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Exhibit No. 105

Staff – Exhibit 105
Amanda Coffey
Direct Testimony (Revenue Requirement)
File No. ER-2022-0337

Exhibit No.:
Issue(s): Cape Girardeau and
Sioux Energy Center
Landfill In-Service
Witness: Amanda Coffey
Sponsoring Party: MoPSC Staff
Type of Exhibit: Direct Testimony
Case No.: ER-2022-0337
Date Testimony Prepared: January 10, 2023

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

**DIRECT TESTIMONY
Revenue Requirement**

OF

AMANDA COFFER

**UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI**

CASE NO. ER-2022-0337

*Jefferson City, Missouri
January 2023*

1 **DIRECT TESTIMONY OF**

2 **AMANDA COFFER**

3 **UNION ELECTRIC COMPANY,**
4 **d/b/a AMEREN MISSOURI**

5 **CASE NO. ER-2022-0337**

6 Q. Please state your name and business address.

7 A. My name is Amanda Coffe, and my business address is Missouri Public Service
8 Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

9 Q. By whom are you employed and in what capacity?

10 A. I am employed by the Missouri Public Service Commission (“Commission”)
11 as an Associate Engineer in the Engineering Analysis Department of the Industry Analysis
12 Division.

13 Q. Please describe your educational background and relevant work experience.

14 A. I received my Bachelor of Science degree in Chemical Engineering from the
15 University of Missouri in 2012. I was employed by the Missouri Department of Natural
16 Resources as an Environmental Engineer from 2015 through 2018. I have been employed by
17 the Commission since 2018 as an Associate Engineer. My credentials and case participation are
18 included in Schedule AC-d1.

19 Q. What is the purpose of your direct testimony?

20 A. The purpose of my direct testimony is to address the in-service status of the
21 Cape Girardeau Renewable Energy Center and the new interim cell at the Sioux Energy
22 Center Landfill.

23 **IN-SERVICE CRITERIA**

24 Q. What are in-service criteria?

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

3 Q. Where does the phrase "fully operational and used for service" come from?

4 A. The phrase comes from Section 393.135, RSMo. 2000, a statute that was
5 adopted by Initiative, Proposition No. 1, on November 2, 1976. Section 393.135, RSMo. 2000,
6 provides as follows:

7 Any charge made or demanded by an electrical corporation for service,
8 or in connection therewith, which is based on the costs of construction
9 in progress upon any existing or new facility of the electrical corporation,
10 or any other cost associated with owning, operating, maintaining, or
11 financing any property before it is fully operational and used for service,
12 is unjust and unreasonable, and is prohibited. [Emphasis added.]

13 Q. What does it mean for a facility to be "fully operational and
14 used for service"?

15 A. Staff considers a unit to be "fully operational and used for
16 service" once all major construction has been completed and the facility
17 is placed into service in the manner that it was intended and operating as
18 intended. Staff determines whether a new or acquired unit is "fully
19 operational and used for service" by evaluating the unit based on specific
20 criteria. The criteria may be different depending on the type of unit that
21 is being evaluated. The specific criteria is discussed in more detail in the
22 sections below.

23 **CAPE GIRARDEAU RENEWABLE ENERGY CENTER**

24 Q. Please describe the project designated as the Cape Girardeau Renewable
25 Energy Center.

26 A. The Cape Girardeau Renewable Energy Center is a 1.2 MWac solar project
27 located near Southeast Missouri State University's Show Me Center in Cape Girardeau. It was
28 developed as part of Ameren's Neighborhood Solar Program. Construction for the facility
29 began in October 2021, and was operational in July 2022. However, the contractor then
30 upgraded some of the cables and the facility was derated for a period of time.

1 Q. What criteria does Staff use to determine whether a new solar generating unit is
2 "fully operational and used for service?"

3 A. In this case, Staff recommends the solar in-service criteria contained in
4 Schedule AC-d2. The solar in-service criteria includes the typical criterion that Staff has
5 utilized in other cases, such as all major construction work is complete and whether there are
6 sufficient distribution assets for the facility. In addition to confirmation that the solar facility
7 is producing energy, the solar in-service testing includes a capacity test. This test evaluates the
8 system's power generating capability. Solar generation has inherent uncertainties related to
9 weather conditions such as temperature, irradiance, and seasonal variability. The benefit of the
10 capacity test is that it is a shorter-duration test, which corrects for these weather conditions.
11 The solar in-service criteria proposed by Staff in this case are comparable to the criteria used
12 for other solar facilities, such as Ameren Missouri's O'Fallon Renewable Energy Center.

13 Q. Has Staff evaluated Cape Girardeau Renewable Energy Center based on
14 these criteria?

15 A. Yes.

16 Q. What were Staff's findings?

17 A. The status of the evaluations are summarized in Schedule AC-d2. At this time
18 Staff is unable to determine if all of the seven in-service criteria have been met. Staff noted a
19 discrepancy between the contract capacity and the capacity listed in the verification data. Staff
20 is currently awaiting a response to Data Requests 259.2 and 259.3 in order to finish its
21 evaluation of the in-service criteria.

22 Q. Have you personally visited the Cape Girardeau Renewable Energy Center?

23 A. Yes. I visited the site on December 12, 2022.

1 Q. What is your conclusion regarding in-service for the Cape Girardeau Renewable
2 Energy Center?

3 A. As of Staff's update period, June 30, 2022, the Cape Girardeau Renewable
4 Energy Center was not in-service. Therefore, Staff is not recommending that it be considered
5 fully operational and used for service through the update period, and is not including its
6 associated costs in rates at this time. Staff will finish its evaluation upon receipt of the responses
7 to Data Requests 259.2 and 259.3, and will provide its recommendation concerning satisfaction
8 of the in-service criteria in true-up direct testimony.

9 **SIoux UTILITY WASTE LANDFILL**

10 Q. Please describe the Sioux Utility Waste Landfill project.

11 A. The Sioux Utility Waste Landfill (Landfill) is an existing utility waste landfill
12 located at Ameren's Sioux Energy Center in northeastern St. Charles County. Ameren has
13 recently constructed a new interim cell at the Landfill to dispose of coal combustion materials.

14 Q. What criteria does staff use to determine whether a landfill is "fully operational
15 and used for service?"

16 A. Landfills require an operating permit from Missouri Department of Natural
17 Resources (DNR) in order to operate. In order to obtain a permit, the permittee has to
18 demonstrate compliance with the requirements of 10 CSR 80-2.020(4)(C) to the satisfaction of
19 DNR Waste Management Program. Staff considers a landfill to be "fully operational and used
20 for service" if it has the appropriate operating permit from DNR.

21 Q. Does the Sioux Utility Waste Landfill have a permit from DNR?

1 A. Yes. The Sioux Utility Waste Landfill received its original permit from DNR in
2 2010. Ameren has also received authorization from DNR to operate its new interim cell under
3 its existing permit.

4 Q. What is your conclusion regarding in-service for the Ameren Sioux Utility
5 Waste Landfill?

6 A. Ameren provided a letter from the DNR Waste Management Program, dated
7 November 16, 2022, indicating that Ameren has been granted authorization to operate
8 Interim Cell 2 at the Ameren Sioux Utility Waste Landfill under the existing permit¹.
9 Therefore, I recommend that Interim Cell 2 at the Ameren Sioux Utility Waste Landfill be
10 considered fully operational and used for service.

11 **CONCLUSION**

12 Q. Does this conclude your direct testimony?

13 A. Yes it does.

¹ Response to Staff Data Request 11.2.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust)
Its Revenues for Electric Service) Case No. ER-2022-0337

AFFIDAVIT OF AMANDA COFFER

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW AMANDA COFFER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Direct Testimony of Amanda Coffe*r; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


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 5th day of January 2023.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070


Notary Public

Amanda Coffey

Present Position:

I am an Associate Engineer in the Engineering Analysis Department, of the Industry Analysis Division of the Missouri Public Service Commission.

Educational Background and Work Experience:

I received my Bachelor of Science in Chemical Engineering from the University of Missouri in 2012. I was employed by the Missouri Department of Natural Resources as an Environmental Engineer from 2015 through 2018. I have been employed by the Commission since 2018.

Case History:

Case Number	Utility	Type	Issue
EC-2020-0252	Evergy West	Electric	Formal Complaint
EO-2019-0315	KCPL	Electric	RES Compliance Report
EO-2019-0317	KCPL	Electric	RES Compliance Plan
EO-2019-0396	City of Gallatin	Electric	Addendum to Territorial Agreement
EO-2020-0060	Farmers' Electric	Electric	Territorial Agreement
EO-2020-0329	Evergy Metro	Electric	RES Compliance
EO-2020-0331	Evergy Metro	Electric	RES Compliance
EO-2020-0341	Evergy Metro	Electric	Vegetation Management Report
EO-2020-0342	Evergy West	Electric	Vegetation Management Report
EO-2021-0001	Empire	Electric	Reliability Compliance Report
ET-2021-0082	Ameren	Electric	Surge Protection Program
SA-2019-0161	United Services	Sewer	Depreciation
SR-2019-0157	S.K.&M.	Sewer	Depreciation
EA-2020-0371	Ameren	Electric	CCN Application Requirements
EO-2021-0163	SEMO	Electric	Change of Supplier
EO-2021-0345	Evergy Metro	Electric	RES Compliance
EO-2021-0346	Evergy West	Electric	RES Compliance
EO-2021-0347	Evergy Metro	Electric	RES Compliance
EO-2021-0348	Evergy West	Electric	RES Compliance
SA-2022-0014	Elm Hills	Sewer	Depreciation

SA-2022-0029	Mid Mo Sanitation	Sewer	Depreciation
EE-2022-0074	Ameren	Electric	Variance Request
WA-2021-0391/SA-2021-0392	Missouri American Water	Water/Sewer	Depreciation
WA-2022-0049	Missouri American Water	Water/Sewer	Depreciation
ER-2021-0240	Ameren	Electric	Rate Case
ER-2021-0312	Empire	Electric	Rate Case
ER-2022-0129	Evergy	Electric	Rate Case – Green Pricing Plan
WA-2023-0003	Confluence Rivers	Water/Sewer	Depreciation
GR-2022-0179	Spire	Gas	Depreciation
EA-2022-0244	Ameren	Electric	Renewable Energy

Staff has utilized the following in-service criteria to evaluate solar facilities prior to inclusion in a utility's rate base:

1. All major construction work is complete.

Construction of the Cape Girardeau solar facility was completed and the facility was initially operational on July 20, 2022. After submitting the as-built drawings for final drafting, the contractor informed Ameren that the AC cables from the inverters to the main switchboard were derated and new, larger cables needed to be installed. The cables were ordered and the 8 inverters affected by this issue were de-energized for safety reasons. The cables have since been installed. Ameren has provided a letter from its contractor indicating that the facility was substantially completed as of November 2, 2022.¹

Criterion 1 has been met.

2. All preoperational tests have been successfully completed.

Ameren provided the following documents in response to this requirement:

- Ameren Show Me Center – 395W.pdf
- Ameren Show Me Center 400W.pdf
- Array #1 Installation Inspection Report.pdf
- Array #2 Installation Inspection Report.pdf
- Array #3 Installation Inspection Report.pdf
- Array #4 Installation Inspection Report.pdf
- Array #5 Installation Inspection Report.pdf
- Array #6 Installation Inspection Report.pdf
- Array #7 Installation Inspection Report.pdf
- Array #8 Installation Inspection Report.pdf
- Cable Megger Test Results.pdf
- DC Local Control Distribution Panel Checklist.pdf
- Low Voltage Disconnect Switch Checklist.pdf
- Medium Voltage Dry Type Transformer Checklist.pdf
- North Array DC Voltages.pdf
- South Array DC Voltages.pdf
- PV Megger Testing.pdf

Criterion 2 has been met.

3. Facility successfully meets contract operational guarantees that are necessary for satisfactory completion of all other items in this list.

The Company provided the capacity test procedures, capacity test data², and its executed contracts for Cape Girardeau Renewable Energy Center³. Staff reviewed these documents

¹ Data Request 259.1.

² Company response to Data Request 259, AUE-SPEC-000026-Rev 1_conformed final_Section 16999 Inspection and Testing.pdf, and CGREC_Capacity Verification Datasheet_2022-07-25_rev1.xlsx.

³ ER-2021-0240, Data Request 432.

and the only operational guarantee related to other items on the list is the satisfactory completion of the Capacity Test, which is further discussed in item 5 below.

Awaiting DR 259.2 response in order to determine whether criterion 3 has been met.

4. Upon observation of the facility for 72 consecutive hours, the facility will have demonstrated that when sunlight was shining on it, during that period, it produced power in a standard operating mode.

The Company provided the capacity test procedures and data⁴ from a capacity test that was completed over a four day period, July 21, 2022 through July 24, 2022. The data demonstrates that power was produced when sunlight was shining. However, the capacity test was conducted prior to the installation of new cables.

Awaiting DR 259.3 response in order to determine whether criterion 4 has been met.

5. Facility shall meet at least 95% of the guaranteed capacity (in MW AC) based on the Capacity Test Procedures provided in DR 259. The Capacity Test shall determine the facility's Corrected Capacity at the Design Point Conditions.

The Company provided the capacity test procedures and data⁵ from a capacity test that was completed over a four day period.

In reviewing the capacity test procedures and capacity test data, Staff noticed a discrepancy between the Capacity Test Calculations in section 4.1.2.1 of the Inspection and Testing Procedures and the calculations in the Capacity Verification Datasheet. Staff has sent a DR requesting clarification.

Awaiting DR 259.2 response in order to determine whether criterion 5 has been met.

6. Sufficient transmission/distribution interconnection facilities shall exist for the total plant design net electrical capacity at the time the facility is declared fully operational and used for service.

Ameren provided a Generation Interconnection Study⁶ that was performed to determine impacts on the Ameren Missouri Electric System resulting from the connection and operation of the Cape Girardeau Renewable Energy Center.

Criterion 6 has been met.

7. Sufficient transmission/distribution facilities shall exist for the total plant design net electrical capacity into the utility service territory at the time the facility is declared fully operational and used for service.

⁴ Company response to Data Request 259, AUE-SPEC-000026-Rev 1_conformed final_Section 16999 Inspection and Testing.pdf, and CGREC_Capacity Verification Datasheet_2022-07-25_rev1.xlsx.

⁵ Company response to Data Request 259, AUE-SPEC-000026-Rev 1_conformed final_Section 16999 Inspection and Testing.pdf, and CGREC_Capacity Verification Datasheet_2022-07-25_rev1.xlsx.

⁶ Company response to Data Request 259, DG93 - Show Me Solar Generation Connection Study Report - Rev 0.pdf.

Ameren provided a Generation Interconnection Study⁷ that was performed to determine impacts on the Ameren Missouri Electric System resulting from the connection and operation of the Cape Girardeau Renewable Energy Center.

Criterion 7 has been met.

⁷ Company response to Data Request 259, DG93 - Show Me Solar Generation Connection Study Report - Rev 0.pdf