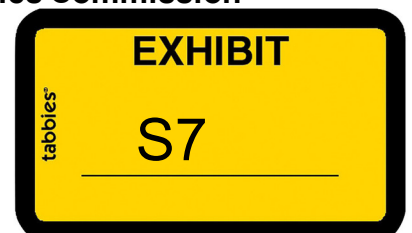


**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF NAVIGATOR HEARTLAND
GREENWAY, LLC FOR A PERMIT UNDER THE SOUTH DAKOTA ENERGY
CONVERSION AND TRANSMISSION FACILITIES ACT TO CONSTRUCT THE
HEARTLAND GREENWAY PIPELINE IN SOUTH DAKOTA**

DOCKET NO. HP22-002

**Direct Testimony of Herbert Pirela
On Behalf of the Staff of the South Dakota Public Utilities Commission
May 25th, 2023**



1 **Q: Please state your name and business address.**
2
3 A: Herbert Pirela, 112 Great Lake Drive, Annapolis, Maryland 21403
4
5 **Q: Describe your educational background.**
6
7 A: I received my Bachelor and Master of Science degrees from the University of
8 Colorado, and Doctorate from the University of Iowa with a focus on soil science
9 and soil chemistry.
10
11 **Q: By whom are you now employed?**
12
13 A: I have been employed by Environmental Resource Management, Inc. since
14 February of 2006.
15
16 **Q: What work experience have you had that is relevant to your involvement on
17 this project?**
18
19 A: I have 23 years' experience in assisting energy companies and agencies with the
20 review, survey, permitting, and mitigation for large natural gas pipeline and mining
21 facilities. This includes the review and drafting of construction mitigation and
22 rehabilitation, soil erosion and sediment control, and revegetation plans,
23
24 **Q: What Professional Credentials do you hold?**
25
26 A: I am a Professional Soil Scientist.
27
28 **Q: What is the purpose of your testimony?**
29
30 A: To provide an assessment of the construction impact, mitigation and rehabilitation
31 measures that are proposed in the application for construction of the Navigator
32 Heartland Greenway Pipeline System.
33
34 **Q: What methodology did you employ?**
35
36 A: I reviewed Sections 3.0 (Design and Engineering), 4.0 (Construction), 6.0
37 (Environmental Impacts), 7.0 (Community Impacts), and 10.0 (Testimony and
38 Exhibits) of the application to determine the completeness of the Environmental
39 Construction Guidance. I compared the impacts and mitigation measures and the
40 environmental construction guidance identified in the application and the
41 consistency of the proposed measures with those from:
42

- other pipeline projects on which I have worked,
- the Federal Energy Regulatory Commission's *Upland Erosion Control,*
44 *Revegetation and Maintenance Plan* and *Wetland and Waterbody Construction*
45 *and Mitigation Procedures*, and

46 • my knowledge of the industry best management practices (BMPs), to which are
47 the industry standards for buried pipeline projects.
48

49 **Q: Did you review Navigator’s Appendix E: Environmental Construction**
50 **Guidance?**

51
52 A: Yes. I reviewed Exhibit E – Environmental Construction Guidance (ECG) of the
53 Navigator application.
54

55 **Q: Please summarize what information is in that document.**

56
57 A: The ECG outlines construction procedures and mitigation measures to minimize
58 environmental impacts and ensures successful restoration of the project
59 workspace. The ECG outlines procedures for standard upland construction,
60 including special construction procedures in agricultural areas, as well as
61 construction within sensitive areas such as wetlands and waterbodies. The ECG
62 also outlines procedures for specific construction scenarios like winter construction
63 and identifies the responsibilities of the environmental inspectors.
64

65 **Q: Based on your experience, is the Environmental Construction Guidance**
66 **robust and complete? Please explain.**

67
68 A: The ECG outlines BMPs from identification of the workspace and avoidance areas
69 to final restoration and monitoring. In addition to standard construction procedures
70 and measures for temporary and permanent erosion control, the ECG includes
71 measures for site-specific issues that may arise during construction, such as spill
72 prevention and remediation, unanticipated discovery of cultural resources, and
73 steep terrain. Based on my experience, the ECG is robust and complete and
74 adheres to the industry standards for BMPs.
75

76 **Q: In your opinion, is the Environmental Construction Guidance consistent**
77 **with the pipeline industry’s best practices? Please explain.**

78
79 A: In my opinion, the ECG is consistent with the pipeline industry’s best practices,
80 including the Federal Energy Regulatory Commission’s *Upland Erosion Control,*
81 *Revegetation and Maintenance Plan* and *Wetland and Waterbody Construction*
82 *and Mitigation Procedures*, which are the industry standards for natural gas
83 pipeline projects.
84

85 **Q: Do you have any proposed changes or recommendations for the**
86 **Environmental Construction Guidance?**

87
88 A: No. Based on my review, I would consider the ECG to be complete.
89

90 **Q: Landowners have raised concerns to the Commission regarding permanent**
91 **crop yield loss along the pipeline right of way as a result of disturbing the**

92 **soil. In your opinion, should landowners expect to experience ongoing**
93 **crop yield loss on the right of way? Please explain.**
94

95 A: The ECG provides special construction procedures in agricultural areas, i.e.,
96 topsoil and/ or triple ditch topsoil segregation, salvage, and replacement;
97 avoidance or repair of drain and irrigation facilities; and repairs of damage
98 conservation practices. In my opinion, these are industry BMPs that would
99 minimize any ongoing crop yield loss along the pipeline right-of-way. In addition,
100 the ECG also discusses monitoring measures that will be implemented in
101 agricultural areas that considers successful revegetation when crop growth and
102 vigor are similar to adjacent portions of the same field. Consideration to potential
103 impacts, if any, to site hydrology should be incorporated. Any impacts to site
104 hydrology, if any, are being addressed by others.

105
106 **Q: Would an Agricultural Mitigation Plan identify the measures to be taken to**
107 **mitigate ongoing yield loss after restoration is completed?**
108

109 A: Yes. An Agricultural Mitigation Plan would likely identify the mitigation measures
110 to address ongoing yield loss after restoration. Additional mitigations would also
111 be identified in a Soil Erosion and Sedimentation Plan.
112

113 **Q: Did you review Navigator's Agricultural Mitigation Plan?**
114

115 A: No, this plan was not yet available for review.
116

117 **Q: In your opinion, should the Agricultural Mitigation Plan be provided by the**
118 **Applicant for Commission review prior to the Commission making its**
119 **determination on the Project? Please explain why or why not.**
120

121 A: Yes. The Agricultural Mitigation Plan should be submitted to the commission to
122 review prior to making a determination. A properly prepared plan should ascertain
123 that the proper mitigation measures to the agricultural resources are identified for
124 the project as a means to minimize any potential yield loss.
125

126 **Q: Should the Agricultural Mitigation Plan include a monitoring plan to**
127 **measure crop yields to determine if there is measurable yield loss along**
128 **the right of way? Please explain.**
129

130 A: Yes. The Agricultural Mitigation Plan should include a monitoring plan that
131 describes measures that will be implemented to monitor crop yields. The Plan, at
132 a minimum, should specifically address if there is a measurable yield loss along
133 the right-of-way and provide ample measures to determine if successful crop
134 yields are impacted and obtained.
135

136 **Q: Did you review Navigator's Weed Control Plan?**
137

138 A: No, this plan was not yet available for review.
139
140 **Q: In your opinion, should the Weed Control Plan be provided by the**
141 **Applicant for Commission review prior to the Commission making its**
142 **determination on the Project? Please explain why or why not.**
143
144 A: Yes. The Weed Control Plan should be submitted to the commission prior to
145 making a determination. The plan should be reviewed to ascertain that the
146 prescribed methods to prevent, mitigate, and control the spread of noxious weeds
147 are followed during and after construction of the Project.
148
149 **Q: Did you review Navigator's plan to manage the inadvertent release of**
150 **Horizontal Directional Drill (HDD) drilling mud?**
151
152 A: No. The application did not include a section describing the applicants plan to
153 manage the inadvertent release of drilling mud during HDD activities.
154
155 **Q: In your opinion, should an HDD inadvertent release plan be provided by the**
156 **Applicant for Commission review prior to the Commission making its**
157 **determination on the Project? Please explain why or why not.**
158
159 A: Yes. A specific plan to define mitigation measures to both minimize the potential
160 inadvertent release of drilling mud along with mitigation measures to account for
161 such a release is recommended. Such a plan should be submitted to the
162 commission to ascertain the proposed drilling fluid composition and management,
163 monitoring procedures, and response procedures for an inadvertent release to the
164 environment.
165
166 **Q: In your experience, is it typical at this point in the process for the**
167 **information you discussed above not to be available?**
168
169 A: Yes. In my opinion, it is typical at this point in the process that the detailed
170 Agricultural Management Plan, the Weed Control Plan, and the HDD Plan are
171 not available. Statements should be included in the application that these plans
172 will be submitted and approved prior to construction. All plans would be required
173 at a later stage of the Project development.
174
175 **Q: The Commission has received comment that the pipeline will adversely**
176 **impact soil temperatures along the right-of-way. Do you have similar**
177 **concerns that the pipeline could adversely impact soil temperatures?**
178 **Please explain.**
179
180 A: No. In my opinion and based on previous experience with other large pipeline
181 projects, changes of soils temperature by pipelines along the right-of-way is not
182 an issue of concern. Pipelines are usually insulated, and the temperatures above
183 the pipeline at various distances from it deviate minimally from the background

184 temperature. Therefore, the overall effect on vegetation and crops associated
185 with heat generated by operation pipelines is not significant.

186

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

188

189 A: Yes.

Herbert Pirela, PhD

Senior Project Manager

Dr. Pirela has over 23 years of experience in designing, conducting, and managing major environmental investigations and permitting projects. The major focus of his work has been on impact analyses for soils, reclamation, and geology, and includes environmental assessments under the National Environmental Act (NEPA) and other United States and international regulations. Herbert also has extensive experience with international standards and best practices, especially with the IFC Performance Standards and WBG EHS Guidelines, having lead and conducted multiple environmental and social and environmental and social impact assessments (ESIA) on behalf of International Development Finance Institutions.



Experience: 23 years' experience in the power, oil & gas, and mining sectors.

Email: herbert.pirela@erm.com

LinkedIn: <https://www.linkedin.com/in/herbert-pirela-9449a41b/>

Education

- Ph.D., Soil Chemist, Iowa State University, 1987

Professional Affiliations and Registrations

- American Society of Agronomy
- Society of Environmental Toxicology and Chemistry
- Soil Science Society of America
- Chevron ESHIA Qualified Facilitator

Languages

- English, native speaker
- Spanish, High proficiency (Spoken and written)

Fields of Competence

- Environmental Impact Assessment
- *National Environmental Policy Act* (NEPA) and state-equivalent NEPA compliance
- Project Permitting and Documentation
- Project Planning and Design to Address Soils and Geological Issues
- Stakeholder Engagement
- Cumulative Impact Assessment
- Soil Restoration/Revegetation Specially in Desert or Arid Environments
- Pipelines and Other Energy Industry Projects

Key Industry Sectors

- Power
- Mining
- Oil & gas

Honors and Awards

- Graduate Research Excellence Award, Iowa State University, 1987.

Key Projects

Coastal Pipeline West Virginia, Virginia, and North Carolina

For a 600 miles long interstate natural gas transmission pipeline that crosses West Virginia, Virginia, and North Carolina, and would serve multiple public utilities and their growing energy needs in Virginia and North Carolina. Herbert was the lead soil scientist in charge of the development comprehensive Rehabilitation and Restoration Plan for the project, including detailed plans to include pollinator plant and warm season grasses species in the restoration of the right-of-way in in piedmont and coastal plain areas in Virginia and North Carolina.

Pipeline, Alberta and Saskatchewan Canada, and Montana, South Dakota and Nebraska

TransCanada Keystone Pipeline, LP (TransCanada) is proposing the construction of a new pipeline approximately 1,980-mile, 36-inch and related facilities to transport crude oil from the Western Canadian Sedimentary Basin to the Texas Gulf Coast. The original Project application, submitted in 2008, was subjected to NEPA review and an FEIS was issued in August 2011. That project was found to not serve the national interest, and TransCanada submitted an application for a revised route in May 2012. That route follows the original corridor in Montana and South Dakota with a significant realignment in Nebraska, avoiding the ecologically sensitive Sand Hills area. For the revised route EIS, Herbert is the lead geologist/soil scientist that evaluated the impacts of the project on the geological and soil resources along the route and proposed appropriate mitigation and best management practices to avoid or minimize the impacts on these resources. Herbert worked closely with the Nebraska Department of Environment Quality and TransCanada to develop innovative soil erosion control measures that minimize the impacts to Fragile Soils in Northern South Dakota and Nebraska near the ecologically sensitive Sand Hills area

Kern River Expansion, California, Nevada, Utah, and Wyoming

For this fast-tracked, nearly 800-mile pipeline project, Herbert was lead soil scientist in the preparation of the complete FERC ER filing to Order 603 standards in less than five months. For the Phase 1 initial filing, he collected soil information for all four states traversed by the project, completed a detailed analysis of the project-related impacts on soil and topographic features, and prepared the soil resources report. In Phase 2, he conducted field surveys and developed comprehensive soil erosion and management control plans for the four States, including detailed plans for Dixie National Forest in Utah and Red Rock Canyon National Conservation Area and Spring Mountain National Recreation Area (Humbolt-Toiyabe National Forest) in Nevada. Requiring his extensive consultation with DOI's Bureau of Land Management, USFWS, and the California Department of Fish and Game, the plans included restoration and mitigation guidelines and strategies to minimize impacts through implementation of best management practices and site-specific restoration measures.

Alliance Pipeline North Dakota, Minnesota, Iowa, and Illinois

To support the preparation of a third party EIS for this 900-mile pipeline, Herbert identified data gaps and issued data requests, verified ER information, and prepared the soil resource affected environment and environmental consequences sections for the advanced preliminary draft EIS. He evaluated soil along the proposed route and determined best management practices to minimize erosion. He also characterized wildlife and plant communities and identified potential impacts on sensitive species and plant communities. He coordinated with biologists of federal and state agencies regarding impacts on riparian and stream habitat, developed mitigation measures, and evaluated alternative routes to minimize or avoid impacts. Herbert also conducted a noxious weed evaluation and addressed concerns of

farmers and state agencies concerning weed proliferation as a result of pipeline development. Duke Energy Gas Transmission subsidiary, Copiah Storage Project Copiah County, Mississippi For Copiah County Storage Company, he provided siting assistance and contributed to the preparation of the FERC ER for this high-productivity salt cavern natural gas storage/hub facility.

Improving the Transport Logistics and Competiveness of the Dr. Jules Sedney Port of Paramaribo, Suriname – IDB

ERM was contracted to perform an Environmental, Social, and Health & Safety (ESHS) review of the Dr. Jules Sedney Port in Paramaribo to assess the compliance status of existing Port operations, including the Environmental and Social Management System, against different criteria, standards, and regulatory requirements, such as, Surinamese laws and regulations, and applicable best management practices, international treaties and conventions such as ISO 14001:2015, the Basel Convention and Marine Pollution – MARPOL 73/78. Dr. Pirela served as project manager to conduct the ESHS review.

Saramacca Satellite Mine Project ESA, Rosebel Gold Mines (RGM) – IAMGOLD Corporation, Suriname

The Project consisted of two main components: an open pit mine and a private road for hauling mined mineralized material to the existing RGM mill for processing. Dr. Pirela served as the assistance Project Manager in the development of the ESIA to satisfy contractual obligations, national guidelines, and draft regulations as well as international and corporate standards for project development.

Gold Mine Tailings Storage Facility Expansion ESIA, Rosebel Gold Mines – IAMGOLD Corporation, Suriname

To maintain gold production levels, Rosebel Gold Mines investigated the feasibility of expanding its mines tailings storage facility. The expansion included the expansion of the existing tailings facility to the east by constructing seven additional dams, which raised

total vertical containment by 43 meters when the Project was completed. Dr. Pirela served as project manager and soils lead to conduct an environmental and impact assessment for the expansion of the gold mines existing tailings storage facilities in according to local and international guidelines.

Nassau Plateau Bauxite Mine ESHIA, Suriname Aluminum Company, Suriname

Manager and soil lead for the development of an ESHIA for new bauxite mine on the Nassau Plateau that evaluated the environmental and social impacts of the proposed new mine. Suralco, subsidiary of the international metals company Alcoa, conducted environmental and social studies that evaluated the feasibility of developing bauxite mine on the Nassau Plateau in eastern Suriname.

Lelydorp I Bauxite Mine ESIA, Suriname Aluminum Company, Suriname

In 1965, the Suriname Aluminum Company (Suralco) began operating the Paranam alumina refinery, located south of Paramaribo in northern Suriname. Historically, most of the Bauxite ore for the Paranam refinery had come from mines that were expected to be depleted. Suralco identified the Lelydorp I Bauxite deposits as a potential source of bauxite. Suralco engaged ERM to conduct the ESIA for this fast tracked Project. Dr. Pirela served as the Deputy Project Manager and soils lead for the Project.

Merian Gold Mine Project ESHIA, Newmont Mining Corporation, Suriname

Suriname Gold Company, LLC (Surgold) owns and operates the Merian Gold Project 30 Km to the north of the Nassau Mountains in eastern Suriname. Dr. Pirela led the soils impact assessment for the Environmental and Social Impact Assessment of a new gold mine in Suriname. The Project straddles the divide of two major watersheds and is located in the equatorial rain forest. The impact assessment included the assessment of the impacts of the mine pits and other infrastructure and proposed mitigation measures.