MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

UNION ELECTRIC COMPANY,

d/b/a Ameren Missouri

CASE NO. EA-2022-0244

Jefferson City, Missouri
December 1, 2022

*** Denotes Highly Confidential Information ***

** Denotes Confidential Information **

STAFF REPORT ON
UNION ELECTRIC COMPANY,
d/b/a Ameren Missouri
Case No. EA-2022-0244
Table of Contents

STAFF REPORT ON
UNION ELECTRIC COMPANY,
d/b/a Ameren Missouri

Case No. EA-2022-0244

OVERVIEW/SUMMARY

On July 7, 2022, Union Electric Company, d/b/a Ameren Missouri ("Ameren Missouri") filed an application ("Application") Case No. EA-2022-0244 that seeks permission and approval, under Sections 393.170 and 393.190.1, RSMo, for a certificate of convenience and necessity ("CCN") authorizing Ameren Missouri to construct, install, own, operate, maintain, and otherwise control and manage a 200 megawatt ("MW") solar generation facility, in Audrain and Ralls Counties, Missouri (the "Huck Finn Solar Project" or "Project") pursuant to a Build Transfer Agreement ("BTA") with EDF Renewables Development, Inc. ("EDF Renewables"). With the application, Ameren Missouri filed a motion for a protective order to protect information the negotiated terms and conditions of the BTA (and documents reflecting such terms and conditions) (the "BTA Terms"). The project is to be connected to the transmission system under the functional control of the Midcontinent Independent System Operator, Inc. ("MISO"), and which is to be acquired by Ameren Missouri through various subsidiaries under the BTA and related transactions.

The Notice to Proceed deadline within the BTA is set at March 27, 2023, and construction is scheduled to commence in approximately November 2023. The Project is expected to be fully operational by December 1, 2024.

Staff Expert/Witness: Shawn E. Lange, PE

Summary of recommendations

Staff recommends the Commission grant Ameren Missouri a CCN to construct, install, own, operate, maintain, and otherwise control and manage a solar generation facility subject to the following conditions:

Recommended Conditions

1. Ameren Missouri shall file with the Commission all as built drawings for the project no later than 60 days after the site is commercially operational.
2. Ameren Missouri shall file with the Commission the final version of the plans for restoration of safe and adequate service no later than 60 days after the site is commercially operational.
3. Ameren Missouri shall file with the Commission notice when the ownership of the communication line has been determined and no later than 60 days after the CCN is approved.
4. Progress Reports: Ameren Missouri shall file with the Commission quarterly progress reports on the plans and specifications for the Project, and the first report shall be due on the first day of the first calendar quarter beginning after the CCN is issued.
5. Staff recommends that Ameren Missouri no longer pursue the use of a tax equity partnership to finance the construction and instead utilize the production tax credit ("PTCs") that will be generated by the Huck Finn solar project.
6. Staff recommends that the Commission note the in-service criteria contained in Confidential Attachment SEL-1 and Confidential Attachment SEL-2 are appropriate for use in a future case to determine whether the Huck Finn solar project is in-service.
7. The authority that Staff recommends for the project, does not extend to the construction of the interconnection transmission line.
8. Huck Finn shall be constructed and operating in compliance with IEEE Standard P2800™.
9. Ameren Missouri shall sell available RECs in excess of the Missouri RES requirements prior to expiration and the revenues of such sales shall be returned to ratepayers.
10. Ameren Missouri shall notify the Commission and provide an updated economic analysis if the upgrade cost exceeds those outlined in the generator interconnection agreement ("GIA"), more than 15%.

Staff Expert/Witness: Shawn E. Lange, PE

Requested Variances

Staff recommends the Commission reject Ameren Missouri's waiver request from certain rules regarding affiliate transactions, 20 CSR 4240-20.015(2) and (3), since Staff is not

recommending that Ameren Missouri utilize tax equity partner to finance the construction of the Huck Finn Solar project making a waiver of the Affiliate Transactions Rules no longer needed.

Staff recommends the Commission approve Ameren Missouri's waiver request from certain filing requirements pursuant to 20 CSR 4240-20.045(3)(C), subject to condition, such that Ameren Missouri may: (1) provide as-built drawings; and (2) submit its overview of plans for restoration of safe and adequate service after significant, unplanned/forced outages, no longer than 60 days after the site is commercially operational.

Staff Expert/Witness: Shawn E. Lange, PE

APPLICATION REQUIREMENTS

Commission rule 20 CSR 4240-20.045 outlines the requirements for applications for certificates of convenience and necessity pursuant to Section 393.170.1 and 393.170.2, RSMo. According to Section (6) of the rule if the application is for authorization to construct an asset under Section 393.170.1, RSMo. the application shall also include additional documentation/information as follows[1]:

(A) A description of the proposed route or site of construction.

Ameren Missouri has provided an aerial view of their proposed site, in Application Schedule A, Page 12 of its application. Therefore, the Company's application meets this requirement.

(B) A list of all electric, gas, and telephone conduit, wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, and each underground facility, as defined in Section 319.015, RSMo, which the proposed construction will cross.

In its application, Ameren Missouri provided a draft map[2] of utilities in the project area; however, the map did not specify the ownership of the utilities. In response to Staff Data

[1] 20 CSR 4240-20.045(3)(C) states that "[i]f any of the items required under this rule are unavailable at the time the application is filed, the unavailable items may be filed prior to the granting of authority by the commission, or the commission may grant the certificate subject to the condition that the unavailable items be filed before the authority under the certificate is exercised."

[2] Application Schedule A, Alta/NSPS Survey Huck Finn Solar Project in draft form (i.e. without the preparing surveyor's certification).

Request No. 0016, Ameren Missouri provided an updated list of utilities as well as a clearer map. This list deviates from the one initially provided in three ways. Additional underground electrical lines were found and added to the revised map, a natural gas line was found to be outside the CCN area causing it to be removed from the revised map, and communication line ownership has been identified as belonging to an unknown party.

(C) A description of the plans, specifications, and estimated costs for the complete scope of the construction project that also clearly identifies what will be the operational features of the asset once it is fully operational and used for service.

The proposed project specifications are presented in Schedule SW-D2 of witness Wibbenmeyer's testimony. Therefore, the Company's application meets this requirement.

(D) The projected beginning of construction date and the anticipated fully operational and used for service date of the asset.

In its application, Ameren Missouri mentioned that construction is scheduled to commence in November 2023, and the site will be fully operational by December 1, 2024. Therefore, the Company's application meets this requirement.

(E) A description of any common plant to be included in the construction project.

Ameren Missouri listed fencing, security systems, roads, select transformers, and the control house as components that will be treated as common plant, conforming to this requirement.

(F) Plans for financing the construction of the asset;

In Ameren Missouri's direct filing, Ameren Missouri provided its plans for financing the Project in Mitchell Lansford's direct testimony. During a technical meeting with Ameren Missouri on October 5, 2022, Ameren Missouri stated that due to the passage of the Inflation Reduction Act of 2022 ("IRA") that Ameren Missouri would no longer purse a tax equity partner. Ameren Missouri provided analysis comparing the scenarios of continuing to utilize a tax equity partner and utilizing production tax credits (without a tax equity partner). Therefore, the Company's application meets this requirement.

(G) A description of how the proposed asset relates to the electric utility's adopted preferred plan under 4 CSR 240-22;

The Solar farm was considered in Ameren's most recent Preferred Resource Plan. Therefore, the Company's application meets this requirement.

(H) An overview of the electric utility's plan for this project regarding competitive bidding, although competitive bidding is not required, for the design, engineering, procurement, construction management, and construction of the asset.

Ameren Missouri provided an overview of the competitive bidding in direct testimony of Scott Wibbenmeyer Direct, Pages 12-16. Therefore, the Company's application meets this requirement.

(I) An overview of plans for operating and maintaining an asset.

Ameren Missouri plans to operate and maintain the Huck Finn solar farm in a similar manner to its other large scale renewable generators, such as the High Prairie wind farm and O'Fallon solar faculty, while coordinating with the MISO due to being a member.

(J) An overview of plans for restoration of safe and adequate service after significant, unplanned/forced outages of an asset.

Ameren Missouri plans to include an overview of plans for restoration of safe and adequate service after significant outages in its emergency action plan for the solar farm, however, the company is planning to wait until closer to the operational date to complete the emergency action plan. Ameren Missouri recognizes that it does not meet this requirement, however, it is requesting a variance to submit its overview of plans for restoration of safe and adequate service closer to the operational date. Ameren Missouri has provided its company-wide emergency response procedure in Staff Data Request No. 0033 and explained that it would be followed until any emergency on the site was mitigated, though this is neither a site specific plan nor a restoration plan.

(K) An affidavit or other verified certification of compliance with the following notice requirements to landowners directly affected by electric transmission line routes or transmission substation locations proposed by the application. The proof of compliance shall include a list of all directly affected landowners to whom notice was sent.

The project covered in this CCN is not a transmission line, and only requires a short interconnection line for the project. Additionally, all easements have already been obtained for this interconnection line. Ameren Missouri seeks permission and approval to construct, install, own, operate, maintain, and otherwise control and manage a 200 megawatt ("MW") solar generation facility. The authority that Staff recommends for the project, does not extend to the construction of the interconnection transmission line. Because of this, the Company's application with Staff's condition conform to this requirement.

Ameren Missouri has requested a variance to delay requirements of subsections (6)(J), which say "[a]n overview of plans for restoration of safe and adequate service after significant, unplanned/forced outages of an asset", to a future date. The company provided an emergency response procedure in response to Staff Data Request No. 0033, though this is not site specific and does not include plans for restoration. Staff is not opposed to Ameren Missouri providing the overview of plans for restoration of safe and adequate service after significant, unplanned/forced outages nearer the time when Huck Finn will commence operations. Therefore, Staff recommends

the Commission approve Ameren Missouri's request for a variance and condition any CCN granted on Ameren Missouri providing the final version of the plans for restoration of safe and adequate service no longer than 60 days after the site is commercially operational.

Ameren Missouri provided an updated list of all electric, gas, and telephone conduit, wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, and each underground facility, as defined in section 319.015, RSMo, which the proposed construction will cross as well as a clearer map in response to Staff Data Request No. 0016. However, a communication line has been identified as belonging to an unknown party. Therefore, Staff recommends the Commission condition any CCN granted on Ameren Missouri filing notice to the Commission when the ownership of the communication line has been determined and no longer than 60 days after the CCN is approved.

Staff Expert/Witness: Brodrick Niemeier

Overview of Project

The Project is a 200 MW-AC solar generation facility in Audrain and Ralls Counties, Missouri, to be connected to the transmission system under the functional control of MISO, and which is to be acquired by Ameren Missouri through various subsidiaries under the BTA and related transactions. The Huck Finn Project will be constructed pursuant to the BTA, which is between HFREC Holding Company, LLC (a subsidiary of Ameren Missouri Renewables Holdco, LLC ("Holdco") and also referred to as the Purchaser) and EDF Renewables. The Notice to Proceed deadline within the BTA is set at March 27, 2023, and the Project is expected to be fully operational by December 1, 2024.

Interconnection

*** [redacted][3]

[redacted]

[redacted]

[redacted][4] [redacted] *** Ameren Missouri shall notify the Commission and provide an updated economic analysis if the upgrade cost exceeds those outlined in the GIA more than 15%.

[3] Ameren Missouri Response to Staff Data Request No. 0007 MISO DPP 2018 April Central Area Study Phase II Report 02/26/2021, Page 6.
[4] Ameren Missouri BTA, Page 43 paragraph 2.2.1.i.

EDF Renewables has secured a generator interconnection agreement ("GIA"), securing the transmission rights within MISO.[5]

Staff Expert/Witness: Shawn E. Lange, PE

TARTAN DISCUSSION

In *In the Matter of the Application of Tartan Energy Company, LLC, d/b/a Southern Missouri Gas Company*, 3 Mo P.S.C.3d 173, 177 (1994), the Commission's Order listed five criteria to include in the consideration when making a determination on whether a utility's proposal meets the standard of being "necessary or convenient for the public service."[6] Those factors are:

1. Is the service needed?
2. Is the applicant qualified to provide the service?
3. Does the applicant have the financial ability to provide the service?
4. Is the applicant's proposal economically feasible? and
5. Does the service promote the public interest?

Staff witness Brodrick Niemeier addresses if Ameren Missouri is qualified to own, operate, control, and manage the facilities and provide the service and Staff witness Seoung Joun Won, PhD addresses if Ameren Missouri has the financial ability to construct the project.

[5] Direct Testimony of Scott Wibbenmeyer, Lines 11-13, Page 8.

[6] This enunciation of these factors is an outgrowth of case law dating back decades, as summarized and clarified in language included in *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Commn. of Missouri*, 848 S.W.2d 593, 597–98 (Mo. App. W. Dist. 1993), which stated:

> The PSC has authority to grant certificates of convenience and necessity when it is determined after due hearing that construction is "necessary or convenient for the public service." Section 393.170.3. The term "necessity" does not mean "essential" or "absolutely indispensable", but that an additional service would be an improvement justifying its cost. *State ex rel. Beaufort Transfer Co. v. Clark*, 504 S.W.2d at 219. Additionally, what is necessary and convenient encompasses regulation of monopoly for destructive competition, prevention of undesirable competition, and prevention of duplication of service. *State ex rel. Public Water Supply Dist. No. 8 v. Public Serv. Comm'n*, 600 S.W.2d 147, 154 (Mo.App.1980). The safety and adequacy of facilities are proper criteria in evaluating necessity and convenience as are the relative experience and reliability of competing suppliers. *State ex rel. Ozark Elec. Coop. v. Public Serv. Comm'n*, 527 S.W.2d 390, 394 (Mo.App.1975). Furthermore, it is within the discretion of the Public Service Commission to determine when the evidence indicates the public interest would be served in the award of the certificate. Id. at 392.

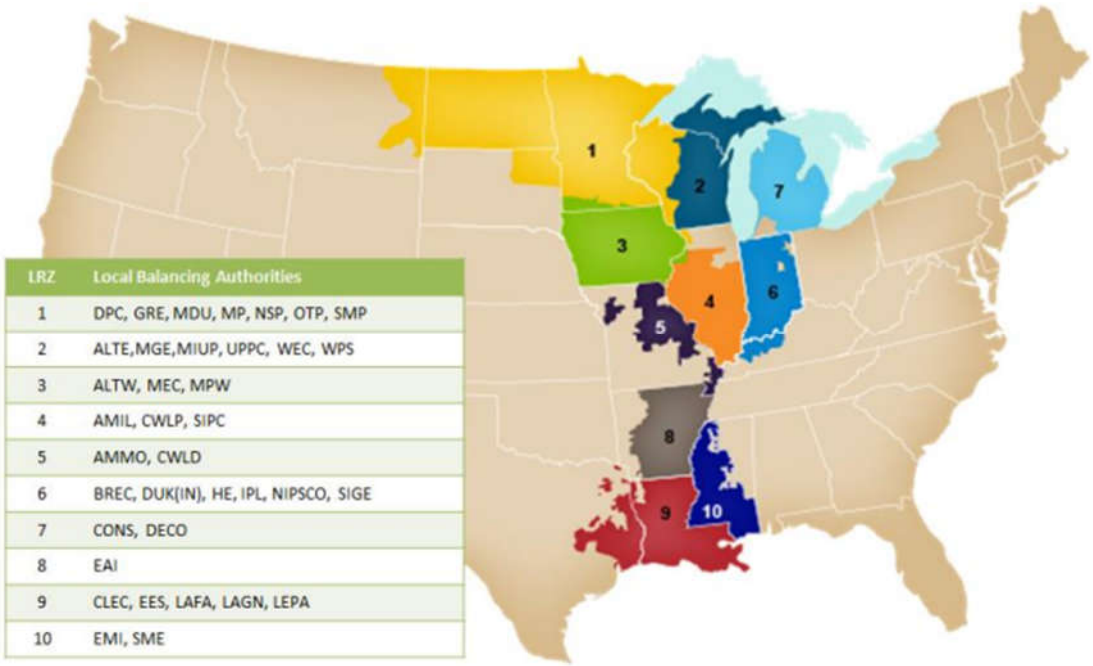
Staff witnesses Krishna L. Poudel, PhD and J Luebbert address economic feasibility of the project. Staff witnesses Shawn E. Lange, PE, Amanda Coffer and Krishna L. Poudel, PhD address if Ameren Missouri has sufficiently demonstrated a need for the project.

Is the service needed?

In evaluating whether Ameren Missouri has sufficiently demonstrated that the Huck Finn project is needed, Staff considered MISO Resource Adequacy, the Illinois Climate and Equitable Jobs Act, the retirement of Rush Island, Ameren Missouri's Integrated Resource Plan, and its RES compliance position.

MISO Resource Adequacy

MISO requires load serving entities within each zone must have sufficient resources to meet load and required reserves[7]. A map[8] showing the different zones is shown below.

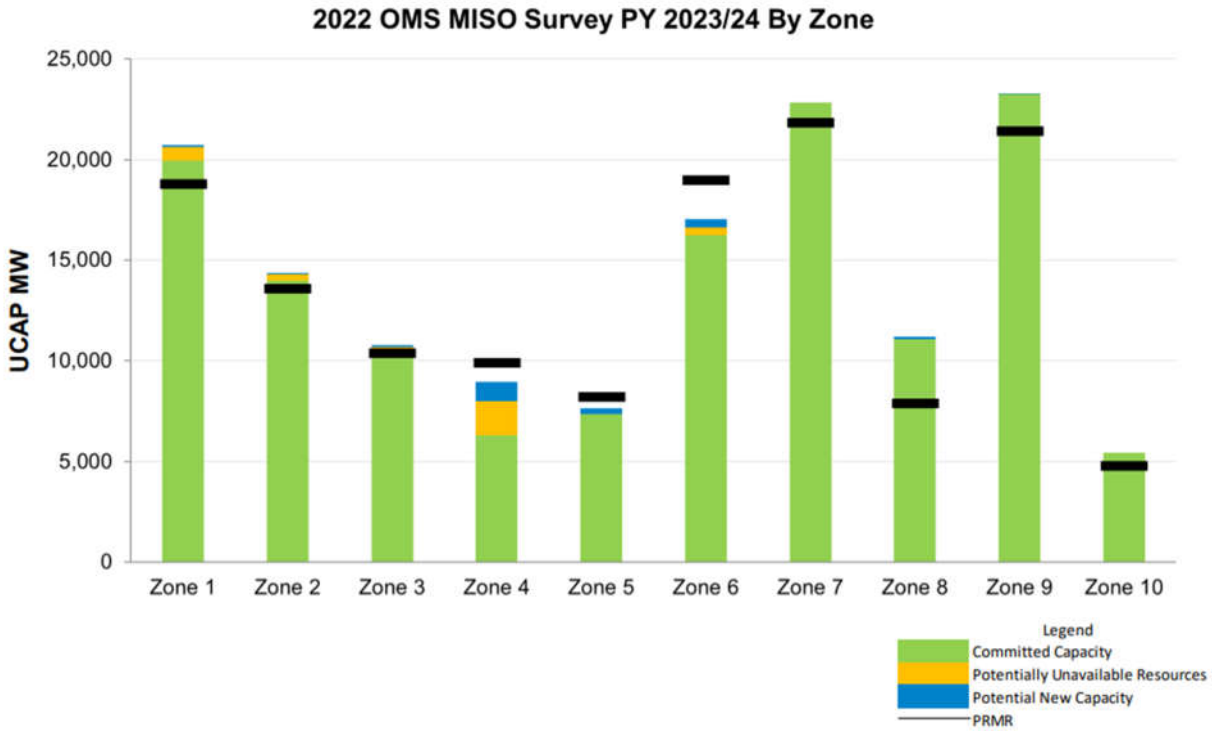


LRZ	Local Balancing Authorities
1	DPC, GRE, MDU, MP, NSP, OTP, SMP
2	ALTE,MGE,MIUP, UPPC, WEC, WPS
3	ALTW, MEC, MPW
4	AMIL, CWLP, SIPC
5	AMMO, CWLD
6	BREC, DUK(IN), HE, IPL, NIPSCO, SIGE
7	CONS, DECO
8	EAI
9	CLEC, EES, LAFA, LAGN, LEPA
10	EMI, SME

[7] Surplus resources may be shared among load serving entities with resource deficits to meet reserve requirements.
[8] https://cdn.misoenergy.org/20220610%20OMS-MISO%20Survey%20Results%20Workshop%20Presentation625148.pdf

Below is the results of the MISO OMS survey for 2023/2024 by zone.

The Organization of MISO States ("OMS") MISO survey currently shows local resource zone five (5) has less unforced capacity[9] than what the Planning Reserve Margin Requirement (PRMR) needs for the region.

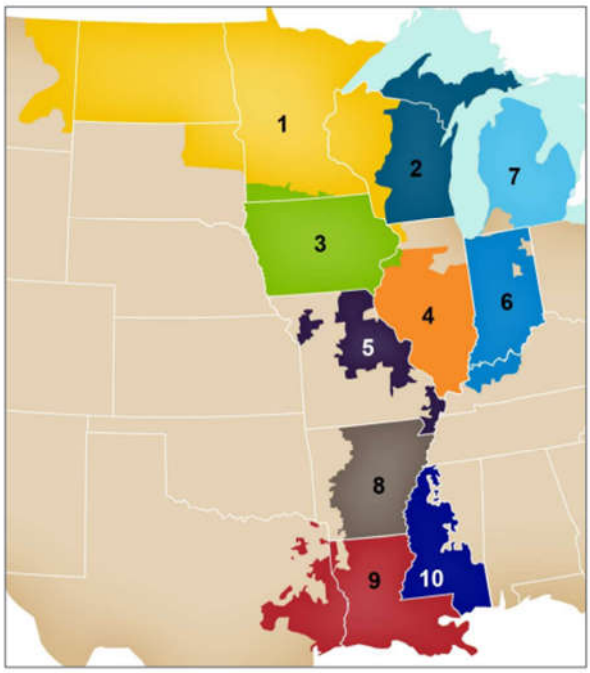


continued on next page

[9] Unforced capacity represents the percentage of installed capacity available after a unit's forced outage rate is taken into account.

The MISO capacity auction for 2022-2023 resulted in a capacity price that is the cost of new entry of $236.66 MW-Day, as shown below[10]. This shows that as a whole, MISO north is short on capacity.

Zone	Local Balancing Authorities	Price $/MW-Day
1	DPC, GRE, MDU, MP, NSP, OTP, SMP	$236.66
2	ALTE, MGE, UPPC, WEC, WPS, MIUP	$236.66
3	ALTW, MEC, MPW	$236.66
4	AMIL, CWLP, SIPC, GLH	$236.66
5	AMMO, CWLD	$236.66
6	BREC, CIN, HE, IPL, NIPS, SIGE	$236.66
7	CONS, DECO	$236.66
8	EAI	$2.88
9	CLEC, EES, LAFA, LAGN, LEPA	$2.88
10	EMBA, SME	$2.88
ERZ	KCPL, OPPD, WAUE (SPP), PJM, OVEC, LGEE, AECI, SPA, TVA	$133.70-236.66



Staff requested all analysis performed showing, what if any impact going forward, the proposed project will have on the MISO capacity auction clearing price for MISO local resource zone five (5). Ameren Missouri stated no such analysis was performed.[11]

The fact that Huck Finn is located in zone five should help to contribute to zone five capacity.

Staff Expert/Witness: Shawn E. Lange, PE

[10] https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf Page 4.
[11] Ameren Missouri Response to Staff Data Request No. 0002.

Climate and Equitable Jobs Act

The Climate and Equitable Jobs Act ("CEJA"), Public Act 102-0662, was signed into law on September 15, 2021. CEJA has timelines for retirements of fossil generation types starting in 2030 and extending to 2045. CEJA also has a requirement that:

> As of the effective date of the Act, no unit may emit, in any 12-month period, CO_2e or copollutants in excess of that unit's existing emissions for those pollutants.

With the limitations on CO_2e[12] or copollutants in excess of that unit's existing emissions for those pollutants, the CEJA may impose operating limitations on existing Ameren Missouri Combustion Turbine Generators located in Illinois.

Staff requested all analysis performed evaluating the impacts this project will have on Climate and Equitable Jobs Act in Illinois for Ameren Missouri. Ameren Missouri stated no such analysis was performed.[13]

Staff Expert/Witness: Shawn E. Lange, PE

Rush Island

On August 20, 2021, the United States Court of Appeals for the Eighth Circuit issued its decision in Sierra Club v. Ameren Missouri, Case No. 19-3220, wherein it affirmed the finding of Ameren Missouri's liability for violations of the Clean Air Act ("Clean Air Act") at Rush Island made by the United States District Court for the Eastern District of Missouri; specifically, the district court "enter[ed] a finding of liability against Ameren," concluding that "the Rush Island Unit 1 and 2 projects . . . were major modifications under the CAA, Ameren violated the PSD[14]

[12] Carbon dioxide equivalent.
[13] Ameren Missouri Response to Staff Data Request No. 0003.
[14] In 1977, Congress amended the CAA "to add the 'Prevention of Significant Deterioration' ("PSD") program, which seeks to ensure that the 'air quality floor' established by the National Ambient Air Quality Standards ("NAAQS") does not 'in effect become a ceiling.'" Id. (quoting Sierra Club v. Thomas, 828 F.2d 783, 785 (D.C. Cir. 1987)).

program's requirements "by failing to obtain a preconstruction permit and install best available pollution control technology," and Ameren violated Title V of the CAA." The 8th Circuit stated, "In summary, the district court found Ameren in violation of the CAA for "mak[ing] major modifications to expand Rush Island's capacity" without "apply[ing] for a PSD permit and meet[ing] reduced emissions requirements."[15]

As suggested by the Y-2 study and reaffirmed by the Attachment Y study, MISO determined that continued plant operations are required beyond September of 2022 until the Company can complete certain specified transmission system upgrades[16].

Project	Estimated Completion Date
Installation of a Capacitor Bank at the Overton Substation to address voltage issues	Spring/Fall 2023
Replacement of a Transformer at the Wildwood Substation in St. Louis County to address overload concerns	Spring 2024
Upgrading of a bus bar tie position at a substation adjacent to Rush Island to address voltage issues	Spring/Fall 2023
Installation of four (4) STATCOMs in the St. Louis Metropolitan area to provide reactive power support; installations to occur as equipment becomes available 2024-2025	Final STATCOM Fall 2025, perhaps earlier

New resources could impact the need for these upgrades and/or the current timeline for said upgrades. Staff requested all analysis performed showing what, if any, impact the proposed project will have on all issues outlined in the Rush Island attachment Y study results as well as attachment Y2 study results. Ameren Missouri stated no such analysis was performed.[17]

Staff Expert/Witness: Shawn E. Lange, PE

[15] Staff Motion to Open an Investigation in EO-2022-0215, Paragraph 9.
[16] ER-2022-0337 Mark Birk Direct Testimony, Page 7, Lines 4-6.
[17] Ameren Missouri Response to Staff Data Request No. 0001.

IRP New Preferred Plan

Citing to the Missouri Public Service Commission's ("Commission") Integrated Resource Plan ("IRP") rule, at 20 CSR 4240-22.080(12), Union Electric Company, d/b/a Ameren Missouri "determined that its current Preferred Resource Plan[18] was no longer appropriate after it decided it would not be in its customers' best interest to install a flue gas desulfurization unit ("FGDU") at its Rush Island Energy Center as the means of complying with federal court requirements arising from ongoing litigation involving Rush Island and the federal Clean Air Act."[19] On June 22, 2022, Ameren Missouri submitted Notice of Change in Preferred Resource Plan which states in part that "Under the above-quoted rule, since that determination has rendered its current Preferred Resource Plan inappropriate, Ameren Missouri was to notify the Commission of a new Preferred Resource Plan and the impact of the change on the present value of the revenue requirement and on all other performance measures specified in its last triennial IRP filing and was to do so within 60-days. In this case, the 60 days ran on February 9, 2022."

Ameren Missouri states its Preferred Resource Plan includes specific objectives.[20] These objectives are minimize customer costs (Present Value Revenue Requirements or "PVRR"), customer satisfaction (including rate impacts and reliability), portfolio transition (clean energy expansion and carbon reduction), mitigate financial/regulatory risk, and economic development. The Preferred Resource Plan reflects the following key changes from the 2020 IRP preferred plan:

[18] File No. EO-2021-0021, the docket in which the Company filed its most recent Triennial Integrated Resource Plan which included its current Preferred Resource Plan.
[19] United States et al. v. Ameren Missouri, Case No. 4:11-cv-00077-RWS (on remand in the Federal District Court for the Eastern District of Missouri after opinion by the Eighth Circuit United States Court of Appeals, No. 19-3220 (8th Cir. Aug. 20, 2021)).
[20] File No. EO-2022-0362.

- Acceleration of the retirement of Rush Island Energy Center from 2039 to 2025.
- Retirement of Venice Energy Center by the end of 2029.
- Delay in the retirement of Sioux Energy Center by two years from 2028 to 2030.
- Addition of 1,200 MW of natural gas-fired combined cycle ("NGCC") generation in 2031, with plans to switch to hydrogen fuel and/or blend hydrogen fuel with natural gas and install carbon capture technology by 2040.
- Changes in the timing of wind and solar additions, still resulting in total renewable generation additions of 5,400 MW.[21]
- Addition of 800 MW of battery storage resources.
- Retirement of the remaining Illinois CTGs by the end of 2039 – Goose Creek, Raccoon Creek, Pinckneyville, and Kinmundy Energy Centers.
- Increase from 800 MW to 1,200 MW of clean dispatchable resources in 2043.

Staff Expert/Witness: Krishna L. Poudel, PhD

Renewable Energy Standard Compliance

Ameren Missouri asserts the Huck Finn solar project is needed to meet its Missouri Renewable Energy Standard ("RES") compliance obligations.

The Renewable Energy Standard is a statute (Section 393.1030 RSMo) requiring electric utilities obtain a portion of its energy portfolio from renewable resources. By 2021 and thereafter, electric utilities are required to generate or purchase no less than 15% of its energy from renewable resources. At least 2% of the electric utility's renewable portfolio must be from solar resources. The Commission rules implementing the RES are contained in 20 CSR 4240-20.100.

A Renewable Energy Credit (REC), means a tradable certificate, that is either certified by an entity approved as an acceptable authority by the commission or as validated through the

[21] This includes 200 MW Huck Finn's contribution.

commission's approved REC tracking system or a generator's attestation. RECs can be generated from non-solar resources or solar resources. RECs generated from solar resources are called S-RECs. Each REC represents that one (1) megawatt-hour of electricity has been generated from renewable energy resources. Electric utilities must generate or purchase RECs and S-RECs associated with electricity from renewable energy resources in sufficient quantity to meet the RES portfolio requirements for that reporting year. The RES portfolio requirements are based on total retail electric sales of the utility. To demonstrate compliance with the RES, the utility retires RECs. RECs expire 3 years from the date the renewable energy was generated.[22] Ameren Missouri uses the Commission-approved tracking system, the North American Renewables Registry ("NAR"), for REC tracking and retirement.

Ameren Missouri has recently had to purchase 3rd party RECs in order to meet RES compliance. For compliance years 2019-2021, Ameren Missouri purchased the following amount of RECs in order to meet RES compliance:

	2019[23]	**2020[24]**	**2021[25]**
Total	3,100,508	573,686	1,479,132
Non-solar	3,063,312	564,668	1,464,571
Solar	37,196	9,018	14,561

Ameren provided a list of its 3rd party REC purchases in table 5 of its Second Corrected RES Compliance Report 2021[26], presented below for reference. The minimum average REC price is estimated at $3.00 per REC and the maximum average price is estimated at $6.25 per REC.

[22] 20 CSR 4240-20.100(1)(M). Note a REC may be used for compliance for a calendar year in which it expired so long as it was valid at any time in that year 20 CSR 4240-20.100(3)(B).
[23] EO-2020-0328, these numbers include a 1.25 multiplier for RECs generated in Missouri, where applicable.
[24] EO-2021-0352, these numbers include a 1.25 multiplier for RECs generated in Missouri, where applicable.
[25] EO-2022-0283, these numbers include a 1.25 multiplier for RECs generated in Missouri, where applicable.
[26] EO-2022-0283, Pages 10-11, Table 5.

Total RECs	RECs Per Asset	Vintage	Cost	Date	Average Cost
1,530	1,530	2021			
2,776	1,306	2020	$ 290,214	May-21	$ 3.45
	1,470	2020			
79,814	79,814	2021			
370,000	53,159	2019			
	12,399	2019			
	34,442	2019	$ 1,184,000	May-21	$ 3.20
	56,314	2019			
	213,686	2020			
200,000	93,256	2021	$ 1,250,000	Aug-21	$ 6.25
	106,744	2021			
125,000	12,533	2021	$ 78,331		
	88,348	2020	$ 702,919	Aug-21	$ 6.25
	24,119	2021			
145,934	52,841	2021	$ 693,187	Oct-21	$ 4.75
	93,093	2020			
27,103	12,646	2021	$ 128,739	Nov-21	$ 4.75
	14,457	2021			
100,000	49,288	2021	$ 475,000	Dec-21	$ 4.75
	50,712	2021			
10,255	4,942	2021	$ 30,765	Dec-21	$ 3.00
	5,313	2021			
242,955	50,000	2021	$ 250,000		
	95,479	2021			
	63,029	2021	$ 964,775	Oct-21	$ 5.00
	34,447	2021			

The Ameren Missouri 2022-2024 RES Compliance Plan[27] addresses its projected RES requirements and the specific resources it plans to utilize over the 3-year planning period as summarized in the tables below:

Projected RES Requirements

	2022	2023	2024
Total	** [redacted] **	** [redacted] **	** [redacted] **
Non-solar	** [redacted] **	** [redacted] **	** [redacted] **
Solar	** [redacted] **	** [redacted] **	** [redacted] **

Renewable Resource Estimated Generation

	2022	2023	2024
Keokuk	928,634	928,634	928,634
Maryland Heights*	64,059	64,059	64,059
Pioneer Prairie	** [redacted] **	** [redacted] **	** [redacted] **[28]
High Prairie*	1,454,088	1,689,000	1,689,000
Atchison*	1,368,086	1,368,086	1,368,086
Total	4,039,714	4,274,626	4,218,414

*includes 1.25 multiplier for RECs generated in Missouri

	2022	2023	2024
O'Fallon*	7,659	7,620	7,582
AMO Headquarters*	100	100	99
BJC Solar*	2,315	2,303	2,291
Neighborhood Solar*	1,582	4,256	5,727
Customer-Owned Solar*	147,366	162,922	133,306
Total	159,022	177,201	149,005

*includes 1.25 multiplier for RECs generated in Missouri

[27] EO-2022-0283, filed April 14, 2022, Tables 1-3, Pages 7-9.
[28] The decrease for Pioneer Prairie in 2024 is caused by the expiration of the contract in 2024.

By applying expected generation to expected RES requirements, and taking into account that excess S-RECs may be used for non-solar compliance, Ameren Missouri would consistently have a deficit:

	2022	2023	2024
Non-solar	** [redacted] **	** [redacted] **	** [redacted] **
Solar	** [redacted] **	** [redacted] **	** [redacted] **
Total	** [redacted] **	** [redacted] **	** [redacted] **

Ameren Missouri currently has 2020 and 2021 vintage RECs banked from its owned resources, Purchase Power Agreements (PPAs), and purchased third-party RECs:

	Banked RECs[29]
Solar	** [redacted] **
Non-Solar	393,526
Purchased RECs	** [redacted] **

Staff expects Ameren Missouri will have enough non-Solar RECs between its currently banked RECs and its expected production to meet RES requirements for 2022-2024. However, in 2024, Ameren Missouri's Pioneer Prairie PPA expires. This would be a loss of ** [redacted] ** RECs annually. Assuming Ameren Missouri's RES requirements and production moving forward will be much like Ameren Missouri's projection for calendar year 2024[30]; Ameren Missouri would have a deficit of ** [redacted] ** RECs annually. The value of RECs is dependent on several factors:

[29] These numbers include a 1.25 multiplier for RECs generated in Missouri, where applicable pursuant to 20 CSR 4240-20.100(2)(B)1 which states " If the facility generating the renewable energy resource is located in Missouri, the allowed amount is the kilowatt-hours (kWhs) generated by the applicable generating facility, multiplied by one and twenty-five hundredths (1.25) to effectuate the credit pursuant to Section 393.1030.1, RSMo and subsection (3)(G) of this rule;"

[30] This is a reasonable assumption based on the 10 Year MO RES Compliance Model 2022_31 workpaper provided by Ameren in Case No. EO-2022-0283.

- Vintage – the older a REC, the less value it has
- Certification – RECs can have certifications dependent on specific criteria related to their vintage and the facility in which the energy was generated
- Market liquidity, supply, and demand – dynamics in the REC market creates fluctuations in REC value

While vintage and certifications impact the value of a REC, market liquidity, supply, and demand causes unpredictability in REC pricing.

The 200 MW Huck Finn solar project is expected to produce 583,000 RECs annually.[31] While both the RES requirements and actual generation varies year to year, the Huck Finn solar project is sufficiently sized to replace the Pioneer Prairie wind PPA. Further, Ameren Missouri expects the Huck Finn solar project to mitigate ongoing uncertainty in renewable generation levels and actual retail load,[32] potentially avoiding future spot REC purchases. Additionally, for the past several years Ameren Missouri has filed a request for waiver to allow the retirement of more than 10% of the RECs needed to comply with the RES outside of the compliance year[33] due to timing issues of when RECs are actually available for use. In conclusion, this Project is a reasonable solution to address Ameren Missouri's RES compliance position after the expiration of the Pioneer Prairie wind PPA.

Staff Expert/Witness: Amanda Coffer

Staff Conclusion on Need

This Project is a reasonable solution to address Ameren Missouri's RES compliance position after the expiration of the Pioneer Prairie wind PPA.

[31] Direct Testimony of Lindsey Forsberg, Lines 10-12, Page 5. The 583,000 includes the 1.25 multiplier for S-RECs generated in Missouri.
[32] Direct Testimony of Lindsey Forsberg, Lines 12-18, Page 14.
[33] 20 CSR 4240-20.100(3)(J). The rule requires that Ameren Missouri retire at least 90% of the RECs needed to comply with the RES requirements during the compliance year. The remainder, no more than 10%, can be retired the following year, prior to April 15th.

While Ameren Missouri has not provided any study on the impacts on this project on MISO resource adequacy, Rush Island retirement, CEJA the fact that Huck Finn is located in zone five should help to contribute to zone five capacity.

Staff Expert/Witness: Shawn E. Lange, PE

Is the Applicant qualified to provide the service?

Ameren has been in business for over 100 years and has been granted Certificates of Need and Necessity from this Commission for many projects in the past. Due to the fact that Ameren is not constructing the project and instead has a Build Transfer Agreement ("BTA") with EDF Renewables' qualification to build or install the project will be considered. EDF Renewables has been in business for over 35 years and has constructed large scale solar across the United States. While this is its first solar project in Missouri, it has experience with large scale solar construction in the region, namely Holiday Creek Solar, a 117 MW solar farm in Iowa. Ameren has operated several Multi-Value Projects in Missouri and Illinois including the Montgomery and High Prairie Renewable Energy Centers. Montgomery is a solar farm owned and operated by Ameren while High Prairie is a similarly sized renewable generation facility. Staff concludes that EDF Renewables is qualified to build or install while Ameren is qualified to own, operate, maintain, and otherwise control and manage the Project.

Staff Expert/Witness: Brodrick Niemeier

Does the Applicant have the financial ability to provide the service?

To ascertain whether Ameren Missouri has the financial ability to purchase the Huck Finn Solar Project ("Project"), Staff reviewed how Ameren Missouri anticipates funding the projects and the effect the proposed financing would have on Ameren Missouri's credit metrics. According to the Application as well as witness Scott Wibbenmeyer's and witness Mitchell Lansford's Direct Testimony, Ameren Missouri will engage in the transactions in order to construct and finance the

Project, including transactions under the BTA with EDF Renewables Development, Inc. ("EDF Renewables") and utilizing a tax equity partnership ("TEP").

After Ameren Missouri filed this case, President Biden signed the Inflation Reduction Act of 2022 ("IRA") into federal law in the effective date of August 16, 2022. The IRA extends both the investment tax credit ("ITC") and production tax credit ("PTC"), creates additional wage and apprenticeship requirements, and the PTC is more favorable for customers than Ameren Missouri's previous tax strategy to utilize the ITC in combination with a TEP. Therefore, the IRA eliminates the need for a tax equity financing structure because the benefits of the PTC can be fully captured by Ameren Missouri. The purchase price of the Project under the BTA is approximately *** [redacted] ***.

With consideration of Ameren Missouri's financial capacity, the Applicant has the financial ability to provide the service. The Standard & Poor's ("S&P") expects over $5.5 billion in capital spending through 2023. Ameren Missouri plans to spend $9 billion through 2025 on grid modernization, transmission system build-out, and renewable generation capacity. Ameren Missouri is a wholly owned subsidiary of Ameren Corporation ("Ameren Corp."). Over the next three years, the S&P expects Ameren Corp.'s elevated capital spending to reflect roughly $10 billion in capital spending through 2024 across its electric transmission and electric and gas distribution businesses. S&P and Moody's rated both Ameren Missouri and Ameren Corp. as investment grade. S&P rated both Ameren Missouri and Ameren Corp. as "BBB+", while Moody's rated them as "Baa1". Considering the fact that the proposed cost for the Project is less than 10% of Ameren Missouri's capital expenditures through 2023, it is reasonable to conclude that Ameren Missouri has the financial ability to construct, operate, and maintain the Project.

Staff Expert/Witness: Seoung Joun Won, PhD.

Tax-Equity Partner

On August 16, 2022, President Biden signed into law the IRA, which includes new and revised tax incentives for clean energy projects. The IRA extends the current production tax credit's (PTC) for qualified facilities that begin construction prior to January 1, 2025 and reinstates the PTC for solar energy facilities, which were last eligible for the PTC if placed in service before 2006. Taxpayers that own qualified facilities are eligible for the PTC for electricity produced and sold during the 10-year period beginning on the date the facility was originally placed in service.

In Ameren Missouri's direct filing, Ameren Missouri had stated that it would pursue a tax equity partnership to finance the construction of the Huck Finn solar project. During a technical meeting with Ameren Missouri on October 5, 2022, Ameren Missouri stated that due to the passage of the IRA that Ameren Missouri would no longer purse a tax equity partner. Ameren provided analysis comparing the scenarios of continuing to utilize a tax equity partner and utilizing production tax credits (without a tax equity partner). Ameren Missouri's analysis shows that the net present value of the revenue requirement of using the PTCs saves Ameren Missouri customers more than utilization of the tax equity partner. Based upon the analysis performed by Ameren Missouri, Staff recommends that Ameren Missouri no longer pursue the use of a tax equity partnership to finance the construction and instead utilize the PTCs that will be generated by the Huck Finn solar project.

Ameren Missouri also requested that Staff waive the responses for data requests in this case concerning tax equity partners. Staff has agreed to waive the responses, however, if any party to this case recommends using a tax equity partner instead of utilizing the PTCs, additional time will be needed for Ameren to answer these data requests and for Staff's review of the responses.

Staff Expert/Witness: Kimberly K. Bolin

Is the Applicant's proposal economically feasible?

In Lindsey Forsberg's Direct Testimony,[34] she says "The proposed Project is a competitive, cost-effective option to meet Ameren Missouri's remaining compliance need, while also contributing to Ameren Missouri's overall generation fleet transformation." Scott Wibbenmeyer's testimony included its Economic Impact analysis of the Solar Generation Project in Missouri.[35] The Huck Finn Project anticipated that over 250 high-quality construction jobs will be created while the Project is being constructed. After completion of construction, approximately three permanent jobs will be required to operate the facilities. In addition, landowners in Audrain and Ralls Counties will receive *** [redacted] *** in lease payments during the first two decades of the Project's operation. The Huck Finn project also expects in addition to these direct economic benefits, indirect benefits will be realized by restaurants, gas stations, hotels, stores and other businesses during the construction phase in the vicinity of the Project. However those indirect benefits are not quantified in the testimony.

Staff Expert/Witness: Krishna L. Poudel, PhD

Staff's review indicates that the project is reasonably projected to be economically feasible from the standpoint of Ameren Missouri in that the Applicant will have a reasonable opportunity to recover its project costs. Ameren Missouri's revenue requirement resulting from the purchase will be partially recovered through the RESRAM and the remainder deferred pursuant to Section 393.1400 RSMo until Ameren Missouri's subsequent general rate case when the company can request recovery through base rates.

[34] Lindsey Forsberg's Direct Testimony, EA-2022-0244.
[35] Scott Wibbenmeyer's Direct Testimony, EA-2022-0244.

Establishment of the "need" being fulfilled is an important aspect in the determination of the economic feasibility of a given project. As stated by Staff witness Amanda Coffer, this project is needed for RES compliance given the expiration of the Pioneer Prairie PPA in 2024. Assuming Ameren Missouri's RES requirements and production moving forward will be much like calendar year 2024; Ameren Missouri will have a deficit of ** [redacted] ** RECs annually. As part of Staff's review of the feasibility of this project, Staff requested Ameren Missouri's quantification of the cost of alternative RES compliance. Ameren Missouri provided a cost estimate assuming a fixed price of RECs over the lifespan of the Huck Finn asset and a fixed REC requirement.[36] Based upon Ameren Missouri's analysis, the alternative cost of compliance with the Missouri RES standard may cost nearly ** [redacted] **[37] However, Ameren Missouri's analysis assigns value to each expected MWh produced by the Huck Finn Project. When adjusted to account for an annual REC deficit of ** [redacted] ** RECs, the cost of alternative RES compliance assuming a purchase price equal to ** [redacted] ** on a net present value basis.

The table below represents an estimate of the breakeven REC price to meet the REC deficit for various scenarios based on Ameren Missouri's representation of net present value revenue requirement ("NPVRR") impacts.[38] In other words, what cost would RECs need to exceed over the life of the Asset in order to make purchasing RECs a less favorable option for RES compliance than the purchase of the Huck Finn asset in each scenario? For example, Ameren Missouri estimates that the probability weighted average ("PWA") Price, Risk Adjusted Cost, and Base Capacity Factor scenario of the Huck Finn purchase results in an NPVRR impact of approximately

[36] Ameren Missouri response to Staff Data Request No. 0011.
[37] Ibid.
[38] The precise cost of future RECs is unknown at this time as is the exact number of RECs that would need to be purchased in a given year.

** [redacted] **. Assuming that Ameren has a REC deficit of ** [redacted] ** annually and REC prices average ** [redacted] ** years would result in a NPV cost of approximately ** [redacted]. ** In other words, if REC prices average less than ** [redacted] ** for that time period it would be cheaper to purchase RECs over that time period and vice versa.[39]

Table below - Breakeven REC price compared to the NPVRR of the project scenarios:

**

[redacted]

**

The breakeven REC price is calculated in order to put the cost of REC purchases on an equivalent basis as the NPVRR of the project in each scenario. As shown in the table above, the breakeven REC price for the scenarios range from ** [redacted]. **[40] Based upon Ameren Missouri's analysis of the NPVRR impact of the Huck Finn project in each scenario, if REC prices are stable above the threshold of ** [redacted]. **[41] However, if REC prices are below ** [redacted] ** scenarios indicate that the purchase of the Huck Finn project would be a lower cost option than purchasing RECs to fulfill the RES requirement.

[39] Based upon the assumptions in Ameren Missouri's analysis.
[40] Two of the scenarios indicate a negative breakeven REC price and were therefore omitted from the table.
[41] This is represented by the cells in the table that are shaded green.

Based on Ms. Coffer's analysis of Ameren Missouri's 2021 REC purchases, the minimum price per REC was ** [redacted]. ** Ms. Coffer also discusses the unpredictability in REC pricing. While the cost of purchasing RECs is uncertain, the assumed revenue attributable to Huck Finn in Ameren Missouri's modeling analysis is also uncertain. Ameren Missouri's determination of the NPVRR of the various scenarios is heavily dependent on the production of the Asset as well as the assumed market revenues from that production.

Ameren Missouri expects the Huck Finn project to produce more RECs annually than the calculated shortfall identified by Ms. Coffer. So long as a secondary market exists for selling RECs and Ameren Missouri actively sells the excess RECs, additional revenue from REC sales could flow back to ratepayers through the RESRAM. This additional potential revenue stream is not accounted for in the breakeven REC price analysis in the table above. Staff has included a recommended condition concerning the sale of excess RECs in the Recommendation section.

Staff Expert/Witness: J Luebbert

Does the service promote the public interest?

As stated in the Commission Report and Order on Remand in the EA-2016-0358 case:

> The public interest is a matter of policy to be determined by the Commission. It is within the discretion of the Commission to determine when the evidence indicates the public interest would be served.[42]

Staff's public interest assessment in this case involves the evaluation of all other Tartan Criteria: need for the project, its economic feasibility, the qualifications and financial ability of the entity requesting to construct and operate a project. Staff considers the evaluation of the separate Tartan criteria and whether, on balance, the project promotes the public interest.

[42] EA-2016-0358 Report and Order on Remand, Page 45.

Additionally, Staff reviews the project and whether there are any considerations not covered by the other Tartan Criteria that should be considered in the public interest assessment.

This section will discuss other considerations and Staff recommendations not covered by the other Tartan Criteria including Affiliate Transactions, in-service testing, the interconnection transmission line, and applicable IEEE standards.

Affiliate Transactions

In Ameren Missouri's direct testimony in this case[43], Ameren Missouri requested a waiver of the Affiliate Transaction Rules for transactions between the tax equity partnership, Ameren Missouri and Ameren Missouri Services Company (AMS). In particular Ameren Missouri requested a waiver of asymmetrical pricing standard outlined in 20 CSR 4240.20.015(2)(A) and (B) and the evidentiary standards outlined in 20 CSR 4240-20.015(3)(A)-(C). Since Staff is not recommending that Ameren Missouri utilize tax equity partner to finance the construction of the Huck Finn Solar project, a waiver of the Affiliate Transactions Rules is no longer needed.

Staff Expert/Witness: Kimberly K. Bolin

In-service Testing

In-service criteria are a set of operational tests or operational requirements developed by the Staff to determine whether a new unit is "fully operational and used for service."

The phrase "fully operational and used for service" comes from Section 393.135, RSMo. 2000, a statute that was adopted by Initiative, Proposition No. 1, on November 2, 1976. Section 393.135, RSMo. 2000, provides as follows:

> Any charge made or demanded by an electrical corporation for service, or in connection therewith, which is based on the costs of construction in progress upon any existing or new facility of the electrical corporation, or

[43] Direct Testimony of Mitchell Lansford.

> any other cost associated with owning, operating, maintaining, or financing any property before it is **fully operational and used for service**, is unjust and unreasonable, and is prohibited. [Emphasis added.]

Staff prefers to have in-service criteria that the parties can agree to prior to the case(s) in which the plant is put into rate base. In this case, Ameren Missouri provided Staff with the in-service criteria they are proposing to use for the proposed Huck Finn project in the confidential response to Staff Data Request No. 0008. Staff is in agreement that the in-service criteria is appropriate and should be used in a future case to determine whether the project be considered fully operational and used for service. These criteria are listed in Confidential Attachment SEL-1. Staff is also including the capacity test procedure as Confidential Attachment SEL-2. Staff recommends that the Commission note the in-service criteria contained in Confidential Attachment SEL-1 and Confidential Attachment SEL-2 are appropriate for use in a future case to determine whether the Huck Finn solar project is in-service.

Staff Expert/Witness: Shawn E. Lange, PE

Interconnection Transmission Line

The Huck Finn Project includes a small interconnection transmission line. At this time, the current owner of the project, EDF Renewables, has not requested a CCN from this Commission. Therefore, the authority that Staff recommends for the project, does not extend to the construction of the interconnection transmission line. If authority is needed for the construction of the interconnection transmission line, that authority will need to be requested.

Staff Expert/Witness: Shawn E. Lange, PE

Institute of Electrical and Electronics Engineers ("IEEE") standards

Unlike other Ameren Missouri solar projects, the Huck Finn solar project is intended to interconnect with the transmission system.

IEEE Standards Association ("IEEE SA") recently published a new standard related to projects such as Huck Finn. Specifically, on April 22, 2022, IEEE published IEEE Standard 2800™. IEEE Standard 2800™ is the Standard for Interconnection and Interoperability of Inverter-Based Resources Interconnecting with Associated Transmission Electric Power Systems. IEEE SA explained the need to establish a new standard: "Recent events in North America such as the Blue Cut Fire Disturbance as well as institutional challenges in North America that suggest the inappropriate use of IEEE Standard 1547™ for large-scale solar plants underscores this need."[44] IEEE Standard 1547™ is the IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces. The IEEE 1547 ™ is appropriate for distributed energy resources, such as net-metered customers.

North American Electric Reliability Corporation ("NERC") also highlighted the need for developing a standard that is pertinent to inverters used for generation that will be connected to the transmission system in its *1,200 MW Fault Induced Solar Photovoltaic Resource Interruption Disturbance Report*.

Staff is aware that IEEE Standard 2800™ will require its adoption by the regional authority governing interconnection requirements (AGIR)[45]. At this time Ameren Missouri represents the AGIR does not require compliance with IEEE Standard 2800™.[46] Staff is also aware that the Generator interconnection agreement was signed on April 8, 2022 while IEEE Standard 2800™ was not published until April 22, 2022.[47]

[44] https://sagroups.ieee.org/2800/#:~:text=Given%20that%20IEEE%20standards%20are%20voluntary%20industry%20standards%2C,resources%20interconnecting%20with%20associated%20transmission%20electric%20power%20systems.
[45] AGIR is an entity that defines, codifies, communicates, administers, and enforces the policies and procedures for allowing electrical interconnection of inverter-based resources interconnecting with associated transmission electric power systems.
[46] Ameren Missouri Response to Staff Data Request No. 0014.
[47] Ameren Missouri Response to Staff Data Request No. 0014.

Staff is concerned that NERC investigated the need for a standard for inverters interconnecting into the transmission system and IEEE SA developed IEEE Standard 2800 ™ however Huck Finn will adhere to IEEE Standard 1547™.

For IEEE Standard 1547™, the AGIR is defined as:

> A cognizant and responsible entity that defines, codifies, communicates, administers, and enforces the policies and procedures for allowing electrical interconnection of DER to the area Electric Power System (EPS). This may be a regulatory agency, public utility commission, municipality, cooperative board of directors, etc.[48]

Staff recommends the Commission condition the CCN on Huck Finn being constructed and operating in compliance with IEEE Standard 2800™.

Staff Expert/Witness: Shawn E. Lange, PE

RECOMMENDATION

Based on its review, Staff recommends the Commission grant Ameren Missouri a CCN to construct, install, own, operate, maintain, and otherwise control and manage a solar generation facility subject to the following conditions:

1. Ameren Missouri shall file with the Commission all as built drawings for the project no later than 60 days after the site is commercially operational.
2. Ameren Missouri shall file with the Commission the final version of the plans for restoration of safe and adequate service no later than 60 days after the site is commercially operational.
3. Ameren Missouri shall file with the Commission notice when the ownership of the communication line has been determined and no later than 60 days after the CCN is approved.
4. Progress Reports: Ameren Missouri shall file with the Commission quarterly progress reports on the plans and specifications for the Project, and the first report shall be due on the first day of the first calendar quarter beginning after the CCN is issued.
5. Staff recommends that Ameren Missouri no longer pursue the use of a tax equity partnership to finance the construction and instead utilize the PTCs that will be generated by the Huck Finn solar project.

[48] Reliability Guideline Bulk Power System Reliability Perspectives on the Adoption of IEEE 1547-2018, March 2020.

6. Staff recommends that the Commission note the in-service criteria contained in Confidential Attachment SEL-1 and Confidential Attachment SEL-2 are appropriate for use in a future case to determine whether the Huck Finn solar project is in-service.
7. The authority that Staff recommends for the project, does not extend to the construction of the interconnection transmission line.
8. Huck Finn shall be constructed and operating in compliance with IEEE Standard P2800™.
9. Ameren Missouri shall sell available RECs in excess of the Missouri RES requirements prior to expiration and the revenues of such sales shall be returned to ratepayers.
10. Ameren Missouri shall notify the Commission and provide an updated economic analysis if the upgrade cost exceeds those outlined in the GIA more than 15%.

Requested Variances

In paragraphs 37 of its Application, Ameren Missouri requests variances from certain Commission rules citing good cause.

Staff recommends the Commission reject Ameren Missouri's waiver request from certain rules regarding affiliate transactions, 20 CSR 4240-20.015(2) and (3), since Staff is not recommending that Ameren Missouri utilize tax equity partner to finance the construction of the Huck Finn Solar project making a waiver of the Affiliate Transactions Rules is no longer needed.

Staff recommends the Commission approve Ameren Missouri's waiver request from certain filing requirements pursuant to 20 CSR 4240-20.045(3)(C), subject to condition, such that Ameren Missouri may: (1) provide as-built drawings; and (2) submit its overview of plans for restoration of safe and adequate service after significant, unplanned/forced outages, no longer than 60 days after the site is commercially operational.

Staff Expert/Witness: Shawn E. Lange, PE

Attachments:

Confidential Attachment SEL-1 - In-service Criteria

Confidential Attachment SEL-2 - Capacity Test Procedure

Schedule 1 - Staff Credientials

SCHEDULE SEL-1

and

SCHEDULE SEL-2

HAVE BEEN DEEMED

CONFIDENTIAL

IN THEIR ENTIRETY

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF KIMBERLY K. BOLIN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KIMBERLY K. BOLIN, and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report;* and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kimberly K. Bolin
KIMBERLY K. BOLIN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Dianna L. Vaught
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF AMANDA COFFER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW AMANDA COFFER, and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report;* and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Amanda Coffer
AMANDA COFFER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Dianna L. Vaught
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF SHAWN E. LANGE, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SHAWN E. LANGE, PE, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Shawn E Lange
SHAWN E. LANGE, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Dianna L. Vaught
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW J LUEBBERT, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

J LUEBBERT

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF BRODRICK NIEMEIER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW BRODRICK NIEMEIER, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Brodrick Niemeier
BRODRICK NIEMEIER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 29 day of November, 2022.

Dianna L. Vaught
Notary Public

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF KRISHNA L. POUDEL, PhD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KRISHNA L. POUDEL, PhD, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Poudel

KRISHNA L. POUDEL, PhD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Dianna L. Vaught

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Renewable Generation Facility	)))))	File No. EA-2022-0244

AFFIDAVIT OF SEOUNG JOUN WON, PhD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SEOUNG JOUN WON, PhD, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

SEOUNG JOUN WON, PhD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 29th day of November, 2022.

DIANNA L VAUGHT
Notary Public - Notary Seal
STATE OF MISSOURI
Cole County
My Commission Expires: July 18, 2023
Commission #: 15207377

Notary Public