

**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 Tim Cowman  
On Behalf of the Staff of the South Dakota Public Utilities Commission  
May 25, 2023**

1 **Q: Please state your name and business address.**

2  
3 A: Name: Tim Cowman  
4 Business address: 414 E. Clark St, Akeley-Lawrence Science Center, Vermillion,  
5 SD  
6

7 **Q: Describe your educational background.**

8  
9 A: I received a Master of Natural Sciences degree from the University of South  
10 Dakota in 1998. I received a Bachelor of Science degree with majors in Earth  
11 Science (geology) and Chemistry in 1984 from the University of South Dakota.  
12

13 **Q: By whom are you now employed?**

14  
15 A: I am employed by the Geological Survey Program in the South Dakota  
16 Department of Agriculture and Natural Resources. We are also referred to as the  
17 South Dakota Geological Survey.  
18

19 **Q: What work experience have you had that is relevant to your involvement on  
20 this project?**

21  
22 A: Supervising staff geologists and hydrologists conducting aquifer mapping and  
23 geologic mapping projects across the State;  
24

25 Assisting cities and rural water systems in developing and maintaining public  
26 water supplies;  
27

28 Conducting hydrogeologic studies on aquifers in eastern South Dakota;  
29

30 Mapping ground water resources in the eastern portion of the State;  
31

32 Water quality assessments of ground water and surface water in eastern South  
33 Dakota;  
34

35 Project coordination and management for development of the Big Sioux River  
36 Flood Information System.  
37  
38

39 **Q: What Professional Credentials do you hold?**

40  
41 A: I have been investigating and mapping ground water resources in South Dakota  
42 for 38 years. I have conducted ground water studies in various parts of eastern  
43 South Dakota to determine characteristics of ground water movement, aquifer  
44 recharge rates, contaminant transport in ground water, aquifer yield, and aquifer  
45 water quality. I am currently the State Geologist and Program Administrator for

1 the South Dakota Geological Survey. I plan and direct the activities of up to 25  
2 employees to carry out studies and investigations to document, map, and assess  
3 the geologic and ground water resources of the State. I provide information to  
4 regulators, planners, and engineers at the federal, state, and local level to help  
5 them make informed decisions regarding the development and protection of the  
6 State's natural resources.

7  
8 **Q: On whose behalf was this testimony prepared?**

9  
10 A: I prepared this testimony on behalf of the Staff of the South Dakota Public  
11 Utilities Commission.

12  
13 **Q: Have you reviewed Section 6.2 of the Application for the Navigator  
14 Heartland Greenway Pipeline (Project)?**

15  
16 A: Yes.

17  
18 **Q: To the best of your knowledge, does Section 6.2 of the Application properly  
19 summarize the geologic formations to be crossed by the Project?**

20  
21 A: No. The geologic formations discussed in section 6.2 were derived from geologic  
22 maps by the South Dakota Geological Survey and U.S. Geological Survey that  
23 portray the bedrock geology. These maps are indicative of the geology at a  
24 substantial depth below the glacial sediments that are present at the surface. The  
25 geologic processes active in the vicinity of the pipeline route are determined by  
26 the surface geology. A surface geology map should have been used to assess  
27 the geology crossed by the pipeline route.

28  
29 **Q: Does the Project cross any geologic formations that may pose a risk to the  
30 pipeline? Please explain.**

31  
32 A: I am not aware of any geologic formations crossed by the pipeline route that  
33 would pose a risk to the pipeline stability. The pipeline route crosses stable  
34 glacial sediments and alluvial deposits. There is a small crossing of Sioux  
35 Quartzite which I would also consider to be geologically stable.

36  
37  
38 **Q: Have you reviewed Section 6.4 of the Application for the Project?**

39  
40 A: Yes.

41  
42 **Q: To the best of your knowledge, does Section 6.4 of the Application properly  
43 summarize the hydrology in the Project area?**

44  
45 A: No. Section 6.4 states the pipeline route crosses the Big Sioux, Dakota, and  
46 Sioux Quartzite aquifers. It does cross the Big Sioux aquifer, and a short stretch

1 of the Sioux Quartzite, but the Dakota aquifer is deeply buried under several  
2 impermeable layers. There are a few other surficial aquifers that it crosses that  
3 were not mentioned. Although section 6.4 is about the hydrology of the pipeline  
4 route, it only addresses ground water hydrology and not surface water hydrology.  
5 The surface water resources crossed by the project need to be addressed.  
6  
7

8 **Q: Should the Commission be concerned about any aquifers or shallow**  
9 **aquifers that the Project will cross? Please explain.**

10  
11 A: Yes. The Big Sioux aquifer is a potential concern because it is the source of  
12 drinking water for many people in the project area. However, if the pipeline is  
13 constructed and operated properly it will minimize the potential risks to the  
14 aquifer.  
15

16 **Q: Did you provide any recommendations to Navigator during route**  
17 **development?**

18  
19 A: No.  
20

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

22  
23 A: Yes  
24