IN THE MATTER OF THE PETITION OF TRANSCANADA KEYSTONE PIPELINE, LP FOR ORDER ACCEPTING CERTIFICATION OF PERMIT ISSUED IN DOCKET HP09-001 TO CONSTRUCT THE KEYSTONE XL PIPELINE

DOCKET HP14-001

PREFILED TESTIMONY OF CHRISTOPHER HUGHES ON BEHALF OF THE COMMISSION STAFF APRIL 2, 2015
Q. Please state your name and business address.
A. My name is Christopher Hughes. My business address is 28100 Torch Parkway, Warrenville, Illinois, 60555.

Q. By whom are you employed and in what capacity?
A. I am employed as a Senior Project Manager by EN Engineering, an engineering and consulting firm specializing in pipeline design, codes compliance, integrity and automation services for the oil and gas industry.

Q. Please describe your educational background and professional experience.
A. I hold a M.S. degree in Welding Engineering from The Ohio State University in Columbus, Ohio. In addition, I hold a B.S. degree in Mathematics from the Ohio Dominican University in Columbus, Ohio.

My professional experience consists of employment in the pipeline industry with EN Engineering and previously with the U.S. Army, Columbia Gas, CC Technologies / DNV and Enterprise Products. My responsibilities in the Army included operation and management of storage facilities and the design and construction of temporary pipelines. At Columbia Gas my responsibilities included natural gas pipeline operations via SCADA, statistical and forecast analysis, and cost analysis. My responsibilities at CC Technologies / DNV included material testing, failure analysis, stress corrosion cracking analysis, pipeline repair research and presentation as well as report, plan and procedure writing. At Enterprise Products my responsibilities included integrity assessment type determination, Information Analysis, annual reporting, evaluate defects and recommend appropriate repairs and other implementation of the Integrity
Management Program for hazardous liquids. My responsibilities at EN Engineering have been focused in the areas of control room management and pipeline integrity.

My resume is included in Exhibit___CH-1.

Q. On whose behalf was this testimony prepared?
A. This testimony was prepared on behalf of the Staff of the South Dakota Public Utilities Commission (Staff).

Q. Please state the purpose of your testimony in this proceeding.
A. There are three main objectives of the Staff in this testimony. First, to ensure that the proposed changes to the Findings of Fact in the Decision, as identified by TransCanada Keystone Pipeline’s (the Applicant) Tracking Table of Changes, comply with the Federal Pipeline Safety Regulations 49CFR 195, Transportation of Hazardous Liquids by Pipeline. Secondly, the objective is to ensure that the Applicant has met any new requirements imposed by the Federal Pipeline Safety Regulations 49CFR 195 since the Amended Final Decision and Order was issued on June 29, 2010 with respect to the application for a permit (Permit) to construct and operate a crude oil pipeline in South Dakota. Lastly, the objective is to ensure that the amended permit conditions, and any project changes, are still able to meet the conditions upon which the permit was issued, specifically focusing on pipeline design, integrity management and compliance with PHMSA regulations (49CFR 195).
This testimony deals specifically with changes to Federal Pipeline Safety Regulations 49CFR 195 since the Amended Final Decision and Order was issued in the area of Control Room Management (§195.446). Additionally, this testimony addresses updates made by Keystone in the Tracking Table of on two specific Findings of Fact.

Q. Control Room Management regulations went into effect February 1, 2010 which required operators to have a Control Room Management Plan and procedures developed by August 1, 2011. An additional Control Room Management / Human Factors rule effective August 15, 2011 required operators to implement the procedures for roles and responsibilities, shift change, change management, and operating experience, fatigue mitigation education and training by October 1, 2011 and the other procedures for adequate information, shift lengths, maximum hours-of service, and alarm management by August 1, 2012. Please describe the Control Room Management regulations.

A. The Control Room Management regulations prescribe safety requirements for controllers, control rooms, and SCADA systems used to remotely monitor and control pipeline operations. The regulations address human factors, engineering and management solutions for the purpose of enhancing the performance reliability of operator personnel that control pipeline operations. Each operator must have and follow written control room management procedures that implement the requirements of §195.446 including (a) roles and responsibilities of CRM staff, (b) implement API RP 1165, (c) point to point verification between
SCADA and field equipment, (d) testing of back-up systems, (e) personnel fatigue mitigation, (f) alarm management plan and procedures, (g) change management procedures, and (h) incorporation of operator experience and training.

Q. How do these regulations compare to requirements set forth in the DOS final SEIS, Appendix Z, which Keystone has stated they will comply with?
A. The requirements set forth in the DOS final SEIS, Appendix Z comply with these regulations.

Q. Have you reviewed a copy of the Keystone Control Room Management Plan or Alarm Management Plan?
A. No I did not. However, these plans are subject to review by the Pipeline and Hazardous Materials Safety Administration (PHMSA) during a jurisdictional audit.

Q. Keystone updated project specifications as they relate to Finding 18 in the Amended Final Decision and Order to utilize API 5L X70M high-strength steel. Previously Keystone was planning on utilizing API 5L X70 or X80 high strength steel. Does this change violate any requirements set forth in 49 CFR Part 195?
A. 49 CFR Part 195 requires pipe be manufactured per the requirements of API Standard 5L, 44th edition. The most current edition of the API standard uses the suffix M to indicate Thermomechanical Rolled or Formed pipe. Assuming the pipe is manufactured per the requirements of the 44th edition, this change does not violate 49 CFR Part 195.
Q. Does this change violate any mandates set forth in the original or amended permit conditions?

A. Assuming the pipe is manufactured per the requirements of the 44th edition, it does not.

Q. Keystone updated project specifications as they relate to Finding 20 in the Amended Final Decision and Order to include twenty (20) mainline valves in the state of South Dakota, all of which will be remotely controlled. Previously, the design included sixteen (16) mainline valves, seven (7) of which were to be remotely controlled. Please describe the differences, if any, these changes have on pipeline safety.

A. This decision enhances pipeline safety as the decision to have all valves remotely controlled decreases the time to close the valves in the event of a rupture and the increased number of valves reduces the potential spill volume.

Q. Does this change violate any requirements set forth in 49 CFR Part 195?

A. No.

Q. Does this change violate any mandates set forth in the original or amended permit conditions?

A. No.

Q. Does this conclude your testimony?

A. Yes.