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PUBLIC SERVICE COMMISSION OF WISCONSIN

Joint Application of American Transmission Company LLC and Northern States Power Company-Wisconsin, as Electric Public Utilities, for Authority to Construct and Operate a New Badger-Coulee 345 kV Transmission Line from the La Crosse Area, in La Crosse County, to the Greater Madison Area in Dane County, Wisconsin

5-CE-142

FINAL DECISION

On October 22, 2013, pursuant to Wis. Stat. § 196.491 and Wis. Admin. Code chs. PSC 4 and 111, American Transmission Company LLC and Northern States Power Company-Wisconsin (ATC, NSPW, and together as applicants) filed with the Commission an application for a Certificate of Public Convenience and Necessity (CPCN) to construct new 345 kilovolt (kV) electric transmission facilities. ([PSC REF#: 226510](#).) The project, known as the Badger-Coulee project, includes construction of a new 345 kV transmission line and related facilities from the Briggs Road Substation in the town of Onalaska, Wisconsin to the North Madison Substation, northeast of Waunakee, Wisconsin, then extending further south and west to the Cardinal Substation, in the town of Middleton, Wisconsin. ([PSC REF#: 204860](#) at 1-5.) Subsequent to their initial interventions, Dairyland Power Cooperative (DPC), SMMPA Wisconsin, LLC (SMMPA Wisconsin), and WPPI Energy (WPPI) became co-applicants as tenants-in-common for the 345 kV transmission line segment from the Briggs Road Substation to the North Madison Substation with their respective ownership interests derived from NSPW's ownership share.¹ The CPCN application is APPROVED subject to conditions and as modified by this Final Decision.

¹ ([PSC REF#: 205969](#), [PSC REF#: 206586](#), [PSC REF#: 224186](#), [PSC REF#: 224187](#).)

Introduction

The Commission found the application in this docket to be complete on April 30, 2014. ([PSC REF#: 203785](#).) A Notice of Proceeding was issued on May 7, 2014. ([PSC REF#: 204153](#).) Wisconsin Stat. § 196.491(3)(g) requires that the Commission take final action within 180 days after it finds a CPCN application complete unless the Chairperson of the Commission grants an extension. On August 25, 2014, the Commission Chairperson granted an 180-day extension. ([PSC REF#: 214523](#).) The Commission must take final action on or before April 25, 2015, or the application is approved by operation of law. (*See* Wis. Stat. § 196.491(3)(g).)

Prehearing conferences were held on August 5, and November 25, 2014, and January 5, 2015.² Requests to intervene in the docket were granted to Citizens Energy Task Force (CETF), Citizens Utility Board, City of Onalaska, Clean Wisconsin (Clean WI), Patricia Conway, Dane County, Concerned Citizens of Highway 33 (CCH33), Environmental Law and Policy Center (ELPC), Jeffrey A. and Rita Hansen, Nick Hansen, Holland Neighborhood Preservation Association, Anthony J. Kampling, Laura Kunze, Midcontinent Independent System Operator, Inc. (MISO), M. Jane and Stephen D. Powers, Save our Unique Lands of Wisconsin Inc. (S.O.U.L.), Town of Holland, Town of Middleton, Wisconsin Business and Intervention Group (WBLIG), and Wind on the Wires, Fresh Energy, Izaak Walton League of America-Midwest Office, and Minnesota Center for Environment Advocacy (collectively, Clean Energy Intervenors, or CEI.) (*See, e.g.*, [PSC REF#: 213409](#).)

The parties, for purposes of review under Wis. Stat. §§ 227.47 and 227.53, are listed in Appendix A.

² ([PSC REF#: 213495](#), [PSC REF#: 225743](#), [PSC REF#: 229591](#).)

The Commission issued a draft environmental impact statement (EIS) on August 18, 2014. (See [PSC REF#: 214320](#).) With publication of the draft EIS, a 45-day comment period began with comments received through October 3, 2014. (See, e.g., *id.* at 8-9.) On November 4, 2014, the Commission issued its final EIS regarding the project, pursuant to Wis. Stat. § 1.11 and Wis. Admin Code chs. NR 150 and PSC 4. (See, e.g., [PSC REF#: 223844](#).)

The Commission held hearings for public comment in Waunakee, town of Holland (La Crosse County), Cashton, Warrens, and Wisconsin Dells, Wisconsin, on December 8, 9, 10, 11, and 15, respectively. ([PSC REF#: 223328](#).) At these hearings, the Commission accepted both oral and written testimony from members of the public.³ Hearings for party expert testimony and cross-examination were held from January 6 through 9, in Madison, Wisconsin.⁴ The Commission conducted its hearings as Class 1 contested case proceedings, pursuant to Wis. Stat. §§ 196.491(3)(b), 227.01(3)(a), and 227.44. ([PSC REF#: 223328](#) at 2.) The Commission also requested and received comments from members of the public through its Internet web site. (See, e.g., [PSC REF#: 230487](#).)

The general issue for hearing, as determined at the prehearing conference held on August 5, 2014, was: Does the proposed project comply with the applicable standards under Wis. Stat. §§ 1.11, 1.12, 196.025, 196.49, and 196.491, and Wis. Admin. Code chs. PSC 4, and PSC 111? ([PSC REF#: 213409](#) at 2.)

³ ([PSC REF#: 226258](#), [PSC REF#: 226337](#), [PSC REF#: 226409](#), [PSC REF#: 226525](#), [PSC REF#: 229304](#), [PSC REF#: 230492](#), [PSC REF#: 230493](#), [PSC REF#: 230494](#), [PSC REF#: 230495](#), [PSC REF#: 230496](#), [PSC REF#: 230497](#), [PSC REF#: 230498](#), [PSC REF#: 230499](#), [PSC REF#: 230500](#), [PSC REF#: 230501](#), [PSC REF#: 230502](#), [PSC REF#: 230503](#), [PSC REF#: 230504](#).)

⁴ ([PSC REF#: 230598](#), [PSC REF#: 230600](#), [PSC REF#: 230601](#), [PSC REF#: 230602](#).)

Initial and reply briefs were filed on January 30, and February 13, 2015, respectively. (*See id.*) Initial briefs in support of the project were filed by the applicants, MISO, CEI, and WBLIG.⁵ Initial briefs opposing the project, or aspects of it, were filed by S.O.U.L., CETF, Stephen and Jane Powers, Dane County, City of Onalaska, ELPC, Town of Middleton, Holland Neighborhood Preservation Association, Clean WI, Town of Holland, Laura Kunze, CCH33, and No CapX 2020 (a non-party brief.)⁶ Reply briefs were filed by applicants, MISO, CEI, S.O.U.L., Clean WI, CETF, Town of Holland, Town of Middleton, Laura Kunze, Jane and Stephen Powers, ELPC, and Holland Neighborhood Preservation Association.⁷

The Commission discussed the record in this matter at its open meeting of March 26, 2015.

Findings of Fact

1. ATC, NSPW, and SMMPA Wisconsin are Wisconsin public utilities, DPC is a generation and transmission cooperative, and WPPI is a municipal joint action agency organized as a municipal electric company under Wis. Stat. § 66.073, all engaged in providing electric service in Wisconsin. Pursuant to Wis. Stat. § 196.491(3), these entities are subject to the Commission's jurisdiction over their application for a CPCN for the proposed project.⁸


2. The applicants' project consists of constructing a new 345 kV transmission line and related facilities, as described in the final EIS and Ex.-Applicants-Henn-1, and as modified



⁵ ([PSC REF#: 230700](#), [PSC REF#: 230703](#), [PSC REF#: 230707](#), [PSC REF#: 230708](#), [PSC REF#: 230721](#), [PSC REF#: 230739](#), [PSC REF#: 231070](#).)

⁶ ([PSC REF#: 230694](#), [PSC REF#: 230695](#), [PSC REF#: 230713](#), [PSC REF#: 230723](#), [PSC REF#: 230724](#), [PSC REF#: 230736](#), [PSC REF#: 230738](#), [PSC REF#: 230743](#), [PSC REF#: 230751](#), [PSC REF#: 230752](#), [PSC REF#: 230804](#), [PSC REF#: 231947](#), [PSC REF#: 231948](#).)


⁷ ([PSC REF#: 231599](#), [PSC REF#: 231623](#), [PSC REF#: 231624](#), [PSC REF#: 231629](#), [PSC REF#: 231631](#), [PSC REF#: 231632](#), [PSC REF#: 231634](#), [PSC REF#: 231635](#), [PSC REF#: 231636](#), [PSC REF#: 231637](#), [PSC REF#: 232055](#), [PSC REF#: 232798](#).)

⁸ (*See, e.g.*, [PSC REF#: 204860](#) at 6-7, [PSC REF#: 223845](#) at 4-5, [PSC REF#: 224187](#).)

by this Final Decision. The applicants' estimated cost of the proposed project is between \$540 million and \$580 million, depending on the route chosen 

3. Construction and operation of the facilities at the estimated cost will not impair the efficiency of the applicants' service,  will not provide facilities unreasonably in excess of probable future requirements, and when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof. 

4. The facilities approved by this Final Decision are necessary to provide adequate and reliable service to present and future electric customers.¹¹

5. The facilities approved by this Final Decision will adequately address the present needs of the applicants' electric systems and are necessary to satisfy the reasonable needs of the public for an adequate supply of electrical energy.¹⁴ 

6. The facilities approved by this Final Decision provide usage, service or increased regional benefits to wholesale and retail customers or members in this state, and the benefits of the facilities are reasonable in relation to their cost.¹³

7. The facility design, location, and route approved by this Final Decision are in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability, and environmental factors.¹⁴

⁹ (See, e.g., [PSC REF#: 223845](#) at 402, [PSC REF#: 218571](#), [PSC REF#: 204860](#) at 40-41.)

¹⁰ (See, e.g., [PSC REF#: 218099](#) at 8-17, [PSC REF#: 218100](#) at 6-8, 18-19, 27, 31, 40, [PSC REF#: 224234](#) at 20-21, [PSC REF#: 224603](#) at 3, [PSC REF#: 226110](#) at 2-3.)

¹¹ (See, e.g., [PSC REF#: 218100](#) at 28-29.)

¹² (See, e.g., [PSC REF#: 218099](#) at 12, 14, [PSC REF#: 224603](#) at 25r, [PSC REF#: 226110](#) at 2-3.)

¹³ (See, e.g., [PSC REF#: 218099](#) at 14-15, [PSC REF#: 218100](#) at 37-38, [PSC REF#: 224234](#) at 9r-11r, 41r, [PSC REF#: 224603](#) at 3, [PSC REF#: 226110](#) at 2-3.)

¹⁴ (See nn. 15, 22-25, *infra*.)

8. The facilities approved by this Final Decision will not have undue adverse impacts on environmental values including ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use.¹⁵

9. The facilities approved by this Final Decision will not unreasonably interfere with the orderly land use and development plans for the area.¹⁶

10. The facilities approved by this Final Decision will not have a material adverse impact on competition in the relevant wholesale electric service market.¹⁷

11. Energy conservation, renewable resources, or other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025 are not cost-effective, technically feasible, or environmentally sound alternatives to the proposed facilities.¹⁸

12. The approved transmission line route utilizes priority siting corridors listed in Wis. Stat. § 1.12(6) to the greatest extent feasible, consistent with economic and engineering considerations, reliability of the electric system, and protection of the environment.¹⁹

13. The approved transmission line route will affect local farmland, and the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has issued an agricultural impact statement.²⁰

¹⁵ (See, e.g., [PSC REF#: 223845](#) at 158-198, 224-28, 240-51, 253-54, 269-93, 299-301, 310-26, 334-35, 341-51, 354-55, 361-75, 381-82, [PSC REF#: 224330](#) at 4-15, [PSC REF#: 229447](#) at 2-11.)

¹⁶ (See, e.g., [PSC REF#: 191909](#), [PSC REF#: 191910](#), [PSC REF#: 191911](#), [PSC REF#: 191912](#), [PSC REF#: 191914](#), [PSC REF#: 191916](#), [PSC REF#: 192026](#), [PSC REF#: 192027](#), [PSC REF#: 192177](#), [PSC REF#: 192178](#), [PSC REF#: 192179](#), [PSC REF#: 192180](#), [PSC REF#: 192182](#), [PSC REF#: 192183](#), [PSC REF#: 192184](#), [PSC REF#: 203627](#), [PSC REF#: 204860](#) at 124-36, [PSC REF#: 226758](#) at 1-2, [PSC REF#: 229264](#) at 1-2, [PSC REF#: 229700](#) at 3-7, [PSC REF#: 230598](#) at 305, 308-09.)

¹⁷ (See, e.g., [PSC REF#: 204739](#) at 70-75, 92-100, [PSC REF#: 218099](#) at 14-17, [PSC REF#: 218100](#) at 31-33, 37, [PSC REF#: 218134](#) at 5-6, [PSC REF#: 218141](#) at 3, [PSC REF#: 224157](#) at 6-7, [PSC REF#: 224234](#) at 20r-21r, 32r-34r, [PSC REF#: 224567](#) at 2-4, 18-22, [PSC REF#: 224603](#) at 3, [PSC REF#: 230136](#) at 9-10.)

¹⁸ (See, e.g., [PSC REF#: 204739](#) at 12, 102-05, [PSC REF#: 213034](#) at 7-8, [PSC REF#: 218100](#) at 22-23, 33-37, [PSC REF#: 224234](#) at 29r, [PSC REF#: 224567](#) at 28-29, [PSC REF#: 226129](#) at 6.)

¹⁹ (See, e.g., [PSC REF#: 223845](#) at 145, 149-51, 237-41, 257-62, 305-07, 337-39, 357-59.)

²⁰ (See, e.g., [PSC REF#: 224108](#), [PSC REF#: 224629](#) at 2-3.)

14. The approved transmission line route will affect state highways and will require permits from the Wisconsin Department of Transportation (WisDOT).²¹

15. The approved transmission line route will affect waterways and wetlands, and will require permits from the Wisconsin Department of Natural Resources (DNR) for construction in waterways and wetlands, construction site erosion control, and storm water handling.²²

16. The approved transmission line route may affect endangered and threatened species, and the applicants will need to consult with the DNR Bureau of Natural Heritage Conservation to ensure compliance with the state's endangered species law.²³

17. Construction of the project requires the applicants to obtain permits from, provide notifications to and coordinate with various federal agencies, *e.g.*, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service (USFWS), and the Federal Aviation Administration (FAA).²⁴

17. The approved transmission route may affect historic properties listed with the Wisconsin Historical Society, and in accordance with Wis. Stat. § 44.40, its direction will be required to avoid or minimize adverse impacts to archeological resources.²⁵

18. The facilities approved by this Final Decision are not located in the Lower Wisconsin State Riverway.²⁶

²¹ (See, *e.g.*, [PSC REF#: 224652](#) at 2-10, [PSC REF#: 226193](#).)

²² (See, *e.g.*, [PSC REF#: 223845](#) xxi-xxiii, 10-11, 26-32, 83-84, 114-21, 173-80, 242-45, 275-80, 344-46, 367-70.)

²³ (See, *e.g.*, *id.* at xxi-xxiii, 10-11, 26-31, 33-35, 83-84, 101-03, 180-98, 245-50, 280-90, 317-25, 346-50, 370-74, [PSC REF#: 224330](#) at 4-15.)

²⁴ (See, *e.g.*, [PSC REF#: 223845](#) at 13-14, [PSC REF#: 226107](#) at 7.)

²⁵ ([PSC REF#: 223845](#) at 13, 99, 198-201, 250-51, 290-93, 325-26, 350-51, 374-75.)

²⁶ (See *e.g.*, Wis. Stat. §§ 30.40(15) and 196.491(3)(d)3m., [PSC REF#: 229699](#) at 10, [PSC REF#: 229700](#) at 8-9.)

19. Approval of the project **is in the public interest** and is required by the public convenience and necessity.²⁷

Conclusions of Law

The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 44.40, 196.02, 196.025, 196.395, and 196.491, and Wis. Admin. Code chs. PSC 4 and 111, to issue a CPCN authorizing the applicants to construct and place in operation the proposed electric transmission facilities described in this Final Decision and to impose the conditions specified in this Final Decision.

Opinion

The Commission has a responsibility to ensure that Wisconsin receives adequate, reliable, and economical electric service, now and in the future. The applicants' proposed project addresses the need to improve the reliability of the transmission grid in the La Crosse, Wisconsin/Winona, Minnesota area (referred to as the La Crosse area in this Final Decision) and in the MISO area in general, provides economic benefits in the transmission of electricity in the MISO region, and provides improvements in the ability of the transmission grid to access renewable-based generation to the west of Wisconsin.²⁸

The Commission's proceeding on this CPCN application developed an extensive record from the public and parties **on all of the issues** that the Commission must consider in reviewing a proposed project. Members of the public commented both in writing and through appearances at the public hearing about the impact that this line may have on them and their communities. (*See,*

²⁷ (*See, e.g.,* [PSC REF#: 218100](#) at 33-38, [PSC REF#: 218134](#) at 2-3, [PSC REF#: 218141](#) at 3, [PSC REF#: 224157](#) at 6-7, [PSC REF#: 224234](#) at 41r, [PSC REF#: 224567](#) at 1-2, 27-29, [PSC REF#: 224603](#) at 3, [PSC REF#: 226135](#) at 9, [PSC REF#: 223844](#), [PSC REF#: 229699](#) at 35, 39, [PSC REF#: 229700](#) at 6, 27, [PSC REF#: 229702](#) at 17, [PSC REF#: 230600](#) at 254-55.)


²⁸ (*See, e.g.,* [PSC REF#: 204860](#) at 6, 24, [PSC REF#: 218099](#) at 8-12, [PSC REF#: 218100](#) at 7-8, 31, [PSC REF#: 223845](#) at 39-83, [PSC REF#: 224603](#) at 3.)

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e.g., [PSC REF#: 231056](#).) Parties, as noted in the Introduction section above, representing a variety of interests, intervened in the proceeding to present expert testimony on issues ranging from the need for the proposed project to the environmental impacts. The Commission acknowledges the thoughtful and helpful testimony from both the public and intervenors in this proceeding. This information assisted the Commission in its review of the application, in understanding the different perspectives toward the proposed project, and in making its determinations on the application.

Project Description, Purpose, and Cost

The applicants propose to construct a new 345 kV transmission line from the Briggs Road Substation to the existing North Madison Substation, and, from there, to the existing Cardinal Substation. ([PSC REF#: 204860](#) at 8.) The proposed project includes installation of transformers, circuit breakers and related equipment at the Briggs Road, North Madison and Cardinal Substations. (*See id.* at 13-15.) Additionally, modifications to and relocation of existing transmission and distribution lines will be required. (*See, e.g., id.* at 12.)

The proposed transmission line would be constructed using a combination of steel, single-circuit, H-frame structures and steel, single-pole, single-circuit and multi-circuit structures, depending on the route segments selected. (*See id.* at 48. 


For the purposes of the Commission's review, the applicants' proposed alternative routes for the transmission line are divided into six geographic areas:

- Briggs Road Substation to Lyndon Station (Segments P-N or O);
- Lyndon Station to Wisconsin Dells (Segments M-L or M-K);
- Wisconsin Dells to town of Caledonia (Segments J-H or J-I);
- Town of Caledonia to North Madison Substation (Segments G-E or G-F);
- North Madison Substation to town of Springfield (Segment C or D); and
- **Town of Springfield to Cardinal Substation (Segment A or B).**

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(*See id.* at 46-47.) For all but three of the individual route segments, the applicants proposed two route alternatives. The three route segments for which there are no alternatives include Segments M, J, and G. These segments are referred to as common segments. (*See id.*)

The route segments and proposed structure and line configurations are described in more detail below.

The applicants' stated purpose for the proposed project is to: (1) improve electric system reliability locally and regionally; (2) deliver economic savings for Wisconsin utilities and electric consumers; and (3) expand infrastructure to support the public policy of greater use of renewable-based electric generation. (*Id.* at 6 )

The applicants' estimated cost of the proposed project is between \$540 million and \$580 million, depending on the route chosen. (*Id.* at 40.) The applicants' estimated cost does not include modifications to the proposed project identified during the Commission's review and required by this Final Decision. The estimated costs are based on 2018 dollars, the projected in-service year for the proposed project, and include transmission line, substation, existing transmission and distribution line relocation and allowance for funds used during construction (AFUDC). (*Id.*)

Project Need

The applicants propose to construct the Badger-Coulee 345 kV transmission line project to provide needed improvements to electric grid reliability, economic benefits by relieving system constraints and reducing system losses associated with power transmission, and improved access to renewable wind electric generation located to the west of Wisconsin.²⁹

²⁹ (*See, e.g.*, [PSC REF#: 204860](#) at 24, [PSC REF#: 218100](#) at 6-8, [PSC REF#: 223845](#) at xix.)

Planning for the Badger-Coulee project, more generally for a high voltage connection from the La Crosse area to the Madison area, started as early as 2000 with the Commission's docket 137-EI-100 (referred to as ATC's Access Initiative). (See, e.g., [PSC REF#: 218100](#) at 9.) In that docket, the Commission considered ATC's transmission system and the need to reduce congestion costs and provide greater access to generation sources outside of ATC's footprint. (Id.) In its Final Decision in that docket, issued March 23, 2006, the Commission outlined general principles it would use to review transmission projects designed to provide economic efficiencies. (See id.)

Subsequently, in collaboration with other area transmission providers, ATC and NSPW conducted a study (known as the Western Wisconsin Transmission Reliability Study or WWTRS) to assess the reliability needs of western Wisconsin. (Id.) The WWTRS Final Report was issued in September 2010. The report concluded that a project such as the Badger-Coulee line would resolve a number of reliability issues in western Wisconsin. (See [PSC REF#: 204739](#) at 112-261.)

In September 2008, the governors of Wisconsin, Minnesota, Iowa, North Dakota, and South Dakota formed the Upper Midwest Transmission Development Initiative (UMTDI). The purpose of the UMTDI was to identify and begin to resolve regional transmission planning design and cost allocation issues associated with the delivery of renewable energy from areas with better wind resources into the MISO energy market.³⁰ In 2010, the UMTDI recommended a new transmission line from La Crosse to Madison.³¹ This La Crosse to Madison project is now proposed by the applicants, and known as the Badger-Coulee project.

³⁰ (See [PSC REF#: 218100](#) at 11, [PSC REF#: 218112](#) at 1.)

³¹ (See [PSC REF#: 218100](#) at 11, [PSC REF#: 218112](#) at 9.)

In its transmission expansion planning analyses, MISO found that the Badger-Coulee project will be needed to ensure the continued reliable operation of the regional transmission system, including the ATC and NSPW transmission systems, while meeting the renewable energy mandates of states located within the MISO footprint. (See [PSC REF#: 224234](#) at 20r.)

In addition, MISO's analyses show that its Multi-Value Project (MVP) portfolio of transmission projects, which includes the Badger-Coulee project, will provide additional connectivity across the grid, reducing congestion and enabling access to a broader array of generation resources to serve load in Wisconsin. (See *id.*) According to MISO, the MVP portfolio will increase market efficiency and competitive energy supply, and will provide opportunities for economic benefits to retail electric consumers. (See *id.*)

As part of MISO's MVP portfolio,³² MISO found that the Badger-Coulee project will provide reliability, economic and public policy benefits. (See [PSC REF#: 224234](#) at 9r.) As such, under MISO's cost sharing rules, the cost of the Badger-Coulee project will be shared across the MISO footprint with approximately 15 percent of the cost allocated to transmission customers in Wisconsin.³³

Economic Benefits

The applicants conducted a robust economic analysis showing that the Badger-Coulee project will produce between \$118 and \$739 million in economic benefits on a net present value revenue requirement (PVRR) basis over the expected 40 year life of the project. (See, e.g., [PSC REF#: 218100](#) at 22-23.) The applicants' analysis was done using the PROMOD

³² MISO's 2011 MVP portfolio contains 17 transmission projects across the MISO region, including the Badger-Coulee project. See [PSC REF#: 218100](#) at 13.

³³ (See [PSC REF#: 218100](#) at 13, [PSC REF#: 218102](#) at 10, [PSC REF#: 223845](#) at 51-52, [PSC REF#: 230136](#) at 8.)

model, which is recognized by electric utilities and utility regulators as a standard tool in economic system planning. (See, e.g., [PSC REF#: 204860](#) at 27.) PROMOD is a model that provides electric market simulations incorporating generating unit operating characteristics, transmission grid topology and constraints, and market system operations. Results of PROMOD modeling predict net benefits of energy costs and losses that could result from a proposed project. Several PROMOD model runs are typically done to analyze the benefits associated with “no-build” alternatives and other transmission system alternatives. (See *id.*)

The applicants’ economic analyses included consideration of six plausible “futures” analyzed for the projected years 2020 and 2026. These futures are referred to as: Robust Economy, Green Economy, Slow Growth, Regional Wind, Limited Investment, and Carbon Constrained. (See, e.g., [PSC REF#: 204739](#) at 33-34.) These futures incorporate varying assumptions regarding load and energy levels, generating unit retirements and expansion, fuel cost, use of renewable energy, level of environmental regulation, and others. (See *id.* at 32-33.) The “plausible futures” approach used by the applicants provides a reasonable range of likely outcomes over the expected life of the proposed project. (See *id.*)

The applicants based their initial PROMOD analysis on MISO’s Transmission Expansion Plan (MTEP) 2009, which at the time was the most-current information available. (See, e.g., [PSC REF#: 218100](#) at 21.) The applicants conducted additional PROMOD sensitivities using MTEP 2011 and MTEP 2013 data to test the validity of their results. (*Id.* at 25.)

Intervenors opposing the proposed project contended that the applicants overstated the estimated benefits of the project by not studying a zero or negative load growth projection.³⁴

³⁴ (See, e.g., [PSC REF#: 229027](#) at 9-11, [PSC REF#: 229030](#) at 8-9, [PSC REF#: 230723](#) at 3-8.)

The applicants' analysis included a "Slow Growth" future which included a 0.2 percent load growth rate for which the resulting projected net benefits are still positive. (*See, e.g., PSC REF#: 204739* at 35, 38.) The opposing intervenors did not provide credible evidence that a near-zero or negative load growth scenario would be a reasonable future for the applicants to consider.

Opposing intervenors also criticize the applicants for not quantifying the projected net benefits of the project in terms of a **per-retail-customer economic benefit**, and for not providing guarantees of the **magnitude of the benefit**.³⁵ Calculation of a per-retail-customer economic benefit would require a complex analysis of many individual transmission customers' allocation of costs to retail customers and rate classes, considering each local distribution company's (LDC) individual rate structure. The proposed project is anticipated to provide economic benefits to transmission customers as a whole, which in turn will be passed along to transmission customers and subsequently retail customers. As such, the Commission finds the intervenors' criticism as misleading, inaccurate, and unnecessary.

The Commission is persuaded that applicants' economic analysis is robust and more than sufficient for purposes of this proceeding.

Reliability Benefits

The transmission system in the western Wisconsin, eastern Iowa, and eastern Minnesota area includes primarily 69 kV, 138 kV and 161 kV transmission lines and related facilities.³⁶ Scheduled for completion by late 2015, this area will also include the 345 kV transmission line known as the CapX line, authorized by the Commission in docket 5-CE-136. (*See,*

³⁵ (*See, e.g., PSC REF#: 231947* at 1-12, *PSC REF#: 231948* at 28-30.)

³⁶ (*See, e.g., PSC REF#: 218099* at 14-15, *PSC REF#: 218100* at 28-29.)

e.g., [PSC REF#: 204739](#) at 125.) Power flow studies for this area, including the 2010 WWTRS as updated by the applicants using data from MTEP 2013, show that the proposed Badger-Coulee project will best address projected system overloads and low voltage situations expected to occur under various contingency outages³⁷ through 2023, potentially avoiding \$190 million in other reliability-related construction projects that would otherwise be required. (See [PSC REF#: 218100](#) at 28-29.)

When the CapX 345 kV transmission line into the Briggs Road Substation is completed, applicants' power flow studies show that the La Crosse area transmission system will support area load up to 750 megawatts (MW). (See [PSC REF#: 218099](#) at 8-9.) The applicants used load growth estimates for the La Crosse area ranging from 1 percent to 3.44 percent to predict when an additional transmission source into the La Crosse area, either two 161 kV transmission lines or a new 345 kV transmission line, will be needed. The results of this analysis show that an additional transmission source could be required as early as 2026 (with load growth greater than 3 percent annually) or after 2050 (with load growth below 1.24 percent annually). (See, *e.g.*, [PSC REF#: 204739](#) at Ex. 2 § 2.4.)

Various parties in the proceeding dispute the expected load growth in the La Crosse area with opposing intervenors contending that future load growth could be zero or even negative depending on economic conditions, expanded conservation and energy efficiency measures, and greater implementation of distributed customer-owned generation.³⁸ The Commission notes that the La Crosse area has reached a new peak each year since 2008. Additionally, between the years

³⁷ Contingency outages are transmission planning criteria used to study the operation reliability of the transmission system under conditions where one or more transmission elements are out of service.

³⁸ (See, *e.g.*, [PSC REF#: 229027](#) at 9-11, [PSC REF#: 229030](#) at 8-9, [PSC REF#: 230723](#) at 3-8.)

2010 and 2012, the total load in the La Crosse area has grown 3.44 percent, a rate considerably higher than the average load growth of about 1.0 percent for the NSPW and DPC areas over the same time period. (*See, e.g.*, [PSC REF#: 204739](#) at Ex. 2 § 2.4.)

The opposing intervenors did not provide credible evidence that a near-zero or negative load growth scenario is likely. The Commission is persuaded by the record that the range of load growth rates used by the applicants in their power flow studies is reasonable for purposes of this proceeding. Although the record does not support the need for the proposed Badger-Coulee project solely on the basis of the La Crosse area load serving needs, the record clearly establishes that the proposed project will provide substantial reliability benefits to the La Crosse area electric grid.³⁹ These reliability benefits, coupled with the other benefits identified in this Final Decision, more than substantiate the need for this project.

Access to Renewable Energy Sources

As part of the applicants' economic analysis discussed above, the "Regional Wind" future simulates development of the full potential of wind energy in the Upper Midwest region. Areas with the greatest potential for wind electric generation in the region exist west of Wisconsin, where the quality of the wind resource is better compared to that in Wisconsin. (*See, e.g.*, [PSC REF#: 204739](#) at 35.) As shown in the applicants' analysis, the proposed Badger-Coulee project will facilitate the efficient transfer of wind energy from the west at a

³⁹ (*See, e.g.*, [PSC REF#: 218099](#) at 8-9, [PSC REF#: 218100](#) at 28-29, [PSC REF#: 223845](#) at 71, [PSC REF#: 224234](#) at 20r-21r, [PSC REF#: 224603](#) at 3, [PSC REF#: 230601](#) at 175-76.)

positive net economic benefit to transmission customers.⁴⁰ The applicants' analysis is supported by MISO and by intervenors CEI and WBLIG.⁴¹

Transmission System Alternatives

The applicants studied several other transmission system alternatives and a no-build alternative to assess their relative benefits compared to the proposed project.⁴² These alternatives included:

1. Low Voltage alternative – A group of rebuilt and new 161 kV, 138 kV, 115 kV and 69 kV transmission lines and related facilities;
2. Spring Green 345 kV alternative – A new 345 kV transmission line from La Crosse to Spring Green to Madison;
3. 345 kV Madison to Iowa alternative – A 345 kV transmission line from Madison to Iowa;
4. Combination 345 kV alternative – The proposed project in combination with the Madison to Iowa line; and,
5. 765 kV alternative – A 765 kV transmission overlay.⁴³

According to the applicants' analyses, the Badger-Coulee project provides substantially greater economic benefits than the Low Voltage and 765 kV alternatives, provides similar benefits to the Spring Green 345 kV alternative, and provides lower benefits than the 345 kV Madison to Iowa alternative and the Combination 345 kV alternative.⁴⁴ The applicants prefer the proposed project over the Spring Green 345 kV alternative because of significant routing

⁴⁰ (See, e.g., [PSC REF#: 218100](#) at 8, 11, 18, 31, 34, 31.)

⁴¹ (See generally [PSC REF#: 218134](#) at 5, [PSC REF#: 224234](#) at 18r, 26r, 33r-34r, 38r-39r, [PSC REF#: 224567](#), [PSC REF#: 230707](#) at 3, 8, 13, [PSC REF#: 230739](#) at 3, [PSC REF#: 231070](#).)

⁴² (See [PSC REF#: 204739](#) at 18-28, 105-09, [PSC REF#: 204860](#) at 29-30.)

⁴³ (See [PSC REF#: 204739](#) at 18-28, 105-09, [PSC REF#: 204860](#) at 29-30.)

⁴⁴ (See [PSC REF#: 204739](#) at 107, [PSC REF#: 218100](#) at 22-23.)

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issues in the Spring Green area.⁴⁵ ATC is currently developing the 345 kV Madison to Iowa alternative for future Commission consideration. (See [PSC REF#: 218100](#) at 23-24.)

For the purposes of this proceeding, the Commission deems reasonable the applicants' consideration of transmission system alternatives. The Commission further finds that the applicants' basis for choosing the Badger-Coulee project over other transmission system alternatives is reasonable.

Energy Efficiency and Conservation and Alternative Sources of Electric Supply

In making its decision, the Commission considers whether there are technically feasible and environmentally sound alternatives to building the proposed project, per Wis. Stat. §§ 1.12(4) and 196.025(1). Specifically, the Commission must consider whether energy efficiency and conservation, load management, lower voltage transmission, or solar and other distributed generation are reasonable alternatives to the proposed project.

The applicants studied energy efficiency and conservation, load management, and distributed generation including solar generation as alternatives to meet the need for the proposed project. (See, e.g., [PSC REF#: 204860](#) at 32-33.) The applicants concluded that these alternatives would not provide the benefits of the proposed project and, further, that the proposed project will increase the ability to import wind energy, the highest priority type of generation under the state's energy priorities law. (See *id.*)

As alternatives to the proposed project, the applicants evaluated renewable and non-renewable generation alternatives in the context of the futures described above, particularly in the "Carbon Constrained Future" which assumed 1,790 MW of new wind generation,

⁴⁵ (See [PSC REF#: 218100](#) at 24, [PSC REF#: 229700](#) at 8-9.)

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200 MW of new biomass generation, and 150 MW of new photovoltaic generation.⁴⁶ Even with that level of renewable-based generation, the proposed project shows positive net benefits of \$509 million on a PVRR basis compared to the no-build alternative.⁴⁷

Similarly, applicants' analysis of demand side management and energy efficiency shows that, even at lower load growth projections, the proposed project produces substantial positive net economic benefits compared to the no-build alternative.⁴⁸

Intervenors opposing the project offered only conjecture and did not analyze what they believe would be viable alternatives to the project. This speculation and lack of analysis does not stand up against the detailed and robust analysis performed by the applicants and supporting intervenors that demonstrated that energy efficiency, distributed generation or load management could not replace the project.

The Commission finds that energy efficiency and conservation and other sources of electric supply are not technically feasible, cost-effective alternatives to the project.

Routing

Transmission Line Route

As noted previously, for the purposes of its review, the Commission divided the applicants' proposed alternative route segments for the transmission line into six geographic areas. (See [PSC REF#: 223845](#) at 1-4.)

⁴⁶ (See *id.* at 30-33, [PSC REF#: 204739](#) at 12, 102-05, [PSC REF#: 213034](#) at 7-8, [PSC REF#: 218100](#) at 33-37.)

⁴⁷ (See, e.g., [PSC REF#: 213034](#) at 8, [PSC REF#: 218100](#) at 35.)

⁴⁸ (See, e.g., [PSC REF#: 213034](#) at 8, [PSC REF#: 218100](#) at 35-36.)

Briggs Road Substation to Lyndon Station

Starting at the Briggs Road Substation in the town of Onalaska and ending just north of Lyndon Station, the route alternatives include Segments P and N or Segment O. (*Id.* at 2-3, 145.) Segments P and N total approximately 113 miles in length, and extend north from the Briggs Road Substation through the town of Holland and the village of Holmen, along either alternative Segments P-west or P-east. (*Id.* at 136-37.) Segment P-east parallels the approved CapX route, along U.S. Highway (USH) 53. (*Id.*) Segment P-west travels north along local roads and would be double-circuited in short segments with lower voltage electric lines in two locations. (*Id.* at 136.) Segments P continues north across the Black River where it connects to Segment N. Segment N extends north into Trempealeau County to the city of Blair, then east toward the city of Black River Falls. (*Id.* at 137-39.) The proposed 345 kV line, from the crossing into Trempealeau County to the city of Black River Falls would be double-circuited with existing transmission lines (W3203 and W3204⁴⁹). (*Id.* at 138-39.) At its intersection with U.S. Interstate Highway 94 (I-94), Segment N becomes single-circuited, sharing WisDOT right-of-way (ROW) to the southeast for most of the remainder of the segment. It briefly departs from the interstate corridor in the vicinity of the village of Camp Douglas in order to comply with Department of Defense airspace restrictions for Volk Field. (*Id.* at 139-41.)

Segment O is approximately 85 miles in length. (*Id.* at 141.) It exits Briggs Road Substation to the south along USH 53, through the city of Onalaska. (*Id.*) At I-90, Segment O turns east, sharing ROW with the highway for approximately 16 miles. (*Id.* at 141-42.) Segment O then turns south away from the highway and towards the village of Cashton. (*Id.* at

⁴⁹ W3203 and W3204 and subsequent designations are transmission line designations as used by applicants and MISO.

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141, 143.) Much of this portion of the segment would be double-circuited with an existing 69 kV electric line (W3414). (*Id.* at 143.) At Cashton, Segment O turns east on new ROW for a distance of 47 miles, traveling near and on the county border of Monroe and Vernon Counties, and ending in Juneau County. (*Id.* at 143-45.)

Lyndon Station to Wisconsin Dells

Segments P and N and O connect to common Segment M. Segment M then continues along either Segment K or L. (*Id.* at 237.) Segment M continues along I-90/94 and would be underbuilt with a lower-voltage electric line (Y-101). (*Id.*) Segment K runs along the west side of I-90/94; whereas, Segment L leaves the interstate corridor and follows a railroad near to USH 12 until the railroad tracks intersect the I-90/94 corridor, north of the city of Wisconsin Dells. (*See id.* at 237-38.)

Wisconsin Dells to the town of Caledonia

Segments K and L connect to common Segment J, which then continues southeast on either Segment H or I. (*Id.* at 257.) Segment J follows the I-90/94 interstate corridor south. (*Id.*) Segment H parallels I-90/94 for a distance of 22 miles to the intersection of I-90/94 and I-39. (*Id.* at 258-60.) Segment H stays mostly along the west and south sides of the interstate but briefly departs from the interstate corridor to avoid crossing Ho-Chunk Nation-owned properties. (*See id.*) Segment H continues and crosses through DNR-owned properties including the northern portion of Mirror Lake State Park and Pine Island State Wildlife Area. (*See id.* at 259-60, 271-72.) Segment I is of similar length to Segment H. (*See id.* at 257.) Segment I crosses through the city of Wisconsin Dells and then is sited along a rail corridor and an existing lower-voltage electric transmission line. (*Id.* at 260.) Much of the segment would be

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double-circuited with an existing 138 kV transmission line (X-68.) (*Id.* at 261-62.) At Portage, Segment I turns south along the east side of I-39. (*Id.*) Segment I crosses the Wisconsin River twice; once directly downstream from the Kilbourn Dam in Wisconsin Dells and a second time along I-39, south of Portage. (*Id.* at 260-62.)

Town of Caledonia to the North Madison Substation

Segments H and I connect to common Segment G. (*Id.* at 305.) Segment G runs along the east side of I-90/94/39 and across the Wisconsin River. (*Id.*) Segment G then connects to either Segment E or F. (*Id.*) Segment E continues along the interstate corridor from the town of Dekorra to the town of Vienna. (*Id.*) Shortly after crossing into Dane County, Segment E turns south away from the interstate corridor and ends at the North Madison Substation. (*See id.* at 305-07.) Segment F leaves existing WisDOT ROW to the west, and proceeds in a stair-step fashion mostly along parcel boundaries and ends at the North Madison Substation. Segment F is slightly longer than Segment E and would require new electric transmission ROW. (*Id.* at 305, 307.)

North Madison Substation to the Town of Springfield

Segments C and D exit the North Madison Substation located in the town of Vienna and travel about 15.5 miles to a point where the segments cross in the town of Springfield. (*Id.* at 337.) The segments stair-step south and west through Dane County. (*Id.* at 337-39.) Segment C briefly shares its corridor with local roads and lower voltage electric transmission lines. (*Id.*) Segment D would be mostly double-circuited with an existing 138 kV electric transmission line (13875). (*Id.* at 339.)

Town of Springfield to Cardinal Substation

Segments A and B begin north of Middleton, southeast of the intersection of Riles and Ripp Roads, and end at the Cardinal Substation. (*Id.* at 357.) Segment A shares ROW with an existing 138 kV electric transmission line (13875) for much of its 4.6 mile length. (*Id.* at 357-58.) Segment B is located approximately 1.5 miles west of Segment A and would be just over 7.0 miles long. (*Id.* at 358-59.) Segment B is primarily a cross-country route that extends into the Cardinal Substation via either alternative Segments B-north or B-south. (*Id.*) Alternative Segment B-north travels east along new transmission ROW until intersecting with Segment A for the remainder of the segment. (*Id.*) Alternative Segment B-south continues south and then turns east along an existing lower-voltage transmission line (6927), before ending at the Cardinal Substation. (*Id.*)

Authorized Project Route

The applicants identified a preferred route consisting of Segments P with P-east, N, M, K, H with H6-north, G, E, D, and A.⁵⁰ This route combination utilizes existing high-priority corridors to a much greater extent than alternative route combinations.⁵¹ The route combination is 91 percent within existing ROW by length and 62 percent within shared ROW by area. (*See, e.g.,* [PSC REF#: 229699](#) at 5.) As such, it impacts fewer acres of new ROW, crosses less agricultural land, and impacts fewer residences.⁵² The Commission finds that Segments P with P-east, N, M, K, H with H6-north, G, E, D, and A with the modifications described in this Final Decision avoid adverse impacts to the environment and private properties and comprise the most reasonable route.

⁵⁰ (*See, e.g.,* [PSC REF#: 191823](#), [PSC REF#: 229700](#) at 20-22, [PSC REF#: 230721](#) at 20-30, [PSC REF#: 232607](#).)

⁵¹ (*See, e.g.,* [PSC REF#: 223845](#) at 402, [PSC REF#: 229699](#) at 5.)

⁵² (*See id.*, [PSC REF#: 223845](#) at 388-98.)

Segment O, while a shorter route, presents more challenges and its segments are a lower priority under Wisconsin Siting statutory priority, making Segments P and N a more reasonable choice. Additionally, Segments P and N do not have the constructability concerns associated with Segment O because they avoid the steep hilly terrain of the Wisconsin Coulee Region. Segments P and N also share existing cleared electric transmission ROW for much of their length.⁵³ Segments P and N also impact fewer residents and have fewer environmental impacts. As such, the Commission finds Segments P and N superior to the alternative Segment O for the portion of the project from the Briggs Road Substation to Lyndon Station.

The Commission does not find it reasonable to consider Clean WI's Modified Segment O as a substitute for Segments P and N or O. Similar alternative route segments were rejected by the applicants due to structure height restrictions near Fort McCoy, environmental impacts, and increased costs.⁵⁴ Development of this route would require further analysis and record development, resulting in a delay in completion of the proposed Badger-Coulee project.⁵⁵

Land Use and Development Plans

Wisconsin Stat. § 196.491(3)(d)6 requires the Commission to determine that a proposed project requiring a CPCN not unreasonably interfere with orderly land use and development plans for the area involved. The city of Onalaska, the town of Middleton, the town of Holland, Ms. Kunze, and some members of the public contend that the proposed project would be inconsistent with, and as a result unreasonably interfere with, land use and development plans in

⁵³ (See e.g., [PSC REF#: 223845](#) at 388-89, [PSC REF#: 229700](#) at 22.)

⁵⁴ (See, e.g., [PSC REF#: 210424](#) at 6-7, [PSC REF#: 210425](#), [PSC REF#: 226108](#) at 3-6, [PSC REF#: 229260](#) at 3-4, [PSC REF#: 230600](#) at 161-66.)

⁵⁵ (See, e.g., [PSC REF#: 226108](#) at 5-6, [PSC REF#: 230600](#) at 163.)

their communities.⁵⁶ The applicants state that they have taken into account public and stakeholder feedback and land use plans, and have worked and will continue to work to mitigate such impacts. (*See, e.g.*, [PSC REF#: 218103](#) at 3-7.) The Commission recognizes that the proposed project, as with any major construction project, will create impacts on the land use and development plans of affected areas, but finds that the proposed project will not unreasonably interfere with the orderly land use and development plans of the project area. (*See, e.g.*, [PSC REF#: 229699](#) at 5.)

CapX Route Issues

The Commission acknowledges and recognizes concerns expressed by intervenors and members of the public regarding the cumulative impacts of the proposed project in areas where it parallels the authorized CapX alignment. (*See, e.g.*, [PSC REF#: 223845](#) at 145-51, 386-87.) To minimize impacts of the multiple transmission corridors in close proximity of each other in the area just north of the Briggs Road Substation, the Commission approves the proposal to triple-circuit the proposed project with the CapX line and the existing 161 kV line for a cumulative distance of just less than one mile.⁵⁷ The one-mile limitation is consistent with North American Electric Reliability Corporation (NERC) reliability criteria and will avoid violations of NERC reliability planning criteria for contingencies involving multi-circuiting of transmission lines.⁵⁸

The town of Holland, supported by Clean WI, argued for the triple-circuiting of the proposed lines with the CapX line and the existing 161 kV line for the full eight miles north of

⁵⁶ (*See, e.g.*, [PSC REF#: 224642](#), [PSC REF#: 224670](#) at 4-9, [PSC REF#: 230743](#) at 5-6, [PSC REF#: 230751](#) at 25-27.)

⁵⁷ (*See* [PSC REF#: 224174](#), [PSC REF#: 224175](#), [PSC REF#: 224176](#), [PSC REF#: 224186](#) at 5-6.)

⁵⁸ (*See* [PSC REF#: 223845](#) at 150, [PSC REF#: 224174](#) at 2.)

the Briggs Road Substation. (*See, e.g.*, [PSC REF#: 230743](#) at 3-11.) The Commission rejects the town's proposal because it would violate NERC reliability criteria described above.

Along Subsegment P13, the authorized CapX and Badger-Coulee transmission lines parallel each other along the east side of USH 53. (*See, e.g.*, [PSC REF#: 223845](#) at 148.) The applicants support minimizing the distance between the two 345 kV lines in this location, as much as practicable.⁵⁹ The Commission finds that the distance between the two alignments should be minimized to the extent practicable to further reduce the impact of multiple lines.

The approved Badger-Coulee route would cross the approved CapX alignment in two locations and, as such, would create unacceptable operation and maintenance and reliability risks. (*See* [PSC REF#: 223845](#) at 149.) In a separate order issued contemporaneously with this Final Decision in docket 5-CE-136, the Commission approved a modification of the CapX route alignment to switch the circuit positions of the proposed project and the CapX line to avoid the crossover of these circuits consistent with this Final Decision.⁶⁰

Route Modifications Affecting WisDOT Highways

During its review of the proposed project, WisDOT identified two locations along the approved route which were not permissible due to conflicts with future highway maintenance and construction plans.⁶¹ After consulting with WisDOT, the applicants proposed in testimony alignment modifications for Segment P at the USH 53/County Trunk Highway (CTH) MH interchange and for Segment E, north of CTH CS.⁶² The Segment P alignment remains inside the interchange, but the angle structure would be located further away from the USH 53 bridge

⁵⁹ (*See* [PSC REF#: 226110](#) at 8, [PSC REF#: 226116](#) at 8.)

⁶⁰ (*See id.* at 149-50, [PSC REF#: 232007](#).)

⁶¹ (*See, e.g.*, [PSC REF#: 223845](#) at 11-12, 103-04, 151-52, [PSC REF#: 224647](#) at 3-4, 6-9.)

⁶² (*See* [PSC REF#: 226743](#) at 2-4, [PSC REF#: 226745](#), [PSC REF#: 226746](#).)

structure, resulting in more than 125 feet of horizontal clearance between the bridge and the conductors.⁶³ The modification of Segment E, north of CTH CS replaces the two close-proximity crossings of I-90/94 with an alignment entirely along the east side of the interstate.⁶⁴ The Commission finds these modifications reasonable.

The route crosses a number of WisDOT highways at right angles, requiring two right-angle turns per crossing. (See [PSC REF#: 224647](#) at 8-9.) Due to the forces on structures caused by significant angles in transmission line alignment, these angle structures need to be larger and more costly, and cause more impacts than structures typically designed to handle alignments with less severe angles. (See [PSC REF#: 226107](#) at 5-6.) WisDOT testified that while its Utility Accommodation Policy (HMM 09-15-25(2.0)) requires utility facilities to cross the highway on a line as nearly perpendicular to the highway alignment as possible, WisDOT prefers crossings that are more transitional to make the appearance of the transmission line less obtrusive. (See [PSC REF#: 224647](#) at 8-9.) The applicants support this route modification for the reasons of reduced impacts and costs. The Commission finds it reasonable for applicants, upon notification to Commission staff, to make such minor changes to highway crossings to accommodate WisDOT's preference.

USFWS Easements

The approved route crosses a private property encumbered by a USFWS easement along Subsegment N3b, in the town of Springfield, Jackson County. (See [PSC REF#: 223845](#) at 166.) Should the applicants not receive an easement from the USFWS, the applicants requested approval for a route alternative, N3b-south, to avoid project delays. ([PSC REF#: 229266](#) at 1-2.)

⁶³ (See [PSC REF#: 226743](#) at 2-3, [PSC REF#: 226745](#).)

⁶⁴ (See [PSC REF#: 226743](#) at 3-4, [PSC REF#: 226746](#).)

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The applicants have received a response from USFWS; however, it is uncertain whether additional approvals are necessary for the construction of the route. (*Id.*) The Commission has concerns whether there has been sufficient notification to the potentially affected landowners regarding the requested alternative and, thus, deny the approval of the alternative route Subsegment N3b-south. (See [PSC REF#: 229521](#).) If the applicants need to use an alternate route to avoid the USFWS easement, the appropriate procedures for a Minor Route Adjustment (MRA) as discussed in this Final Decision, or limited reopening of the docket, are available to the applicants.

Segment H Route and Structure Modifications

DNR requested a revision of the route through Mirror Lake State Park to preserve the wooded buffer between the park and the interstate. (See [PSC REF#: 229447](#) at 11.) The applicants worked with the park manager to realign the transmission line further south into the state park.⁶⁵ DNR further requested that the impact be mitigated by funding a trail relocation, incorporating vegetative screening, and scheduling construction during the time of lowest public use in order to maintain or improve the recreational value at the park. ([PSC REF#: 229447](#) at 11.) The Commission finds DNR's requests in the area of Mirror Lake State Park reasonable, where practicable.

For the portion of the route that includes Subsegments H5 to H7, the route passes through and near an extensive natural habitat known as the Leopold-Pine Island Important Bird Area (IBA.) (See [PSC REF#: 223845](#) at 272.) The 16,000-acre IBA has for decades been intensively managed and researched for wildlife conservation through a cooperative partnership of diverse

⁶⁵ (See [PSC REF#: 229266](#) at 8-9, [PSC REF#: 229267](#).)

private and public property owners, known as the Leopold-Pine Island IBA Partnership (Partnership.) (*See id.* at 262-63.) DNR staff member Yoyi Steele, a member of the Partnership, testified that 155 bird species have been documented in the IBA, 119 of which use the area for breeding. (*See* [PSC REF#: 224293](#) at 2-3.) The IBA provides habitat for five state-threatened bird species as well as critical fall staging habitat for 10 percent of Wisconsin's sandhill crane population, and potentially for the federally-listed whooping crane. (*Id.*) To minimize impacts to the bird populations that use the IBA and surrounding properties, the Partnership and DNR advocated for H-frame transmission structures that position conductors at or below the average height of the surrounding mature trees. (*Id.* at 8-9.) Clean WI concurred with the request. (*See* [PSC REF#: 224724](#) at 8p-9p.) The applicants argued that mature tree height in this area had not been assessed and that shorter transmission structures may require shorter span lengths, more structures, and an increase in project costs. (*See* [PSC REF#: 232607](#) at 25.) Furthermore, lowering the height of conductors may not be possible where additional height may be necessary to cross other electric lines. (*Id.*) The Commission is unpersuaded by the applicants' arguments and finds that the DNR request for H-frame structures for Subsegments H5 to H7 with conductors positioned at or below the average height of the surrounding mature trees, where practicable, to be reasonable.

Subsegment H6 crosses USFWS-owned property known as Fairfield Marsh. (*See* [PSC REF#: 223845](#) at 259.) USFWS has deemed this segment to be incompatible with the laws and policies governing Fairfield Marsh and, accordingly, has indicated that it would not grant a permit. (*See id.*) In consultation with WisDOT and DNR, the applicants proposed Subsegment H6-north which crosses for a short distance to the north side of I-90/94 onto

DNR-owned property to avoid Fairfield Marsh.⁶⁶ The Commission finds that the applicants' alignment of Subsegment H6-north with monopole transmission structures, as permissible by WisDOT, to be reasonable.

Within the IBA is the Aldo Leopold Farm, a National Historic Landmark which includes the Leopold Shack (Shack). (See [PSC REF#: 223845](#) at 291.) The Aldo Leopold Foundation (Foundation) requested that transmission structures for the proposed project be sized and located so as to not be visible from either the historic Shack or the Foundation's planned boardwalk/trail that will lead from the Foundation's headquarters to the Shack.⁶⁷ The applicants testified that the transmission structures would not likely be visible from the Shack, but contended that re-designing and constructing the project to ensure that they not be visible from the planned boardwalk could delay the project.⁶⁸ The Commission does not find the request to avoid, minimize, or mitigate impacts to the viewshed of the National Historic Landmark, as a whole, to be reasonable beyond requiring H-frame transmission structures for the portion of the route that includes Subsegments H5 to H7 for the reasons stated previously.

Commissioner Nowak dissents and would have imposed a condition requiring applicants to minimize or mitigate impacts to the extent practicable.

Other Route Modifications

Some members of the public provided comments regarding the impacts of the route to their private properties. (See, e.g., [PSC REF#: 230498](#) at 2163-64.) Property owner John C. Higgins requested a modification of Subsegment N5 that crosses his property and the northern

⁶⁶ (See [PSC REF#: 223845](#) at 259-60, [PSC REF#: 226193](#) at 1-3, [PSC REF#: 226652](#) at 2.)

⁶⁷ (See [PSC REF#: 223845](#) at 291-92, [PSC REF#: 224596](#) at 4-5.)

⁶⁸ (See [PSC REF#: 226117](#) at 1-2, [PSC REF#: 232607](#) at 24-25.)

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edge of the Skyline Golf Course (owned by the city of Black River Falls) in order to preserve existing woodlands to the extent practicable. (*Id.*) The Commission finds this modification reasonable, and requires the applicants to work with the city of Black River Falls and Mr. Higgins to modify the Badger-Coulee alignment to preserve existing woodlands, to the extent practicable. The applicants are also granted minor route flexibility to address any concerns with the two underground natural gas pipelines and associated rights-of-way in the immediate vicinity of the proposed alignment modification.

The owners of the KOA Campground in Oakdale, Donna and Joseph Kravetsky, commented that campground facilities would be within the proposed transmission ROW, resulting in significant impacts to their business. (See [PSC REF#: 226409](#) at 31-33.) Commission staff recommended a realignment of Subsegment N9 so that it would cross to the south/west side of I-90/94 immediately south of the CTH PP interchange and travel along WisDOT ROW for approximately 1.6 miles to Subsegment N10. (See [PSC REF#: 224583](#) at 9-10.) This modification will result in the loss of fewer trees, less wetland impacts, and not having homes or businesses in close proximity to the line. (See [PSC REF#: 226764](#).) The Commission finds this alternate alignment reasonable to avoid adverse impacts to the Oakdale KOA Campground where practicable.

Siting Conditions and Individual Hardships

Residences Located within the ROW

The following three residential properties would have homes partially or totally within the 345 kV ROW. ([PSC REF#: 224583](#) at 7-9.) In addition, the majority of the Oldenburg property would be within the transmission ROW and cleared of all woody vegetation. (*Id.*)

- Joan Onstad (Parcel ID 053_206209200000) on Segment N;⁶⁹
- Nathan Spahr (Parcel ID 063_8960-2) on Segment P;⁷⁰
- Steven Oldenburg (Parcel ID 021_2262624) on Segment G.⁷¹

The applicants testified that these landowners would receive “just compensation” under Wis. Stat. ch. 32, which establishes a process that considers the easement area as well as any impact to the remainder of the property. (See [PSC REF#: 226109](#) at 2-3.) The Commission recognizes that these property owners will be significantly impacted; however, protections are already in place to ensure that appropriate compensation is provided to landowners. To the extent applicants and the affected landowners do not reach a mutually acceptable negotiated resolution, remedies are available under the process established by Wis. Stat. ch. 32. Including a specific order point does not afford the landowners any additional legal protection, and there is nothing in the record to suggest that the applicants are unwilling to follow the procedures in Wis. Stat. ch. 32. The Commission is satisfied that existing protections under Wisconsin law are sufficient. Commissioner Montgomery agreed that the law provides an adequate remedy, but found these individual cases to be of concern and requested the applicants to keep the Commission informed of developments related to easement issues associated with these three properties.

Working with Landowners on Facility Placement

Off-ROW access paths will be needed for the construction of this project. (See, e.g., [PSC REF#: 204860](#) at 88.) The applicants stated in their application that these access routes will be based on field review of the approved route, negotiations with local landowners, and/or

⁶⁹ (See [PSC REF#: 204956](#) at 5.)

⁷⁰ (See [PSC REF#: 204953](#) at 10.)

⁷¹ (See [PSC REF#: 204979](#) at 14.)

contractor requirements. (*Id.* at 89.) The applicants support working with landowners to the extent practicable regarding the placement of facilities on their properties.

(*See* [PSC REF#: 232853](#) at 49-50.) The applicants also support working with landowners and holders of conservation easements regarding facilities placement to minimize the effects on properties and their conservation easements. (*See id.*)

Off-ROW access routes can potentially reduce construction impacts on wetlands and waterways. DNR supports the use of such routes to avoid impacts. The applicants testified that at all stages of the project planning process, they have attempted to avoid impacts to wetlands and waterways and that they will continue to make decisions that avoid and minimize these type of impacts throughout construction. (*See* [PSC REF#: 229699](#) at 29.) The applicants support working with property owners to take advantage of access that further reduces potential impacts to waterways and wetlands to the extent practicable, provided that the landowner voluntarily grants access opportunities to the applicants. (*See* [PSC REF#: 232853](#) at 49-51.) The Commission finds this approach to be reasonable.

Mitigating Impacts for Airport Operators

Transmission line structures and wires can potentially present a hazard to aircraft using airports and airstrips. (*See* [PSC REF#: 204860](#) at 129-33.) Ms. Kunze asserts that the line on Segment A could interfere with the use of Morey Field Airport in Middleton, and supports coordination with local officials to mitigate potential conflicts with the airport.⁷² The applicants maintain that the FAA is the appropriate authority to address these concerns.⁷³ The Commission believes that consultation with local officials can be beneficial in the avoidance of conflicts with

⁷² (*See generally* [PSC REF#: 230751](#), [PSC REF#: 232055](#); *see* [PSC REF#: 232853](#) at 9-10, and 49-54.)

⁷³ (*See* [PSC REF#: 226117](#) at 3, [PSC REF#: 232853](#) at 49-50.)

airports and airstrips and will require applicants to coordinate with appropriate local officials, WisDOT Bureau of Aeronautics, and airport/airstrip operators to mitigate possible conflicts with existing airports and airstrips that are not used by the general public to the extent practicable.

Conditions Related to Agricultural Land Use

Working with Operators of Irrigation Systems

The proposed transmission line has the potential to interfere with existing farm irrigation systems. (See, e.g., [PSC REF#: 204860](#) at 92-93.) The Van Etten farm along Subsegment E1 has a pivot irrigation system near the approved route. (See [PSC REF#: 224587](#) at 3.) The applicants are willing to locate the proposed transmission structure slightly to the north to increase the distance between project facilities and the irrigation equipment. (See [PSC REF#: 231121](#) at 4-5.) Additionally, DATCP identified one other irrigation system along Segment H that might be impacted by the construction of the line along the approved route. (See [PSC REF#: 224629](#) at 3.) The applicants are willing to work with the landowners on final pole placement to minimize impacts to irrigation systems.⁷⁴ The Commission finds this approach reasonable.

Working with Operators of Organic Farms

Based on DATCP's recommendation, the applicants identified certified organic farms located within one-half mile of the proposed transmission line to ensure that all organic farms intersected by the proposed ROW were identified.⁷⁵ In its Agricultural Impact Statement (AIS), DATCP described how construction of a transmission line can jeopardize organic certification if

⁷⁴ (See [PSC REF#: 231121](#) at 4-5, [PSC REF#: 232853](#) at 49-51.)

⁷⁵ (See, e.g., [PSC REF#: 204860](#) at 92-93, [PSC REF#: 200773](#) at 10.)

prohibited chemicals are used on or drift onto certified land. (See [PSC REF#: 224108](#) at 80.)

The applicants stated that farms that utilize organic practices will be further identified during construction planning and that impact minimization measures will be developed as appropriate. (See [PSC REF#: 200773](#) at 10.) Clean WI and Ms. Kunze also support these measures which would reduce impacts to organic farms along the route.⁷⁶ The Commission finds it reasonable to require applicants to identify and work with operators of organic farms to minimize the likelihood of injury to crops or loss of organic certification from herbicide application by the applicants within the authorized route ROW.

Conditions Related to DATCP Recommendations

In its testimony, DATCP recommended 19 conditions to reduce the agricultural impacts of the project (see [PSC REF#: 224629](#) at 4-7):

1. The applicants should hire agricultural monitors, who are approved by and report weekly to DATCP, to oversee compliance with the portions of the PSC's order for the project dealing with agricultural issues; and to observe and document project construction and construction-related work on agricultural property. These monitors must be adequately trained, experienced and knowledgeable in agricultural issues, agricultural practices, and measures to prevent and mitigate damage to agricultural land caused by transmission line projects.
2. The applicants should hire an agricultural specialist to conduct pre-construction interviews with all farmers and farmland owners who will be directly affected by the acquisition of easements for this project. At a minimum, the interview should determine whether the affected farm operation has a biosecurity plan, the types of crops grown and livestock raised, any specific concerns the landowner has related to agricultural impacts, and the location of any existing or planned drainage systems or other agricultural infrastructure.
3. Information from the pre-construction farm interviews and those included in landowner responses in the AIS should be incorporated into the bid packages and line lists used by the contractors, inspectors, and monitors, and shared with DATCP. Easements and compensation to landowners should be reflective of all concerns and economic impacts from the project.

⁷⁶ (See, e.g., [PSC REF#: 232853](#) at 49-54, [PSC REF#: 230602](#) at 32-33.)

4. The applicants should consult with all affected farmland owners to determine the least damaging locations for transmission support structures.
5. If the project is approved and Segment D is part of the approved route, the transmission line should follow the fence lines and avoid farm operation buildings in agricultural areas and minimize the impact on farming in accordance with Dane County Land and Water staff recommendations.
6. Landowners who will have easements acquired for the proposed project should be familiar with the “Landowners’ Bill of Rights” which is found in Wis. Stat. § 182.017(8)(7.) The applicants should make certain that they and their contractors comply with all aspects of this statute. The applicants may ask landowners to waive some or all of the rights listed in this statute, but the landowners are not required to waive any of these rights. Refer to the Appendix in the AIS for the text of the “Landowners’ Bill of Rights.”
7. The county conservationists in the counties affected by the proposed project should be consulted to ensure that construction proceeds in a manner that minimizes drainage problems, crop damage, soil compaction, and soil erosion.
8. If an approved route passes through a drainage district, the applicants should consult with the relevant Drainage Board(s) to ensure that construction will not permanently disrupt the operation of the district(s).
9. All farmland owners and operators should be given advance notice of acquisition and construction schedules so that farm activities can be adjusted accordingly. To the extent feasible, the timing of the ROW acquisitions and construction by the applicants and their contractors should be coordinated with farmers to minimize crop damage and disruption of farm operations.
10. The applicants should implement training for all construction supervisors, inspectors and crews to ensure that they understand the steps needed to protect the integrity of agricultural lands during project construction and restoration.
11. The applicants should ensure that their contractors and subcontractors incorporate all necessary site-specific easement conditions to protect agricultural resources, as well as all statutory requirements and PSC final decision conditions regarding agricultural land protection into their construction line list, and into any bid documents for the project.
12. Construction on agricultural land should occur as much as possible when the ground is frozen. This will minimize soil compaction and reduce the risk of spreading diseases and pests between farms.
13. If ruts are created in the portion of the ROW that crosses farmland, the applicants should make reasonable attempts to restore the affected soils as quickly as possible.
14. The applicants should strip and segregate the topsoil from and around all excavation sites on the project to ensure that the valuable topsoil is not mixed with lower quality subsoil and underlying parent material.

15. The applicants should ensure that below the topsoil layer all excavated soil or other spoil material displaced by the pole and foundation is removed from the site and not deposited on or mixed with any cropland soils.
16. If the applicants remove any existing power line support structures within or immediately adjacent to cropland, they should remove all of the support structure and replace it with clean fill to the level in the adjacent soil where the topsoil begins. Imported topsoil of similar quality to the adjacent topsoils should then be placed over the remainder of the hole. If a support structure cannot be completely removed from cropland, as much of the structure as possible should be removed and the site flagged so the farmer can avoid collisions between his/her equipment and the remainder of the buried structure.
17. After construction of the line is complete, the applicants should test the soil profile to determine whether the soils in the ROW have been compacted by construction or other equipment. This is commonly done by comparing the compaction levels of soils on the portion of the ROW that carried the traffic to comparable soils off the ROW. If soils are compacted, steps should be taken to correct this problem. If a farmer does not have the proper equipment to adequately decompact the soil him/herself, ATC should hire a contractor to complete the work.
18. The applicants should undertake post-construction monitoring to ensure that no long-term damage to agricultural fields along the project route has occurred and that all mitigation activities are successful and satisfy the landowner.
19. Landowners should be given phone and email information for whom to contact within the applicants' organization should impacts from the project on their farmland arise or continue to occur after project completion.

The Commission agrees with all but three of the recommendations: conditions 12, 14, and 16. The Commission finds DATCP recommendation 12, requesting construction occur as much as possible when the ground is frozen, and DATCP recommendation 14, requesting that during construction topsoil is segregated from lower subsoils, are adequately addressed by Wis. Stat. § 182.017(7)(c).

DATCP recommendation 16 refers to potential interference of farm equipment with the remains of former transmission structures that are not fully removed from cropland. (See [PSC REF#: 224108](#) at 99-100.) The applicants stated that although it is possible to remove existing transmission line structures that do not have foundations, their standard practice when removing existing transmission structures within cropland is to cut off and remove the structures

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to a minimum of four feet below grade, which is below the plow level.⁷⁷ The applicants believe that removing the structures to this depth is sufficient. (See [PSC REF#: 226107](#) at 11-12.) In some locations, more damage may occur by removing the pole and all supporting structures. (See [PSC REF#: 231121](#) at 9-10.) The Commission finds that the applicants' standard practice should be sufficient to achieve the intent of DATCP's recommendation. Accordingly, DATCP condition 16 is reasonable as modified to the extent that any remaining buried structure does not interfere with normal farming practices.

The Commission finds that DATCP recommendations 1 and 2, involving agricultural monitors and inspectors, do require modifications which are discussed in more detail later in this Final Decision under Independent Environmental Monitors.

Conditions Related to Environmental Factors

IBA Conditions

The environmental value of the IBA lands was well described during the course of the review of this project. (See [PSC REF#: 223845](#) at 33-34, 388-98, 400.) To protect these resources, DNR, USFWS, Leopold-Pine Island IBA Partnership, International Crane Foundation, Aldo Leopold Foundation, and other members of the public recommended a number of conditions, including a project-specific Avian Mitigation Plan (AMP), field studies, bird diverters, and coordination with the land manager regarding restoration. (See, e.g., [PSC REF#: 224293](#) at 8-10.)

DNR witness Ms. Steele testified that DNR strongly recommends the development of a project-specific AMP that would address multiple strategies to mitigate collision risk including structure height, line height, line configuration, and line visibility. Ms. Steele also recommended

⁷⁷ (See [PSC REF#: 226107](#) at 11-12, [PSC REF#: 231121](#) at 9-10.)

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that the applicants follow the most recent Avian Power Line Interaction Committee guidelines for reducing avian collisions with power lines. (*See, e.g., id.*, [PSC REF#: 226653](#) at 2-3.) Ms. Steele recommended that the IBA partnerships be consulted and that both the partnerships and the DNR should approve of the AMP. (*See* [PSC REF#: 226653](#) at 2-3.) Clean WI agreed with the need for a project-specific AMP, but recommended that the plan be more detailed than the AMP created for the CapX project ([PSC REF#: 226123](#) at 4) with actual mitigation measures selected and ongoing benchmarks with which to assess risk and measure success. (*See* [PSC REF#: 226754](#) at 4-5.) The applicants testified that they intend to prepare an AMP for this project that is a living document and will evolve in response to project conditions throughout the life of the project. (*See* [PSC REF#: 226116](#) at 10.) The applicants did not agree with requiring the AMP to be approved by DNR prior to the start of construction, contending that such a requirement would create procedural problems and project delays. ([PSC REF#: 230600](#) at 225, 236-37.) The Commission supports the requirements that the applicants consult with DNR and any IBA partnerships to develop a project-specific AMP which includes applicable bird avoidance strategies, as well as mitigation and rehabilitation of migratory bird habitats. This plan should be developed and coordinated with DNR, but the Commission will not require DNR approval as a condition for the commencement of construction.

The International Crane Foundation commented that pre-construction and post-construction studies should be conducted to evaluate bird use in the Leopold-Pine Island IBA and to assess the effectiveness of any mitigation measures chosen. (*See* [PSC REF#: 220179](#) at 1-2.) Clean WI advocated for the studies to help locate structures, understand where collisions are most likely to occur, implement more effective mitigation measures, and enable an adaptive management

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approach to minimize avian collision over time.⁷⁸ Additionally, such studies would provide valuable information for future transmission projects and contribute to the general knowledge about bird collisions with power lines. (See [PSC REF#: 224724](#) at 8-9.) The applicants did not oppose these types of studies. (See, e.g., [PSC REF#: 231121](#) at 9.) The Commission was not persuaded about the need for pre-construction and post-construction bird flight and impact studies. However, the Commission notes that the parties are may choose to conduct such a study using their own resources.

DNR testified and USFWS supports the use of avian bird flight diverters (BFD) across large wetland complexes and adjacent to natural areas for reducing avian mortalities from collision with power lines.⁷⁹ Clean WI also advocated for the use of BFDs to mitigate impacts from the transmission line. (See [PSC REF#: 224724](#) at 8-9.) The applicants agreed to work with DNR and USFWS to identify locations where Swan Flight Diverters should be installed. (See [PSC REF#: 229264](#) at 3-4.) The Commission approves requiring the applicants to work with USFWS and DNR to determine the appropriate types of bird diverters to use and the locations along the route to install BFDs.

DNR witness Ms. Steele testified that the construction of the transmission line could create the loss of habitat for bird species. (See [PSC REF#: 224293](#) at 10-11.) The resulting impact could be mitigated by planting the appropriate native species of shrubs and forbs which would help provide some habitat for a variety of birds. (See [PSC REF#: 230602](#) at 107-08.) Steve Swenson, the coordinator of the Leopold-Pine Island IBA, recommended that the applicants seek approval from IBA land managers regarding the restorations of their lands, including selection of species for

⁷⁸ (See [PSC REF#: 224724](#) at 8-9, [PSC REF#: 226754](#) at 2-4.)

⁷⁹ (See [PSC REF#: 223845](#) at Appendix C, Item 7, [PSC REF#: 224293](#) at 8-9.)

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planting or reseedling, site preparation, and invasive species management.

(See [PSC REF#: 230487](#) at 1294.) The applicants support this request. (See [PSC REF#: 201143](#) at 4-8.) The Commission agrees that the applicants should work with IBA land managers regarding the restoration of their lands.

Conditions Associated with Rare Species

The applicants submitted the results of some rare species surveys as part of their application; however, there were several portions of the project area for which the applicants did not have legal access. (See [PSC REF#: 224330](#) at 3, 13.) For these areas, DNR acknowledged that, because of the lack of access, the applicants could not conduct surveys where rare species may be present to identify specific locations for avoidance and minimization measures. (See *id.* at 13.) Clean WI agreed with DNR that follow-up surveys for other rare species are needed to address avoidable impacts along the selected route. (See [PSC REF#: 224723](#) at 12-14.) The Commission finds that the applicants should work with the DNR Bureau of Natural Heritage Conservation to develop plans for additional surveys and mitigation strategies for areas along the route where information is lacking for the existence and potential habitats for rare species.

The habitats of two specific rare species are known to occur within the region of the proposed transmission line. (See [PSC REF#: 224330](#) at 14.) The northern long-eared bat is a state threatened and federally proposed endangered species that is widespread across Wisconsin and has different summer and winter habitat. (*Id.*) USFWS is scheduled to make its decision in April 2015 as to whether the bat will be listed as endangered. (*Id.*) The eastern massasauga rattlesnake is a state endangered and federal candidate species that is expected to be formally listed as threatened or endangered by USFWS by the end of 2015. (*Id.*) USFWS commented in its letter of October 9,

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2014, that for the rare bat species, coordination with USFWS is recommended to determine species presence or if impacts can be avoided or minimized by use of conservation measures.

(See [PSC REF#: 223845](#) at Appendix E.) In regards to the eastern massasauga rattlesnake, USFWS recommended identifying whether suitable habitat is identified along the route. Surveys designed in coordination with USFWS and DNR should be conducted in the areas that would be directly and indirectly affected by project activities. (*Id.*) If suitable habitat is likely to be impacted by the route, the applicants should develop measures to avoid, minimize, and mitigate adverse effects to the species in coordination with the two resource agencies. (*Id.*) The Commission finds that the applicants should coordinate with USFWS and DNR to determine the potential for impacts and appropriate mitigation measures for federally-listed species including the northern long-eared bat, a federally-proposed endangered species and the eastern massasauga rattlesnake, a federal candidate species.

Restoration of the ROW

Once the transmission line is constructed, proper restoration of the cleared ROW is important to prevent erosion, the spread of invasive species, and to preserve access to transmission structures for the purpose of equipment maintenance.⁸⁰ The type of vegetation that is regrown in the ROW and its monitoring to ensure that restoration is successful is critical where the line crosses natural areas and habitats for rare species. (See, e.g., [PSC REF#: 229558](#) at 15-16.)

The applicants' witness Nayo Parrett testified that, depending upon the level of ground disturbance, on a case-by-case basis, the existing seed bank for some areas may be sufficient to facilitate revegetation. (See [PSC REF#: 229266](#) at 4.) Clean WI argued against the applicants

⁸⁰ (See generally [PSC REF#: 218108](#) at 27-35, [PSC REF#: 229558](#) at 14-17.)

becoming too dependent on naturally occurring seed banks, especially in formerly forested ROWs cleared for the construction of the line. (See [PSC REF#: 229558](#) at 16.) ROWs that are converted from an environment of full shade to full sun may not include the appropriate full sun species in the seed bank. (See *id.* at 15-16.) Without proper reseeding and management, restoration efforts may not be successful, promoting the growth of invasive species. (See *id.* at 15.) Clean WI further argued that the applicants' preferred ROW revegetation with only herbaceous plants tends to promote woody growth which then has to be regularly controlled by mechanical means or herbicides. (See *id.* at 14-17.) Agreeing with a letter submitted by USFWS, Clean WI sites that herbaceous plants do not have the necessary flowers or fruits and thus provides limited resources for birds and pollinators. (See *id.* at 16.)

By letter dated October 9, 2014, USFWS identified the project area as being part of a region known for high monarch butterfly production. (See [PSC REF#: 223845](#) at Appendix E.) USFWS stated that cleared ROWs for the proposed project are an opportunity to restore habitat for pollinator species. (*Id.*) It recommended reseeding natural areas within the ROW with DNR-approved seed mixes that include native milkweed species. (*Id.*) The applicants had no objection to the USFWS recommendation. (See [PSC REF#: 230600](#) at 190-91.)

Clean WI recommended that ROWs which cross natural areas should be seeded with an appropriate full-sun mix of perennial native species that will provide wildlife habitat, reduce erosion, and provide competition against the growth of opportunistic trees and shrubs. (See [PSC REF#: 229558](#) at 16.) Clean WI stated that along the border zone, a mix of low growing shrubs and herbaceous plants have been shown to provide excellent habitat for bird species. (*Id.*) For publicly-owned natural or sensitive areas, the land manager of the natural areas and adjacent

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sensitive areas should be consulted regarding additional beneficial plants that should be added to the seed mix. (*Id.*)

DNR agreed with the habitat benefits of planting forbs and shrubs in the ROW.

(*See* [PSC REF#: 230602](#) at 108.)

Clean WI also recommended that disturbed corridors through natural areas should be monitored for a period of three growing seasons to ensure adequate growth and prevent harmful erosion from occurring. (*See* [PSC REF#: 229558](#) at 17.) This three-year period is a critical initial period that determines if perennial vegetation has properly established in the ROW. (*Id.*)

The applicants testified that for most of the ROWs of this project, the vegetation management standard will be to regularly clear all brush and shrubs with the possible exception of hilly terrains.⁸¹ In areas of steep topographic changes, conductor heights may be significantly greater than maximum tree growth heights, and the minimum required clearance between tree tops and conductors can be met without tree removal.⁸² In the valleys of these areas, woody vegetation may be allowed to remain in the ROW.⁸³ These are the only areas that the applicants have identified where they would also allow low growing woody shrubs to remain.

The applicants also testified that typically revegetation is monitored for a season or two and for up to three years for invasive plants. (*See* [PSC REF#: 230600](#) at 194-95.)

The Commission finds that there is benefit to requiring the applicants submit a revegetation plan that is consistent with the applicants' vegetation management plan that ensures reliability.

This plan should include ongoing monitoring to ensure appropriate revegetation occurs and erosion

⁸¹ (*See* [PSC REF#: 226108](#) at 102; *see also* [PSC REF#: 214273](#) at 6.)

⁸² (*See* [PSC REF#: 226108](#) at 102; *see also* [PSC REF#: 214273](#) at 6.)

⁸³ (*See* [PSC REF#: 226108](#) at 102; *see also* [PSC REF#: 214273](#) at 6.)

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is minimized. When applied to disturbed areas, the plan, to the extent practicable, should take into account erosion control, reliance on the existing seed bank, matching surrounding vegetative communities, restoration requirements, site conditions, and landowner input.

Independent Environmental Monitors

The Commission has successfully utilized Independent Environmental Monitor(s) (IEM) for the construction of the past four 345 kV electric transmission projects in Wisconsin. IEMs are typically required by the Commission considering the project scope, the diversity of landscapes through which the transmission line would be constructed, and the presence of sensitive natural resources along the route. IEMs have been compensated by, but independent of, the applicants and their contractors, accountable instead to the Commission, DNR, and DATCP. The IEM has had the authority to stop work on the project until a problem is rectified at places where a concern arises.

Commission and DNR staff, CETF/S.O.U.L., Clean WI, and the town of Holland support the use of IEMs for the construction of this project with a similar range of responsibilities as those for previous dockets.⁸⁴ Clean WI also supports the use of site-specific construction plans known as “construction mitigation plans” or “construction and environmental compliance plans” subject to PSC staff approval, prior to the start of construction. (See [PSC REF#: 230738](#) at 42-43.) Clean WI suggests that IEMs participate in revegetation planning and monitoring which would ensure the successful revegetation of disturbed areas with low-growing shrubs, native

⁸⁴ (See [PSC REF#: 229447](#) at 10-11, [PSC REF#: 229521](#) at 9-10, [PSC REF#: 229558](#) at 13-14, [PSC REF#: 230602](#) at 136, [PSC REF#: 232853](#) at 57.) The previous dockets specified in the EIS are Arrowhead-Weston (docket 5-CE-113), Gardner Park-Central Wisconsin and Morgan-Werner West, also known as GCMW (dockets 137-CE-122 and 137-CE-123), Rockdale-West Middleton (docket 137-CE-147), and CapX (docket 5-CE-136). (See [PSC REF#: 223845](#) at 400.)

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grasses, and forbs. (*Id.* at 29-35, 42-43.) The Commission does not accept Clean WI's suggestion as it relates to participation by the IEM(s) in the revegetation planning process.

DATCP recommends that in addition to an agricultural specialist (DATCP recommendation 2) that would work for the applicants as a liaison to farmland owners and farm operators, an Agricultural Monitor (AM) (DATCP recommendation 1) should be hired who would be approved by and accountable to DATCP. (*See* [PSC REF#: 224629](#) at 4.) As proposed by DATCP, the AM would oversee compliance with the portions of the project dealing with agricultural issues, and would observe and document project construction and construction-related work on agricultural property. (*Id.*) DATCP argued that an AM is necessary to address the potentially extensive agricultural impacts on this project. (*See id.*; [PSC REF#: 226165](#) at 1-2.) The AM would work cooperatively with the IEM(s) to ensure that any construction work done by the applicants or their contractors is done in a manner that minimizes damage to farmland and farm operations. (*See* [PSC REF#: 226165](#) at 1-2.)

The applicants do not object to the use of IEM(s) for this project, but argue that the responsibilities of an AM can be successfully accomplished by the same individual(s) hired as IEM(s). (*See* [PSC REF#: 226107](#) at 11.) In addition, the applicants intend to use an agricultural specialist that reports directly to DATCP. (*See* [PSC REF#: 214273](#) at 8.)

The Commission finds that because the proposed project includes a number of locations with environmental and agricultural issues and because of the complexity and scope of the project, it is reasonable to employ IEM(s) for the construction of this project. (*See* [PSC REF#: 223845](#) at 87-88, 400-01, [PSC REF#: 229558](#) at 13.) The Commission requires the applicants to assist Commission staff in the preparation of a request for proposal (RFP) to

hire the IEM(s.) The RFP is to be issued by the Commission in consultation with the applicants, DNR, and DATCP. The applicants are to fund the salaries and expenses of the IEM(s). The IEM(s) will report to and consult with the Commission, DNR, and DATCP to ensure this Final Decision and all environmental permits are adhered to. IEM(s) are to have stop work authority under the same conditions as other recent 345 kV transmission projects, including the authority to stop work on any construction spread if the work would violate this Final Decision or any regulatory permit condition. The applicants and their contractors shall promptly stop work on a construction spread if directed to do so by the IEM(s).

While unpersuaded by DATCP's arguments for an AM that would be under the direction of DATCP, the Commission finds it appropriate for DATCP to have an informational role and be permitted to provide assistance in the development of the RFP for the IEM(s) to ensure that the IEM(s) hired would have expertise in agricultural issues. The RFP should encourage the same person(s) to serve as IEMs and AMs, though the AM would not have stop work authority when acting in an agricultural capacity. The RFP shall include the scope of duties, responsibilities, and authority of each individual. The Commission agrees with the applicants regarding the usefulness of an agricultural specialist.

Minor Routing Flexibility

The Commission recognizes that minor routing adjustments (MRA) may be needed for any approved route for the protection of social, cultural, or environmental resources based on the final design of the project, subsequent to the Commission review and authorization. Situations may be discovered in the field that were not apparent based on the information available to the applicants in development of the proposed routes or to the Commission in making its decision.

The Commission has authorized a similar approach in previous 345 kV dockets and it is supported in this instance by both the applicants and Commission staff.⁸⁵ The town of Middleton supports the authority to make these type of changes, but additionally requests that any adjustments conform to the town's current and planned development plans. (*See, e.g.,* [PSC REF#: 224670](#) at 8.)

The standards adopted in previous cases required that the proposed change:

1. Does not affect new landowners on the selected route who have not been given proper notice and hearing opportunity.
2. Does not impact new resources or cause additional impacts that were not described in the EIS.
3. Is agreed to by the landowner, and this is affirmed in writing.⁸⁶

The Commission finds that it is reasonable to authorize the proposed process for handling MRAs. To pursue such modifications, the applicants would submit a letter describing the nature of the requested change, the reason for it, the incremental cost and environmental impacts, differences from the approved route, an explanation of the applicants' communications with the affected landowners, and a signed affidavit from the property owner accepting the proposed changes. The requests would be reviewed by Commission staff and approval is delegated to the Administrator of the Gas and Energy Division.

Regarding the town of Middleton's request about the project and conflicts with orderly land use and development plans discussed above, the Commission finds that the project does not unreasonably conflict with these plans. The applicants should, however, work with the town of

⁸⁵ (*See, e.g.,* [PSC REF#: 226107](#) at 6, [PSC REF#: 229521](#) at 6-7.)

⁸⁶ (*See* [PSC REF#: 229521](#) at 6-7.)

Middleton and other local units of government to reasonably modify or mitigate any conflicts with current and planned developments.

Environmental Impact Fees

Wisconsin law imposes a one-time environmental impact fee and an annual impact fee for construction of high voltage lines with a nominal voltage of 345 kV or higher. Wis. Stat. § 196.491(3g)(a.). Under Wis. Stat. § 16.969(2), the applicants must pay the Wisconsin Department of Administration (DOA) 0.3 percent of the cost of the approved line annually for the annual impact fee and 5 percent of the cost of the approved line for the one-time environmental impact fee. DOA distributes these fee payments among cities, towns, villages, and counties through which the transmission line passes, allocated proportionate to the number of miles of transmission line that will be built within each municipality. (*See id.*, Wis. Stat. § 16.969(3)(a).) The Commission is responsible for determining the base cost from which the impact fees will be calculated and the percentage of that line cost attributable to the affected municipalities and counties. (*See Id.*, Wis. Stat. § 196.491(3g)(m).)

The above-stated statute defines “high voltage transmission” as “a conductor of electric energy . . . together with associated facilities,” but does not specifically define “associated facilities.” (*See id.*, Wis. Stat. § 196.491(1)(f).) A recurring question in this and past dockets is whether the relocation of lower-voltage transmission and distribution lines and the lower-voltage components at Briggs Road, North Madison and Cardinal Substations should be included in the cost basis for calculating the high-voltage impact fees.

The applicants argued that all lower-voltage costs should be excluded, consistent with recent Commission decisions, particularly the decision for the CapX project in docket 5-CE-136.⁸⁷

Dane County and the town of Holland argue that costs related to work on the lower voltage transmission and distribution lines made necessary because of the proposed project should be included in the basis for the one-time environmental and annual impact fees.⁸⁸

Additionally, the town of Middleton requests that the Commission also require applicants to make annual payments to the town in addition to those required by statute to reflect the cumulative adverse effect of all of the transmission lines connected to the Cardinal Substation. The town argued that it is uniquely affected by transmission lines, more so than any other area in the state. (*See, e.g.*, [PSC REF#: 232488](#) at 8.) The town requested these additional payments in the amount of \$1,000 per household, updated annually, for the useful life of the transmission lines connected to the Cardinal Substation. (*Id.*)

The Commission finds that for the proposed project, the cost basis for the environmental impact fees is the cost of the 345 kV transmission line and the 345 kV and lower-voltage components at the Briggs Road, North Madison, and Cardinal Substations. The fee cost basis does not include costs of the lower voltage transmission and distribution lines, operation and maintenance costs during construction, pre-certification costs, AFUDC, the impact fees themselves, and the estimated contingency costs. As required by the applicable statutes and administrative code noted above, the one-time environmental impact fee will be trued-up based on the final cost of the project. Similarly, the annual impact fees will be adjusted going forward

⁸⁷ (*See* [PSC REF#: 204860](#) at 133-34, [PSC REF#: 230598](#) at 74-76.)

⁸⁸ (*See, e.g.*, [PSC REF#: 232561](#) at 32, [PSC REF#: 232615](#) at 35.)

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based on the final cost. Based on initial cost estimates for the approved route, the cost basis for the fees is \$410,572,000.⁸⁹

Further, the Commission recognizes the impact that transmission lines, including the proposed project, place on all affected landowners and communities. Such impacts are the unfortunate but necessary result of the construction and operation of an electric transmission system that is required to meet the needs of the public for an adequate supply of electricity. The one-time environmental and annual impact fees, as established by statute, are intended to address this impact. The Commission finds no basis to support the town of Middleton's request for additional payments.

To verify the appropriate distribution of the impact fees, the applicants shall work with Commission staff to determine the percentage of the route that passes through each municipality and county and shall provide adequate information to determine the distribution of impact fees. Commission staff will then provide to DOA the base cost from which the impact fees will be calculated and the percentage of the high voltage line cost that will be attributed to the affected municipalities and counties.

Impact on Wholesale Competition

In making its decision, the Commission must consider whether the proposed project will have a material adverse impact on competition in the relevant wholesale electric service market under Wis. Stat. § 196.491(3)(d)7. Dr. Julie Urban of Commission staff testified that a transmission line that expands transfer capability will facilitate commerce and promote, not adversely affect, competition in electric markets in Wisconsin. (See [PSC REF#: 230136](#) at 9.)

⁸⁹ (See [PSC REF#: 204860](#) at 40-42, 134, [PSC REF#: 223845](#) at 402, [PSC REF#: 229967](#).)

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The Badger-Coulee transmission project will extend the 345 kV transmission grid from the La Crosse area to the Madison area. (*Id.*) This should both increase transfer capability and provide higher voltage paths into the Madison area from the west and, conversely, into the La Crosse area from the east. (*See id.*) As such, the proposed project will increase the ability of the LDCs to access energy generation from outside the area. (*Id.*) This will allow the LDCs to acquire energy at a lower cost in the MISO market, when energy generated outside the area is available at prices lower than the cost of generating electricity in the area. (*See id.* at 9-10.) A robust, extra-high voltage transmission system facilitates access to energy sources from outside the area, an important consideration in a future where carbon dioxide emission regulations could limit area generation. (*See id.* at 10.)

The applicants and parties in support of the project agree that the project will improve competition in wholesale markets by increasing access to low-cost energy, primarily from areas west of Wisconsin.⁹⁰

Parties opposed to the project contend that the project will suppress local alternatives and ratepayer choice for conservation, energy efficiency, load management, and distributed generation and will distort the market in favor of wind generation to the west.⁹¹ These arguments are not supported by substantial evidence and are simply restatements of their arguments that local resources would suffice to relieve congestion and meet future growth which the Commission previously rejected for the reasons set forth earlier in this Final Decision.

⁹⁰ (*See, e.g.*, [PSC REF#: 218099](#) at 14-17, [PSC REF#: 218100](#) at 31-33, 37, [PSC REF#: 218134](#) at 5-6, [PSC REF#: 218141](#) at 3, [PSC REF#: 224157](#) at 6-7, [PSC REF#: 224234](#) at 20r-21r, 32r-34r, [PSC REF#: 224567](#) at 2-4, 18-22.)

⁹¹ (*See, e.g.*, [PSC REF#: 232611](#) at 5, [PSC REF#: 232615](#) at 5.)

The Commission finds that the addition of the proposed project by the applicants will not have a material adverse impact on competition in the relevant wholesale electric service market in that it will increase access to lower cost generation from outside of the project area.

Stray Voltage

There are numerous confined animal operations in the area in which the proposed project would be located. (See, e.g., [PSC REF#: 223845](#) at 161-62, 270.) Since it is unclear whether the project would have any effect on such operations, it is reasonable for the applicants to coordinate testing for stray voltage at those operations before and after the project is placed in service. (See *id.* at 112-14.) It is also reasonable for the applicants to provide to Commission staff reports of the results of the testing. If, as a result of the testing, it is found that problems have developed as a result of the project, it is reasonable for the applicants to work with the applicable distribution utility and affected farm owners to resolve the problems. Specifically, the applicants shall coordinate tests for stray voltage at all dairy operations along the approved route prior to construction and again after the project is energized. The applicants shall work with the distribution utilities and farm owners to rectify any stray voltage problems arising from the construction and operation of the project. Prior to any testing, the applicants shall work with the applicable distribution utility and Commission staff to determine the manner in which stray voltage measurements will be conducted and on which properties.

Public Health and Welfare

As the Wisconsin Supreme Court has declared, issuing a CPCN is a legislative determination involving public policy and statecraft. *Clean Wisconsin, Inc. v. Pub. Serv. Comm'n of Wisconsin*, 2005 WI 93, ¶ 35, 282 Wis. 2d 250, 700 N.W.2d 768. Wisconsin Stat.

§ 196.491 assigns to the Commission the role of weighing and balancing many conflicting factors. Applying Wisconsin's Siting Priority Laws requires a similar weighing and balancing. In order to choose a transmission line route that is reasonable and in the public interest, the Commission must not just apply the priority list in Wis. Stat. § 1.12(6), but also must examine the conditions written into that law and consider the purpose of the legislation.

These statutes require that when the Commission reviews a CPCN transmission line application, it must consider the reasonable needs of the public for an adequate supply of electric energy, alternative routes, individual hardships, engineering, economics, safety, reliability, a host of environmental factors, the use of existing ROW, corridor sharing, the effect on electric rates, any interference with orderly local land use and development plans, and potential impacts to wholesale electric competition. Ultimately, the Commission must determine whether granting or denying a CPCN applicant's request will promote the public health and welfare. After weighing all of these factors and all of the conditions it is imposing, the Commission finds that issuing a CPCN for this project promotes the public health and welfare and is in the public interest.




Compliance with the Wisconsin Environmental Policy Act (WEPA)

Wisconsin Stat. § 1.11 requires all state agencies to consider the environmental impacts of "major actions" that could significantly affect the quality of the human environment. In Wis. Admin. Code ch. PSC 4, the Commission has categorized the types of actions it undertakes for purposes of complying with this law.

Opposing intervenors asserted that the final EIS was insufficient because it did not adequately consider socio-economic factors, such as alleged effects on property values, health effects, and aesthetic values, as required by Wis. Admin. Code § PSC 4.30(1)(b). (See,

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e.g., [PSC REF#: 231948](#) at 30-33, [PSC REF#: 231947](#) at 16-17, [PSC REF#: 230751](#) at 24, [PSC REF#: 230724](#) at 3-9.) While the Commission acknowledges that indirect costs associated with socio-economic factors were not quantified in the final EIS, many socio-economic factors including those listed by the opposing intervenors are discussed in the final EIS.  (See [PSC REF#: 230602](#) at 161, [PSC REF#: 223845](#) at § 4.5.) In addition, the Commission notes that any analysis of indirect costs would also need to include indirect benefits. (See, *e.g.*, [PSC REF#: 230598](#) at 103-104.) As such, the Commission concludes that the final EIS meets the requirements of Wis. Admin. Code § PSC 4.30(1)(b).

The Commission has fulfilled its requirements under WEPA through the preparation and issuance of the EIS and the creation of the record of the technical and public hearings held in the project area. (See [PSC REF#: 229050](#).) The joint EIS was prepared by the staffs of the Commission and DNR. (See *id.*)

The Commission finds that its review of the proposed project is adequate in both of these respects.

Project Cost and Construction Schedule

The applicants' estimate the total gross project cost of the proposed project as modified by this Final Decision, including AFUDC for ATC, to be \$581,433,000.⁹² The estimated total gross project cost is detailed as follows:

⁹² (See [PSC REF#: 204860](#) at 40-42, [PSC REF#: 223845](#) at 402, [PSC REF#: 229967](#).)

Estimated Project Cost

Transmission Line Costs

Segments P and N (Briggs Road to Lyndon Station)	\$310,550,000	
Segments M and K (Lyndon Station to WI Dells)	19,200,000	
Segments J and H (WI Dells to Town of Caledonia)	64,672,000	
Segments G and E (Town of Caledonia to N. Madison)	38,710,000	
Segment D (N. Madison to Town of Springfield)	47,070,000	
Segment A (Town of Springfield to Cardinal)	17,340,000	

Subtotal Transmission Line Costs **\$497,542,000**

Substation Costs

Briggs Road Substation	\$6,470,000
North Madison Substation	7,990,000
Cardinal Substation	3,990,000

Subtotal Substation Costs **\$18,450,000**

Other Project Costs

One-time environmental impact fee	\$20,529,000
Annual impact fees (during construction)	2,463,000
AFUDC (ATC)	27,349,000
Precertification Costs	15,100,000

Subtotal Other Project Costs **\$65,441,000**

Total Gross Project Cost **\$581,433,000**

The applicants intend to begin construction of the proposed project in July 2016, and place the facilities in service by December 2018. (See [PSC REF#: 204860](#) at 22.)

Certificate

The Commission grants the applicants a CPCN for construction of the Badger-Coulee transmission project using route Segments P with P-east, N, M, K, H with H6-north, G, E, D, and A, as described in the final EIS and Ex.-Applicants-Henn-1, and as modified by this Final Decision, at an estimated cost of \$581,433,000.

Order

1. The applicants are authorized to construct the facilities as approved by this Final Decision at a total estimated cost of \$581,433,000.

2. This authorization is for the specific project as described in this Final Decision at the stated cost. Should the scope, design, or location of the project change significantly, or if it is discovered or identified that the project cost, including *force majeure* costs, may exceed the estimated cost by more than 10 percent, the applicants shall promptly notify the Commission as soon as they become aware of the possible change or cost increase.

3. The applicants shall construct the proposed project using route Segments P with P-east, N, M, K, H with H6-north, G, E, D, and A, as described in the final EIS and Ex.-Applicants-Henn-1, and as modified by this Final Decision.

4. If the applicants cancel the project or enter into any arrangement with another party regarding ownership or operation of the proposed facilities, the applicants shall provide prior notice to the Commission. All of the applicants' commitments and all conditions of this Final Decision apply to the applicants and to their successors, assigns, agents, and contractors.

5. All necessary federal, state, and local permits shall be secured by the applicants prior to beginning construction on a construction spread.

6. The applicants shall work with the applicable distribution utility to test for stray voltage at each agricultural confined animal operation along the approved route, prior to construction and after the project is energized. The applicants shall work with the distribution utility and farm owner to rectify any identified stray voltage problem arising from the construction or operation of the project. Prior to testing, the applicants shall work with the applicable distribution utility and Commission staff to determine where and how they will conduct the stray voltage measurements. The applicants shall report the results of their testing to Commission staff.



7. The applicants shall consult with the DNR Bureau of Natural Heritage Conservation and follow its direction regarding the development of additional surveys and mitigation strategies to minimize the potential effects on endangered and threatened species to ensure compliance with the state endangered species law, as discussed in this Final Decision.

8. The applicants shall coordinate with USFWS and DNR to determine the potential impacts and the appropriate mitigation measures for the federally-listed species including the northern long-eared bat and the eastern massasauga rattlesnake.

9. The applicants shall consult with DNR and any IBA Partnerships to develop a project-specific AMP which includes multiple applicable bird avoidance strategies as well as mitigation and rehabilitation of applicable bird habitats.

10. The applicants shall work with USFWS and DNR to determine the appropriate types of bird diverters to use and the locations along the route to install the bird diverters.

11. The applicants may propose minor adjustments in the approved route for the protection of social, cultural, or environmental resources, but any changes in alignment from the approved centerline may not affect resources or cause impacts not discussed in the EIS, nor may they affect new landowners who have not been given proper notice and hearing opportunity. For each proposed MRA, the applicants shall submit for Commission staff review and approval a letter describing the nature of the requested change, the reason for it, the incremental cost, environmental impact differences based on the approved route, and the applicants' communications with the affected landowners.

12. The applicants shall assist Commission staff in the preparation of RFPs to hire an IEM that shall report directly to Commission staff. The RFPs shall include the scope of duties,

responsibilities, and authority of each position. The RFPs should encourage the same person(s) to serve as IEM(s) and AM(s). The applicants shall fund the salaries and expenses of the monitor. The IEM shall have the authority to stop work at any construction spread if a violation of this Final Decision or any regulatory permit condition is identified; however if the IEM and AM is the same person, such stop work authority shall not extend when acting in the capacity of the AM. The applicants and their contractors shall promptly stop work on a construction spread if directed to do so by the IEM.

13. The applicants shall work with property owners to take advantage of access opportunities that further reduce potential impacts to waterways and wetlands to the extent practicable, provided that the landowner voluntarily grants access to applicants.

14. The applicants shall submit a revegetation plan that includes ongoing monitoring to ensure revegetation and to minimize erosion. For disturbed areas, the revegetation plan, to the extent practicable, shall take into account erosion control, reliance on existing seed bank, matching surrounding vegetative communities, restoration requirements, site conditions and landowner input.

15. The applicants' revegetation plan shall include monitoring of the ROW for the presence of new or spreading invasive species for at least three growing seasons with results submitted to Commission staff annually.

16. The applicants shall work with operators of organic farms to determine the most effective techniques for minimizing the likelihood of injury to crops or loss of organic certification from herbicide application by the applicants.

17. The applicants shall work with operators of irrigation systems, to the extent practicable, to avoid impacts from project facilities on the operation of those systems and to notify Commission staff of any agreed-upon modification to the approved alignment.

18. The applicants shall comply with DATCP recommendations 3 through 11, 13, 15, and 16 as modified by this Final Decision, and 17 through 19.

19. The applicants shall hire an agricultural specialist that would work for and report to the applicants.

20. The applicants shall work with all landowners, to the extent practicable, regarding the best placement of facilities, including access roads, on their properties.

21. The applicants shall work with IBA land managers regarding the restoration of their lands.

22. The applicants shall work with landowners and holders of conservation easements to minimize the impacts of the project to the conservation easement.

23. The applicants shall keep the Commission informed of developments related to easement issues associated with the Onstad, Spahr, and Oldenburg properties, where residences are partially or entirely located within the authorized transmission line ROW.

24. The applicants shall coordinate with appropriate local officials, the WisDOT Bureau of Aeronautics, and airport operators to mitigate possible conflicts with existing airports and airstrips not used by the general public, to the extent practicable.

25. The applicants shall work with WisDOT on the final design of highway crossings and notify Commission staff of any agreed-upon modifications to the approved alignment.



26. The applicants shall identify the location of each transmission structure using global positioning system technology and transfer this data to a geographic information systems database, using software compatible with state government standards. The applicants shall provide this data to the Commission as soon as it becomes available.

27. Not more than 30 days from the date of this Final Decision, the applicants shall provide to Commission staff adequate information to determine the distribution of environmental impact fees.

28. Beginning with the quarter ending September 30, 2015, and within 30 days of the end of each quarter thereafter and continuing until the facilities are fully operational, the applicants shall submit quarterly progress reports to the Commission that include all of the following:

- a. The date that construction commences.
- b. Major construction and environmental milestones, including permits obtained, by agency, subject, and date.
- c. Summaries of the status of construction, the anticipated in-service date, and the overall percent of physical completion.
- d. Actual project costs to-date segregated by line item as reflected in the cost breakdown listed in this Final Decision.
- e. Once each year, a revised total cost estimate for the project.
- f. The date that the facilities are placed in service.

27. Upon completion of the project, the applicants shall notify the Commission and report the actual costs segregated by plant account and comparable to the cost breakdown

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included in this Final Decision. For any account or category where actual cost deviates significantly from those authorized, the final cost report shall itemize and explain the reasons for the deviation.

28. The CPCN is valid only if construction commences no later than one year after the latest of the following dates:

- a. The date this Final Decision is served.
- b. The date when applicants have received every federal and state permit, approval, and license that is required prior to commencement of construction by construction spread under the CPCN.
- c. The date when the deadlines expire for requesting administrative review or reconsideration of the CPCN and of the permits, approvals, and licenses described in par. (b.)
- d. The date when the applicants receive the Final Decision, after exhaustion of judicial review, in every proceeding for judicial review concerning the CPCN and the permits, approvals, and licenses described in par. (b.)

29. This Final Decision takes effect one day after the date of service.

Dated at Madison, Wisconsin, this 23rd day of April, 2015.

By the Commission:



Sandra J. Paske
Secretary to the Commission

SJP:JAL;jlt:DL:00970863

See attached Notice of Rights

PUBLIC SERVICE COMMISSION OF WISCONSIN
610 North Whitney Way
P.O. Box 7854
Madison, Wisconsin 53707-7854

**NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE
TIMES ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE
PARTY TO BE NAMED AS RESPONDENT**

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of the date of service of this decision, as provided in Wis. Stat. § 227.49. The date of service is shown on the first page. If there is no date on the first page, the date of service is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. In a contested case, the petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of the date of service of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of the date of service of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission serves its original decision.⁹³ The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised: March 27, 2013

⁹³ See *State v. Currier*, 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.

APPENDIX A

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PUBLIC SERVICE COMMISSION OF WISCONSIN

(Not a party, but must be served)

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(Please file document using the Electronic Regulatory Filing (ERF) system which may be accessed through the PSC website: <https://psc.wi.gov>)

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