

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

**IN THE MATTER OF THE APPLICATION BY SCS CARBON TRANSPORT LLC FOR
A PERMIT TO CONSTRUCT A CARBON DIOXIDE TRANSMISSION PIPELINE**

DOCKET NO. HP22-001

**Direct Testimony of Amy Cottrell
On Behalf of the Staff of the South Dakota Public Utilities Commission
June 23, 2023**

1 **Q: Please state your name and business address.**
2
3 A: Amy Cottrell, ERM, 1155 Perimeter Center West, Atlanta, Georgia, 30338
4
5 **Q: Describe your educational background.**
6
7 A: B.S., University of Wisconsin-Green Bay; Biology major, Environmental Science
8 minor
9 M.S., Auburn University; Fisheries
10
11 **Q: By whom are you now employed?**
12
13 A: I have been employed by Environmental Resources Management, Inc. since
14 March 2023.
15
16 **Q: What work experience have you had that is relevant to your involvement on
17 this project?**
18
19 A: I have 10 years' experience as a fisheries biologist and aquatic ecologist for
20 academic institutions and federal, state, and tribal governments in the Midwest,
21 southeast, and pacific northwest. I have studied and implemented federal, state,
22 and tribal regulations relating to aquatic and terrestrial natural resources, fisheries
23 and wildlife management, and tribal treaty rights. I have experience working within
24 the Migratory Bird Treaty Act, Endangered Species Act, Clean Water Act, Dingell-
25 Johnson Act, Magnuson-Stevens Act, and state regulations. I have worked with
26 United States Fish and Wildlife Services (USFWS), National Oceanic Atmospheric
27 Administration (NOAA), Federal Energy Regulatory Commission (FERC), United
28 States Army Corps of Engineers (USACE), Bureau of Indian Affairs (BIA),
29 Environmental Protection Agency (EPA), Bureau of Land Management (BLM),
30 United States Forest Service (USFS), Department of Transportation (DOT), and
31 state natural resource agencies.
32
33 **Q: What Professional Credentials do you hold?**
34
35 A: Certified Fisheries Professional, American Fisheries Society
36 Endangered and Threatened species handling permit, USFWS
37
38 **Q: What is the purpose of your testimony?**
39
40 A: To provide an assessment of the completeness and adequacy of the Aquatic
41 Impacts sections of the Summit Carbon Solutions Pipeline System application,
42 specifically Section 5.4 – Aquatic Ecosystems. To assess that all reasonable
43 ecological measures have been accounted for, and that remediation plans are
44 wholistic and reasonable for aquatic ecosystems in the application. To provide
45 professional recommendations of the proposed activities, mitigation measures and
46 identify potential concerns assessed from review of the application.

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Q: What methodology did you employ?

A: I reviewed the Supplement of the Application and associated components (Appendix 3 – Environmental Construction Plan, Appendix 6 – Project Mapping, Appendix 8 – Waterbody Crossings, Appendix 9 – Wetland Report, Appendix 10 – Threatened and Endangered Species Report, and applicant direct testimonies) and supplemental materials (applicant’s responses to staff’s first through fourth set of data requests) for completeness and accuracy, and consulted external resources, including:

- South Dakota Administrative Rules
- South Dakota Game, Fish and Parks (SDGFP) Fisheries Management Area Strategic Plans
- USACE Wetlands Delineation Manual
- U.S. Endangered Species Act species distribution and abundance list
- USGS National Land Cover Database
- Government agency rules in the Federal Register
- USFWS policy and regulations
- SDGFP Aquatic Invasive Species laws and regulations
- National Wetland Inventory database
- Reviewed published literature on ESA-listed species

Q: Did you review section 5.4 of Summit’s Supplement of the Application?

A: Yes, I reviewed Section 5.4 – Aquatic Ecosystems of Summit’s application and cross checked that with external resources as mentioned.

Q: Please summarize what information was included in section 5.4 of Summit’s Supplement of the Application.

A: This section discussed wetlands, waterbodies, and fisheries that may be impacted by the Project either by direct crossing or proximity to. This includes wetland types present in the proposed Project area and the estimated acreage of wetlands impacted (Table 27), defined waterbody types and proposed Project waterbody crossing locations and methods (Table 28), fish presence data and most recent stocking events (Table 29), and documented Aquatic Invasive Species (AIS) within the proposed Project crossing locations (Table 30). Furthermore, Appendix 9 contains wetland delineation data. The Environmental Construction Plan (ECP; Appendix 3) contains methodology of pipeline construction and operation methods across wetlands and waterbodies, mitigation measures, and potential construction and operational impacts on wetlands, waterbodies, and fisheries. Appendix 10 contains the threatened and endangered species report.

Q: In your opinion, did Summit’s Supplement of the Application adequately address ARSD 20:10:22:17 (Effect on aquatic ecosystems)? Please explain.

93
94 A: No; a complete impact analysis for construction and operation activities on the
95 aquatic flora and fauna has not been provided yet. The construction design
96 blueprints are provided in Appendix 3, though few operational procedures are
97 discussed in text. Applicant identifies aquatic flora and fauna present in the
98 proposed Project area but does not provide a complete and accurate impact
99 analysis of the proposed facility on aquatic flora and fauna. This was addressed
100 by Summit in their Response to Staff's Data Request 4-5 regarding wetland
101 impacts but needs to be addressed for waterbodies and aquatic fauna.

102
103 **Q: In your opinion, did section 5.4 of Summit's Supplement of the Application**
104 **properly identify the potential impacts to wetlands and waterbodies?**

105
106 A: Based on the information provided, I do not believe the potential impacts to
107 wetlands and waterbodies have been addressed. The Applicant defines wetland
108 types and lists their ecological services. Table 28 (Wetlands Impacted by the
109 Project) provides the total wetland acreage impacted by construction and operation
110 of the pipeline and access roads for each wetland type, provides data on temporary
111 or permanent conversion, but does not separate these data out for individual
112 wetlands. Table 29 (Named Waterbodies Crossed by the Project) of the
113 Application provides named waterbodies that would be crossed, the construction
114 methods used for each, and impacted acres within the waterbody, but does not
115 identify potential impacts to the riparian zone and/or adjacent wetlands.

116
117 The Application does not define potential impacts of carbon dioxide released into
118 the environment via construction and operation, but rather states there will be
119 minimal to no negative impact. Discovery Letter 4 links Data Request 4-5 to
120 excerpts from the Application, and provides references used for such excerpts.
121 There are not enough empirical observational data available for CO2 pipelines to
122 claim that a CO2 leak would be an unlikely event (see Exhibit_AC-2). Absolute
123 statements should be reworded to reflect available data or removed. Impacts are
124 not discussed in detail, for example, 'The depth of soil impacts likely will be
125 minimal', and 'Groundwater impacts within the wetland are likely to be minimal'.
126 While that may be true, the Applicant needs to define potential impacts regardless
127 of the likelihood, and then provide mitigation measures in their ECP. There are
128 currently no potential negative impacts or mitigation measures provided in the
129 ECP. Statements of certainty like 'an accidental release from the pipeline will have
130 little to no impact on the natural habitat' should be explained as to why that is the
131 case and/or backed by scientific data.

132
133 **Q: Do you agree with the mitigation measures Summit's plans to implement to**
134 **minimize the potential impacts to wetlands and waterbodies?**

135
136 A: Based on the information provided to date, I do not agree. Table 29 lists eight
137 crossings using the horizontal directional drilling (HDD) method, and 19 crossings
138 using the Wet Open Cut (WOC) method. Wetlands neighboring perennial and

139 intermittent waterbodies should be crossed via HDD to significantly decrease
140 negative impacts to aquatic flora and fauna. The HDD method of installing
141 pipelines is well documented as having the least negative impact on
142 environmentally sensitive areas, including wetlands. See Exhibit_AC-3 for more
143 information.
144

145 Table 1 suggests the Applicant plans to obtain appropriate permits under Section
146 404 of the Clean Water Act for authorization to operate in and around waters of
147 the US. Regarding wetlands, the application states, 'the Applicant will abide by all
148 required mitigation measures regarding vegetation conversion on PFO wetlands.'
149 For waterbodies, the applications states, 'the contingency plan will include
150 instructions for monitoring (for drilling fluid loss) during the directional drill and
151 mitigation in the event that there is a release of drilling fluids.
152

153 The Application contains very vague statements with no supporting
154 documentation, e.g., 'All wetland areas within conservation lands or easements
155 will be restored to a level consistent with any additional criteria established by the
156 relevant managing agency.' The application needs to elaborate on what their
157 restoration methods and post-construction monitoring will be and
158 criteria/guidelines they will follow.
159

160 Waterbody impacts are listed in Section 5.4.2 – Fisheries – Aquatic Habitats and
161 Communities. The application states, 'if a release occurs, the Project will initiate
162 its emergency response procedures to shut down the mainline valves and restore
163 the ROW where the release occurred'. The response to Staff's Data Request 4-6
164 states that a Draft Leak Emergency Response Procedure document has not yet
165 been provided.
166

167 **Q: Do you have any recommendations for additional mitigation measures in**
168 **order to minimize impacts to wetlands and waterbodies? Please explain.**
169

170 A: The ECP needs to describe how post-construction clean-up and monitoring will
171 operate to avoid additional negative impacts to wetlands and waterbodies. I have
172 no further recommendations on this as long as they follow FERC guidelines for
173 wetlands and waterbodies (Exhibit_AC-4).
174

175 Table 28 should include impacts to the riparian zone and/or adjacent wetlands,
176 especially given that wetland delineations are complete.
177

178 **Q: In your opinion, did section 5.4 of Summit's Supplement of the Application**
179 **properly identify the potential impacts to aquatic fauna?**
180

181 A: Based on the information to date, I do not believe they have been properly
182 identified. The categorical fishery water statuses of the named waterbodies are
183 provided. According to the Fisheries Management Strategic Plan for the East River

184 Fisheries Management Area, the only crossed waterbody currently stocked is
185 Brandt Lake, Lake County. This lake has common carp and sago pondweed.

186
187 The application only discusses ESA-listed, state species of concern, Aquatic
188 Invasive Species (AIS), and native fish species that potentially use these
189 waterbodies or wetlands and may be impacted by the project. The application does
190 not include other native aquatic fauna, and it does not provide a complete
191 prevention plan or mitigation measures for AIS.

192
193 Potential impacts provided in Section 5.4.2.1 (Potential Impacts to Fisheries) are
194 not supported with references or expert analyses. The Applicant should provide
195 the studies that Summit used to draw the following conclusions: 'Impacts such as
196 increased suspended sediments will dissipate within hours of completion of the
197 crossing.'; 'warmwater fish species are generally more resistant to the impacts of
198 increased sediments than those of coldwater fisheries.'; and, 'The James River,
199 Big Sioux River (Lincoln County crossing), Round Lake, and Brant Lake will all be
200 crossed using HDD technologies and therefore require no in-water work and result
201 in no disturbance of the waterbody banks or channels, and no suspension of
202 sediments.'

203
204 Known impacts of HDD construction (i.e., unintentional drilling mud releases,
205 increased sediment loading, and aquifer breaching) are not discussed.

206
207 **Q: Do you agree with the mitigation measures Summit plans to implement to**
208 **minimize the potential impacts to aquatic fauna?**

209
210 A: Not completely. I do agree with the Applicant's plan to consult with USFWS and
211 South Dakota Game, Fish, and Parks to assist with mitigation measures and obtain
212 any necessary permits prior to Project construction. Also, species-specific baseline
213 data are provided from 2017 electrofishing surveys at Highway 12 and Hitchcock
214 crossing on the James River, 2016 gillnet surveys at Brandt Lake, most recent fish
215 stocking records for waterbodies, and state wildlife action plan (SWAP)-listed
216 Species of Greatest Conservation Need and ESA-listed species presence data are
217 provided in Tables 24 (Probable Presence of Birds of Conservation Concern in the
218 Project Area), 25 (Other State Listed Species in the Project Area), and 26
219 (Occurrence of Sensitive Species Near Project Footprint based on SDGFP Natural
220 Heritage Data), and Appendix 10 - Table 2 (Federal and State Listed Threatened
221 and Endangered Species Potentially Occurring with the Project Area). However,
222 impacts to Pallid sturgeon are not fully addressed, and mitigation measures are
223 not complete for aquatic fauna. These data are needed to help minimize or prevent
224 potential negative impacts.

225
226 **Q: Do you have any recommendations for additional mitigation measures to**
227 **minimize impacts to aquatic fauna? Please explain.**

228

229 A: Table 26 lists Pallid sturgeon presence as 'none', and Appendix 10 - Table 2 states,
230 'Suitable habitat for the Pallid sturgeon may be present in the Project area within
231 the Big Sioux River'. This is anecdotal, as the USACE-mandated species
232 assessment locations of the Missouri River Recovery Program (MRRP) did not
233 include the upper Big Sioux River. Data are lacking for Missouri River tributary use,
234 though research documents Pallid sturgeon often using large tributaries (e.g.,
235 Platte River; Hamel et al. 2014). Since these data are lacking, the HDD
236 construction method for all waterbody crossings within the Big Sioux River system
237 would be recommended in order to minimize impacts to the Pallid sturgeon. The
238 Response to Staff's Data Request 4-15 states the Applicant will 'implement
239 trenchless crossing methods of waterbodies that support suitable habitat for the
240 Topeka shiner and Pallid sturgeon (Commitment made to USFWS)'. However, the
241 Applicant does not provide a definition of suitable habitat for either species that is
242 supported by either USFWS and/or published data. The Applicant should
243 incorporate suitable habitat classifications into Table 28 and the updated table for
244 wetland crossing methods.

245
246 The Application should contain baseline impact analyses and mitigation measures
247 for Pallid sturgeon. The Project Impact Assessment column of Table 2 in Appendix
248 10 states, '...Therefore, the project will have no effect on this species'. I suggest
249 that this statement be removed as it cannot be confirmed by data. I also suggest
250 the Determination of Effect be changed from 'No effect' to 'Undetermined', and that
251 the applicant follow up with a USFWS SD Ecological Services consultation for
252 BMPs regarding the Pallid sturgeon range, suitable habitat, and additional
253 protective measures that may be needed.

254
255 Baseline impact analyses and mitigation measures need to be included for non-
256 ESA-listed or state-listed aquatic species.

257
258 Statements of certainty need to be backed by scientific data. More detail is needed
259 when describing the impacts of sedimentation in streams (i.e., construction
260 timeline, referenced timeline for suspended sediment from this type of
261 construction). Warmwater fishes are not resistant to sedimentation in streams. e

262
263 Known impacts of HDD construction (i.e., unintentional drilling mud releases,
264 increased sediment loading, and aquifer breaching) need to be defined.

265
266 The applicant should continue to consult with USFWS, and SDGFP to assist with
267 mitigation measures throughout project development and during post-construction
268 monitoring and remediation.

269
270 The invasive species prevention plan covers AIS preconstruction documentation
271 and general equipment cleaning; however, the plan needs to include steps that are
272 proven to be preventative, specifically for silver carp and bighead carp documented
273 in the James, Vermillion, and Big Sioux rivers, and Eurasian water milfoil and curly
274 leaf pondweed documented throughout the project area. Refer to the SDGFP

275 Aquatic Invasive Species Strategic Management Plan 2023 (AIS SMP; attached,
276 Exhibit_AC-5) and consult with USFWS and SDGFP for additional guidance if
277 needed.
278

279 **Q: Are Summit’s proposed construction techniques for waterbody crossings**
280 **consistent with industry standard practices?**
281

282 A: For the most part. Section 2.2.6 – General Construction Procedures states that
283 ‘the ECP (Appendix 3) identifies generally recognized BMPs that will be
284 implemented to minimize and mitigate impacts, particularly to wetlands,
285 waterbodies, and agricultural areas’.
286

287 **Q: Do you have any concerns with the proposed waterbody crossing**
288 **construction techniques proposed by Summit? If so, please explain and**
289 **provide any recommendations you have for addressing your concerns.**
290

291 A: Yes. Appendix 3 should provide more procedural detail on HDD and WOC crossing
292 methods. The application should also describe when mitigation or remediation
293 measures would be deployed. More detail is needed describing potential negative
294 impacts of both HDD and WOC. For example, WOC construction would result in
295 direct effects to sensitive waterbodies and potentially result in the “take” of state
296 and federal protected species (e.g., Pallid sturgeon and Topeka shiner).
297

298 Post-construction remediation plans for negative impacts caused by construction
299 vehicles and heavy equipment, and temporary and permanent roads need to be
300 included for both HDD and WOC crossing methods.
301

302 HDD does present potential negative impacts to in-stream fauna via unintentional
303 drilling fluid spills and aquifer breaching, known to occur during HDD construction.
304 Some mitigation measures (e.g., ‘energy dissipation devices may be used to help
305 mitigate erosion while discharging suspended sediments into waters/wetlands’)
306 need to be further explained and address how aquatic fauna would be impacted
307 during such measures.
308

309 **Q: Did you review Summit’s Horizontal Directional Drill (HDD) Contingency**
310 **Plan?**
311

312 A: Yes. The HDD Contingency Plan describes remediation steps to address an
313 inadvertent release of drilling fluid. The Plan does not define potential negative
314 impacts of an inadvertent release to the surrounding environment. The Plan does
315 not define any additional potential risks of the HDD method (e.g., aquifer
316 breaching, increased suspended sediment loading), nor does it provide any
317 measures to mitigate potential risks. These need to be included.
318

319 **Q: Did you review Summit’s Spill Prevention, Control, and Countermeasures**
320 **Plan (SPCC Plan)?**

321
322 A: No. The applicant has not yet provided a Spill Prevention, Control, and
323 Countermeasure (SPCC) Plan, which is utilized to help prevent the discharge of
324 oil into waterbodies and surrounding shorelines. A properly defined SPCC Plan
325 defines measures to help prevent spills from occurring, and control releases in the
326 event a spill were to occur. A project-specific SPCC Plan would identify all potential
327 waterbodies in relation to the Project and proposed project activities.

328
329 **Q: Is Summit required by law or regulation to maintain an SPCC Plan for both**
330 **construction activities and operation of the pipeline? If so, please explain**
331 **what laws and regulations apply.**
332

333 A: U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA)
334 regulations govern the spill responses for the pipeline during operation. This would
335 typically be covered under an emergency response plan, which the Application
336 states will be completed prior to commencing operation. The Applicant should
337 develop a SPCC Plan for construction if it meets the USEPA requirements of (1)
338 storing more than 1,320 gallons total of oil products (e.g., diesel fuel, gasoline, lube
339 oil, hydraulic oil, etc.) at a location, and (2) if a release occurs, the oil products
340 could reasonably be expected to discharge to navigable waters of the U.S. or
341 adjoining shorelines. Based on the information provided on the application, I could
342 not reasonably determine the applicability of this.

343
344 **Q: Does this conclude your testimony?**

345
346 A: Yes.