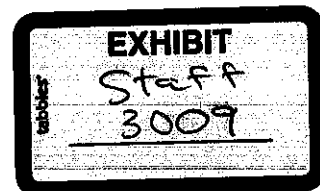


BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. HP14-001

**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**

**Direct Testimony of Daniel Flo on Behalf of the Staff of the
South Dakota Public Utilities Commission
April 2, 2015**



1 **Q: Please state your name and business address.**
2 A: Daniel Flo, Natural Resource Group, LLC (NRG), 1500 Southwest First Avenue,
3 Suite 885, Portland, OR, 97201; 1000 IDS Center, 80 South 8th Street,
4 Minneapolis, MN, 55402 (Corporate Office).

5 **Q: Describe your educational background.**
6 A: I received my Bachelor of Science Degree in 1996 from Minnesota State
7 University, Mankato with a Major in Geography. I then received my Juris Doctor
8 degree from Northwestern School of Law of Lew & Clark College in 2002. My
9 educational and professional specialties are in environmental law and land use.

10 **Q: By whom are you now employed?**
11 A: I have been employed by Natural Resource Group, LLC from 2005 to 2010, and
12 from 2013 to present. I currently hold the position of Senior Consultant.

13 **Q: What work experience have you had that is relevant to your involvement on
14 this project?**
15 A: From 2005 to present, my responsibilities have been to provide clients in the
16 energy and mining industries with environmental permitting services, including
17 the preparation of Environmental Assessments and Environmental Impact
18 Statements (EISs) under the National Environmental Policy Act and/or relevant
19 state programs. My environmental permitting experience also includes the
20 preparation of permit applications under Sections 404 and 401 of the Clean
21 Water Act, the preparation of routing and siting applications to state utility
22 commissions, and various other local, state, and federal environmental permits
23 and approvals. I also provide project management services wherein I lead multi-
24 disciplinary teams in performing route and site analysis, environmental field
25 surveys, environmental permitting, construction compliance inspections, and
26 post-construction restoration monitoring. A copy of my resume is appended to
27 this testimony as Exhibit___DF-1.

28 **Q: What Professional Credentials do you hold?**
29 A: None.

30 **Q: What is the purpose of your testimony?**
31 A: In 2009, NRG provided environmental consulting services in support of PUC
32 Staff's review of Keystone's original permit application. The scope of NRG's
33 original review included a summary of the Department of State environmental
34 review, a review of Keystone's application to the PUC, and an evaluation of the
35 adequacy of Keystone's state permit application with respect to alternatives,
36 paleontology, cultural resources, soils, erosion and sedimentation, and
37 restoration methods described in the project's Construction, Mitigation, and
38 Reclamation Plan (CMRP). Based on this review, NRG provided hearing support
39 to PUC Staff including the preparation of prefiled testimony and expert testimony
40 during the PUC hearing. The purpose of this testimony is to summarize NRG's
41 review of Keystone's September 2014 Petition for Order Accepting Certification
42 under SDCL § 49-41B-27 and associated supporting documentation, specifically
43 our evaluation as to whether any of the changes identified by Keystone result in a
44 change to our original testimony.

45 **Q: What methodology did you employ?**

1 A: I evaluated materials submitted to the South Dakota Public Utilities Commission
2 (PUC) by TransCanada Keystone Pipeline, LP (Keystone), including Keystone's
3 Petition for Order Accepting Certification under SDCL § 49-41B-27 and
4 associated supporting documentation. Primarily, I evaluated the Findings of Fact
5 from the PUC's Amended Final Decision and Order that have changed since
6 2010 as detailed in Keystone's table in Appendix C, and compared those
7 changes to NRG's original testimony prepared in 2009. I also evaluated the red-
8 line changes to Keystone's CMRP (dated April 2012) to determine whether the
9 changes in that document result in changes to NRG's original testimony.

10 **Q: With respect to the changes identified by Keystone in Appendix C, South**
11 **Dakota PUC Amended Final Decision and Order, Tracking Table of**
12 **Changes, please summarize your review by Finding Number. Findings 14**
13 **through 18:**

14 A: The updated project information provided by Keystone for Findings 14 through 18
15 has been reviewed and results in no change to NRG's original (2009) testimony.

16 **Q: Findings 19, 20, 22, 23:**

17 A: The updated project information provided by Keystone for Findings 19, 20, 22
18 and 23 is outside the scope of NRG's 2009 review and testimony, and therefore
19 results in no change to NRG's original testimony.

20 **Q: Findings 24 through 29:**

21 A: The updated project information provided by Keystone for Findings 24 through 29
22 is outside the scope of NRG's 2009 review and testimony, and therefore results
23 in no change to NRG's original testimony.

24 **Q: Finding 32:**

25 A: I reviewed the red-line changes to Keystone's CMRP (dated April 2012) and
26 compared those changes to NRG's original testimony from Ross Hargrove and
27 Dr. James Arndt. My findings are summarized in Exhibit____DF-2. This table
28 lists all CMRP sections with redline changes where NRG also provided
29 recommendations in 2009, and provides my evaluation of Keystone's change
30 with respect to NRG's 2009 testimony. None of the redline changes to
31 Keystone's CMRP result in a change to NRG's 2009 testimony.

32 **Q: Finding 33:**

33 A: The updated project information provided by Keystone for Finding 33 has been
34 reviewed and results in no change to NRG's original testimony.

35 **Q: Finding 41:**

36 A: I reviewed the additional site-specific crossing plans for the HDD crossings of
37 Bad River and Bridger Creek, and reviewed NRG's original testimony. The
38 addition of these two waterbodies as HDD crossings, and the supporting site-
39 specific crossing drawings, result in no change to NRG's original testimony.

40 **Q: Finding 50:**

41 A: The updated project information provided by Keystone for Finding 50 has been
42 reviewed and results in no change to NRG's original testimony.

43 **Q: Finding 54:**

44 A: The updated project information provided by Keystone for Finding 54 has been
45 reviewed and results in no change to NRG's original testimony.

46 **Q: Findings 60 through 63, and 68:**

1 A: The updated project information provided by Keystone for Findings 60 through 63
2 and 68 is outside the scope of NRG's 2009 review and testimony, and therefore
3 results in no change to NRG's original testimony.

4 **Q: Finding 73:**

5 A: See the response to Finding Number 32 above and my summarized findings in
6 Attachment 2.

7 **Q: Finding 80:**

8 A: NRG's original recommendations included that Keystone be required to provide
9 the final Construction/Reclamation (Con/Rec) Units and associated construction,
10 restoration and mitigation procedures and corresponding pipeline milepost
11 references to the PUC prior to construction. NRG also recommended that the
12 Con/Rec classification system be developed in consultation with Natural
13 Resources Conservation Service (NRCS) staff. NRG's recommendations were
14 based in part on an understanding that Keystone would include Badlands
15 (sodium bentonite) soils as a Con/Rec Unit. NRG also evaluated Keystone's
16 examples of specific reclamation measures that may be used in areas where
17 saline, sodic, and saline-sodic soils are encountered during construction and
18 found the sample procedures to be adequate.

19
20 Keystone's update to Finding 80 indicates that Con/Rec mapping was completed
21 in consultation with area NRCS staff. Keystone's Response to Commission
22 Staff's First Set of Interrogatories (#18) indicates that Con/Rec Units are not part
23 of the updated CMRP but that the results are included with the Department of
24 State's FSEIS in Appendix R.

25
26 I reviewed Appendix R of the FSEIS on the Department of State's website and
27 confirmed that Con/Rec Units were developed and are included as an appendix
28 to that federal NEPA document. I also confirmed, based on the documentation
29 provided in Appendix R including records of correspondence, that NRCS staff
30 and other professional resources were consulted during the development of the
31 Con/Rec classification system. Appendix R does not, however, include pipeline
32 milepost references for the Con/Rec Units.

33
34 Keystone's update appears largely to satisfy NRG's original recommendation in
35 that Con/Rec Units have been developed, that NRCS staff was consulted during
36 the Con/Rec Unit development process, and that the Con/Rec classification
37 system is available to the PUC prior to project construction.

38
39 To the extent that the Con/Rec Units do not specifically include a Badlands soils
40 unit, NRG originally found that Keystone's construction, reclamation, and
41 mitigation measures for dealing with this soil type, as discussed in the
42 application, were appropriate and represented the tools that are typically used
43 during construction in similar soils. The absence of a Badlands soils unit does
44 not specifically represent a change to NRG's original testimony.

45

1 Finally, although the Con/Rec Units do not appear to specifically address
2 construction or reclamation procedures in saline, sodic, or saline-sodic soils or
3 saline seeps, there is no change to NRG's original testimony finding that the
4 reclamation measures discussed in the application were adequate and
5 appropriate for those soil types.
6

7 **Q: Finding 83:**

8 A: See the response to Finding Number 41 above. The updated project information
9 provided by Keystone for Finding 83 results in no change to NRG's original
10 testimony.

11 **Q: Finding 90:**

12 A: The updated project information provided by Keystone for Finding 90 is outside
13 the scope of NRG's 2009 review and testimony, and therefore results in no
14 change to NRG's original testimony.

15 **Q: Finding 107:**

16 A: The updated project information provided by Keystone for Finding 107 is outside
17 the scope of NRG's 2009 review and testimony, and therefore results in no
18 change to NRG's original testimony.

19 **Q: Does this conclude your testimony?**

20 A: Yes.



Daniel S. Flo
Email: daniel.flo@NRG-LLC.com

Daniel Flo is a Senior Regulatory Specialist in Natural Resource Group, LLC's (NRG) Portland office. Daniel has over 12 years of environmental assessment and permitting experience and specializes in project management for liquids pipelines, electric transmission and wind energy projects. Daniel is an experienced environmental project manager and is adept at overseeing all stages of project development including agency coordination, environmental surveys, major permitting, environmental review, construction, and restoration. Daniel is also NRG's Business Development Lead for the Construction Compliance practice group and is responsible for supporting and promoting NRG's Environmental Inspection, Third Party Compliance and related service areas.

Selected Project Experience

- Enbridge Energy, Inc., 2014 Wisconsin and Illinois Environmental Surveys Initiative Project, 2013 to Present, 470 miles of environmental surveys along Enbridge's existing Line 61 utility corridor: Project Manager responsible for overseeing preparation of field deployment, initial agency consultations, field training program, and environmental surveys including wetlands and waterbodies, cultural resources, sensitive habitats and protected species.
- Enbridge Energy, Inc., Line 3 Maintenance and Flexibility Project, May 2014 to November 2014, 16-mile-long 34-inch-diameter crude oil pipeline segment replacement project in North Dakota: Project Manager for environmental inspection, compliance management and daily reporting during construction of the maintenance replacement project.
- Enbridge Energy, Inc., Line 3 Maintenance and Flexibility Project, January 2014 to May 2014, 16-mile-long 34-inch-diameter crude oil pipeline segment replacement project in North Dakota: Project Manager responsible for environmental support activities for a high-priority maintenance replacement project, including desktop analysis, risk assessment, construction planning, and environmental permitting.
- Quanta Pipeline Services, Bluegrass Memphis Pipeline Project, 2013 to 2014, 91-mile-long natural gas liquids pipeline in Tennessee, Arkansas, and Mississippi: Project Manager responsible for environmental and cultural resources surveys and permitting, including U.S. Army Corps of Engineers (COE) Nationwide Permit 12 and levee crossing permits, water appropriation permits, stormwater discharge and hydrostatic testwater discharge permits, and protected species consultations.
- Enbridge Energy, Inc., Line 79 Pipeline Project, 2011 to 2012, 35-mile-long crude oil pipeline in Michigan: Project Manager responsible for environmental surveys and permitting, as well as preparation of a Michigan Environmental Impact Report and Joint Permit Applications under Michigan administrative rules Section 301 and 303, and multiple local drain crossing and soil erosion and sediment control permits.
- Preferred Sands of Minnesota, Kasota Mine Project, 2010 to 2012, non-metallic mineral mining and processing project in Minnesota: Project Manager responsible for successful completion of a Scoping Environmental Assessment Worksheet, local permitting and zoning, environmental surveys, and hydrogeological studies and modeling.
- Preferred Sands of Minnesota, 2010 to 2012, various non-metallic mineral mining and processing project sites in Wisconsin: Project Manager responsible for overseeing changes in zoning, conditional use permits, mine reclamation plans, and state and local permits.



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- ALLETE Clean Energy, North Dakota One Wind Project, 2012, 100-megawatt (MW) wind energy project in North Dakota: Project Manager responsible for managing environmental survey and permitting and energy facility siting activities including obtaining site approval from the North Dakota Public Service Commission.
- Minnesota Power, Bison 2 and Bison 3 Wind Energy Facility Projects, 2011 to 2012, two 105-MW wind projects in North Dakota: Project Manager responsible for cultural and environmental field surveys and team preparation of energy facility siting applications and other documents necessary for site approval from the North Dakota Public Service Commission.
- CapX2020, Hampton to La Crosse 345 kV Transmission Line Project, 2011, 125-mile-long electric transmission project in Minnesota and Wisconsin: Author of the Land Use section of the State of Minnesota Draft Environmental Impact Statement (EIS).
- Rangeland Energy, COLT Connector Pipeline Project, 2010 to 2012, 20-mile-long crude oil pipeline in North Dakota: Project Manager responsible for environmental permitting and review and post-construction environmental inspections, including a facility siting / route permit from the North Dakota Public Service Commission.
- CapX2020, Fargo to Monticello 345 kV Transmission Line Project, 2010, the construction of major electric transmission lines from Fargo, North Dakota to Monticello, Minnesota: Co-Project Manager responsible for overseeing technical specialists involved with environmental and cultural resources field surveys and permit applications for the COE and the Minnesota Department of Natural Resources, as well as contributing to the environmental routing analysis process supporting route permitting and state utility commission certification.
- Enbridge Energy, Alberta Clipper Pipeline Project, 2006 to 2010, 300-mile-long, 36-inch-diameter crude oil pipeline between the United States – Canada border in North Dakota and Superior, Wisconsin: Deputy Project Manager responsible for managing environmental surveys and federal and state permitting including an EIS from the U.S. Department of State, National Forest Service crossing permits, North Dakota Public Service Commission route permit, and Minnesota Department of Natural Resources land and waterbody crossing permits.
- Enbridge Energy, Southern Lights Diluent Pipeline Project, 2006 to 2009, 190-mile-long, 20-inch-diameter refined product pipeline from Superior, Wisconsin to Clearbrook, Minnesota: Project Manager responsible for managing environmental surveys and federal and state permitting.
- South Dakota Public Utilities Commission, 2009: Presented expert testimony to the South Dakota Public Utilities Commission regarding the National Environmental Policy Act (NEPA) process and federal environmental review for interstate liquids pipelines.
- Enbridge Energy, LSr Pipeline Project, 2006 to 2008, 105-mile-long, 20-inch-diameter crude oil pipeline from the United States – Canada border at Neche, North Dakota to Clearbrook, Minnesota: Supervised environmental permitting and compliance and contributed to the development and submittal of numerous federal, state, and local permit applications as well as contributed to preparing an Environmental Assessment (EA) for the U.S. Department of State.
- El Paso, Continental Connector Natural Gas Pipeline Project, 2006, 384-mile-long natural gas pipeline in Texas, Oklahoma, Arkansas, and Louisiana: Authored the Land Use section of the Federal Energy Regulatory Commission (FERC) environmental report (Resource Report 8).



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- Phoenix Expansion Pipeline Project, 2006, 259-mile-long natural gas pipeline in Arizona and 25 miles of additional loops in New Mexico: Authored the socioeconomics section and co-authored the land use section of the FERC EIS.

Education and Training

- J.D., Northwestern School of Law of Lewis & Clark College, Oregon, 2002
- B.S., Geography, Minnesota State University, Minnesota, 1996
- FERC Environmental Review & Compliance for Natural Gas Facilities seminar, Denver, 2009
- University of Minnesota Certified Erosion/Sediment Control Specialist; Certified Inspector / Installer; Certified Designer of Stormwater Pollution Prevention Plans, 2009

| Finding Number | NRG Response |
|--------------------------------|---|
| The Project | |
| 14 | The updated information provided by Keystone for Finding Number 14 has been reviewed and results in no change to NRG's original (2009) testimony. |
| 15 | Updated information has been reviewed and results in no change to NRG's original testimony. |
| 16 | Updated information has been reviewed and results in no change to NRG's original testimony. |
| 17 | Updated information has been reviewed and results in no change to NRG's original testimony. |
| 18 | Updated information has been reviewed and results in no change to NRG's original testimony. |
| 19 | The updated information provided by Keystone for Finding Number 19 is outside the scope of NRG's 2009 review and testimony, and therefore results in no change to NRG's original testimony. |
| 20 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 22 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 23 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| Demand for the Facility | |
| 24 | The updated information provided by Keystone for Finding Number 24 is outside of the scope of NRG's original (2009) review and testimony, and therefore results in no change to NRG's original testimony. |
| 25 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 26 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 27 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 28 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 29 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| Environmental | |
| 32 | I reviewed the redline changes to Keystone's CMRP (dated April 2012) and compared those changes to NRG's original testimony from Ross Hargrove and Dr. James Arndt. My findings are summarized in Attachment 2. This table lists all CMRP sections with redline changes where NRG also provided recommendations in 2009, and provides my evaluation of Keystone's change with respect to NRG's 2009 testimony. None of the redline changes to Keystone's CMRP result in a change to NRG's original testimony. |

| | |
|----------------------------------|--|
| 33 | Updated information has been reviewed and results in no change to NRG's original testimony. |
| 41 | I reviewed the additional site-specific crossing plans for the HDD crossings of Bad River and Bridger Creek, and reviewed NRG's original testimony. The addition of these two waterbodies as HDD crossings, and the supporting site-specific crossing drawings, result in no change to NRG's original testimony. |
| 50 | No change to original testimony. |
| 54 | No change to original testimony. |
| Design and Construction | |
| 60 | The updated information provided by Keystone for Finding Number 60 is outside of the scope of NRG's original (2009) review and testimony, and therefore results in no change to NRG's original testimony. |
| 61 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 62 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 63 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 68 | Updated information is outside the scope of NRG's original review and results in no change to our original testimony. |
| 73 | See response to Finding Number 32 above. I reviewed the redline changes to Keystone's CMRP (dated April 2012) and compared those changes to NRG's original testimony from Ross Hargrove and Dr. James Arndt. My findings are summarized in Attachment 2. This table lists all CMRP sections with redline changes where NRG also provided recommendations in 2009, and provides my evaluation of Keystone's change with respect to NRG's 2009 testimony. None of the redline changes to Keystone's CMRP result in a change to NRG's 2009 testimony. |
| 80 | NRG's original recommendation was that Keystone provide the final Construction/Reclamation Units and associated restoration and mitigation procedures and corresponding pipeline milepost references to the PUC prior to construction. Keystone's update indicates that Con/Rec Unit mapping in consultation with area NRCS offices has been completed and that the results are included with the Department of State's FSEIS in Appendix R. This update appears to satisfy NRG's original recommendation. |
| 83 | Refer to Finding Number 41. No change to NRG's original testimony. |
| Operation and Maintenance | |
| 90 | The updated information provided by Keystone for Finding Number 90 is outside of the scope of NRG's original (2009) review and testimony, and therefore results in no change to NRG's original testimony. |
| Socio-Economic Factors | |
| 107 | The updated information provided by Keystone for Finding Number 107 is outside of the scope of NRG's original (2009) review and testimony, and therefore results in no change to NRG's original testimony. |