Manager.

Efforts are initially directed toward containing any spilled product on land prior to it reaching the waterway. With the approval of authorities having jurisdiction, activities such as digging ditches and building berms would be undertaken on the down slope of the spill site, to prevent any overland flow of spilled product from entering the waterway. In some cases it may be possible to use a combination of ditches and berms to divert the overland flow of spilled product to a collection point.

To contain the spilled product once it has reached the waterway, efforts are typically directed toward the deployment of containment boom as close as practical and safe downstream of the of the spill location. With the approval of the authorities having jurisdiction, the Emergency Site Manager assumes responsibility for selecting a suitable location for the deployment of containment booms, based upon the waterway site specific conditions, including flow velocity and avoidance of rapids and falls to ensure the effectiveness of the containment booms.

Product is typically recovered from the surface of water and transferred to containment facilities by a combination of mechanical skimming, vacuum recovery and sorbent materials. Typical methods for the recovery and transfer to containment facilities for product spilled on land include vacuum recovery and sorbent materials.

The cleaning of shorelines and other affected natural or manmade structures is typically performed by traditional methods including, wiping, hot water and low or high pressure wash down and the use of surfactants and emulsifiers or other agents. Water and other liquids used for wash down purposes for onshore applications are typically contained and collected using a

combination of ditches and berms as described above. All site specific cleaning methods and materials to be utilized are subject to the approval of the authorities having jurisdiction.

Product laden soils are typically either removed or treated with bioremediation in the event such intrusive cleanup techniques are not appropriate. These and other methods of clean up including natural recovery, burning, dispersants and other chemical usage can be considered in accordance with and at the discretion of the authorities having jurisdiction.

Site restoration activities including the sampling and analysis of the remaining soils and water vary considerably dependant upon site specific conditions and are coordinated with the various Federal, state and local authorities having jurisdiction.

25. What is the expected response time to a possible spill located at the farthest point in South Dakota from the emergency responders?

Answer: As noted in the response to DR 2-12, Keystone's Operations Control Center ("OCC") operator will follow prescribed procedures in responding to possible spills that may be reported from sources such as:

- Abnormal pipeline condition observed by OCC operator;
- Leak detection system alarm;
- Employee reported; and
- Third party reported.

Upon receipt of notification as outlined above, the OCC operator will execute the following procedures:

- Follow prescribed OCC operating and response procedures for specific directions on abnormal pipeline condition or alarm response;
- Dispatch First Responders;

- Shutdown pipeline within a predetermined time threshold if abnormal conditions or leak alarm can not be positively ruled out as a leak; and
- Complete internal notifications as outlined below:

Estimated time to complete an emergency pipeline shutdown and close remotely operable isolation valves are as follows:

- Stop pumping units at all pump station locations: 9 minutes
- Close remotely operable isolation valves: 3 minutes
- Total time: 12 minutes

Consistent with industry practice and in accordance with regulations including 49 CFR Part 194.115, Keystone's response time to transfer such additional resources to a potential leak site will follow an escalating or tier system. Dependant upon the nature of site specific conditions and resource requirements, Keystone will meet or exceed the following requirements, along the entire length of the pipeline system:

49 CFR Part 194	**Tier 1 Resources**	**Tier 2 Resources**	**Tier 3 Resources**
High volume area*	6 hours	30 hours	54 hours
All other areas	12 hours	36 hours	60 hours

* High volume area means an area with an oil pipeline having a nominal outside diameter of 20 inches or more, crosses a major river or other navigable waters, which because of the velocity of the river flow and vessel traffic on the river, would require a more rapid response in the case of a worst case discharge or the substantial threat of such a discharge.

Tier 1, 2 and 3 resources will typically include equipment as described in response to Data Request 2-9, along with additional HAZWOPER trained response personnel, as required to

effectively respond to site specific conditions and as directed by the Emergency Site Manager (Qualified Individual).

The primary task of the Tier 1 response team is to minimize the spread of product on the ground surface or water in order to protect the public and unusually sensitive areas, including ecological, historical and archeological resources and drinking water locations. The Emergency Site Manager (Qualified Individual) will make an assessment of the site specific conditions such as:

- The nature of the spilled product;
- Source of the spill;
- Direction(s) of spill migration;
- Known or apparent impact of subsurface geophysical feature that may be affected;
- Overhead and buried utility lines, pipelines, etc.;
- Nearby population, property or environmental feature that may be affected; and
- Concentration of wildlife and breeding areas.

The Emergency Site Manager (Qualified Individual) will request additional resources in terms of personnel, equipment and materials, from the Tier 2 and if necessary the Tier 3 response teams. Once containment activities have been successfully concluded, efforts are then directed toward the recovery and transfer of free product. Site cleanup and restoration activities then follow, all of which are conducted in accordance with the authorities having jurisdiction.

26. Will initial emergency response to a pipeline spill be conducted by Keystone employees or a contractor or both?

Answer: Keystone will utilize both employees and contractors as emergency responders within its initial response efforts in the event of a pipeline spill. In the case of contractors and

other spill response organizations, Keystone will have agreements in place identifying and ensuring the availability of the specified personnel, consistent with industry practice and in compliance with the applicable regulations, including 49 CFR Part 194 and 49 CFR Part 195.

27. Where will Keystone emergency personnel be stationed to respond to matters in South Dakota?

Answer: The location of these resources will be determined as Keystone completes its Oil Spill Response Plan. Due to its proximity to the Missouri River pipeline crossing and other operational reasons, Keystone has identified Yankton, South Dakota as a location for a pipeline maintenance facility and will have emergency responders and other resources based accordingly. Emergency response personnel will be based at various locations along the length of the pipeline in compliance with the applicable regulations, including 49 CFR Part 194 and 49 CFR Part 195. Consequently, emergency responders will be based in closer proximity to the following areas:

- Commercially navigable waterways and other water crossings,
- Populated and urbanized areas, and
- Unusually sensitive areas, including drinking water locations, ecological, historical and archaeological resources.

The specific locations of other emergency responders will be determined upon conclusion of the pipeline detailed design and the completion of Keystone's Emergency Response Plan (Oil Spill Response Plan).

28. What are the positions on the emergency response team and the qualifications and training needed for each position?

Answer: As described in DR 2-11, positions and training requirement for on site personnel have been identified as follows:

Position	Specialized Training to Meet Oil Spill Response Duties
First Responders	• Hazardous Waste Operations and Emergency Response (HAZWOPER) training to Hazmat Technician Level 3 with annual refresher, as required • Keystone Emergency Management System ("EMS") training • National Fire Protection Association ("NFPA") training
Emergency Site Manager – Qualified Individual	• HAZWOPER training to Hazmat Level 4 Specialist with annual refresher, as required • ICS Communication training • Keystone EMS training • NFPA training
Command Post Media	• Keystone EMS training • Keystone Media Relations training
Command Post Safety	• Keystone EMS training • Advanced safety related training
Command Post Documentation	• Keystone EMS training

Position	Specialized Training to Meet Oil Spill Response Duties
Command Post Site Security	• Keystone EMS training
Command Post Resource Mobilization	• Keystone EMS training
Command Post Technical	• Keystone EMS training
Command Post Staging Leader	• Keystone EMS training
Regional EOC Resource Mobilization	• Keystone EMS training
Regional EOC Community Evacuation Leader	• Keystone EMS training
Regional EOC Administration Support	• Keystone EMS training

29. What kinds and number of emergency response equipment will be pre-positioned and where will it be located in the event of a spill in South Dakota?

Answer: Consistent with industry practice and in compliance with the applicable regulations, including 49 CFR Part 194 and 49 CFR Part 195, the types of emergency response equipment that will be pre-position for access by Keystone are highlighted below:

- Pick-up trucks, one-ton trucks and vans;
- Vacuum trucks;
- Work and safety boats;
- Containment boom;
- Skimmers;
- Pumps, hoses, fittings and valves;
- Generators and extension cords;
- Air compressors;
- Floodlights;
- Communications equipment including cell phones, two way radios and satellite phones;
- Containment tanks and rubber bladders;
- Expendable supplies including absorbent booms and pads;
- Assorted hand and power tools including shovels, manure forks, sledge hammers, rakes, hand saws, wire cutters, cable cutters, bolt cutters, pliers and chain saws;
- Ropes, chains, screw anchors, clevis and other boom connection devices;
- Personnel Protective Equipment ("PPE") including rubber gloves, chest and hip waders and H_2S, O_2, LEL and benzene detection equipment; and
- Wind socks, signage, air horns, flashlights, megaphones and fluorescent safety vests

Additional equipment including helicopters, fixed wing aircraft, all-terrain vehicles ("ATV's"), snowmobiles, backhoes, dump trucks, watercraft, bull dozers and front-end

loaders may also accessed depending upon site specific circumstances. Other types, numbers and locations of equipment will be determined upon conclusion of the pipeline detailed design and the completion of Keystone's Emergency Response Plan (Oil Spill Response Plan). This plan will be completed in the first quarter of 2009 and submitted to the U.S. Department of Transportation's ("DOT") Pipeline and Hazardous Materials Safety Administration ("PHMSA") prior to commencing operations.

30. What kind of training and specialized equipment will be provided for local fire departments?

Answer: Local emergency responders may be required to initially secure the scene and ensure the safety and security of the public. Keystone's Integrated Public Awareness Program will provide local emergency responders with the training necessary to ensure their preparedness for responding to such events.

In the unlikely event of a fire associated with a pipeline rupture, the scene will be secured by local emergency responders and Keystone personnel to ensure the safety and security of the public and any fire would be allowed to burn itself out in a controlled fashion. Any secondary fires would be addressed by local emergency responders and Keystone personnel.

31. To what extent would Keystone rely on local responders for emergencies?

Answer: Keystone's ERP will include plans for resources including personnel and equipment for responding to a worst case discharge. This worst case discharge is determined by calculating the largest possible spill volume and ensures resources are more than adequate for responding to a smaller leak. Accordingly, Keystone will not have any expectations of small towns with respect to manpower resources since all requirements will be prearranged with a combination of company and contract personnel.

32. Are you responsible for providing the information requested in Data Requests 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15 and 2-16?

Answer: Yes, however Data Request 2-14 was prepared in conjunction with Meera Kothari.

33. Do you adopt the Sections of Keystone's application referenced above and the responses to the reference data requests as your own testimony in this matter?

Answer: Yes I do.

34. Do the portions of the application for which you are responsible support the granting of a permit by the Commission for the Keystone Pipeline Project?

Answer: Yes they do.

35. Does this conclude your testimony?

Answer: Yes it does.

Dated this 21 day of September, 2007.

BRIAN THOMAS

Introduction

Mr. Thomas has gained approximately 25 years of technical, operations and management experience in all aspects of pipeline facilities development, construction and operations with Enbridge Pipelines Inc. He resigned in August, 2005 to create BRIWEST Energy Ltd. and is currently engaged in providing consulting services to various clients.

Background

Held various positions within project teams associated with the engineering design, procurement and construction of pipeline, pump station and terminal facilities. Highlights include the Norman Wells Pipeline project and a Line 1 replacement project that consisted of 335 miles of pipeline from Regina, SK to Gretna, MB. Went on to hold positions of increasing responsibility in the Operations area, including Oil Movements Engineer and Operations Advisor. Solely responsible for the coordination and scheduling of all maintenance activities throughout the Enbridge mainline pipeline system, throughout many years of apportioned service and capacity expansion programs. Duties also included the evaluation of pipeline performance and implementation of operating procedures, pressure allowables and restrictions. Proceeded to serve as Terminal Foreman and Supervisor of Area Operations at Edmonton, AB Terminal where duties included the supervision of approximately 25 staff including, operations shift workers, mechanical, electrical and laboratory personnel.

Key Experience

Manager, Pipeline Control (1996 – 1999)

- Duties included the supervision of approximately 30 staff engaged in the remote operation of the Enbridge pipeline system.
- Successfully integrated the remote operation of the Norman Wells Pipeline and Line 14 (Superior, WI to Mokena, IL) and laid the framework to allow the system wide consolidation of Mainline and Terminal operations, within the Edmonton Control Centre.
- Completed temporary assignments as Manager, Terrace Operations and with ETI on Suncor's North Tank Farm Modernization Project.

Manager, Athabasca Pipeline (1999 – 2002)

- Managed all aspects of Enbridge's first contract carriage liquid pipeline, including the successful integration of operations from Suncor.
- Successfully negotiated contracts including facility requirements with Petro-Canada, Encana and with Suncor for additional crude oil movements.

Manager, Oil Loss Investigations (2002 – 2003)

- Completed an all encompassing review of the entire Enbridge common carrier pipeline system in response to significant financial exposure to physical losses, degradation and revaluation expenses.
- Successfully implemented procedures within various departments including Operations, Shipper Services and Oil Accounting to control financial exposure.

BRIWEST Energy Ltd.

Manager, Petroleum Quality and Measurement (2003 – 2005)

- Responsibilities included all aspects of product quality and measurement throughout the Enbridge liquid pipeline system, including the supervision of approximately 12 professional staff.
- Successfully implemented quality and measurement related policies and procedures for crude oil movements on new and acquired systems including the Hardisty Caverns, Spearhead and Cushing Pipeline Systems.
- Played a key role within 2005 Incentive Tolling negotiations concerning crude oil quality and held responsibilities for measurement and accounting requirements related to SOx compliance.

Key Achievements

- Represented Enbridge as "Northern Business Coordinator" in the development and award of contracts to ensure financial commitments to northern businesses were successfully achieved on the Norman Wells Pipeline.
- Represented the Oil Movements Department and particularly the Control Centre staff in the redevelopment of Enbridge's SCADA system. This system incorporated numerous significant enhancements to the operators' HMI and remains virtually intact, since completed approximately 20 years ago.
- Coordinated the modernization of measurement facilities at Edmonton Terminal and successfully interfaced with the affected shippers and feeder pipelines.
- Supervised the development and implementation of the Edmonton Control Centre on-line operating standards and procedures, including emergency response procedures.
- Successfully negotiated various projects and initiatives with shipper and CAPP representatives including the Line 7 & 11 reconfiguration, Terrace Expansion, Line 14 operations, additional facilities and volumes for the Athabasca pipeline, Hardisty Caverns and Incentive Tolling negotiations related to quality metrics.
- Developed and implemented the Rules & Regulations for the Athabasca Pipeline which was the first contract carriage pipeline within the Enbridge system.
- Successfully negotiated facility requirements with shippers on the Athabasca Pipeline for the Mackay Pipeline, Enbridge's first hot oil pipeline, Kirby Terminal, Athabasca Truck Terminal and integrated these operations and additional crude oil volumes.
- Undertook numerous initiatives including implementation of the "CutPoint Calculator" system to limit degradation volumes, designed equipment and established a crude oil butane blending monitoring program as well as implemented other operational and accounting procedures that successfully limited financial exposure to oil loss expenses.
- Served as a long standing member of Enbridge's Pipeline Control Committee, Oil Measurement Committee, and the Strategic Mergers and Acquisitions Team.

Professional Qualifications

Bachelor of Science in Civil Engineering; University of Alberta
Professional Engineer: Alberta Association of Professional Engineers, Geologists and Geophysicists