

**BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN**

Joint Application of American Transmission)
Company, ITC Midwest LLC, and Dairyland)
Power Cooperative, for Authority to Construct)
And Operate a New 345 kV Transmission Line)
From the Existing Hickory Creek Substation in) 5-CE-146
Dubuque County, Iowa, to the Existing)
Cardinal Substation in Dane County,)
Wisconsin, to be Known as the Cardinal-)
Hickory Creek Project)

**DIRECT TESTIMONY OF GEORGE MEYER
ON BEHALF OF THE
DRIFTLESS AREA LAND CONSERVANCY
AND WISCONSIN WILDLIFE FEDERATION**

INTRODUCTION

1

2 **Q: Please state your name, business, and address.**

3 A: My name is George Meyer. I am the Executive Director of the Wisconsin Wildlife
4 Federation. The Federation is the state's largest conservation organization comprised of
5 206 state, regional and local sports groups dedicated to the conservation of Wisconsin's
6 natural resources including fish and wildlife and the land, air and water resources which
7 provide their habitat. The street address for our headquarters is 213 N. Main Street, Suite
8 100, Poynette, Wisconsin 53955.

9 **Q: On whose behalf are you testifying?**

10 A: I am testifying on behalf of the Driftless Area Land Conservancy and the Wisconsin
11 Wildlife Federation.

12 **Q: Please summarize your relevant education, background, and experience.**

1 A: I have a Bachelor of Arts degree in Economics from Saint Norbert College and a Juris
2 Doctorate degree from the University of Wisconsin Law School. My relevant work
3 experience includes ten years as an attorney for the Wisconsin Department of Natural
4 Resources (DNR) providing legal counsel and representing the Department's legal
5 interest in approximately two hundred contested case hearings. I represented and
6 provided legal counsel to a broad spectrum of DNR programs including the Bureau of
7 Environmental Impact, which had responsibility for the environmental analysis of private
8 and public development projects and the preparation of Environmental Impact
9 Statements. For a significant period of time I had the responsibility for representing the
10 Bureau of Water Regulation and Zoning, which focused on the protection and
11 management of Wisconsin's lakes, streams and wetlands. After my tenure as a DNR
12 lawyer, I moved into senior agency management and served for twelve years as the
13 Administrator of the Department's Division of Enforcement which had the responsibility
14 to oversee: (1) the state's Conservation Warden Force, which enforces state conservation
15 laws relative to fish and wildlife, various habitat programs including the alteration of
16 waterways and wetlands; (2) the state's Environmental Enforcement staff, which had
17 responsibility to conduct enforcement efforts regarding all of the state environmental
18 programs affecting water pollution, air pollution and solid and hazardous waste; (3) the
19 Bureau of Water Regulation and Zoning, which had the responsibility for permitting
20 modifications to streams, lakes and wetlands and the regulation of dams in the state; and
21 (4) the Bureau of Environmental Impact, which had the responsibility to implement the
22 Wisconsin Environmental Policy Act that requires all state agencies to evaluate the
23 environmental impact of all agency decisions affecting the environment which includes

1 major highway, mining and energy projects. I was then selected by the Natural Resources
2 Board once and Governor Tommy Thompson twice to serve as Secretary of the
3 Department of Natural Resources.

4 **Q: How long did you serve as Secretary of the Wisconsin Department of Natural
5 Resources?**

6 A: I served as Secretary of the Department of Natural Resources for over eight years.

7 **Q: Please describe your role and responsibilities as Secretary of the Wisconsin
8 Department of Natural Resources.**

9 A: My responsibility as Secretary of the Department of Natural Resources was to oversee
10 and manage all conservation and environmental management and regulatory programs in
11 the state, to oversee all administrative functions of the agency and to coordinate with
12 other state agencies to assure that their activities minimized the adverse impact on natural
13 resources.

14 **Q: What is the purpose of your testimony?**

15 A: The purpose of my testimony is to describe, evaluate and provide expert opinion on the
16 adverse impacts of the proposed Cardinal-Hickory Creek transmission line on the natural
17 resources of the Driftless Area of southwestern Wisconsin and to apply my expertise as a
18 former environmental decision-maker to the information related to the construction and
19 the maintenance of the proposed transmission line. My testimony will also analyze
20 whether the proposed high-voltage transmission line and towers meet applicable statutory
21 standards, such as whether there will be an undue adverse impact on various
22 environmental values.

23 **Q: Please summarize your testimony.**

1 A: My testimony can be summarized as follows:

- 2 ○ The Driftless Area is a truly unique landscape, rich in natural resources and well-
3 known and appreciated for its natural scenic beauty.
- 4 ○ The Driftless Area contains a large number of valuable water resources including
5 the Mississippi River and many of the finest cold water trout streams in the
6 Midwest and beyond.
- 7 ○ The unglaciated Driftless Area provides habitat for a substantial number of
8 endangered and threatened species and species of special concern.
- 9 ○ The Driftless Area has several Important Bird Areas and also has many significant
10 and high quality wetlands.
- 11 ○ The Driftless Area is the home to a large number of valuable and heavily used
12 Federal, State and local recreational areas, which are based on the high quality
13 natural resources and outstanding natural scenic beauty of the area.
- 14 ○ There has been a substantial amount of public and private investment in the
15 natural resources and the recreational facilities of the Driftless Area including
16 hundreds of small businesses deriving their income based on the resulting tourism
17 economy.
- 18 ○ A major component of the economy of the Driftless Area is tourism, which is
19 largely based on the area's natural resources and natural scenic beauty.
- 20 ○ It is my opinion that the construction and maintenance of the proposed Cardinal-
21 Hickory Creek transmission line and very high towers will have significant and
22 undue adverse impacts on environmental values, including land and water

1 resources along the proposed transmission line routes and will likely damage
2 environmental quality and fish and wildlife habitat.

3 ○ This environmental damage will extend to the valuable wetlands, rivers and
4 streams of the Driftless Area and to the fish and other aquatic habitat and
5 functional values contained therein.

6 ○ For a number of reasons, the environmental permissibility of a project, such as
7 this one, does not mean that the permitted project will not result in significant
8 environmental damage.

9 ○ Mitigation often does not equate to a total functional and ecological replacement
10 for the environmental damage.

11 **Q: What information and/or documents did you review in preparing this testimony?**

12 A: In preparation for this direct testimony, I reviewed those portions of the project
13 applications that related to environmental impacts of the project (Ex.-Applicants-
14 Application), and the Federal and State Draft Environmental Impact Statements (PSC
15 REF#: 360500). In addition, I reviewed the comments submitted by Mr. Charles
16 Tennessen, the Driftless Area Land Conservancy and Wisconsin Wildlife Federation
17 scoping comments (PSC REF#: 356845), the state DEIS comments filed by Wisconsin's
18 Green Fire (Ex.-DALC/WWF-Meyer-6), American Transmission Company's website,
19 the Wisconsin Department of Natural Resources website, numerous webpages relating to
20 the restoration efforts and economic studies conducted by Trout Unlimited, the
21 Wisconsin Department of Tourism website, the comments submitted on the Federal DEIS
22 by Dr. Joy Zedler (Ex.-DALC/WWF-Meyer-3), the comments of Dr. Barbara Peckarsky
23 on the Federal DEIS (Ex.-DALC/WWF-Meyer-4), the comments of Patricia Trochell on

1 the Federal DEIS (Ex.-DALC/WWF-Meyer-5), and the comments on the project
2 submitted by many of the local citizens, businesses and municipalities. I also reviewed
3 the Wisconsin Wetlands Association website.

4 **Q: Are you sponsoring any exhibits with your testimony?**

5 A: Yes, I am sponsoring the following exhibits:

6 Ex.-DALC/WWF-Meyer-1: Curriculum Vitae of George Meyer

7 Ex.-DALC/WWF-Meyer-2: Executive Summary from “Economic Impact of Recreational
8 Trout Angling in the Driftless Area” (2016 Report by Donna Anderson, PhD)

9 Ex.-DALC/WWF-Meyer-3: Comments of Dr. Joy Zedler on Federal DEIS

10 Ex.-DALC/WWF-Meyer-4: Comments of Dr. Bobbi Peckarsky on Federal DEIS

11 Ex.-DALC/WWF-Meyer-5: Comments of Patricia Trochlell on Federal DEIS

12 Ex.-DALC/WWF-Meyer-6: Comments of Wisconsin’s Green Fire on State DEIS

13
14 **DRIFTLESS AREA**

15 **Q: Please describe the uniqueness and significance of the Driftless Area.**

16 A: I have extensive knowledge of the Driftless Area based on my personal and professional
17 activities in the area since 1969. I am also very familiar with the terrain and natural
18 resources of the remainder of the state and the Midwest because of my professional and
19 personal study and use of those areas.

20 The Driftless Area is truly a unique geologic area in the Midwest, untouched by
21 the glaciers that formed the remainder of the state’s geology two million years ago. As a
22 result its hundreds of rolling hills and deep river valleys contain a special ecological
23 system of prairies, woodlands and water resources. The Area has countless scenic vistas

1 which draw millions of tourists to the area annually. It contains more than 1,200 streams
2 including world-class trout fishing streams with over 4,000 river miles and a network of
3 600 spring-fed creeks, all in a rustic setting for the tens of thousands of visiting anglers
4 each year. The landscape of the Driftless Area is also the home or rest stop for more than
5 half of North America’s migratory bird species. It is these natural resource riches along
6 with its agricultural base that drives the economic engine of the Driftless Area.

7 The U.S. Department of Agriculture recognizes that the Driftless Area’s
8 “diversity of habitat which provides critical habitat for dozens of species of concern in
9 the State Wildlife Action Plans, and has been cited as one of North America's most
10 important resources.” The proposed route for the proposed high-voltage transmission line
11 and 17-story tall towers would run through and damage the Upper Mississippi National
12 Wildlife and Fish Refuge, multiple conservation areas and parklands, the Military Ridge
13 Prairie Heritage Area and the Black Earth Creek Watershed Area, among other places.

14 Within the project area is the Southwest Wisconsin Grassland and Stream
15 Conservation Area (SWGSCA), which is a partnership between local, state, federal, non-
16 profit organizations, landowners, and individual citizens working together to sustain
17 functional grasslands, savannas and stream habitats. The SWGSCA is one of the best
18 grassland conservation opportunities in the Upper Midwest. Within the SWGSCA is the
19 Military Ridge Prairie Heritage (MRPHA), an area identified by the Nature Conservancy
20 as critical for the protection of Midwest prairie remnants and area-sensitive species,
21 including endangered and threatened grassland birds. Creating and maintaining habitat
22 for grassland birds is imperative to their survival and the Bird Conservation Area within
23 the SWGSCA was created to maintain sustainable breeding populations of grassland

1 birds. The Nature Conservancy states on its website that: “The Military Ridge Prairie
2 Heritage Area (MRPHA) is a 95,000+ acre grassland landscape in Dane and Iowa
3 counties in southwest Wisconsin. The area provides habitat for 14 rare and declining
4 grassland bird species and contains more than 60 prairie remnants, representing one of
5 the highest concentrations of native grasslands in the Midwest. The agricultural history of
6 the area has helped keep the landscape much as it was when the first settlers saw it and
7 has made it possible for plants and animals like grassland birds, which have disappeared
8 in more developed parts of the Midwest, to survive. The MRPHA has been identified as
9 the highest priority for landscape-scale grassland protection and management in
10 Wisconsin by the Wisconsin Department of Natural Resources and represents one of the
11 best opportunities to protect prairie remnants and area sensitive species, such as grassland
12 birds.”

13 **Q. Please describe the Driftless Area’s significant natural resource values including**
14 **significant wildlife habitat and resource values.**

15 Southwest Wisconsin has been recognized for years as one of the best grassland
16 conservation opportunities in the Upper Midwest. This area is home to exceptional
17 populations of grassland birds, prairie remnants, concentrations of endangered resources,
18 and spring-fed streams embedded in a rural landscape well-known for open fields,
19 farming, oak woodlands, and pastures. The prairie remnants found throughout this region
20 are the relics of the tallgrass prairies and oak savannas that once covered this part of the
21 state. Many of the plant and animal species in this region, several of which are now rare,
22 are adapted to the open, treeless landscape of prairies and savannas.

1 The Driftless Area is also well known for having a large number of high quality
2 stream resources including the Mississippi River, more than 1,200 streams, including
3 world-class trout fishing streams, more than 4,000 river miles and a network of 600
4 spring-fed creeks. The Driftless Area has emerged as a nationally-recognized attraction
5 for sport fishing due to an abundance of wild trout in the cold, fertile streams. While great
6 attention is often focused on the value of the large number of trout streams, the region is
7 also very respected for its large number of high quality small mouth bass streams.

8 The Driftless Area is also a unique geologic area and is widely known and visited
9 for its exceptional vistas and natural scenic beauty which makes it a favorite tourist area
10 in the Midwest. Tourism is a major portion of the local economy of the Driftless Area.

11 **Q. Please describe the Driftless Area's significant wildlife habitat and resource values.**

12 A: **Water Resources:** The Driftless Area is nationally well known for its stream
13 based water resources. The large number and quality of the streams becomes very self-
14 evident in reviewing the number of streams impacted by the proposed Cardinal-Hickory
15 Creek transmission lines. The Draft Environmental Impact Statement (PSC REF#:
16 360500) assessing the project indicates that the line will impact between 137 and 163
17 streams along the combination of right of way alternatives. Those streams include
18 between 14 and 19 streams which are identified by DNR as Areas of Special Natural
19 Resource Interest (ASNRI) for their protection (Wis. Admin. Code § NR 1.05). These
20 latter streams possess significant scientific value.

21 I am concerned when streams such as the 137 to 163 impacted by the Cardinal-
22 Hickory Creek transmission lines become just numbers. These streams are important

1 portions of the landscape and each has significant value economically, ecologically and
2 socially.

3 One of the streams that will be impacted is the Mississippi River. The Upper
4 Mississippi River has been recognized by Congress as a nationally significant ecosystem
5 and commercial navigation system. Although no direct impacts to the river are proposed,
6 the project would cause visual changes and altered aesthetics. The new transmission lines
7 and support structures would be visible from a great distance. The Applicants provided
8 several photo simulations of the proposed project in this area, which show the
9 transmission line and structures clearly visible from the river. (Ex.-Applicants-
10 Application-Appendix I). These changes would affect the natural and scenic aesthetic of
11 the area. Also specifically, the proposed transmission line and high towers would cut
12 across the Upper Mississippi River Wildlife and Fish Refuge, a very valuable, federally-
13 designated and protected land and water-based property.

14 Other streams impacted, depending on the route selected, are the Furnace Branch,
15 Rattlesnake Creek, Pigeon Creek, the Platte River, the Little Platte River, the Grant
16 River, Beetown Branch, Moore Branch, Austin Branch, Martinville Creek, the Mill
17 Branch, McCartney Branch, Boice Creek, Graham-Hollow Creek, an unnamed tributary
18 to Boice Creek, Wouldow Creek, Yankee Hollow Creek, Whig Branch, Blockhouse
19 Creek, the Galena River, Mounds Branch, Pecatonica River, Livingston Branch, Mill
20 Creek, Otter Creek, Badger Hollow Creek, Narveson Creek, the Blue River, Norwegian
21 Hollow Creek, an unnamed tributary to Twin Valley Lake, Lowery Creek, White Hollow
22 Creek, West Branch Blue Mounds Creek, East Branch Blue Mounds Creek, Vermont
23 Creek, Garfoot Creek, Sudan Branch, Laxey Creek, Mineral Point Branch, Badger

1 Hollow Creek, Dodge Branch, tributaries to the Smith Conley Creek, West Branch of the
2 Sugar River, tributaries to the East Branch Pecatonica River, Wouldiams-Barneveld
3 Creek, Gordon Creek, West Branch Sugar River, Deer Creek, Fryes Feeder, Schlapbach
4 Creek and Black Earth Creek. Sixteen of these waters are classified as Class I or 2 trout
5 streams, streams that are of the highest water quality and fish habitat in the state and
6 beyond.

7 Numerous unnamed tributaries to these and other streams are also impacted.
8 These unnamed tributaries are exceedingly important habitat and water quality sources
9 for the named streams, often providing the spawning habitat and cold spring water
10 necessary to support the fishery of the named streams.

11 Over the last eighty years, conservatively, hundreds of thousands of dollars have
12 been spent to restore and improve the streams of the Driftless Area such as Black Earth
13 Creek. These restorations efforts were funded by federal, state and local governments,
14 national, and state and local conservation groups, and these efforts included thousands
15 upon thousands of donated volunteer hours.

16
17 **Endangered Resources:** Because of its rural nature, geologic development and relative
18 lack of urban development, the Driftless Area is home to a large number of federal and
19 state threatened and endangered species and species of special concern including the
20 following:

21 Pollinators and other insects: the federally endangered rusty-patched bumble bee,
22 the state endangered fritillary butterfly, Ottoe skipper and Silphium borer moth, the state

1 endangered *Attenuipyga vanduzeei* leafhopper, red-tailed prairie leafhopper and the state
2 threatened Issid Planthopper.

3 Fish: four state endangered species including the bluntnose and crystal darters, the
4 goldeye and pallid shiner, six state threatened species including the black buffalo, blue
5 sucker, Ozark minnow, paddlefish, river redhorse and shoal chub.

6 Other aquatic species: three endangered mussel species including the butterfly,
7 the Higgin's eye, the yellow and slough sandshell and five state threatened mussel
8 species including the ellipse, fawnsfoot, monkeyface, rock pocketbook and the
9 wartyback.

10 Amphibians: state endangered Blanchard's cricket frog and species of concern
11 pickerel frog.

12 Reptiles: state endangered box turtle, species of special concern Blanding's turtle,
13 and all of the following species of special concern snakes; timber rattlesnake, North
14 American blue-racer, black ratsnake, bull (gopher) snake and plains garter snake.

15 Mammals: the state endangered northern long-eared bat, the state threatened
16 eastern pipistrelle, big brown and little brown bats and species of special concern
17 Franklin's ground squirrel, prairie and woodland voles. Of extensive concern are the bat
18 populations within the proposed corridor. Seven million hibernating bats in 25 U.S. states
19 and six Canadian provinces have been killed by White Nose Syndrome. Wisconsin
20 populations have been greatly impacted by the disease, which is present in Wisconsin
21 cave dwelling bats. A bat hibernation cave is located approximately 3/10th of a mile from
22 the proposed Cardinal-Hickory Creek route. There is concern that the transmission line

1 may increase additional mortality to the several impacted species of bats along the
2 proposed routes.

3 Birds (confirmed nesting in Driftless Area): state endangered loggerhead shrike,
4 state threatened red-shouldered hawk, Henslow's sparrow, Acadian flycatcher, cerulean
5 warbler, and hooded warbler; species of special concern grasshopper, lark, and vesper
6 sparrows, bobolink, dickcissel, eastern meadowlark, upland sandpiper, northern
7 bobwhite, eastern whip-poorwill, common nighthawk, Bell's vireo, red-headed
8 woodpecker, willow flycatcher, brown thrasher, sedge wren, wood thrush, yellow-billed
9 cuckoo, black-billed cuckoo, Louisiana waterthrush, and blue-winged, Kentucky,
10 prothonotary, worm-eating and yellow-throated warblers. Federally protected bald eagles
11 had over 40 confirmed nests in 2018 along the proposed Cardinal-Hickory Creek
12 transmission line routes.

13
14 **Important Bird Areas:** The Important Bird Areas program is part of an international
15 effort to identify and conserve areas critical to birds and biodiversity in general. IBAs are
16 administered by the National Audubon Society and implemented by the Wisconsin Bird
17 Conservation Initiative (WBCI). IBAs provide essential habitat, particularly for species
18 of conservation concern. IBAs are collectively owned and managed by many public and
19 private entities, and are important on global, continental, regional, national and state
20 levels. The proposed Cardinal-Hickory Creek transmission line routes come into direct
21 contact with, or within ½ mile of five different IBAs. The Mississippi River Routing
22 Area contains the most densely packed avian collision risk areas of the entire project
23 area. The elevated risk to birds in this area is attributed at least in part to the abundance of

1 preferred habitat provided by the presence of 2 IBAs (Wyalusing to Dewey IBA and
2 Upper Mississippi River National Wildlife Refuge IBA), and the Upper Mississippi
3 National Wildlife and Fish Refuge and the Mississippi River.

4
5 **Wetlands:** The Draft Environmental Impact Statement (PSC REF#: 360500) details that,
6 depending on the transmission line route, between 32 and 36 significant or high quality
7 wetlands will be affected by the proposed transmission line with 10 to 22 acres impacted,
8 either on a temporary or a permanent basis. Because of its steep hill and deep river valley
9 terrain, wetlands are relatively scarce in the Driftless Area. Because of that, the
10 significance of wetland functional values of the Driftless Area wetlands are multiplied.
11 These wetlands are critical to protect the water quality of the Area's invaluable wetlands.
12 The wetlands are the home of many of the unique fauna and flora of the Driftless Area.
13 And you cannot overestimate the flood storage capacity value of the Driftless Area
14 wetlands if you have been following the devastating floods that have deluged portions of
15 the Driftless Area annually.

16 **Q. Please describe the Driftless Area's significant cultural resources values.**

17 **A:** The Draft Environmental Impact Statement (PSC REF#: 360500) identified twenty-nine
18 archaeological and historic resources within the various routing areas. They include
19 numerous Native American conical and linear burial mounds and bird effigies; old
20 farmsteads; historic buildings including residences, a church, a business building and a
21 school; Paleoindian/ Archaic period lithic scatter and other isolate lithic artifacts; a
22 prehistoric campsite, an old mine; remains of a farmstead; prehistoric earthworks and a
23 lead smelting furnace.

1 **Q. Please describe the Driftless Area's significant recreational values.**

2 A: There are a number of high value and high use recreational properties in the project area
3 of the Cardinal-Hickory Creek transmission line. They include the Federal Upper
4 Mississippi River National Wildlife and Fish Refuge and the Federal Ice Age National
5 Scenic Trail. On the state level, they include the State Belmont Mound, Blue Mound and
6 Governor Dodge State Parks, the Military Ridge and Pecos State Trails, Blackhawk
7 Lake Recreation Area, the Military Ridge Prairie Heritage Areas, the Southwest
8 Wisconsin Grassland and Stream Conservation Area, state conservation and natural areas
9 including Belmont Prairie, Thompson Memorial Prairie, Erbe Grassland Preserve,
10 Pleasant Valley Conservancy, Ridgeway Pine Relict, Wyoming Oak
11 Woodlands/Savanna, Ihm Driftless Area and the Thomas Driftless Area. They also
12 include numerous county, city, village and town park and wildlife areas. Also there are
13 numerous non-profit organization conservation lands in the project area. In Iowa, Grant,
14 and the Driftless Area portion of Dane County, there are nine state fishery areas and
15 scores of miles of stream bank access easements mainly on the highly valuable trout
16 streams of the Driftless Area.

17 These public properties and private lands throughout the Driftless Area are the
18 backbone of the critically important recreational economy of the Driftless Area and used
19 by the public for the enjoyment of the natural scenic beauty, fishing, hunting, camping,
20 hiking, biking, car touring, visiting cultural sites, canoeing and kayaking, geo-caching
21 and bird watching.

22 In portions of my testimony I discuss the natural scenic beauty and exceptional
23 vistas of the Driftless Area. These Driftless Area characteristics are a major reason for the

1 creation of many of the federal, state and local recreational facilities and are a major
2 foundation for the highly important tourism economy of the Driftless Area. The proposed
3 Cardinal-Hickory Creek transmission line and high towers will have a very substantial
4 adverse effect on the scenic beauty value in the project area. The State Draft
5 Environmental Impact Statement is candid in assessing the aesthetic damage to the value
6 of several of the state and federal recreational properties:

7 “The **Military Ridge State Trail** is a year-round recreational resource that runs
8 along the north side of USH 18/151 between Dodgeville and Mount Horeb. The trail
9 includes several observation platforms for people to experience scenic views of the
10 surrounding landscape. The proposed route would be in close proximity to the trail for
11 approximately 20 miles and directly intersect the trail twice (Subsegments S01 and T01).
12 In some cases, forest adjacent to the trail would be cleared for construction and
13 maintenance of the proposed project. Overall, users of the trail would experience large
14 visual impacts from the new transmission line, which would greatly affect the scenic
15 aesthetics of the area. The proposed route would travel approximately half of a mile south
16 of Blue Mound State Park (Subsegment S13). This park is used for year-round
17 recreational activities, and, according to the DNR website, encompasses the highest point
18 in southern Wisconsin to offer spectacular views of the surrounding region. The
19 applicants provided a photo simulation from an observation deck within the park. The
20 new transmission line would be visible from the park, causing visual impacts and
21 affecting the scenic aesthetic of the area. Ridgeway Pine Relict State Natural Area is
22 located near Ridgeway, approximately half of a mile north of the proposed route
23 (Subsegment S08). Comments received during the EIS scoping period expressed concern

1 that the aesthetics of the natural area would be impacted by a new transmission line. The
2 area contains several natural features, especially cliffs and forest, and is available to the
3 public year-round. The proposed project may be visible from higher elevations within the
4 natural area; if so, the visual impacts would affect the scenic aesthetic of the area.

5 **Barneveld Prairie State Natural Area** is located near Barneveld, approximately
6 half of a mile south of the proposed route (Subsegment S12). Comments received during
7 the EIS scoping period expressed concern that the aesthetics of the natural area would be
8 impacted by the new transmission line. The area contains several natural features,
9 especially prairie grassland, and is available to the public year-round. The proposed
10 project may be visible from within the natural area, which is likely since its landscape is
11 generally open. The area also contains a building listed on the National Register of
12 Historic Places. Potential visual impacts from a new transmission line would affect the
13 scenic aesthetics of the area.”

14 And the DEIS (PSC REF#: 360500) continues: “The **Ice Age Complex at Cross**
15 **Plains (also known as Cross Plains State Park)** is located approximately half of a mile
16 south of the proposed route (Subsegment Y05). The complex is part of the National Ice
17 Age Scientific Reserve and is a compilation of federal, state, and county land that is used
18 for year-round recreational activities. The applicants provided photo simulations from the
19 park331 . These simulations show that new visual impacts would result from the
20 proposed project, affecting the scenic aesthetics of the area.” I agree with the above
21 analysis and comments that the mentioned natural and recreational resources will suffer
22 significant adverse aesthetic impacts. Moreover, the National Park Service has raised
23 specific objections.

1 While I have singled out some major state and federal recreational properties
2 being impacted by the damage done to the scenic value of the recreational use of the
3 properties, this damage to the scenic beauty and scenic vistas will also be occurring to
4 vast stretches of the Driftless Area including both rural and municipal settings, thereby
5 devaluing the tourism attraction of such areas.

6 **Q: Please provide an estimate of state, federal, and local government funds that have**
7 **been invested in protecting, conserving and restoring fish and wildlife habitat,**
8 **public access and recreational purposes in the Driftless Area.**

9 A: A conservative estimate is that several hundred million dollars have been expended by
10 many government agencies and nonprofit groups for conservation of the land and water
11 natural resources of the Driftless Area. This would include the U.S. Department of
12 Agriculture's Natural Resources Conservation Service and USDA Farm Service Agency;
13 the U.S. Fish and Wildlife Service; the U.S. Environmental Protection Agency;
14 Wisconsin DNR; local Land and Water Conservation Departments; the Wisconsin
15 Department of Agriculture, Trade and Consumer Protection; the Nature Conservancy;
16 Trout Unlimited; The Prairie Enthusiasts; Pheasants Forever; the Driftless Area Land
17 Conservancy and local sports clubs.

18 **Q: What is the basis for this estimate?**

19 A: There is no one document or reference that details the exact amount. I am deriving this
20 estimate based on my knowledge of the cost to pay and support the scores of Department
21 of Natural Resources staff, such as foresters, fish managers, endangered resources
22 managers, wildlife managers, water quality specialists and park managers that have
23 responsibility to manage the resources of the Driftless Area. Adding to the total cost

1 would be the cost of the multiple Federal and local employees carrying out similar or
2 related natural resource management responsibilities for their respective jurisdictions.

3 In addition, there are tens of thousands of acres of state, federal, and local natural
4 resource management properties in the Driftless Area including state parks, natural areas,
5 state wildlife areas, riverway projects, fishery areas and recreational trails, Federal
6 Refuges, and local parks and wildlife areas. I have extensive experience in purchasing
7 recreational land in the state, having had the privilege of acquiring over 150,000 acres of
8 land in my eight year tenure as DNR Secretary. In today's dollars, the value of the state
9 and federal fee title and easements for recreational lands in the Driftless Area would
10 range, conservatively, from \$500 to a few thousand dollars an acre. Besides acquisition of
11 such land, one must include all of the infrastructure necessary for such properties
12 including roads, trails, parking lots, signage, restrooms, visitor centers and offices and the
13 maintenance equipment needed to assure proper management of the recreational and
14 natural resource properties. In addition, I have general knowledge of the habitat and
15 water quality programs sponsored and funded by the Federal, State and local
16 governments in the Driftless Area.

17 **Q: Please estimate the economic value of recreational opportunities and tourism in the**
18 **Driftless Area. How did you make this estimate?**

19 A: Based on the Wisconsin Department of Tourism's 2017 Wisconsin Tourism Economic
20 Impact Study, (<http://industry.travelwisconsin.com/research/economic-impact>), the
21 economic impact of tourism in the Driftless Area, excluding Dane County, was that the
22 Direct Visitor Spending was \$1.492 billion, Total Business Sales were \$2.168 billion,
23 Total Employment was 21,918 jobs, Total Labor Income was \$498.1 million and State

1 and Local Tax Income was \$179.8 million. While Dane County tourism data is excluded,
2 there is significant additional Driftless Area tourism revenue generated in the western
3 portion of the county which includes Black Earth Creek, the Military Ridge Trail, Blue
4 Mound State Park and a number of other popular county, municipal and town recreational
5 and natural areas.

6 The Driftless Area's robust tourism economy is largely based on the region's
7 valuable natural resources and is based on visitors' enjoyment of the natural scenic
8 beauty, fishing, hunting, camping, hiking, biking, car touring, cultural sites, canoeing and
9 kayaking, geo-caching and bird watching.

10 Just one example of the nature-based tourism of the region is the nationally and
11 regionally valuable trout fishing experience. Trout fishing in the Driftless Area had an
12 annual economic impact of \$1.6 billion in 2015, according to the following
13 released study: "Economic Impact of Recreational Trout Angling in the Driftless Area,"
14 a report authored by Donna Anderson, economics professor at the University of
15 Wisconsin-La Crosse. Ex.-DALC/WWF-Meyer-2. Wisconsin is the state with the largest
16 portion of the Driftless Area within its boundaries.

17 The many public comments on the Cardinal-Hickory Creek transmission line
18 reflect the importance of the natural scenic beauty and the Driftless Area's land and water
19 resources as the major factors in the Driftless Area's robust tourist economy. These
20 comments came from individuals including many landowners, from businesses, from
21 municipalities and from non-profit organizations. There are literally hundreds of small
22 businesses in the Driftless Area that derive some or all of their income from tourism.

1 A: Definitely yes. Based on my past experience and from overseeing analysis of front-line
2 Department of Natural Resources staff, it is certain that, on a short-term and long-term
3 basis, the construction and presence of a transmission line will alter and impact the land
4 and water resources along the proposed project routes and will likely damage
5 environmental quality and the fish and wildlife habitat in the areas occupied and adjacent
6 to the utility line.

7 **Q: Please explain why.**

8 A: Large linear infrastructure projects such as transmission lines, pipelines and highways
9 ultimately go from a Point A to Point B. Because of the valuable natural resources
10 distribution in the Driftless Area such as prairies, woodlands, streams and wetlands, a
11 linear infrastructure project inevitably will degrade to some degree and potentially
12 eliminate portions of the landscape and natural resources in the area. The initial
13 construction of the transmission line involves the placement and operation of heavy
14 construction equipment on the landscape, which may result in a temporary and at times a
15 permanent direct impact on the site, and the placement of the actual structure does also
16 have a permanent direct impact on the project area. The construction in some cases leads
17 to erosion of top soil and deposition of sediments in waterways despite best efforts to
18 prevent such occurrences, and the construction and maintenance of the right of way often
19 leads to the introduction of invasive species into the area of the structures and adjacent
20 areas.

21 Also, as stated earlier in my testimony, one of the most important drivers of the
22 Driftless Area's economic base is that its highly valuable tourism popularity is to a large
23 extent based on its scenic beauty. The extremely large structures associated with the

1 proposed Cardinal-Hickory Creek transmission line will be detrimental to the enjoyment
2 of the natural scenic beauty associated with the Driftless Area's tourism economy.

3 Construction, maintenance, and management of transmission lines, corridors and
4 substations will result in the following short and long term activities and impacts on
5 natural communities including wetlands, grasslands and streams: the construction of
6 substations and utility lines may involve wetland filling and disturbance, logging,
7 brushing, mowing, soil compaction, invasive species introduction, excessive sediment to
8 streams and a decrease in stream stability. Maintenance may result in the removal of high
9 quality natural flora and the introduction of damaging invasive species. All of these are of
10 great concern because of the exceptional quality of the land and water resources in the
11 scenic Driftless area.

12 **Q: Please explain the severity, degree and duration of the harmful and damaging**
13 **impacts.**

14 A: The severity, degree and duration of the harmful and damaging impacts to natural
15 resources will vary by location along the transmission line route. Factors which are
16 relevant to assess many of the impacts of a transmission line are the exact location of the
17 right of way, the location of the structures, the natural resources at the site of
18 construction, the time of the year of construction, the method of construction, the
19 environmental safeguards put in place and the precipitation occurring during construction
20 and methods of maintenance.

21 I am concerned with the long-term and/or permanent adverse impacts of the
22 Cardinal-Hickory Creek transmission line on the natural resources of the Driftless Area.

1 The most important concerns I have are damage to the habitat and disturbance of the
2 many threatened and endangered and species of special concern in the Driftless Area,
3 erosion and sedimentation of the large number of high quality water resources of the area
4 even assuming the best designed and implemented erosion control measures, the
5 degradation of wetlands through direct physical impact along with the alteration of the
6 hydrology that is critically important to the wetlands, and the likelihood of the
7 encroachment of invasive species in the transmission line area. Also one of my major
8 concerns is the impact of the transmission line towers and related structures on the
9 critically important scenic values of the Driftless Areas including adverse impacts on the
10 major public and private investments that are based on the value on the area's natural
11 scenic beauty.

12 **Q: In your professional opinion, will the proposed Cardinal-Hickory Creek**
13 **transmission line and high towers have an undue impact on environmental values in**
14 **the Driftless Area and along its route in Wisconsin and Iowa?**

15 A: Yes, it is my professional opinion that the proposed Cardinal-Hickory Creek transmission
16 line and high towers will have an undue impact on environmental values in the Driftless
17 Area in Wisconsin.

18 I would also like to emphasize that even if the elements of the project that DNR
19 does have regulatory authority over are deemed permissible that does not mean that there
20 would not be significant adverse direct or cumulative impacts resulting from the
21 permitted activities on a transmission line project of this size. Second, there are
22 environmental damages that definitely will occur that are not regulated by the DNR such

1 as the substantial damage to the scenic values of the Driftless Area. These residual
2 environmental damages must be factored into the Public Service Commission's decision.

4 **HARMFUL IMPACTS ON WETLANDS AND WATERS**

5 **Q: Please explain the harmful and damaging impacts of the proposed Cardinal-**
6 **Hickory Creek transmission line and high towers on wetlands, streams and rivers.**

7 A: If built, there will be harmful and damaging impacts of the proposed Cardinal-Hickory
8 Creek transmission line on streams, rivers and wetlands. As has been previously
9 discussed, the streams and rivers and their tributaries that are going to be crossed by the
10 transmission line will often be of very high quality and important to the economic and
11 ecological base of the Driftless Area.

12 In assessing that there will be harmful and damaging impacts to these waters and
13 wetlands, I am assuming that there will be good faith efforts by the Applicant to institute
14 practices to attempt to prevent such damage and good faith efforts by the third party
15 monitors and regulatory agencies to assure compliance with permit conditions. As far as
16 impacts on rivers and streams, there will be exposed and unprotected soil adjacent to the
17 waterways for periods of time and, at times, it may be necessary to actually work in some
18 of the streams when a single span temporary bridge cannot be used. Normal construction
19 methods at times results in causing sediment to move into waterways and wetlands
20 despite best efforts.

21 The extraordinary high precipitation events, which have become significantly
22 more frequent during the Wisconsin construction season, have rendered even some of the
23 best erosion protection and stormwater practices substantially insufficient to prevent

1 significant sedimentation to enter streams, rivers and wetlands. This is truly problematic
2 in regard to the high quality waters that are found in many portions of the project area.
3 Sedimentation causes poor water quality including the increase of nutrients into
4 waterways which stimulates undesirable plant growth and covers substrata important for
5 fish spawning and the benthic organisms necessary to sustain fish populations.

6 Some of the above mentioned harmful and damaging impacts are also likely to
7 occur in wetlands impacted by the project. As an example, sedimentation into wetlands
8 can either physically destroy or at a minimum degrade a wetland. In addition, the
9 damages to wetlands will be caused by the physical impact of temporary or permanent
10 placement of construction equipment, construction access materials and the transmission
11 line structures themselves. There will also be damaging impacts from the encroachment
12 of invasive species into the wetlands which would displace native high quality flora in the
13 wetland.

14 Moreover, the alteration of the surface and groundwater hydrology resulting from
15 the construction and maintenance of the transmission lines can have significant impacts
16 on the quality and quantity of the wetlands and their important functional values. As an
17 example, the construction and maintenance at a particular site might not totally eliminate
18 a wetland but it may well degrade the composition of the wetlands and their previous
19 wetland functional values.

20 **Q: What is the basis for your opinion?**

21 A series of sources and experiences have formed my opinion on the potential impacts of
22 the Cardinal-Hickory Creek transmission line and high towers on the rivers, streams and
23 wetlands. The PSC-DNR Draft Environmental Impact Statement on the project (PSC

1 REF#: 360500) details the efforts necessary to prevent the harmful and damaging impacts
2 of the project on the many rivers, streams and wetlands that may be impacted. Also
3 assisting in my opinion were the comments prepared by Wisconsin Green Fire on the
4 draft State DEIS (Ex.-DALC/WWF-Meyer-6), and the comments of scientists Joy Zedler
5 (Ex.-DALC/WWF-Meyer-3), Bobbi Peckarsky (Ex.-DALC/WWF-Meyer-4) and Pat
6 Trochell (Ex.-DALC/WWF-Meyer-5) on the Federal Draft Environmental Impact
7 Statement.

8 Also informing my opinion was my work as a staff attorney at the Wisconsin
9 Department of Natural Resources, specifically with the then Bureau of Water Regulation
10 and Zoning, which had responsibility to permit and conduct enforcement of projects
11 altering waterways and wetlands. I was involved in reviewing hundreds of such water
12 regulatory permits, and I was also the legal counsel for the Bureau in approximately 200
13 contested case hearings involving waterway and wetland alterations. Also as a DNR staff
14 attorney I provided the same type of legal services to the then DNR Bureau of Water
15 Quality.

16 I then served for a dozen years as Administrator of the Division of Enforcement
17 where I supervised the Bureau of Water Regulation and Zoning and the then Bureau of
18 Environmental Impact. The latter Bureau had responsibility to analyze and document
19 impacts on the environment of the full spectrum of DNR actions and also major state
20 actions of other state agencies such as highways and energy facilities.

21 Then, as DNR Secretary, I had overall responsibility for all of the above described
22 activities and had involvement in some of the major projects being reviewed and
23 permitted by the Department such as the proposed Crandon Mine in Forest County.

1 Since leaving the Department of Natural Resources, as part of my duties as
2 Executive Director of the Wisconsin Wildlife Federation, I have remained very active in
3 many water quality, quantity and river, lake and stream policy issues. I have become
4 directly involved in reviewing several major development projects that would have
5 negative, adverse impacts on rivers, streams, lakes and wetlands such as the proposed
6 Penokee Mine, the Meteor Timber frac sand mining project and the Back Forty Mine.

7 **Q: Have you reviewed the comments on the federal Draft Environmental Impact**
8 **Statement written by Dr. Joy Zedler, Dr. Barbara Peckarsky, and Pat Trochlell?**

9 A: Yes, I have.

10 **Q: Please discuss your reaction to the concerns and issues raised in their comments.**

11 A: **Dr. Joy Zedler:** I am very familiar with Dr. Zedler, both in her role as Aldo Leopold
12 Chair of Restoration Ecology at the University of Wisconsin – Madison and her
13 ecological restoration work at the University of Wisconsin Arboretum. She is one of the
14 premier wetland restoration experts in the nation. Her views on wetland impacts from
15 development projects and the limitations of wetland mitigation efforts are critically
16 important and should be highly respected. I have read her comments on the Federal Draft
17 Environmental Impact Statement on the Cardinal-Hickory Creek transmission line and
18 fully agree with her comments. Ex.-DALC/WWF-Meyer-3.

19 Of special note is Dr. Zedler’s analysis about how the above-ground construction
20 and restorative work can alter the upland ecosystem adjacent to the wetlands and be a
21 source of invasive species to the wetland, can change water flow to the wetland, and can
22 bring more nutrients to the wetlands. As Dr. Zedler states: “It doesn’t take much of a

1 change in water flow and water depth (i.e., the wetland hydroperiod) to shift a species-
2 rich wetland to a weedy patch of alien cattails.”

3 I am also in agreement with Dr. Zedler that the construction and existence of
4 transmission towers have subterranean impacts that can adversely affect a wetland. The
5 towers’ foundations and the berms that connect towers for maintenance access can
6 interfere with flows of groundwater in the wetlands and that often has an adverse impact
7 on the quality of the natural wetland vegetation.

8 Dr. Zedler also correctly states that these wetland changes are not temporary and
9 do not end when the construction stops and the restoration efforts are complete. She
10 points out that “...altered ecosystem structures and functions persist long-term, both
11 above and below ground.” I fully agree with Dr. Zedler’s conclusion that any of the
12 alternative transmissions line routes evaluated in the Draft Environmental Impact
13 Statement would have serious long-term—if not permanent—harmful consequences for
14 wetland ecosystems.

15 **Dr. Barbara Peckarsky:** I know of Dr. Peckarsky by reputation. She is an
16 Emeritus Professor of Stream Ecology at Cornell University, and an Honorary Fellow in
17 the Departments of Integrative Biology and Entomology at the University of Wisconsin
18 Madison.

19 I agree with Dr. Peckarsky that the most damaging impact of the project on water
20 quality will result from the clearing of vegetation and the disturbance of soils in the
21 riparian buffer zones in the right of way during construction and, to some extent, possibly
22 in right of way maintenance. Ex.-DALC/WWF-Meyer-4. She accurately points out and
23 agrees with the statement in the Federal Draft Environmental Impact Statement

1 acknowledging that the construction and maintenance activities of the project will
2 increase sediment loads and reduce water quality. In my analysis, I do rely on her
3 statement that silt loam soils are the most erodible of all soils and predominate in the
4 analysis area.

5 **Pat Trochell:** I have personally known Pat Trochell for well over 30 years. She
6 served as a wetland ecologist in various positions in the Wisconsin Department of
7 Natural Resources. During the majority of the time that our DNR careers overlapped, I
8 had supervisory responsibility over Ms. Trochell. From my extensive first-hand
9 experience with her and the reputation of her work by other wetland experts, I do not
10 hesitate to state that she is one of the top wetland experts in the state. I have also had a
11 working relationship with Ms. Trochell on some recent major wetland fill permitting
12 cases in Wisconsin.

13 Ms. Trochell has great expertise in delineating wetlands and evaluating their
14 functionality and quantity. She is also very experienced in wetland mitigation and
15 considered an expert in the field. I agree with her commentary analysis prepared for the
16 Federal Draft Environmental Impact Statement on this project: “Direct losses to wetlands
17 may be mitigated, but wetland restoration rarely results in wetland plant communities
18 which rate above low quality. Any moderate to high quality wetland plant communities
19 plus the converted wetlands are not likely to be adequately mitigated. Further, mitigation
20 laws and guidance rarely require mitigation wetlands to be maintained for more than five
21 years even though wetland losses are permanent. That results in a net loss of wetland
22 acreage and function.” Ex.-DALC/WWF-Meyer-5.

1 **Q: If Applicants receive permits for the proposed Cardinal-Hickory Creek**
2 **transmission line, does that mean that there will not be major and permanent**
3 **impacts?**

4 A: As I have stated previously, a project being permissible does not mean that the permitted
5 project will not result in significant environmental damage. As an example, a permit may
6 be issued that minimizes the environmental impacts of the project, but does not totally
7 prevent the environmental damage. Also, permit conditions aimed at preventing or
8 minimizing environmental damage during the construction or life of a project are not
9 always complied with. Historically and surely today, the DNR does not have sufficient
10 staff to follow up on projects to assure that permit conditions are met, and many of the
11 permits that will be needed do not require the Applicant to report over the long-term to
12 evaluate what the impacts are. In addition, when violations of permits do occur and there
13 are environmental damages, it is very difficult if not impossible to achieve total repair of
14 the damages.

15 Also, certain permit statutes allow the concept of mitigation to take place when
16 there is environmental damage such as the filling in of a wetland. However as stated
17 above, mitigation often does not equate to total functional and ecological replacement for
18 the environmental damages.

19 **Q: Based on your experience as a DNR lawyer, the DNR Administrator of Enforcement**
20 **and Secretary of the Wisconsin Department of Natural Resources, do project**
21 **applicants always comply with permit and other requirements?**

22 A: No.

1 **Q: Can the Wisconsin Department of Natural Resources directly enforce permit**
2 **conditions?**

3 A: Depending on the statutory provisions associated with each particular permit
4 authorization, the enforcement remedy may be the issuance of a civil citation, the
5 prosecution of which is handled by the local district attorney or a long form civil or
6 criminal complaint filed by the Attorney General's Office. Due to the staff resource
7 limitations in both the local and state prosecutors' offices, relatively few water regulatory
8 and wetland violations are prosecuted. This is in addition to the critically understaffed
9 DNR staff resources necessary to conduct investigations of violations and the
10 preparations of case files for local or state prosecutions.

11 **Q: Does this complete your direct testimony?**

12 A: Yes.