STATE OF WISCONSIN /
DANE COUNTY /
BRANCH 9 CIRCUIT COURT /
_____ /
/
County of Dane /
Driftless Area Land Conservancy /
Wisconsin Wildlife Federation /_____
Iowa County
Town of Wyoming,
Village of Montfort
Petitioners, Case No. 19-CV-3418

Chris Klopp,
Gloria and LeRoy Belkin,
S.O.U.L of Wisconsin
Intervenor-Petitioners

v.

Public Service Commission of Wisconsin,

Respondent,

American Transmission Company, LLC,
ITC Midwest, LLC,
Dairyland Power Cooperative,
Midcontinent Independent System Operator, Inc.,
Clean Grid Alliance,
Fresh Energy,
Minnesota Center for Environmental Advocacy,
Intervenor-Respondents.

KLOPP INITIAL BRIEF

Amended

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INTRODUCTION

The Cardinal-Hickory Creek High-Voltage Transmission Line Project (CHC or "the project") threatens many things that Wisconsinites hold dear, like the aesthetic beauty of our State, the high value we place on the environment, and the charm of rural farming communities, sought out by tourists and home to historical treasures.

Underneath all of these values, the real story of CHC lies hidden in the economics of the project and the Commissioners' policy favoring the development of out-of-state renewable energy resources (a policy that does not exist in law), over the Public Interests of our State. In its Decision, the Commission failed to weigh relevant evidence and favored the position of the Applicants and supporting intervenors without substantiation. CHC was initially approved by the Mid-Continent System Operator (MISO) in 2010 through the MISO Transmission Expansion Planning (MTEP) process. MISO is a non-profit organization comprised of transmission owners, who make their living building and operating transmission lines. Projects such as CHC offer transmission owners a significant rate of return.

Public Service Commission of Wisconsins' (PSCW) staff engineers, developed an alternative to CHC, providing similar benefits, at a cost of roughly 1.3% of the project. If approved, this "Base with Asset Renewal Alternative" (BWARA) would have spared Wisconsin residents from the many negative impacts carried by the project. Although there was a great deal of public concern and input, citizens sat by, dumbfounded as the Commission announced its decision without discussion of evidence presented in the proceeding or even feigning compassion for the public hardships they were doling out.

The Commission erred in dismissing PSCW staff's independent and objective analysis of

their Low-Voltage alternative, BWARA, an alternative supported by many, including legislators.[1] BWARA is a sleek and efficient alternative to the project, costing the ratepayers roughly $900,000 in comparison to the project $67 million (or more) price-tag.

Ms. Klopp adopts Iowa County's Standard of Review argument and DALC/WWF's Environmental Impact Statement argument.

BWARA - BACKGROUND

Under Wisconsin Statues the Commission is required to include alternatives to a proposed action, Wis. Stat. § 1.11(2)(c)(3)[2] and to "Study, develop, and describe appropriate alternatives to recommended courses of action", Wis. Stat. § 1.11(2)(e)[3]. In the process of reviewing the Applicants calculated *avoided reliability projects*,[4] PSCW staff engineers identified three reliability projects that would require rebuilding regardless of the project.[5] BWARA, designed by PSCW engineering staff, apparently flowed naturally from their analysis and identification of these three reliability projects[6]. PSCW engineering staff proposed rebuilding and upgrading

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[1] Joint Letter from WI State Lawmakers RE Low Voltage Transmission (PSC REF#: 372611) http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=%20372611

[2] (2) All agencies of the state shall:
(c**) Include in** every recommendation or report on **proposals** for legislation **and other major actions significantly affecting the quality of the human environment**, **a detailed statement**, substantially following the guidelines issued by the United States council on environmental quality under P.L. 91-190, 42 USC 4331, **by the responsible official on**:
3. Alternatives to the proposed action

[3] e) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources

[4] Direct-PSC-Vedvik-14, "The application identifies three projected transmission line overloads that are specifically resolved by the proposed project, using NERC and ATC transmission planning criteria.", PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[5] Direct-PSC-Rohankar-8, "These transmission lines need to be renewed irrespective of the construction of the proposed Cardinal-Hickory Creek project.", PSC REF#: 365096 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365096

[6] Direct-PSC-Vedvik-14, "These elements are: the existing Turkey River-Stoneman 161 kV transmission line; the existing Stoneman–Nelson Dewey 161 kV transmission line; and, the existing Townline Road–Bass Creek 138

these reliability projects[7] and then explored how the improved network upgrades would affect the economic modeling used to estimate CHC benefits and compare them to alternatives. As part of their review of the project, PSCW engineers verified the modeling performed by the Applicants and modeled additional scenarios based on changes to variables they found to be relevant.

To bring some perspective to how BWARA fits into the Commissions' Final Decision on the project, here are some vital facts about BWARA:

- It's a low-voltage alternative by definition (in that it is the rebuilding and upgrading of existing network system components) required as part of the application for a CPCN.[8]
- It's an economical solution to transmission constraints, identified by the Applicants as one of the purposes for CHC.[9]
- Is the lowest cost alternative (other than the No-Action alternative) costing the public only $897,474[10] compared to CHC's $67 million-dollar price tag (under the best possible scenario).
- BWARA addresses the purposes listed for CHC under Need, in the Final Environmental Impact Statement (FEIS).[11]

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kV transmission line.", PSC REF#: 365153
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[7] Direct-PSC-Vedvik-15, "Rebuilding these circuits with the higher MVA rating would more than double the capacity of the existing river crossing and alleviate the projected overloads and NERC planning violations across these lines.", PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[8] PSCW/WDNR APPLICATION FILING REQUIREMENTS TRANSMISSION LINE PROJECTS, October 2017, pages 13-14 , cited in Reply Brief-Soul of Wisconsin-3, https://psc.wi.gov/SiteAssets/2017TransmissionLineAFR.pdf

[9] Ex.-PSC-FEIS-r- XXIX, PSC REF#: 370355
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370355 PSC REF#: 366195
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366195

[10] Surrebuttal-PSC-Vedvik-10, "Thus, the present-value cost of the base with asset renewal alternative to Wisconsin transmission customers is the same as my calculation of the avoided reliability benefits of the proposed Cardinal-Hickory Creek project, which is $897,474. This calculation is provided in Ex.-PSC-Vedvik-3.", PSC REF#: 368839,
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=368839
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365107

[11] Ex.-PSC-FEIS-r- XXIX, PSC REF#: 370355

ARGUMENT

The Commission's Final Decision[12] on CHC referenced the PSCW staff engineer's alternative BWARA, on pages 32-33, under the subsection Alternatives (referred to as *Alternatives-BWARA* from here forward). The Commissions' findings regarding the BWARA alternative lack supporting evidence and failed to weigh opposing arguments against each other or with respect to conclusions made by the Commission. The Commission presented no evidence to support that CHC is superior to BWARA based on their technical attributes. No facts have been established in *Alternatives-BWARA*. The Commission has made no claim that BWARA lacks credibility or is founded on unsubstantiated conclusions.

In the entirety of the Commissions' discussion of BWARA, the Commission makes several sweeping statements, lacking justification or citation of evidence. The Commission acknowledges that "Multiple opposing intervenors also referenced Commission staff's base with asset renewal alternative as a lower cost option that could have been utilized. (See PSC REF#: 372110, PSC REF#: 372122, and PSC REF#: 372106, among others.)". The Commissions' statement about "multiple opposing intervenors" infers that the testimony cited has offered only one comment on BWARA, that it is "a lower cost option". This misrepresents the testimony of these intervenors[13] and the reference to "among others" is a vague and empty attempt to insinuate

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http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370355 PSC REF#: 366195
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366195

[12] Final Decision Signed and Served 09-26-19 PSC REF#: 376391
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=376391

[13] Examples from each of the 3 intervenors: Initial Brief-JK-Kurth-12-13, "In the most likely Policy Regulations (PR) scenario, many of the outcomes are negative, also. Only in the least likely Accelerated Alternative

that other testimony was considered. Without standard citation of specific statements made by a specific intervenor, the relevant substantive evidence of parties has been excluded.

There are only two standard citations in the Commissions' treatment of BWARA[14], both representing the Applicants testimony in favor of the project. The citation of Mr. Dagenais' testimony does relate to the subject matter, but his statements[15] were strenuously contested by many intervenors opposing the project,[16] including expert testimony. The Commission fails to present or compare any of the opposing testimony and does not even establish a basis for the Commissions' opinion of opposing party's assertions. However, the Commission does not state that opposing intervenor's testimony, as part of the record, lacks credibility or is based on unsubstantiated conclusions.

The second citation that the Commission uses in relation to BWARA is Mr. Pfeifenberger. The statements Mr. Pfeifenberger makes in the cited portion of his testimony do

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Technologies (AAT) scenarios are there clear positive outcomes, and even those are diminished significantly when the Base with Asset Renewal Alternative (BWARA) is utilized.", PSC REF#: 372106 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372106 Initial Brief-SOUL-19, "A combination of BWARA with a well-designed NTA subjects no new landowners, communities or corridors to new transmission.", PSC REF#: 372122 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372122 Initial Brief-Klopp-16, "It also presents an interesting possibility for combination with a NTA.", PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110

[14] Direct-Applicants-Dagenais at 31, PSC REF#: 358845 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=358845 , Rebuttal-Applicants-Pfeifenberger-r at 11-12, PSC REF#: 370606 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370606

[15] Direct-Applicants-Dagenais-31, "Based on this analysis, the Applicants determined that the Project would generate between $22.7 million and $349.3 million in net benefits for Wisconsin customers, which substantially exceeds the net benefits that would be generated by any of the other alternatives.", , PSC REF#: 358845 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=358845

[16] Surrebuttal-CUB-Neal-r-2, "Nothing in the rebuttal testimony has changed my primary conclusions that contrary to Applicants' claims, the benefits conferred to Wisconsin customers by the Project are largely dependent upon speculative modeling input assumptions and are therefore not robust. Moreover, there are also viable alternatives to the Project the Commission should consider." , PSC REF#: 370433 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370433 Surrebuttal-DALC/WWF-Desu-17, "So following Mr. Dagenais' reasoning, the Applicants' model effectively "stacked the deck" in favor of the CHC line and introduces such an error into the results that renders them unreliable." And "The Applicants' analysis is flawed and the bias that it has introduced into the results very clearly favors the line. In a project with such a thin margin of net benefits, even a small deviation of the expected benefits could render the entire project uneconomical." PSC REF#: 368882 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=368882

not actually support the statements made in the decision. His testimony does verify that the interconnection of some renewable generation is "contingent" upon the project. The significance of "contingency" on CHC, in relation to BWARA is addressed in "Interconnection of Renewable Generation".

Although PSCW staff are not parties to the proceeding, they do represent the Commissions' expertise in technical matters before them. Even though PSCW engineers designed BWARA and represent the Commissions expertise on these matters, there is not one mention made regarding their technical perspective.

The Commission asserts numerous project benefits in *Alternatives-BWARA*:

> ***"The project, unlike the alternatives studied that may also provide certain benefits, provides economic, reliability, and public policy benefits, the costs of which would not fall exclusively on Wisconsin customers." (Direct-Applicants-Dagenais at 31.)***

OVERVIEW OF PROJECT ECONOMIC ANALYSIS BY PSCW ENGINEERS

To establish that the project would provide economic benefits, the Applicants used PROMOD modeling to calculate the energy cost savings. They modeled various possible futures with underlying assumptions and variables they determined, followed by additional runs based on specific changes and corrections requested by and agreed upon with Commission engineering staff.[17] The results of the PROMOD runs were plugged into an equation to calculate the "Net Benefits" of the CHC project. "For the majority of the futures studied by the applicants, the projected energy cost savings element of the proposed Cardinal Hickory Creek project has the

[17] Direct-PSC-Grant-p-13-16, PSC REF#: 358845
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082

largest impact in the formula used to calculate the net economic impact of the proposed project."[18]

In their review of the application, PSCW engineers found inaccuracies and errors in the Applicants modeling.[19] Given the cost of this project, not only to ratepayers, but to the communities and the environment in southwest Wisconsin, Ms. Klopp asserts that the Applicants analysis of economic benefits for CHC is negligent with respect to accuracy and transparency. The Commission's reliance on the Applicants projected Net Benefits, particularly to the exclusion of PSCW staff and opposing intervenor testimony represents an exclusion of relevant evidence.

The flaws in the Applicants modeling, found by PSCW engineer Dr. Grant, PSCW staff and intervenors are just the tip of the iceberg. There is a litany of problems with the Applicants analysis as documented in the PSCW engineer's methodological review of the assumptions, variables and methods used in the Applicants analysis.[20] The following PSCW staff findings illustrate why the Applicants economic analysis is questionable and analytically suspect. It is of particular interest that the great majority of these findings, show analytical results biased in favor of CHC.

- Dr. Grant identified inconsistencies in the generation included in Applicant modeling (they included generation that had already been retired and excluded generation that had already been approved) within the state of Wisconsin.[21]

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[18] Direct-PSC-Vedvik-6, PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153
[19] Direct-PSC-Grant-p-13-16, PSC REF#: 365082
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082
[20] Initial Brief-Klopp pages 2-6 and 8-11 contains a readable summary of the economic analysis, including citations to original testimony., PSC REF#: 372110
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110
[21] Direct-PSC-Grant-p, pages 14-17, PSC REF#: 365082
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082

- Commission engineers expressed concern about the inclusion of the RRF units[22] that may neither currently exist nor be in the MISO interconnection queue.[23]
- The insurance cases were not updated with new information.[24]
- Two different calculation methods were used for different parts of the project, the customer benefit metric (CBM) and adjusted production cost (APC). The calculated economic Net Benefits for the CBM method, used by ATC, gave substantially higher values.[25]
- The Applicants used a 6.4% discount rate to calculate energy cost savings. WPSC engineers advocated for an 8.41% discount rate.[26] The APC (rate used by the PSCW engineers), resulted in more negative net benefits (costs) associated with the proposed Cardinal Hickory Creek project.[27] The efficacy of the 6.4% was debated by PSCW staff and intervenors.[28]

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[22] Ex.-PSC-Grant-1:36-37, RRF stands for Regional Resource Forecast and includes natural gas plants assumed as part of MTEP planning ($200 -$272 billion) not included in economic modeling, PSC REF#: 365101 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365101

[23] Direct-PSC-Grant-p, pages 13-14 and 20-21, PSC REF#: 365082 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082

[24] Direct-PSC-Grant-15-p, PSC REF#: 365082 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082

[25] Direct-PSC-Grant-p, pages 36-39, PSC REF#: 365082 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082 Ex.-PSC-Grant-5, PSC REF#: 365105 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365105 Ex.-PSC-Vedvik-1, PSC REF#: 365153 365100 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365100 Initial Brief-Klopp pages 3-4, PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110 The differences in the two methods stems from additional terms and assumptions. Dr. Grant made a point of examining how these individual terms and assumptions affect the calculated results. One particular input, the financial transmission rights (FTR) had a significant consequence to the results of an analysis. Dr. Grant identified that "Changes to the energy cost savings of anywhere from about 30 to 80 percent up or down resulted from changing the FTR internal recovery value by 15 percent. How does ATC arrive at the value for the FTR? "ATC's justification for the assumed number is based on conversations with internal customers and engineering judgement."1

[26] Surrebuttal-PSC-Bacalao-5, "One can make a reasonable case for both, but in my view, the preponderance of evidence supports Commission staff's view that the economic value of the project itself is more central in this docket.", PSC REF#: 368939 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=368939

[27] Initial Brief-Klopp-4, "In his Direct testimony, Mr. Vedvik shared the following response to a data request13, "The applicants state in Ex.-PSC-Data Request: Response 1.16912 that they assume a weighted cost of capital of 8.41 percent, which could better reflect the actual cost transmission customers are paying for the proposed project,

ECONOMICS

Once PSCW engineer Dr. Grant, had sorted out inconsistencies related to generation that was appropriately included or excluded from the PROMOD modeling of project economics, he began analyzing several new scenarios based on those investigations.[29] Dr. Grant analyzed six different scenarios. While Dr. Grants' analyses showed some mixed results, Dr. Grant notes that "modifications to the generation portfolio modeled, especially in Wisconsin, can cause significant changes to the energy cost savings which are often a reduction from the energy cost savings benefits ATC has claimed."[30] Additionally, when those 'lower energy cost savings' (modeled by Commission staff) were used to calculate Net Benefits, using variables, assumptions and methods of calculation that are above reprise, the CHC project shows negative benefits (costs) for the majority of scenarios analyzed.[31]

Using the "unbiased" methods of calculation (the APC method of calculation and the 8.41% discount rate), CHC has negative Net Benefits (costs) in 8 out of 11 scenarios.[32] Looking at only results in the PR (Policy Regulations) future, deemed to be the most likely future to

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and could be more representative of the risk to Wisconsin transmission service customers associated with the proposed project.", PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110

[28] Examples from Intervenor Joel Kurths' testimony, Surrebuttal-JK-Kurth-4, "Second, "time value of money" is not the relevant metric, as it implies a riskless investment by the ratepayers.", Surrebuttal-JK-Kurth-6, "The Applicants' recommended discount rate does not adjust for risk and in fact assumes the risk of the project is equivalent to a short-term loan to an investment grade electric transmission company.", "By using a discount rate of 6.4 percent, the Applicants are saying to ratepayers that our hurdle rate for the project is lower than Applicants' allowed ROE of 10.2 percent, even though we are paying the Applicants a likely guaranteed 10.2 percent to build it." PSC REF#: 370117 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370117

[29] Initial Brief-Klopp-5, PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110

[30] Direct-PSC-Grant-p, page 28, PSC REF#: 365082 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365082

[31] Ex.-PSC-Grant-4, PSC REF#: 365104 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365104 Ex.-PSC-Vedvik-1, PSC REF#: 365100 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365100

[32] Ex.-PSC-Vedvik-1, PSC REF#: 365100 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365100

occur,[33] using the "unbiased" calculation methods, the range of results showed CHC has negative Net Benefits (costs) in 6 out of 7 scenarios, and using the Applicants preferred methods of calculation (CBM and 6.4%) CHC has negative Net Benefits (costs) in 2 out of 7 scenarios.[34]

There is more to this story however, than what is revealed through the PROMOD modeling results. The following quantitative and qualitative costs, not considered by the Commission in their findings about project economics, would also be borne by the public if CHC were constructed:

- There is $200-$272 billion dollars in RRF unit spending[35] (touched on earlier), which is new generation (natural gas plants), assumed in MISO MTEP planning, that would be paid for by ratepayers.
- The Applicants have not included $110 million dollars to resolve congestion, expected on the system east of the Eden Substation caused by allowing too much power to flow into the southcentral Wisconsin system as a result of the project, if approved.[36]
- SOUL OF Wisconsin expert Mr. Powers, calculated what the average Wisconsin ratepayer may expect to save on their monthly electric bill. The results show a whapping 3-4 cents per month for any of the PR futures (the most likely future), and a maximum of 8 cents per month across any of the futures.[37] This is in the best-case scenarios presented in this proceeding.

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[33] Direct-PSC-Vedvik-9, PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153
[34] Ex.-PSC-Vedvik-1, PSC REF#: 365100 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365100
[35] Ex.-PSC-Grant-1:36-37, PSC REF#: 365101 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365101
[36] Direct-SOUL-Powers-r-2, page12, PSC REF#: 370370 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370370
[37] Direct-SOUL-Powers-r-2, pages 19-20, PSC REF#: 370370 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370370 , Initial Brief-Klopp, pages 8-9, PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110

The assessment of Net Benefits fails to include other costs of the project to communities that would be directly affected by the line: Losses in tourism income; Losses in property values; Losses to local tax bases; Damage to the environment including fragile and unique ecosystems; Permanent disfigurement of the aesthetic beauty of the Driftless area; Potential health risks; and many more.[38] Relevant statutes include: Wis. Stat. § 196.491(3)(d)3[39], Wis. Stat. § 196.491(3)(d)3r[40] and Wis. Stat. § 196.491(3)(d)4)[41].

In comparison to BWARA (and Non-Transmission Alternatives, NTA's, also presented) the project clearly does not meet these statutory requirements for the following reasons:

- There are alternatives to CHC. BWARA is an economical alternative and is compatible with demand side energy efficiency, renewable generation and load management
- The project causes individual hardships, impacts on the aesthetics of land, water and recreational use and environmental impacts (as detailed above), whereas BWARA does not.
- The economics of CHC show a high likelihood of costs to the public which is not consistent with "achieving reasonable electric rates". In contrast, the costs of BWARA are low and well known. BWARA's costs are well defined. The components that make up BWARA would need to be rebuilt regardless of MISO MTEP visions of a massive

[38] Initial Brief-Klopp, pages 10-11, PSC REF#: 372110 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372110

[39] Wis. Stat. § 196.491(3)(d)(3), "3. The design and location or route is **in the public interest considering alternative sources of supply**, alternative locations or routes, **individual hardships**, engineering, economic, safety, reliability and **environmental factors**, …"

[40] Wis. Stat. § 196.491(3)(d)(3r), 3r. For a high−voltage transmission line that is proposed to increase the transmission import capability into this state, existing rights−of−way are used to the extent practicable and the routing and design of the high−voltage transmission line **minimizes environmental impacts in a manner that is consistent with achieving reasonable electric rates.**

[41] Wis. Stat. § 196.491(3)(d)(4)

4. The proposed facility will **not have undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water and recreational use**.

transmission grid.

This information should have been weighed by the Commission in their decision, but it was not.

The requirements of Wis. Stat. §196.491(3)(d)(3t)[42] state that the project must provide usage, service or increased regional reliability have benefits to the **retail customers** in this state and that the benefits be reasonable in relation to the cost of the project. The evidence in the PSCW CHC proceeding shows that electricity usage is flat, thus eliminating the need for increased usage or service. The Commission addresses increased reliability benefits with relation to the aforementioned statute on pages 26-29 of the Final Decision, where it is stated that, upon review of the reliability projects that the Applicants had included as being resolved by the project, PSCW engineers excluded $31,900,000 of the $42,200,000 in avoided reliability benefits claimed by the Applicants. The remaining reliability benefits are BWARA.[43] So the evidence does not show that increased reliability benefits to retail customers has been established, beyond what routine rebuild and upgrade to the low-voltage system components would provide.

With regards to the benefits being reasonable in relation to the cost, the Applicants clearly state that they do not have retail customers, their customers are the utilities (wholesale customers). While there were many requests for the PSC and the Applicants to provide rate-payer level benefits from Legislators[44], County Government Resolutions[45], Soul of Wisconsin's

[42] Wis. Stat. §196.491(3)(d)(3t) "3t. For a high−voltage transmission line that is designed for operation at a nominal voltage of 345 kilovolts or more, the high− voltage transmission line provides usage, service or increased regional reliability benefits to the wholesale and **retail customers** or members in this state **and the benefits of the high−voltage transmission line are reasonable in relation to the cost** of the high−voltage transmission line."

[43] See Reliability section below.

[44] Ex.-CK-Klopp-18, Page 17, Part (c): Five State Legislators Request PSC-W to evaluate the economic performance of past transmission lines to inform current proposal for SW WI, PSC REF#: 367288 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=367288

[45] Ex.-CK-Klopp-17, page 4, Dane County Resolution (2016 RES-577) lines 79-82, PSC REF#: 367433 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=367433

Motion for Order Compelling Discovery,[46] this information was never provided.[47] Additionally, the public expressed its concern about electric rate increases in public Scoping Comments[48]. Achieving "reasonable electric rates" is also a requirement of Wis. Stat. § 196.491(3)(d)(3r).[49] The PSC had plenty of opportunity to fulfill the requirements of Wis. Stat. §196.491(3)(d)(3t), to establish if the benefits to retail customers were reasonable in relation to the cost of the project. For this reason alone, the project should be remanded. Furthermore, the cost of the project in relationship to its' benefits pales in comparison to the cost of the BWARA alternative in relationship to its benefits (BWARA Benefit to cost ratio is at least an order of magnitude greater than the project.)[50] BWARA also fulfills the statutory requirement in that its reliability benefit is equal to the project and its cost is reasonable in relation to its benefits.

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[46] Soul of Wisconsin's Motion for Order Compelling Discovery From Joint Applicants 4-02-19, PSC REF#: 363491 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=363491

[47] Ex.-CK-Klopp-11, Pdf. Page 5, line 21 to pdf. Page 6 line 1, line 6-24, PSC REF#: 366293 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366293

S.O.U.L. was looking for an analysis for ATC for the applicants to produce regarding the impact of the estimated or proposed savings of the project on retail rates; and ATC had objected on grounds that required ATC to file or to produce documents and do an analysis for the party.

So I think and also at that point during the meeting, I had asked staff to look into it and see if they were interested in that informatíon as well- or if it had any opinion--if it was going to--to look ínto that issue and form an opinion about it and let us know.

So actually, I think I want to turn it over first to staff and have them respond

because I do believe applicant's answer is filed on ERF. So Ms. Craft, can you speak for staff on that ?

MS. CRAFT: Sure. Staff does not believe that this analysis is going to be helpful to how staff analyzes the project because we analyze the project economics in terms of PVRR.

EXAMINER NEWMARK: And not effect on retail rates?

MS. CRAFT: Right.

[48] Direct-CK-Klopp-r2-7, 114 out of 366 (31%) of Public Scoping commenters cited "concerns such as increased electric rates", , PSC REF#: 366456 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366456

[49] Wis. Stat. § 196.491(3)(d)(3r): 3r. For a high−voltage transmission line that is proposed to increase the transmission import capability into this state, existing rights−of−way are used to the extent practicable and the routing and design of the high−voltage transmission line minimizes environmental impacts in a manner that is consistent with achieving reasonable electric rates.

[50] Reply Brief-Klopp-9, "BWARA is sleek and efficient, costing the ratepayers roughly $900,000, with a Benefit to Cost Ratio of **20.1**", PSC REF#: 372742 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372742

In comparison, using project, numbers from Ex.-PSC-Vedvik-1, PSC REF#: 365100 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365100 where the project benefit in the PR future with Likely WI renewables (APC, using the 6.4% discount rate) is (negative) $36.94 million and the cost is $67 million, the project benefit to cost ratio is **-0.6:1,** even giving the project the benefit of the doubt by using the benefit from the PR future a with the CBM calculation, the project benefit to cost ratio is only roughly **2:1**

COST-SHARING

Under Wis. Stat. § 196.491(3)(d)3, the facilities must be in the public interest, considering economic factors.[51] The Commissions' statement[52] infers that CHC provides economic benefits which would not fall exclusively on Wisconsin customers while other alternatives do not. The Commissions' support for this statement is the testimony of ATC's Mr. Dagenais in which he states:

> ***"Based on this analysis, the Applicants determined that the Project would generate between $22.7 million and $349.3 million in net benefits for Wisconsin customers, which substantially exceeds the net benefits that would be generated by any of the other alternatives. And of course, these figures do not reflect the Project's qualitative benefits, which I discuss in more detail later in my testimony. Finally, it is important to note that, while the LVA and NTA may generate larger benefits than the Project in certain futures or for certain categories of benefits without accounting for the cost of these alternatives, those projects are not MVPs and are therefore not eligible for regional cost-sharing." Direct-Applicants-Dagenais-31***

With regards to the issue of cost-sharing, there is no relevant statutory requirements for cost-sharing. While MISO's MVP Portfolio of 17 transmission lines are cost-shared, there is evidence that the CHC proposal does not actually meet the MVP criteria set out by MISO and approved by FERC. According to the Commissions' Final Decision (on page 14):

> ***"The MVP criteria are described in MISO Attachment FF88 to its tariff. The three main criteria include: Criterion 2 – The MVP must provide multiple types of economic value across multiple transmission pricing zones with MVP benefit to cost ratios of 1.0 or higher."***

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[51] Wis. Stat. § 196.491(3)(d)3, the facilities must be in the public interest, considering: alternative sources of supply, alternative locations or routes, individual hardships, engineering factors, **economic factors**, safety, reliability, and environmental factors.

[52] PSCW Final Decision Signed and Served 09-26-19, page33, "The project, unlike the alternatives studied that may also provide certain benefits, provides economic, reliability, and public policy benefits, the costs of which would not fall exclusively on Wisconsin customers." (Direct-Applicants-Dagenais at 31.) http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=376391

Analyses by PSCW engineers raise concerns and doubt as to whether CHC meets this criteria. PSCW engineer Mr. Vedvik states "Using a present value revenue requirement that will be the basis for the MVP cost allocation of approximately $628 million, and using the results of the APC calculation that was submitted by the applicants, I found the proposed Cardinal-Hickory Creek project could have negative net benefits to the MISO footprint in all futures except the Accelerated Alternative Technologies future."[53] This statement is followed by a list of the modeling results showing negative benefits (costs) to the MISO region wholesale market between $266.68 million and $576.53 million. Six out of the eight scenarios showed significant costs to the public. The two scenarios that showed positive benefits were both in the Accelerated Alternative Technologies (AAT) future. Mr. Vedvik goes on to say that The Policy Regulations (PR) future was determined by MISO stakeholders to be the most likely to occur. In relation to the negative "benefits" calculated in the PR futures Mr. Vedvik states "The proposed project impacts all MISO wholesale energy market participants, through an increase in transmission service revenue requirements, which will be passed on to Load Serving Entities."[54]

Wis. Stat. 196.49(3)(b) provides that the facilities of a project seeking a CPCN, not be unreasonably **in excess of probable future requirements** or **add to the cost of service** without proportionately increasing the value or available quantity of service.[55] To the average citizen, it

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[53] Direct-PSC-Vedvik-30-31, PSC REF#: 365153
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[54] Direct-PSC-Vedvik-32, PSC REF#: 365153
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[55] Wis. Stat. 196.49(3)(b): (b) The commission may require by rule or special order under par. (a) that no project may proceed until the commission has certified that public convenience and necessity require the project. The commission may refuse to certify a project if it appears that the completion of the project will do any of the following:
1. Substantially impair the efficiency of the service of the public utility.
2. Provide **facilities unreasonably in excess of the probable future requirements**.
3. When placed in operation, **add to the cost of service** without proportionately increasing the value or available quantity of service unless the public utility waives consideration by the commission, in the fixation of rates, of such consequent increase of cost of service.

makes sense not to live beyond ones means. In terms of our energy future, that means not adding utility debt when one has plenty of energy.[56] While the MISO MTEP process assumes load growth, the current state of flat energy usage was openly assumed in the PSCW CHC proceeding.[57]

Building a project that would cost the public millions of dollars, when there is plenty of power available is the definition of "unreasonably in excess of probable future requirements". The debt from the project must be paid back, along with a 10.2% rate of return. If the trend that has currently been in place (for the last seven high-voltage transmission line projects in Wisconsin) continues, rates will continue to rise if CHC was to be built. This is one of the reasons the public and their Legislators and Communities have pressure the PSCW to provide ratepayer level impacts of the project.

Another reason that the CHC project is in excess of future requirements is that, along with the 345 kV CHC transmission line, the Applicants have tucked away the construction of a new 161 kV transmission line, sited to travel alongside of CHC. This 161 kV line is the Applicants solution to the Mississippi River crossing (what was 2 of the three legs of BWARA, the Turkey River-Stoneman and the Stoneman-Nelson Dewy lines). In light of this, not only are the BWARA reliability projects not avoided by the project, Transmission owners have conceived a way to have both the project and a rebuild of these lines! Once again, this is the definition of "unreasonably in excess of probable future requirements". The Commission, in approving the CHC project, has saddled the public with millions of dollars in additional utility debt when they

[56] Direct-CK-Klopp-r2-7, Public Scoping commenters cited "No Need" in 198 out of 366 comments (54%). The most common reason that "No Need" was cited related to energy usage being flat, or no need for additional electricity. PSC REF#: 366456 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366456

[57] Direct-CK-Klopp-r2-8, "Both the Application and the final WPSC Strategic Energy Assessment, 2018-2024 (SEA) makes reference to electricity sales or demand being flat.(WPSC SEA, p 5 Sales, Rates and Affordability REF# 348358 Ex.-Applicants-Application Section 2.1)" , PSC REF#: 366456 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366456

could have asked that routine maintenance and upgrades be performed.

Regarding the Commissions' repeated references to cost-sharing, implying it to be an essential feature of proposal approval, it is reasonable to point out that Wis. Stat. 196.491(3)(d) subs 2, 3, 3r[58] refers to a host of considerations pertaining to the public interest including: adequate supply of electric energy; achieving reasonable electric rates; alternative sources of supply; individual hardships, economic factors; environmental factors; and many more. Ms. Klopp contends that the focus of the Commissions' approval should be founded on statutory requirements, not on speculative contractual negotiations between MISO and anxious remote power plant developers.

The cost effectiveness of all changes in generation shows up in Wholesale energy cost savings produced by PROMOD modeling results. The aspects of these contractual negotiations with MISO are either in the economic planning that applicants and PSC staff have submitted into the record or not. If the commission felt these contractual negotiations were a necessary sidebar consideration, they neglected to examine the other alternatives, including BWARA, in the same light.

BWARA and some of the other alternatives presented and discussed in the PSCW CHC proceeding are more economical even without cost sharing[59] and also do not carry the negative

[58] Wis. Stat. 196.491(3)(d), 2. The proposed facility satisfies the reasonable needs of the public for an adequate supply of electric energy. This subdivision does not apply to a wholesale merchant plant.

3. The design and location or route is in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability and environmental factors, except that the commission may not consider alternative sources of supply or engineering or economic factors if the application is for a wholesale merchant plant. In its consideration of environmental factors, the commission may not determine that the design and location or route is not in the public interest because of the impact of air pollution if the proposed facility will meet the requirements of ch. 285.

3r. For a high−voltage transmission line that is proposed to increase the transmission import capability into this state, existing rights−of−way are used to the extent practicable and the routing and design of the high−voltage transmission line minimizes environmental impacts in a manner that is consistent with achieving reasonable electric rates.

[59] The economics presented by the Applicants was contested by opposing intervenors. This information will be

impacts to the environment, hardship to individuals or increases in electric rates seen by ratepayers following construction of 7 proposals similar to CHC.

RELIABILITY

The Commissions statement regarding reliability benefits is unsupported. The reference listed[60] does not address reliability issues.

Upon review of the reliability projects that the Applicants had included as being resolved by the project, PSCW engineers excluded $31,900,000 of the $42,200,000 in avoided reliability benefits claimed by the Applicants.[61] The remaining avoided reliability benefits (totaling $897,474) are the transmission components that comprise BWARA. BWARA is the reliability projects of CHC. Therefore, CHC's reliability benefits are not superior to BWARA and do not justify choosing CHC over BWARA.

If the Applicants had looked closely at the network transmission system, when proposing a LVA to compare to the project, it should have been obvious that the three main reliability projects for CHC would be the most logical choice for a LVA. If for their LVA, Co-owners had chosen the three transmission facilities that comprise BAWARA,[62] the circuitry upgrade would

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presented in support of this statement.

[60] Direct-Applicants-Dagenais at 31 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=358845

[61] PSCW Final Decision Signed and Served 09-26-19, pages 28-29, "The largest cost Commission staff excluded from its analysis was the applicants' inclusion of the need to construct a new345 kV Hickory Creek–Nelson Dewey river crossing transmission line if the project is not approved, **accounting for $31,900,000 of the applicants' estimated $42,200,000 in avoided reliability benefits. If these lines are excluded, the avoided reliability benefits could be as low as $897,474.** (Vedvik-Direct-PSC at 18-19.)" Notice that the remaining figure for reliability projects is exactly the cost of BWARA. 19 PSC REF#: 376391 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=376391

[62] Ex.-PSC-FEIS-r, page 90, Specifically, the transmission system constraints that comprise the avoided reliability benefit of the proposed Cardinal-Hickory Creek project are the existing Turkey River–Stoneman 161 kV, Stoneman–Nelson Dewey 161 kV, and Townline Road–Bass Creek 138 kV transmission lines., , PSC REF#: 370355 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370355 PSC REF#: 366195

double the transfer capability of the existing river crossing alleviating the projected overloads and NERC planning violations across these lines. The congestion at the river crossing is historical and well known. The Alternatives Evaluation Study submitted to this proceeding[63] explains, "The Lore-Turkey River- Stoneman- Nelson Dewey 161 kV path has been a historical constraint in many types of analysis since before MISO and the MISO market existed. The Lore-Turkey River-Stoneman was rebuilt/uprated in the past couple of years so the constraint moved to the next element." That last constrain is two-thirds of BWARA, Turkey River- Stoneman- Nelson Dewey. The "overloads" relieved by BWARA contribute to the congestion that CHC is claimed to be needed to relieve, eliminating them would also result in even lower calculated congestion, (one of the sources of CHC calculated economic benefits).

If the BWARA constraints had been chosen as the low voltage alternative in the application, it would have demonstrated equal reliability benefits and competitive economic benefits to CHC. In other words, BWARA would have rivaled CHC in reliability benefits and undercut the economic need for the project. Staff additionally found that BWARA cost $66 million less.

The Commission makes the following statement in *Alternatives-BWARA*:

> ***"While the project clearly provides reliability benefits, the need identified for this project was not simply to address reliability contingencies projected on existing lines. Rather, it also ensures low cost delivery of new wind generation resources west of Wisconsin, reduces congestion costs, improves the flexibility of the transmission system, and avoids the cost to rebuild certain existing transmission lines."***

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http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=366195

[63] CARDINAL-HICKORY CREEK 345 kV TRANSMISSION LINE PROJECT ALTERNATIVES EVALUATION STUDY, pages 26-27, footnote 12, http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=353715

WIND FROM THE WEST

The Commissions' statement: "is rationalized based on a policy favoring and prioritizing the development of out-of-state renewable energy resources, a policy that does not exist in law, was never adopted by the legislature, and is contrary to policies that exist in law and were adopted by the legislature."[64] The Commission has not supported this statement with evidence from the PSCW CHC proceeding, weighed evidence from opposing positions or provided their rationale or justification for their conclusions. In doing so, the Commission has excluded relevant evidence.

In claiming that the project "*ensures low cost delivery of new wind generation resources*", the Commission suggests that "*delivery*" of electric power over long distances by 345 kV transmission lines is low cost. Nothing could be further from the truth and this truth is borne out by the costs of the project that were debated in the PSCW CHC proceeding. The total cost of the project, is the cost that is shared by all of the northern MISO states, $628 million[65]. But, what the public pays for the project over 40 years with interest, etc. is $2.2 billion[66]! The cost of transmission, particularly as more transmission lines are built, increases the debt which adds up over time with each new line that is built. If instead, the Commission actually meant "*ensures delivery of low cost new wind generation resources*", the salient detail would be "what is the cost of wholesale electric power and how much does it vary". All wholesale electricity is cheap, so the Commissions' statement would be empty.

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[64] Petition for Judicial Review, Petitioners Iowa County, Town of Wyoming and Village of Montfort, listed under GROUNDS FOR REVERSAL OR REMAND

[65] Direct-PSC-Vedvik-30, PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

[66] Tr. 488-706 Party Hearing Session 6-17-19, Page 621 lines 4-24, , PSC REF#: 372274 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372274

Delivery of wind resources from the west makes the assumption that Wisconsin utilities are actually interested in purchasing out of state power. There are no examples in the PSCW CHC docket of contracts that Wisconsin utilities have signed, to demonstrate their interest in this long distant wind, that has been claimed by wind developers. There is evidence that renewable projects in Wisconsin are becoming more prevalent. Newly approved renewable projects are the reason PSCW engineer Dr. Grant believed that this generation should be included in PROMOD modeling runs for the project. The scenarios that included the "Likely Wisconsin Renewables" generally had reduced Net Benefits for the project.

Demand side solar has become affordable over time and will likely continue to do so. Combining the affordability of roof-top solar with the public's awareness of climate change will hasten increased demand side generation, energy efficiency and load management over time. Considering the changing energy landscape and the already flat trend for energy usage, it is not at all obvious that there will be a market for this "wind from the west". Low-voltage system rebuilds like BWARA, combined with demand side reductions in load have the advantage over expensive new transmission line projects moving power over long distance.

Wis. Stat. § 196.491(3)(d)(3r) specifically addresses transmission projects that are "proposed to increase the transmission import capability into this state". Requirements of this statute include "minimizes environmental impacts" and "achieving reasonable electric rates", two considerations where BWARA shines in comparison to the project.

CONGESTION COSTS

The Commissions' statement regarding congestion is vague and unsupported. The Commission

did not weigh contrasting positions or present a rationale for the conclusion offered. CUB expert Ms. Neal, takes a very different position on congestion costs as they relate to the project:

> "***In my direct testimony I stated that internal congestion savings generated by the Project "may just be an artifact of PROMOD modeling that may never materialize" and I recommended that the Commission disregard these benefits "unless the Applicants can show adequate evidence the internal congestion in PROMOD is not just a modeling artifact and that the Project is a cost-effective way to reduce congestion within the ATC zone.***"[67]

> "***Different assumed inputs for new generation within PROMOD will result in more or less congestion in the model results, depending on the exact configuration. As such, the base case internal congestion costs may be higher simply by selecting different locations to interconnect new generation or varying the amounts at different locations, under each of the generation futures. Consequently, estimates of internal congestion-related benefits may be amplified simply because the base case is modeled in such a way that it starts off with more congestion. This would produce a systematic modeling bias in favor of the Project. This is an example of what I mean when I say that the results presented by the Applicants may be an "artifact" of PROMOD modeling."***[68]

TRANSMISSION SYSTEM FLEXIBILITY

The Commission has cited no evidence to show that CHC provides flexibility to the transmission system. There are no relevant statutory or code requirements for transmission system flexibility. Increasing flexibility by building expensive transmission projects, thereby increasing utility debt, leads to stranded assets, not flexibility.

DALC/WWF expert Ms. Cusick offered the following two quotes relating to alternative measures for creating flexibility, rather than building the CHC:

[67] Surrebuttal-CUB-Neal-r-2, PSC REF#: 370433 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370433
[68] Surrebuttal-CUB-Neal-r-4, PSC REF#: 370433 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=370433

"As can be seen in Ex.-DALC/WWF-Cusick-1, battery storage is containerized and can be installed in containers of one up to hundreds. The containers can be positioned next to each other, but each one can also operate individually, depending upon the design. This allows transmission planners the flexibility to quickly add any amount of battery storage periodically to increase transfer capability as needed and accommodate wind projects that have been waiting the longest in the interconnection queue, if desired. Additionally, with a shorter asset life than a transmission line (e.g. 10 to 15 year asset life versus 40 years for transmission line), battery storage can also be used to fulfill a near-term transmission need without concerns about potential future transmission stranded costs." [69]

"An option that has not been considered by the Applicants is installing a battery system now to increase transfer capability immediately, and decommissioning the system in a decade once the carrying capacity on the existing transmission lines has been doubled." [70]

There are ways that BWARA offers flexibility to our energy future:

- BWARA is inexpensive, allowing the possibility of increasing Focus on Energy incentives for demand side renewable generation and energy efficiency. Demand side activities reduce stress on system components and utility peak demand.
- BWARA is compatible with NTA's allowing space for continued evolution of energy solutions.
- BWARA conserves on investment in a time when energy use is flat and the future is unknown.

Wis. Stat. § 196.491(3)(d)(2) states: "The proposed facility satisfies **the reasonable needs** of the public for an **adequate supply** of electric energy." The operative words being reasonable and adequate. Wisconsin has no current need for more power and no projected need given that

[69] Surrebuttal-DALC/WWF-Cusick-r, page 9, PSC REF#: 369775
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=369775
[70] Surrebuttal-DALC/WWF-Cusick-r, pages 11-12, PSC REF#: 369775
http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=369775

energy usage trends have been flat. Building the Taj Mahal of transmission systems exceeds what is reasonable and adequate. BWARA's economical and common sense approach is adequate and reasonable.

AVOIDED TRANSMISSION SYSTEM REPAIRS

The Commissions has provided no evidentiary support for their statements regarding avoided transmission system repairs. "Certain existing transmission lines" is a vague statement. How many transmission lines? Which transmission lines? This is the information needed to weigh BWARA's attributes vs. the projects. While the project *may* avoid the costs to rebuild certain existing transmission lines, BWARA avoids the need to rebuild the three most significant reliability projects for the proposed CHC and the area of highest congestion between Iowa and Wisconsin.

The Commission continues with this statement in *Alternatives-BWARA*:

> ***"Rather, the applicants and other intervenors provided substantial evidence that denying the project and pursuing projects like the base with asset renewal alternative would entail unknown costs that fall directly on Wisconsin ratepayers and would add uncertainty into the interconnection of a substantial number of renewable generation projects in the MISO interconnection queue, including some in Wisconsin." (Rebuttal-Applicants-Pfeifenberger-r at 11-12.)"***

INTERCONNECTION OF RENEWABLE GENERATION

The Commission states that the Applicants and other intervenors provided evidence that

approving BWARA would add uncertainty into the interconnection of a substantial number of renewable generation projects in the MISO interconnection queue. The citation following these claims is *Rebuttal-Applicants-Pfeifenberger-r at 11-12*. The statements Mr. Pfeifenberger makes in the cited portion of his testimony do not actually support the statement made in the decision. His testimony does verify that the interconnection of some renewable generation is "contingent" upon the project, but does not address "uncertainty into the interconnection of" renewable generation.

The question of what it means for a generator to be "contingent upon the project" was explored in the PSCW CHC proceeding. DALC/WWF's attorney Mr. Brad Klein, identified in the cross examination of MISO's Mr. Ellis, that having a GIA conditional on the CHC project doesn't mean that the project can't be built, interconnect, or would necessarily operate at less than its maximum output before the CHC project is built.[71]

The Applicants and supporting intervenors emphasized the need of the project in relation to Generator Interconnection Agreements (GIAs).[72] The interconnection of every merchant

[71] Party Hearing Tr. 707-1047, pages 723-724, "Brad Klein (ELPC): "So when a generator has a GIA that is conditional on this CHC project, it doesn't mean that the project can't be built before the CHC project is built; is that correct?
Ellis (MISO): That is correct.
Klein: And it doesn't mean that the project can't actually interconnect even before the CHC project is built; is that correct?
Ellis: That is correct.
Klein: And just because the CHC line is listed as a condition in a generator's GIA doesn't mean that the generator will necessarily operate at less than its maximum output even before the CHC project is in service; is that correct?
Ellis: That is correct. Those units are subject to what's known as an annual operating limit study to determine how much the output of those units would be limited prior to the construction of those projects'
Klein: And so depending on system conditions in any year, they may or may not be subject to those limits?
Ellis: That's correct. And I should clarify it's not just every year, but it's every quarter' So it's an annual and a quarterly operating limit study." http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372325

[72] INITIAL BRIEF OF APPLICANTS AMERICAN TRANSMISSION COMPANY LLC, ITC MIDWEST LLC, AND DAIRYLAND POWER COOPERATIVE, Page 7, "These studies also show that the Project is needed to support the interconnection of additional resources, both in Wisconsin and to the west of the state. Generator Interconnection Agreements (GIAs) or interconnection studies for approximately 8.4 GW of interconnection requests west of or within Wisconsin (including approximately 7.2 GW of wind generation) identify the Project as a required network upgrade.", PSC REF#: 372104 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372104
INITIAL BRIEF OF CLEAN ENERGY ORGANIZATIONS, Page 16, "Currently, 24 new generators with a

generator is not the responsibility of the Wisconsin Public or a statutory requirement for approving a CPCN and no public policy requirements or guidelines relating to such requirements were submitted into evidence as part of the PSCW CHC proceeding. In regards to new renewable generation, the Commission makes the following statement:

> ***"The Commission further recognizes that while there certainly is, and will continue to be, some renewable development occurring in Wisconsin (as evidenced by recently proposed or approved projects), it is not going to be enough for utilities to achieve the renewable or carbon- free goals they and the state of Wisconsin have set."***[73]

While the veracity as to whether renewable generation development in Wisconsin is not going to be enough for utilities to achieve their renewable goals, was another topic of contention during the PSCW CHC proceeding. Suffice it to say that Wisconsin has renewable generation and the opportunity for more in-state renewable generation. PSCW engineer, Mr. Vedvik, states that "the base with asset renewal alternative also boosts the ability of the transmission system in southwestern Wisconsin to integrate additional new renewable generation in Wisconsin in a similar manner as the proposed Cardinal-Hickory Creek project."[74]

The Commissions push for the renewable generation offered by these GIA's implies carbon emission reduction as a driving force. The Commission cites no evidence that the project supports a significant decrease in CO2 in the Docket and weighs no contrasting testimony. In

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combined capacity of approximately 4.7 gigawatts ("GW") have generator interconnection agreements ("GIAs") that are conditional on Cardinal-Hickory Creek.", PSC REF#: 372124

[73] PSCW Final Decision Signed and Served 09-26-19, page 31 PSC REF#: 376391 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=376391

[74] Direct-PSC-Vedvik-19, "The inclusion of these solar facilities in the PowerWorld modeling shows lower power flows across the constrained transmission system assets in the project study area for the base with asset renewal alternative, as compared to the proposed Cardinal-Hickory Creek project alternative. Thus, I would conclude that the base with asset renewal alternative also boosts the ability of the transmission system in southwestern Wisconsin to integrate additional new renewable generation in Wisconsin in a similar manner as the proposed Cardinal-Hickory Creek project.", PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

fact, the CO2 reductions cited in the docket are 3.8% to 5.9% by 2031.[75] CHC is an open-access transmission line, meaning the generation mix [76] is defined by the market (regulated by FERC tariffs). As a result, the generation mix is a product of the cheapest electricity on a real-time basis. The actual percentage of renewable generation that ends up in the publics' outlets contains a high percentage of dirty energy.

The Commission offers no evidence as to how much renewable development in Wisconsin is expected or currently taking place. No evidence was presented that renewable development in Wisconsin will not be enough for utilities to achieve their renewable or carbon-free goals. RPS goals for Wisconsin have been met and new standards have not been established.

UNKNOWN COSTS

The Commission states that the Applicants and other intervenors provided evidence that approving BWARA would entail unknown costs to Wisconsin ratepayers. The citation following these claims is *Rebuttal-Applicants-Pfeifenberger-r at 11-12*. As under "Argument" on page 7, Mr. Pfeifenberger's testimony does not actually support the statement made in the decision. The cited testimony says nothing about unknown costs and there is no mention of BWARA in Mr. Pfeifenberger's entire rebuttal. As such, the Commissions statement, with respect to unknown costs to Wisconsin ratepayers from BWARA, is entirely unsupported by any evidence, vague and

[75] These percentages are a simple % calculation using the two forecasted carbon reduction numbers for 2031 from Table 7.5, divided by 350 Million tons of CO2 output in 2031, using the historical trend line in Figure 28, Ex.-MISO-Ellis-03, page 39, PSC REF#: 364903, http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=364903 Ex.-PSC-Grant-1, page 37, PSC REF#: 365101 , http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365101

[76] The generation mix refers to the percentage of power delivered from renewable sources vs. the percentage from coal and other hydrocarbon containing fuels.

unsubstantiated.

DEVELOPMENT AND STUDY OF BWARA

The Commission states "The base with asset renewal alternative has also not been developed or studied in any detail other than as a modeling comparison to the project."[77] PSCW engineer, Mr. Vedvik, details in his Direct, how BWARA was studied"[78]

> ***"Method of analyzing Reliability Assets Commission staff witness Ajinkya Rohankar's direct testimony describes in detail the process used to evaluate the avoided reliability benefits of the proposed project. In general, staff used the PowerWorld model, which is another utility industry standard tool for evaluating power flows, and is comparable to the PSS®E model used by the applicants. Mr. Rohankar's power flow analysis evaluated the transmission system using the transmission planning criteria described in the NERC Transmission System Planning Performance Requirements, which is the same criteria used by the applicants to evaluate the reliability benefits of the proposed Cardinal-Hickory Creek project."***

The testimony of PSCW engineers, who confirmed CHC economic analyses and analyzed many additional scenarios for comparison, establishes that BWARA had indeed, been studied in detail.

To the extent that the Commission finds that BWARA, as an alternative, has not been fully developed, failure to do so rests with the PSCW. Governed by Wis. Admin. Code § PSC 4.30(1)(a), the Commission is required to identify, explore and objectively analyze alternatives presented in the contested case proceeding for which an EIS is required. If BWARA were insufficiently developed, it should be remanded to the Agency for completion and evaluation.

Under Wis. Stat. § 1.11, the PSCW is required to compile "a detailed statement,

[77] PSCW Final Decision Signed and Served 09-26-19, pages 32-33 31 PSC REF#: 376391 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=376391

[78] Direct-PSC-Vedvik-13, PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

substantially following the guidelines issued by the United States council on environmental quality under P.L. 91-190, 42 USC 4331" on Alternatives to the proposed action and to "Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." The Commission failed to complete this task with all presented alternatives in the proceeding.

The Commission questions the following qualities of BWARA:

> ***"The Commission finds that Commission staff's base with asset renewal alternative provides a targeted solution to specific reliability issues, and is not an approvable, feasible, or robust alternative to the project."***

A TARGETED SOLUTION

The Commission refers to BWARA as a targeted solution, as if that was a fault or deficiency. In fact, BWARA targets the main limiting issue that the project was proposed to address in an effective and economical way and provides increased reliability at the same time.[79]

APPROVABITLITY

The Commission claims BWARA is not approvable, an assertion which is unsupported by evidence and semantically inaccurate. The Commissions' statement implies that BWARA

[79] Direct-PSC-Vedvik-18-19, "As stated previously, the three major constraints that are projected to be resolved by the proposed project would need to be reconstructed by 2030 due to age and condition.", Ex.-PSC-FEIS-r, page 90, "Specifically, the transmission system constraints that comprise the avoided reliability benefit of the proposed Cardinal-Hickory Creek project are the existing Turkey River–Stoneman 161 kV, Stoneman–Nelson Dewey 161 kV, and Townline Road–Bass Creek 138 kV transmission lines.", PSC REF#: 365153 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365153

cannot be "chosen" in lieu of the project. BWARA is a network (or low-voltage system) rebuild and upgrade, an activity that is routinely performed on existing network assets as needed. Rebuilds of network components for existing electric transmission lines and associated facilities operating at a nominal voltage of less than 345 kilovolts do not require approval under Wis. Stat. § 196.49 (5g)(ar)(2m). According to this statute, if the court should find that the PSC's decision to approve the CHC Project was not sufficiently founded, the transmission owners, themselves, have the legal ability to implement standard upgrades of the three facilities at a total cost of less than $10 million without a CPCN. Commission Staff have estimated the total cost for all three BWARA lines at less than $1 million leaving ample budgetary headroom.

Additional statutory authority for approving BWARA can be found under Wis. Stat. § 196.494(3)(3). This statue provides "The commission shall, under this subsection, issue an order requiring the transmission company, as defined in s. 196.485 (1) (ge), or an electric utility to construct or procure, on a competitive basis, the construction of transmission facilities specified by the commission in its order if the commission determines that such construction is necessary to relieve a constraint on a transmission system and the construction will materially benefit the customers of the transmission company or electric utility or other electric utilities or of an independent system operator, as defined in s. 196.485 (1) (d), or independent transmission owner, as defined in s. 196.485 (1) (dm).

BWARA is also a low-voltage alternative (LVA), one that is more finely tuned than the LVA analyzed and compared by the Applicants. If the Applicants LVA option could be chosen over the project, then BWARA could be also be chosen. The PSCW's "Application Filing Requirements"[80] establish that the Commission can elect to choose or "approve" BWARA as a

[80] PSCW/WDNR APPLICATION FILING REQUIREMENTS TRANSMISSION LINE PROJECTS, October 2017,

Low Voltage Transmission Alternative.

FEASABILITY, IMPELMENTABILITY, ROBUSTNESS

The Commission contends that BWARA is not feasible, robust, or implementable. Feasible and implementable, have not been defined in statutes or codes relevant to this proceeding,[81] and will be treated together, having the same common meaning in the context used by the Commission in relation to BWARA. As a routine network rebuild and a LVA to the project, there is no question about whether BWARA is feasible or implementable. The arguments above as to whether BWARA is approvable all apply to whether it is feasible and implementable.

Robust, as it is commonly used in relationship to energy planning and as used in PSCW's Docket 5-CE-146 (CHC), is associated primarily with strong economics of a plan, project or alternative. BWARA meets this definition in that its benefit to cost ratio[82] is strong, at roughly 20 to1. Another comparison that establishes BWARA as having strong economics is that both calculated benefits (cost-saving[83]) are in the black (benefiting the public rather than costing them), which is not the case for CHC.[84] Treatment of CHC economics was addressed in the early part of this document. To summarize the economics section for comparison, the preponderance of the evidence, none of which the Commission has deemed to lack credibility, shows the project

pages 13-14, cited in Reply Brief-Soul of Wisconsin-3, https://psc.wi.gov/SiteAssets/2017TransmissionLineAFR.pdf

[81] Technical feasibility is a modifying condition in Wis. Stat. § 1.12 for meeting options laid out in the Statute, but does not apply to the usage here.

[82] Reply Brief-Klopp-9, "BWARA is sleek and efficient, costing the ratepayers roughly $900,000, with a Benefit to Cost Ratio of 20.1" , PSC REF#: 372742 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=372742

[83] Surrebuttal-PSC-Vedvik-10, $2.02-$18.94 million http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=368839

[84] In fairness, this was a hotly contested issue. While M. Klopp and many others would contend this to be true, a full treatment of the economics of the project is needed to illuminate this.

produces losses for ratepayers.

PUBLIC POLICY BENEFITS

The Commission did not support the claim that the project provides Public Policy benefits. No Public Policy requirements were cited. Wisconsin has met its' historic Renewable Portfolio Standard (RPS) and a new RPS has not been established.

To the extent that the Commission equates Public Policy benefits with carbon dioxide emission reductions, this topic was presented in the *Interconnection of Renewable Generation* section.

CONCLUSION

The Commission has not presented evidence to show that the project is superior to BWARA from a technical standpoint, only that the Commission prefers the project or believes the Applicants. The Commission failed to identify, evaluate and weigh opposing testimony from the PSCW CHC proceeding and has therefore excluded relevant evidence. The Commission did not state the rationale for their conclusions.

The "Public Input" (including Legislator input, County and Municipal government input, Local Organization Input, Record Number of Intervenors, etc.)[85] was powerful and spoke to the Publics' opposition to the project and commitment to making their voice heard. Below are two

[85] Ex.-CK-Klopp-18, Legislator Correspondence, PSC REF#: 367288 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=367288 Ex.-CK-Klopp-17, PSC REF#: 367433 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=367433 Ex.-CK-Klopp-23, PSC REF#: 367439 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=367439 Joint letter from WI State Lawmakers RE Analysis of Non Trans. Alternatives (PSC REF#: 356345) http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=%20356345 Letter from Lawmakers RE: CHC Public Hearing Turnouts, Sufficient Accountability (PSC REF#: 372320) http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=%20372320 Ex.-CK-Klopp-05 PSC REF#: 365124 , PSC REF#: 365124 http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=365124

simulated photos showing what it is that people have been fighting for.

The simulated images depict the transmission line as

It would appear through Dodgeville, Wisconsin and

As it runs by the Thomas Stone Barn, listed on the National Register of Historic Places.

Docs. 557, 559, James Barmore explains his expertise and

How he made the images in his direct testimony, Doc. 1055.

ts

having negative benefits (costs) to the public in a majority of the scenarios analyzed.

The PSCW engineer alternative, BWARA, was favored by many who participated in hearings and other opposition activities. BWARA met statutory requirements, was economical and was not burdened by the projects long list of negative impacts to the environment, landowners and communities,. Non-Transmission Alternatives were also strongly supported by the public.

I oppose the CHC project and strongly support that it be reversed or remanded by the court based on the many argument in this brief and those of others in opposition.

Dated this 3rd day of May, 2020.

Respectfully submitted,

/s/ Electronically signed by *Chris Klopp*
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