MISSOURI PUBLIC SERVICE COMMISSION

STAFF REBUTTAL REPORT

THE EMPIRE DISTRICT ELECTRIC COMPANY
D/B/A LIBERTY

CASE NO. EA-2025-0299

Jefferson City, Missouri
May 7, 2026

** Denotes Confidential Information **

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I. Executive Summary

On October 24, 2025, The Empire District Electric Company d/b/a Liberty filed an application for a Certificate of Convenience and Necessity ("CCN") authorizing it to construct, install, own, operate, maintain, and manage a new approximately 250 MW F-class combustion turbine ("CT") generator at the existing State Line Power Station in Joplin, Missouri ("Project"). The project also includes a generator step-up transformer, a short transmission line, and a new position at an existing substation. Staff reviewed the application under the five Tartan criteria: 1) need, 2) qualifications, 3) financial ability, 4) economic feasibility, and 5) promotion of the public interest.

Based on that review, Staff recommends that the Commission **grant the requested CCN**, subject to the conditions identified in Staff's recommendation. Staff concludes that the project is needed to support Empire's resource adequacy obligations, particularly in light of Southwest Power Pool ("SPP") planning reserve margin and accreditation changes. Staff also concludes that Empire is qualified to construct and operate the project, has the financial ability to undertake it, and that the project is likely economically feasible notwithstanding significant cost uncertainty and limited contingency protection.

Staff's support for the CCN is not unconditional. The record shows material concerns regarding project cost escalation, turbine market constraints, the absence of a completed competitive procurement process for key project components, uncertainty regarding the final Generator Interconnection Agreement ("GIA"), fuel-delivery arrangements, permitting, possible selective catalytic reduction ("SCR") requirements, and the project's ultimate in-service status. Staff also questions whether Empire fully evaluated whether a larger J-class combustion turbine could have better addressed Empire's long-term capacity needs, although Empire's ERAS filing limited the present project to 250 MW.

Accordingly, Staff recommends that any CCN be conditioned on substantial reporting, filing, and operational requirements. These include monthly updates on the subcontractor RFP process; monthly construction progress and budget reports; monthly construction monitoring reports; quarterly updates on natural gas pipeline upgrades; filing of the executed ERAS GIA, procurement agreement, and Engineering, Procurement, Construction ("EPC") agreement; submission of emergency, operations and maintenance, and restoration plans; notice and documentation regarding any SCR requirement; permitting for backup-fuel tuning; winter tuning procedures; and use of Staff's in-service criteria.

Staff further recommends ratemaking safeguards. The Construction Work In Progress ("CWIP") limit should be set at the ** [redacted] **, reduced by ** [redacted] ** if SCR equipment is not required, and further limited by jurisdictional allocations in the later rate case. Liberty should also be required to show that CWIP treatment is less costly than traditional AFUDC deferral. If Liberty later

seeks Plant In Service Accounting ("PISA") treatment, it must show that the 85% return component is not calculated on CWIP amounts already being recovered in rate base. Liberty should also pursue available sales tax exemptions, Chapter 100 development incentives, and PILOT options, and report the resulting savings.

Finally, Staff recommends that the Commission **reject Empire's request for decisional prudence** in this case. Staff's position is that the prudence of Empire's decision, procurement strategy, costs, timing, and alternatives should be reviewed in a future general rate case, when the Commission will have a more complete record.

In sum, Staff recommends **approval with guardrails**: the project should be authorized because it is needed for resource adequacy, but the authorization should be conditioned to preserve Commission oversight, protect ratepayers, and defer prudence and cost-recovery determinations until a fuller record is available.

II. Application Summary

Empire selected 1898 & Co. (a Division of the Burns & McDonnell Engineering Company, Inc.) to perform a Technology Assessment Study ** [redacted] **.[1] Empire also hired 1898 & Co. to conduct a Site Selection Study ** [redacted] **[2].

[1] Company Witness Shaen Rooney Confidential Direct Schedule SR-3, Page 7.
[2] Company Witness Shaen Rooney Confidential Direct Schedule SR-1, Page 8.

During its May 6, 2025, meeting, the SPP Board of Directors approved SPP's proposed Expedited Resource Adequacy Study ("ERAS"). ERAS is a one-time, expedited study process designed to significantly accelerate the addition of new generating resources to the grid.[3] SPP filed its ERAS proposal with the Federal Energy Regulatory Committee ("FERC") on May 22, 2025, and FERC approved the filing on July 21, 2025.[4] Empire submitted its ERAS application to SPP on September 26, 2025, and the application was accepted into SPP's ERAS study queue on October 14, 2025.[5]

The 1898 & Co. Technology Assessment Study was conducted concurrently with their Site Selection Study. The Technology Selection Study analyzed multiple gas turbine technologies to determine applicable efficiencies; fuel flexibilities; reliability; and lifecycle costs and ultimately arrived at the identification of the F-class turbine as their preferred option. ** [redacted] **.

[3] https://www.spp.org/news-list/spp-board-approves-expedited-generation-interconnection-process-to-help-meet-regional-resource-adequacy/
[4] Aaron J. Doll Direct Testimony Page 7, lines 12-13.
[5] Aaron J. Doll Direct Testimony Page 8, lines 19-21.

The Confidential Supplemental Direct Testimony of Shaen Rooney, page 7 beginning on line 3 states,

** [redacted] .**

Company Witness Shaen Rooney further stated on page 7, beginning on line 17,

** [redacted] . **

The original estimate for the Project was approximately ** [redacted] **,[6] excluding overheads and Allowance for Funds Used During Construction ("AFUDC"). The updated total Project budget is now approximately ** [redacted] **[7] and includes overheads and AFUDC. The estimated cost to complete the Project[8] has increased

[6] Supplemental Direct Testimony of Shaen T. Rooney, page 8 line 22.
[7] Supplemental Direct Testimony of Shaen T. Rooney, page 9, line 1.
[8] Supplemental Direct Testimony of Shaen T. Rooney page 9, line 6.

by ** [redacted] **, by incorporating overheads and AFUDC with ** [redacted] ** of the revised estimated total remaining budgeted for a SCR system if required by the Missouri Department of Natural Resources ("MDNR") air emission source construction permit.

** [redacted] . ** Ultimately, the State Line site in Joplin, Missouri was chosen as the preferred site due to its transmission and site development suitability, including from an environmental and permitting perspective. The Figure and Tables on the following pages are taken from the Confidential 1898 & Co. Site Evaluation Study visually show rankings of the sites reviewed, and the criteria used for evaluation of the various sites.

** [redacted]

[redacted]

**

** [redacted] **

** [redacted] **

Empire has met the minimum filing requirements of Commission Rules 20 CSR 4240-2.060, 20 CSR 4240-20.045(3), and 20 CSR 4240-20.045(6) in the submission of their CCN Application, Direct Testimony, and their Supplemental Direct Testimony. Schedule 2.1 – Summary of Application Filing Requirements contains Staff's more detailed review and analysis.

Review of this case has been unusually complicated by the fact that Empire has had difficulty finding an ** [redacted] **.[10]

Staff Witness: Donald A. Fontana, P.E.

III. Five Tartan Criteria

1. Need

In evaluating whether the State Line Project is needed, Staff considers the following questions:

- Is the project both important to the public convenience and desirable for public welfare?
- Or is the project effectively a necessity because the lack of the service is such an inconvenience?

Empire stated[11] that the Project is needed primarily to satisfy changing resource adequacy requirements. The SPP made changes to resource capacity accreditation and planning reserve margins ("PRMs") which were the primary drivers of the changes to Empire's resource adequacy requirements. SPP adopted performance-based accreditation

[9] Supplemental Direct Testimony of Shaen T. Rooney, page 6, line 8.
[10] See Confidential DR. No. 14 and various supplemental submittals designated DR No. 14.1.
[11] Application page 5, paragraphs 19 and 20.

("PBA") and effective load carrying capability ("ELCC") accreditation methodologies, and established separate base PRMs for the summer and winter planning seasons when previously only a single base PRM was used for both planning seasons.[12]

a) Empire's Preferred Plan Update Capacity Balances

According to data included in Tables 6 and 7 in Empire's October 2025 Preferred Plan Update ("Preferred Plan Update"),[13] without the proposed Project, Empire will have capacity deficiencies of nearly ** [redacted] ** beginning in Summer 2031 and approximately ** [redacted] ** beginning in Winter 2029-2030. Empire's capacity positions for 2025-2044, based on Tables 6 and 7 in Empire's Preferred Plan Update, are illustrated in Figures 1 and 2. In addition to the Project, Empire's Preferred Plan Update includes additional natural gas units including another 240 MW Frame CT in 2036 and Reciprocating Internal Combustion Engine ("RICE") units in 2041-2044. This highlights that additional capacity is needed in order for Empire to satisfy its resource adequacy requirements with SPP.

[12] Aaron J. Doll Direct Testimony Page 7, lines 1-9.
[13] Commission Case No. EO-2024-0280.

**

[redacted]

**

**

[redacted]

**

b) Adjustments to Empire's Capacity Balances

Tables 6 and 7 in Empire's Preferred Plan Update show the accredited capacity ("ACAP") for the Project as ** [redacted] ** for both the summer and winter planning seasons. This represents ** [redacted] ** of the 240 MW nameplate capacity of the Project, as shown in Empire's Preferred Plan Update.[14] ** [redacted] **.[15] Staff calculated the summer ACAP for the Project as approximately ** [redacted] ** and the winter ACAP for the Project as approximately ** [redacted] **, as explained in Schedule 3.1 attached to this Report. The ACAP values calculated by Staff are lower than the ACAP values included in Empire's Preferred Plan Update. Staff acknowledges that the ACAP for the Project is likely to increase from Staff's calculated values after the Project is placed into service, assuming that the Project has minimal forced outages, due to actual operating information being used to determine the ACAP rather than conventional resources class averages. However, Staff's analysis indicates that the Project may not contribute as much capacity to Empire's resource adequacy capacity position, initially, as is reflected in Empire's Preferred Plan Update.

Staff notes that Empire would not have had been able to incorporate the 2026 conventional resources class averages[16] used in Staff's calculations in its Preferred

[14] Empire's Application lists the nameplate capacity of the Project as 250 MW.
[15] Empire's response to Staff Data Request 0106, attached as Schedule 3.2. The voluminous attachments are available via the Commission's Electronic Filing and Information System ("EFIS").
[16] SPP Conventional Resources Class Averages – Summer 2026, published October 1, 2025. SPP Conventional Resources Class Averages – Winter 2026-27, published March 31, 2026.

Plan Update. However, Empire would have had access to the 2025 conventional resources class averages. The 2025 conventional resources class averages values also result in ACAP values less than those used in Empire's Preferred Plan Update, ** [redacted] ** for the summer planning season and ** [redacted] ** for the winter planning season. ** [redacted] **.[17]

SPP has also published the ACAP PRM values for Summer 2026 and Winter 2026-2027, which are 7.06%[18] and 15.28%,[19] respectively. The ACAP PRM values used in Empire's Preferred Plan Update for Summer 2026 and Winter 2026-2027 were ** [redacted] **, respectively. The ACAP PRM values used by Empire were lower than the ACAP PRMs published by SPP. This indicates that Empire may have underestimated future ACAP PRMs in its Preferred Plan Update and may need to adjust how future ACAP PRMs are estimated for resource planning purposes. However, Staff notes that Empire's estimated ACAP PRMs for the winter planning season include a ** [redacted] ** increase between Winter 2028-2029 and Winter 2029-2030. SPP has set the base PRM for Winter 2028-2029 as 36% and the base PRM for Winter 2029-2030 as 38%.[20] It is unclear to Staff why Empire has estimated such a significant increase in the ACAP PRM when the

[17] Empire's response to Staff Data Request 106 attached as Schedule 3.2. The voluminous attachments are available via EFIS.
[18] SPP ACAP PRM – Summer 2026, published September 26, 2025.
[19] SPP ACAP PRM – Winter 2026-27, published March 31, 2026.
[20] SPP Planning Criteria, Revision 4.6, published February 10, 2026.

change to the base PRM is not as significant. In response to Staff Data Request 110[21], Empire explained how it estimated ACAP PRMs. However, without the underlying values Empire used to calculate the ACAP PRMs, Staff cannot determine why the estimated ACAP PRM increases so significantly in Winter 2029-2030. If the ACAP PRM increases less significantly than what Empire has estimated, then Empire's capacity position may be more favorable after the Project is placed into service.

Figures 3 and 4 illustrate Empire's capacity balance when making the following adjustments: 1) Increased ACAP PRM in 2026, 2) Increased ACAP PRMs in subsequent years,[22] 3) Reduction in the ACAP for the Project, 4) Reduction in the ACAP for the proposed Frame CT in 2036,[23] and 5) Change in-service date of the Project from 2029 to 2030.[24]

[21] Schedule 3.3, voluminous attachments available in EFIS.
[22] Staff adjusted future ACAP PRMs by substituting the actual ACAP PRMs published by SPP for any future ACAP PRMs that were less than the actual ACAP PRMs published by SPP. Staff finds it unlikely that ACAP PRMs will decrease in the near future.
[23] Empire included the same ACAP for the proposed Frame CT in 2036, so Staff made the same adjustment as for the Project.
[24] Empire's supplemental response to Staff Data Request 0027.1, attached as Schedule 3.4, states that the in-service date has changed from April 2030 to August 2030.

**

[redacted]

**

[redacted]

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The adjustments to include the actual ACAP PRMs for 2026 indicate that Empire will have a capacity deficiency of almost ** [redacted] ** for Summer 2026 and approximately ** [redacted] ** for Winter 2026-2027. The adjustments to the subsequent ACAP PRMs indicate that Empire may also have a capacity deficiency for Winter 2027-2028 and Winter 2028-2029. The change of the in-service date for the Project from 2029 to August 2030 will result in a capacity deficiency of approximately ** [redacted] ** for Winter 2029-2030. The adjustments to the ACAP for the Project and the ACAP PRMs for the summer planning season do not change that the Project would provide sufficient capacity once placed into service. The impact of the adjustments to the ACAP for the Project and the ACAP PRMs for the winter planning season are more pronounced. The Project would provide Empire with sufficient capacity for Winter 2030-2031 through Winter 2032-2033, but Empire would then have a capacity deficiency until a second 240 MW Frame CT is put into service in 2036.

** [redacted] [25] [redacted] **.[26] When the ACAP values were calculated for Empire's IRP and Preferred Plan Update, conventional resources class averages were the primary drivers of the ACAP for Empire's existing resources.[27] As more operating data is collected and used in place of

[25] Empire's response to Staff Data Request 106 attached as Schedule 3.2. The voluminous attachments are available via EFIS.
[26] Empire's responses to Staff Data Requests 107 attached as Schedule 3.5 and 108 attached as Schedule 3.6.
[27] Attachments to Empire's response to Staff Data Request 106 attached as Schedule 3.2. The voluminous attachments are available via EFIS.

conventional resources class averages to calculate ACAP values, generating units with less forced outages will have an increased ACAP. However, generating units with more forced outages will have a decreased ACAP. Staff concludes that actual operating data could result in increased ACAP for Empire's existing generating units, as indicated by Empire, which would lead to an improved capacity position.

c) 2026 IRP Annual Update

On March 13, 2026, Empire filed its 2026 IRP Annual Update Report ("Annual Update").[28] In the Annual Update, Empire provided 2026 budget / SPP resource adequacy capacity balance tables for the summer and winter planning seasons. The capacity balance tables covered summer planning seasons 2026 through 2030 and winter planning seasons 2025-2026 through 2030-2031. Compared to the capacity balance tables in the Empire's Preferred Plan Update, updates were made to peak demand forecasts, ACAP values for capacity resources, and ACAP PRMs.

Empire's Annual Update notes that the 2025 IRP provides long-term peak demand forecasts using statistically adjusted end-use ("SAE") methodology, while the budget forecasts in the Annual Update use a shorter-term non-SAE forecast methodology. The peak demand forecasts in the Annual Update were slightly higher than the peak demand forecasts in the Preferred Plan Update.

The ACAPs for most generating units are higher in the Annual Update than in the Preferred Plan Update, resulting in more total capacity than in the Preferred Plan Update.

[28] Commission Case No. EO-2026-0230.

The changes to the ACAPs were likely due to more operating data being incorporated into ACAP calculations in place of conventional resources class averages, and any changes to the demonstrated maximum output of individual generating units.

Empire updated the summer ACAP PRMs to ** [redacted] **, which matches the 2026 Summer ACAP PRM published by SPP, and updated the winter ACAP PRM for future winter planning seasons to ** [redacted] ** which is closer to, but still less than, the Winter 2026-2027 ACAP PRM.[29] A notable difference for the ACAP PRMs is that in the Preferred Plan Update, Empire forecasted changes to the ACAP PRM for each planning season but in the Annual Update, Empire used a static ACAP PRM for each future planning season. ** [redacted] **.[30] Empire's expectation regarding ACAP PRM increases causes Staff to further question the significant increase to the ACAP PRM for Winter 2029-2030 in Empire's Preferred Plan Update. However, Staff notes that Empire generally forecasted year-to-year increases to ACAP PRMs in the Preferred Plan Update, so static ACAP PRMs are also unlikely to be representative of near-term ACAP PRMs.

Due to the methodology differences and other changes discussed above, Empire's Annual Update does not provide for a direct comparison or update to Empire's Preferred Plan Update. However, it can provide a differing view of Empire's capacity positions in the near

[29] Empire's Annual Update was filed on March 13, 2026 and the Winter 2026-2027 ACAP PRM was published on March 31, 2026.
[30] Empire's response to Staff Data Request 113 attached as Schedule 3.7. The voluminous attachments are available via EFIS.

future. Staff adjusted the Annual Update information to use Staff's calculated ACAP for the Project and updated the future winter ACAP PRMs to the Winter 2026-2027 ACAP PRM published by SPP. Empire would have sufficient capacity for all planning seasons covered by the Annual Update except for a capacity deficiency of approximately ** [redacted] ** for the Winter 2029-2030. Staff cannot conclude that the Annual Update fully alleviates the capacity concerns raised, primarily due to uncertainty regarding the ACAP PRMs used for future planning seasons.

d) Empire's Capacity Balances with J-Class CT

The Technology Assessment Study included as Schedule SR-3 in the Direct Testimony of Shaen T. Rooney identified a 420 MW J-Class simple cycle Frame CT as a possibility for the Project. In order to analyze the resource adequacy implications of a J-Class CT, Staff replaced all new natural gas generating units included in Empire's Preferred Plan Update with a single J-Class CT. Staff determined the ACAP for the J-Class CT using the same methodology described in Schedule 3.1 to Staff's Report. The impact on Empire's capacity position is illustrated in Figures 5 and 6.

**

[redacted]

**

**

[redacted]

**

A single J-Class CT could satisfy Empire's resource adequacy requirements for the summer planning season through 2044 without additional generating units. Empire would still need additional generating units to satisfy its resource adequacy requirements for the winter planning season starting in Winter 2039-2040. However, Staff's analysis demonstrates that a J-Class CT would have potentially allowed Empire to delay the installation of additional generating units and to use a smaller capacity resource or contract rather than the second F-Class CT included in Empire's Preferred Plan Update.

e) F-class CT versus J-class CT considerations

Empire cited increased project cost to install additional capacity ahead of schedule and potential significant transmission network upgrades for interconnection as factors to select an F-Class CT over a larger J-Class CT.[31] Using Staff's adjustments to the ACAP for the J-Class CT and to the ACAP PRMs, a J-Class CT would have provided almost ** [redacted] ** in excess of Empire's minimum required capacity for Winter 2030-2031. Empire acknowledged "…that incremental capacity associated with a larger turbine could likely be optimized through bilateral capacity or energy transactions during periods when such capacity exceeds near-term planning needs." However, Empire also referenced transmission upgrades that would be required at the State Line site if the injection capacity exceeded ** [redacted] **.[32]

Empire stated that it would have considered a larger unit if the site analysis demonstrated that "…a larger unit could interconnect without introducing substantial

[31] Empire's response to Staff Data Request 0069.1 attached as Schedule 3.8.
[32] Empire's response to Staff Data Request 0069.1 attached as Schedule 3.8.

network upgrade risk, cost exposure, or schedule uncertainty."[33] The Site Selection Study included as Schedule SR-1 in the Direct Testimony of Shaen T. Rooney indicated transmission upgrade costs of ** [redacted] ** for an injection capacity of greater than ** [redacted] **, but less than ** [redacted] **.[35]

At this time, SPP has not tendered a draft GIA.[36] As a result, Staff does not know the full extent of transmission upgrades required for the Project. Staff witness Shawn E. Lange provides additional discussion on interconnection. Additionally, Staff will not know the full extent of transmission upgrades required for a J-Class CT at the State Line site because Empire did not pursue a J-Class CT for the Project. Staff cannot determine if the additional transmission upgrades, and associated costs, make a J-Class CT unreasonable or if the benefits of a larger unit justify the transmission upgrades. It is not clear to Staff that the transmission upgrades required for a J-Class CT alone justify selecting an F-Class CT for the Project.

[33] Empire's response to Staff Data Request 0069.1 attached as Schedule 3.8.
[34] Empire's response to Staff Data Request 0092 attached as Schedule 3.9.
[35] Empire's response to Staff Data Request 0094 attached as Schedule 3.10.
[36] Empire's response to Staff Data Request 0089 attached as Schedule 3.11.

f) ERAS Process

Empire was eligible for up to ** [redacted] ** of new generation under the ERAS process,[37] which would have allowed for a larger generating unit such as a J-Class CT. Empire only included 250 MW of new generation in its ERAS application and once the application was submitted and accepted, Empire was limited to 250 MW under the ERAS process because the ERAS submission and modification window closed on October 2, 2025.[38] Empire referenced the potential for transmission network upgrades as a reason for including 250 MW in its ERAS application.[39]

g) Conclusion on Need

Empire's stated need for the Project is to satisfy its resource adequacy requirements. Without the Project, Empire will have significant capacity deficiencies, particularly during winter planning seasons. Empire must meet its resource adequacy requirements to avoid penalties from SPP, and to ensure that sufficient capacity is available to provide service to its customers. Therefore, Staff concludes that the Project is effectively a necessity because the lack of service is such an inconvenience.

While Staff concludes that the Project is needed, Staff questions if the F-Class CT chosen for the Project will provide sufficient capacity to meet Empire's resource adequacy requirements before the second F-Class CT included in Empire's Preferred Plan Update is put into service in 2036. Staff also questions the accuracy of Empire's estimates for future ACAP PRMs as well as the ACAP Empire has assigned to new natural gas generating

[37] Empire's response to Staff Data Request 0033 attached as Schedule 3.12.
[38] Empire's response to Staff Data Request 0033.1 attached as Schedule 3.13.
[39] Empire's response to Staff Data Request 0033.1 attached as Schedule 3.13.

units included in its Preferred Plan Update. Further, it is unclear to Staff if Empire fully considered the potential benefits of a larger J-Class CT against the associated transmission system upgrade requirements.

Staff Witness: Trevor Rucker

2. Whether the applicant is qualified to construct, install, own, operate, maintain and otherwise control and manage the project

Empire has staff with construction skills and technical knowledge, expertise, and abilities that are needed to bring new natural gas-fired generating units online and to an operational and functional state. Additionally, Empire intends to obtain its natural gas from an existing Southern Star natural gas pipeline for the SCGT generator, and to store Jet A fuel on-site as a backup fuel for the SCGT generator. Ownership of the various generation facilities, and the operating qualifications of natural gas-fired power generation plants have been detailed in Empire's CCN Application.[40] Staff conclude that Empire is qualified to construct, install, own, operate, maintain, and otherwise control and manage the Project.

Staff Witness: Donald A. Fontana, P.E.

3. Whether the applicant has the financial ability for the undertaking

Staff presents evidence and provides a recommendation regarding the financial ability of Empire to obtain a CCN to construct a new combustion turbine generator with a capacity of approximately 250 MW (referred to as "the "Project").[41]

[40] EA-2025-0299 CCN Application, Pages 6 – 7, Paragraphs 23 – 28.
[41] Paragraph 8, The Application.

Empire estimates the cost to deliver the Project at [redacted]. **[42] Empire plans to finance this project through a combination of internally generated cash and borrowings, including participation in its money pool, long-term debt, and other debt instruments.[43] According to Empire's financial statements as of December 31, 2025, its regulated assets are approximately **[redacted]**, and its electric company operating revenue exceeds **[redacted]**.[44]

Considering Empire's financial capacity, the Applicant has the financial ability to complete the Project. Staff examined the financial impact of this Project based on Empire's pro forma analysis, as discussed below:[45]

	As of December 30, 2025		Pro Forma	
	Financial Ratio	Risk Profile	Financial Ratio	Risk Profile
FFO/Debt	** [redacted] **	Aggressive	** [redacted] **	Aggressive
Debt/EBITDA	** [redacted] **	Aggressive	** [redacted] **	Aggressive
Debt/Capital	** [redacted] **	Intermediate	** [redacted] **	Intermediate

A review of changes in Empire's financial ratios resulting from the Project indicates that the proposed transaction does not materially affect Empire's credit metrics. Empire is a subsidiary of Liberty Utilities Co. ("LUCo"), which is a subsidiary of Algonquin Power & Utilities Corp. ("APUC"). S&P has rated Empire, LUCo, and APUC as investment grade.at BBB.[46] Empire projects 2-year capital expenditures of approximately

[42] Staff Data Request No.0060 attached as Schedule 10.1.
[43] Paragraph 32, The Application.
[44] Staff Data Request No.0001, attached as Schedule 4.1, the voluminous attachments are available via EFIS.
[45] Staff Data Request No.0002, attached as Schedule 4.2, the voluminous attachments are available via EFIS.
[46] S&P Capital IQ Pro. Retrieved February 6, 2026, voluminous and restricted by proprietary access so the information is not attached to this report.

** [redacted] ** from 2026 through 2027.[47] APUC projects 3-year capital expenditures of approximately $27 billion from 2026 through 2028.[48] The expected total project cost is less than 3% of APUC's 3-year capital expenditure plan and approximately 10% of Empire's regulated assets.[49] After reviewing the financial impact of the proposed Project, Staff found no evidence of a material change in Empire's financial risk profile due to the Project.[50] Considering the proposed cost and financial impact of the Project, it is reasonable to conclude that Empire has the financial ability to undertake the Project.

Staff Witness: Seoung Joun Won, PhD

4. Whether the proposal is economically feasible

a) Introduction

When considering the economic feasibility of a project, Staff recommends the Commission assess the utility's decision to address an identified generation need and the proposed resources to satisfy that need as discussed in Section 1, "Need."

The Cambridge Dictionary defines "economic feasibility" as "the degree to which the economic advantages of something to be made, done, or achieved are greater than the economic costs."[51] Feasibility studies should assess whether a proposed project or solution is financially viable and cost-effective with respect to given alternative solutions.

[47] Staff Data Request No.0004 attached as Schedule 4.4, the voluminous attachments are available via EFIS.
[48] Q42025 Earnings Call Presentation, March 6, 2026.
[49] Staff Data Request No. 0001 attached as Schedule 4.1 and No. 0004 attached as Schedule 4.4, voluminous attachments available via EFIS.
[50] Staff Data Request No.0001 attached as Schedule 4.1, No. 0002 attached as Schedule 4.2 and No. 0003 attached as Schedule 4.3. The voluminous attachments are available via EFIS.
[51] ECONOMIC FEASIBILITY definition | Cambridge English; https://dictionary.cambridge.org/us/dictionary/english/economic-feasibility?q=Economic+Feasibility.

As stated in Section 1, "Need": due to the need for resource adequacy, Staff concludes that additional capacity is effectively a necessity because the lack of service is such an inconvenience. Based on the conclusion of need, Staff has reviewed the options for meeting that capacity need to develop its position in this case.

The primary need identified in the application for constructing the project was to support resource adequacy. Empire discusses economic feasibility on page 7 of its application. None of its discussion demonstrates that the benefits of the project exceed the costs, or that the proposed project is the most effective project of given alternatives. Staff issued Data Request No. 83, attached as Schedule 5.1 which requested a list of alternatives to the current Project and their associated cost. The costs associated with those alternatives indicate that Empire did not select the least-cost alternative. Empire selected the ** [redacted] ** instead of the J-Class frame with an associated cost of ** [redacted] **.[52] Staff submitted DRs 69 attached as Schedule 5.2 and 79 attached as Schedule 5.3 requesting Empire to provide economic justification for the selection of the F-Class frame. In response to DR 69 Empire stated:

> Although the J-class turbine is estimated to cost approximately ** [redacted] ** less than the F-class turbine, it offers a nameplate capacity that is 75% greater. This larger capacity drives an estimated 60% increase in total project costs. These additional costs would be incurred to install 170 MW of capacity five years ahead of schedule, as outlined in the Company's 2025 IRP preferred plan. After careful consideration, the Company determined that accelerating

[52] Shaen Rooney Direct Testimony, Schedule SR-3, Page 8, Table 1.

this investment would not align with stakeholder priorities, particularly regarding affordability given the Company's existing firm load.

The response to DR 79 stated that acquiring a J-Class frame would burden customers with costs in the near term.

According to SPP the benefit of ERAS is that LREs will be better positioned to serve load increases and meet resource adequacy requirements to avoid reliability violations that would be created throughout the SPP system.[53] Also, based on current estimated timelines, an ERAS request will receive a GIA at least 6 months sooner than those requests in the standard, alternative, cluster. This 6-month advantage is critical in assisting LREs with meeting their resource adequacy obligations.

** [redacted] **.[54]

** [redacted] **.[55]

[53] RR 668 Expediated Resource Adequacy Study: Recommendation Report, May 15, 2025.
[54] Shaen Rooney Supplemental Direct Testimony Pg, 7, lines 11-15.
[55] EA-2025-0299 Response to OPC Data Request 8556 attached as Schedule 5.4.

** [redacted] **.

Included in the supplemental direct testimony of Shaen T. Rooney[56] was a revised estimate of project cost. The project cost increased from approximately ** [redacted] ** to approximately ** [redacted] **, which translates to approximately ** [redacted] ** to ** [redacted] ** respectively.

Based on the foregoing discussion, Staff determined that the expected benefits of the Project based on the finding of need, as discussed by Staff witness Trevor Rucker, likely exceeds its expected costs.

Staff Witness: Justin Tevie

b) RFP process

Typically, Staff reviews key details of the request for proposal ("RFP") process used by electrical corporations as part of CCN cases for new generation. In this case, Empire has not used an RFP process to pursue a potential primary contractor for the Project, ** [redacted] **, and an RFP process has not been started for the sub-contractors that will be responsible for the major components of the Project. In response to Staff Data Request 100 attached as Schedule 3.14, Empire described in general terms the RFP process that it intends to use in coordination with the primary contractor as follows:

[56] Supplemental direct testimony of Shaen T. Rooney, page 8-9

**

[redacted] **.

At this time, Staff cannot evaluate the RFP process for subcontractors because the RFP process for subcontractors has not begun. Therefore, Staff cannot determine if the RFP process, including but not limited to bid packages, bid solicitation, subcontractor prequalification and criteria, bid evaluation and criteria, and bid selection, that will be completed is reasonable.

Staff Witness: Trevor Rucker

c) Gas supply

Southern Star Central Gas Pipeline ("Southern Star") is the only transmission pipeline available to deliver natural gas to the Project at the State Line site.[57] Empire currently has primary firm natural gas capacity to serve the State Line Combined Cycle ("CC") generating unit, and non-firm natural gas supply to serve the State Line Unit 1 generating unit.[58] Southern Star does not have sufficient unreserved firm transportation capacity to service the Project, so Empire has executed a commercial call option with a natural gas marketer, ** [redacted] **[59] to deliver sufficient fuel for the Project, subject to available capacity on Southern Star's pipeline.[60]

[57] Empire's response to Staff Data Request 0038.
[58] Empire's response to Staff Data Request 0038.1 attached as Schedule 3.15, voluminous attachments available in EFIS.
[59] Attachment to Empire's response to Staff Data Request 0038.1 attached as Schedule 3.15, voluminous attachment available in EFIS.
[60] Empire's response to Staff Data Request 0038.8 attached as Schedule 3.16, voluminous attachment available in EFIS.

The call option agreement commences in March 2029 and has a term of 10 years. The costs associated with the call option agreement are variable and should be reflected in the Project's total fuel-related cost and be included in the calculation of its daily market offer in the SPP Integrated Marketplace.[61] The call option agreement provides for the delivery of 55,000 dekatherms per day, and is sufficient to operate each of the generation technologies evaluated in Schedule SR-3, which included both an F-Class CT and J-Class CT. At times when firm transportation is not required, Empire could procure natural gas with delivery on interruptible service, which would not require the use of the call option agreement.[62] Empire would utilize back-up fuel, maintained in on-site storage, in the event that sufficient natural gas cannot be delivered to the Project.[63]

** [redacted][64]

[redacted]

[redacted][65]

[redacted]

[redacted][66]

[redacted]

[redacted]

[61] Empire's response to Staff Data Request 0038 attached as Schedule 3.17.
[62] Empire's response to Staff Data Request 0038.8 attached as Schedule 3.16, voluminous attachment available in EFIS.
[63] Empire's response to Staff Data Request 0038.8 attached as Schedule 3.16, voluminous attachment available in EFIS.
[64] MMBtu/d is approximately equivalent to dekatherms per day.
[65] ** [redacted] **
[66] ** [redacted] **

[redacted] . **[67] Staff will review the costs associated with the call option agreement during a future Fuel Adjustment Clause ("FAC") prudence review.

Current natural gas infrastructure at the State Line site limits delivery to the maximum consumption of the two existing generators at the site, with the limitations being due to the current metering and valve configuration, not pipeline sizing.[68] Empire stated that a second run of the current equipment will need to be installed to meet the additional capacity, including 40 feet of 10-inch steel piping and an additional 10-inch Ultrasonic meter,[69] the costs[70] of which are included in Empire's revised budget.

Staff Witness: Trevor Rucker

d) IRP Analysis

An IRP is designed to guide long-term investment and operational decisions in the energy sector by forecasting future demand and evaluating the costs and benefits of various resource options. Comparing the costs and assumptions of the supply-side parameters

[67] Attachment to Empire's response to Staff Data Request 0038.1 attached as Schedule 3.15, voluminous attachment available in EFIS.
[68] Empire's response to Staff Data Request No. 38.2 attached as Schedule 3.19.
[69] Empire's response to Staff Data Request No. 65 attached as Schedule 3.18.
[70] Staff Data Request No. 60 attached as Schedule 10.1.

outlined in IRPs to current expected costs is essential to ensure that planning remains relevant, realistic, and aligned with industry-standard practices.

However, costs utilized in Empire's CCN analyses are still uncertain and exceed the costs studied as part of the IRP process. In response to Staff Data Request No. 97.1, attached as Schedule 6.1, Empire states, ** [redacted] **. It is important to assess the costs and expected performance attributes of several resource options rather than relying on just one. Relying on a single resource option may overlook more cost-effective or reliable alternatives in order for the Commission to make an informed decision about the application. A reasonable economic feasibility study requires determining if reasonable potential alternatives have been considered and if the selected option is the most economical and dependable solution available to meet the needs identified.

It is important to review whether the economic analysis in the IRP, given the current cost estimates, provides reasonable justification for the current project. However, as noted, the absence of project-specific cost assumptions in the IRP filing limits the ability to fully evaluate the reasonableness of the IRP's analysis and its justification for the project-specific selection. Rule 20 CSR 4240-22.040 Supply-Side Resource Analysis requires Empire to review existing resources for opportunities to upgrade or retire existing resources and also review a wide variety of supply-side resources options to determine cost estimates for each type of resource.[71] To ensure a robust economic analysis, it would be necessary to incorporate project-specific cost assumptions in the IRP. This would allow for a more

[71] Staff's Report EO-2024-0280 Triennial IRP filing.

accurate determination as to whether the IRP analysis assumptions support the selected project based on the most current information.

Any modeling exercise, including an IRP, is only as good as the assumptions used. In this case, Empire relies on its 2025 IRP analysis to support its CCN application in this case. Staff evaluates whether the IRP assumptions are reasonable by considering the robustness of the analysis and whether assumptions are realistic and well-founded. Key aspects considered when assessing the reasonableness of IRP assumptions are consistency and sensitivity analysis of various alternative plans. Referencing industry standard benchmarks can help ensure that the IRP is not based on assumptions that are outliers or unrealistic when compared to prevailing expectations. This comparison acts as a "reality check," making it less likely that the plan relies on overly optimistic or pessimistic views about key factors like combustion turbine costs.

In addition to industry standard benchmarking, conducting sensitivity analysis is crucial to test the robustness of the IRP. This process involves altering key assumptions—such as costs or technological choices—to observe how these changes affect the net present value of revenue requirements' ("NPVRR") results. For example, an analyst might compare different technology options, such as F-Class versus J-Class CTs, or simple cycle CTs versus CC. By evaluating these alternative scenarios, Empire can demonstrate how the IRP performs under different conditions.

When a Company performs cost estimates based solely on generic electric generation technology, it uses standardized assumptions that may not reflect the unique circumstances of individual projects. This approach can overlook important factors such as

site-specific conditions, resource availability, and other variables that can significantly influence the overall cost. Therefore, individual project-based cost estimates are important to reflect more accurate and reliable cost projections. By considering project-specific factors, Empire can better identify and plan for potential risks or challenges that may affect a project's NPVRR.

The current project's expected capital expenditure increased from approximately ** [redacted] ** as an initial estimate to a revised and ** [redacted] **[72]. According to Empire's supplemental direct testimony,[73] this increase is primarily attributed to ** [redacted][74] [redacted]. ** Given these dynamics, it is essential for Empire to provide robust economic analysis in its CCN application to include a thorough discussion of risk allocation and market power, outlining how these factors impact project costs and procurement strategies in future filings.

[72] Supplemental Direct Testimony of Shaen T. Rooney, page 8, beginning on line 21.
[73] Supplemental Direct Testimony of Shaen T. Rooney, Page 2 Lines 23-24.
[74] Market power refers to the ability of a firm (here, OEMs) to set prices above competitive levels, often due to limited competition or supply constraints.

Empire is negotiating with a ** [redacted] **[75] with the expectation of getting a turbine in time to achieve commercial operation prior to the ERAS deadline.[76] However, lack of competition and increased dependency on a single supplier can increase project uncertainty and cost. Obtaining competitive bids increases the likelihood that projects will be awarded based on their cost-effectiveness, transparency and overall value to ratepayers. This approach promotes market competition, perhaps leading to reduced prices and enhanced quality of proposals. For further information regarding Empire's efforts to identify and source the equipment for this proposed project please see the Application Summary section above.

Staff Witness: Hari Poudel

e) Generation Interconnection Agreements ("GIA")

While Empire has provided cost estimates of interconnection costs, unless or until the studies are completed, those costs are not known. As the Commission saw when Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri") terminated the acquisition of the Brickyard Hills wind project (EA-2019-0021), transmission upgrades can lead to costs significantly higher than the projected interconnection costs, making the project untenable. Empire's response to Staff's Data Request No. 89 attached as Schedule 7.1 states:

> The GIA has not yet been finalized and signed. Based on SPP's interconnection queue study schedule (updated 3/25/26) and SPP's expected study duration

[75] Supplemental Direct Testimony of Shaen T. Rooney, page 7, beginning on line 17.
[76] EA-2025-0299 Supplemental Direct Testimony of Shaen T. Rooney, Page 7 Lines 1-3.

of 45 days, the Interconnection Facilities Study report should post on approximately April 20, 2026. Draft GIAs should begin to be tendered for negotiation shortly after. Negotiation and execution could take 90-150 days; however, as Empire is both the Interconnection Customer and the Transmission Owner, negotiation is greatly streamlined. If the draft GIA is tendered for negotiation before May 1, it would be reasonable to expect that the GIA will be fully executed by the end of May.

Staff Witness: Shawn Lange

f) Permits

As noted in the in-service section, Empire does not yet have an air permit. Combustion turbines may have emission limitations or operating permits that limit the amount of emissions during times of the year. Combustion turbine tuning is necessary to keep operating parameters in an acceptable range. These operating parameters may include:

- Fuel pressure and flow
- Air mass flow
- Compressor inlet guide vane position
- Compressor bypass valve position
- Compressor outlet pressure
- Turbine exhaust pressure
- Turbine exhaust temperature and temperature spread
- Turbine exhaust outlet O_2, CO and NO_x
- Combustion vibration

Extreme weather events in winter may include longer periods of colder temperatures. Colder air is denser which may impact the emissions of the unit or may impact the unit such that it cannot operate. Therefore, Staff has included recommended conditions to address this concern.

Staff Witness: Shawn E. Lange, P.E.

g) In-Service criteria

In-service criteria is a set of operational tests or operational requirements developed by 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. 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 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 recommends several criteria, which, in combination, are needed to determine that a unit is “fully operational” and “used for service.” Certain criteria apply to every type of project, to ensure that all major construction work is complete. Other criteria are developed for the specific characteristics of the generating facility or retrofit. Certain fundamental tests are included to prove whether the unit can start properly, shut down properly, operate at its full design capacity, or operate for a period of time without tripping offline. Other items Staff would consider are whether the full output of the unit can be delivered into the electrical distribution/transmission system. An additional factor Staff will consider is whether testing was performed pursuant to any contract and whether testing was performed prior to the company accepting the unit from the contractor. In other words, the in-service criteria should be designed to demonstrate to the Commission that Missouri ratepayers are

getting what they ultimately will pay for through rates. Staff's traditional in-service criteria used for CTGs of this size is located in Schedule 7.2.

At this stage in the process, Empire does not yet have an air permit. Empire has noted "The analysis, provided as Direct Schedule SR-2, identified no fatal flaws or impediments to obtaining the necessary air permits for the proposed project. However, it noted that installation of a selective catalytic reduction (SCR) system may be required to ensure compliance with nitrogen oxide (NO_x) emission limits under applicable regulations."[77]

Staff has provided an example of SCR specific in-service criteria is as Schedule 7.3. These criteria are in line with SCR criteria that Staff has previously recommended in other cases.[78]

Staff Witness: Shawn Lange

h) Capital Cost and Levelized Cost of Energy ("LCOE")

Staff reviewed the capital cost and the LCOE presented in the integrated resource plans and compared them to the cost assumptions in the current filing. Capital cost represents the initial investment needed to construct or acquire a generation asset and is recovered over the asset's useful life. LCOE, on the other hand, accounts for capital cost as well as ongoing operation, maintenance, and fuel expenses, distributed over the total expected electricity generation of the asset. Empire discusses both capital cost and LCOE in its application to justify this project, noting that both metrics are fundamental for selection

[77] EA-2026-0299 Rooney Direct Pg. 5 line 22 through Pg. 6 line 2.
[78] *See* ER-2025-0238.

criteria of the various alternative plans. In its analysis, Empire uses the NPVRR[79] of alternative resource plans as the primary selection criterion for project justification as contemplated by current IRP rules.[80,81]

i. Capital cost

Empire developed and evaluated 15 alternative resource plans in the 2022 IRP (Case No. EO-2021-0331). The 2022 IRP does not include the natural gas CT resource addition. But Empire did include natural gas CTs in its 2025 IRP- Preferred Resource Plan ("PRP") Update.[82]

In response to SPP's resource adequacy changes, discussed by Staff witness Trevor Rucker, Empire reviewed its existing and planned generation resources and determined that additional capacity was necessary to remain compliant with the new standards.

The study provided by 1898 & Co. includes capital cost estimates for advanced CT technologies: the J-Class CT[83] was projected to cost ** [redacted] ** in 2025, while the F-Class CT was estimated at ** [redacted] **. These figures are important in

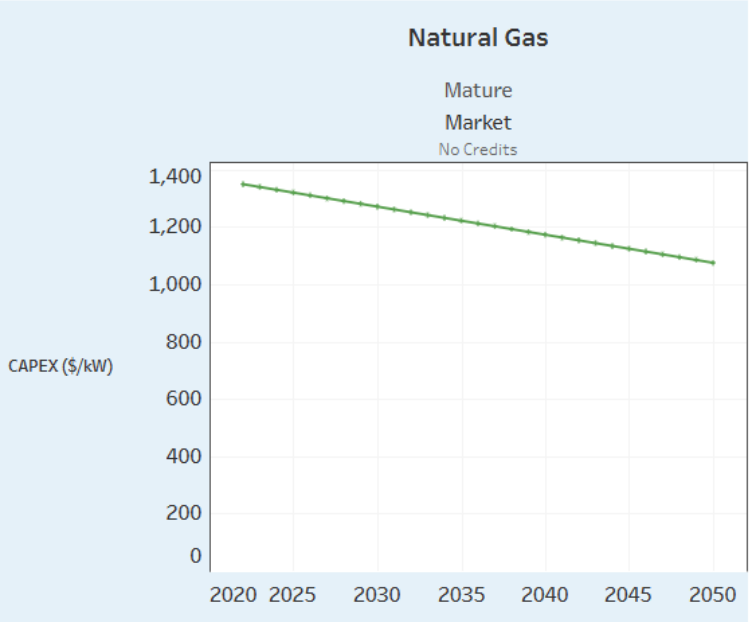
[79] NPVRR -One of the metrics of the 2022 IRP and 2025 IRP scorecards.
[80] EA-2025-0299, Aaron J. Doll Direct, Page 3, Lines 13-16.
[81] 20 CSR 4240-22.010(2)(B).
[82] EO-2024-0280
[83] Liberty-Empire's State Line Power Plant is located west of Joplin, Missouri, and consists of State Line 1 ("State Line 1"), a CT with a summer generating capacity of 93 MW, and a CC ("State Line CC" or "SLCC") with a summer generating capacity of approximately 500 MW (total plant not company share). All units at the State Line Power Plant burn natural gas as a primary fuel, with State Line Unit 1 able to burn fuel oil as a backup. Burning fuel oil requires water injections for emissions control. State Line 1 and SLCC have dry low NOx burners and an SCR on each HRSG.

evaluating the economic feasibility and comparative value of each technological option. Staff Witness Donald Fontana also discusses the 1898 & Co. analysis.

The National Renewable Energy Laboratory ("NREL")[84] provides energy technology benchmarking and estimates the capital cost for an F-Class natural gas CT at $1,319.40/kW in 2025. This national benchmark serves as an important reference point for assessing whether Empire's projected costs are reasonable and competitive. Figure 1 on the following page shows the projected capital cost[85] of natural gas power plants, measured in dollars per kilowatt ($/kW), from 2020 to 2050. The y-axis represents the capital cost per kilowatt ($/kW). The x-axis shows the years, ranging from 2020 to 2050. The green line indicates that the capital cost for new natural gas plants is expected to gradually decline over time. In 2020, the capital cost is just under $1,400/kW. By 2050, it is projected to fall to just above $1,050/kW. This downward trend suggests that advances in technology, improved construction methods, and market efficiencies are likely to reduce the cost of building new natural gas plants over the next three decades.

[84] https://atb.nrel.gov/electricity/2024/fossil_energy_technologies
[85] CAPEXs are expenditures required to achieve commercial operation in a given year. Capital costs include overnight capital cost plus defined transmission costs, and it removes a material price index (https://atb-archive.nrel.gov/electricity/2018/index.html?t=cg#eia-2017a).

Figure: 1 NREL's Natural Gas Turbine capital expenditure over time



According to Empire's direct testimony, the Company decided to proceed with the General Electric ("GE") ** [redacted] ** gas turbine, despite its cost per kilowatt being higher than both the GE ** [redacted] ** gas turbine and the national benchmark for comparable technologies. In response to Staff's Data Request No. 74[86] and in Empire witness Mr. Rooney's direct testimony,[87] Empire indicates selection of the F-Class CT was driven by its widespread adoption in the industry. Mr. Rooney further added that the F-Class CT is recognized for providing a proven combination of efficiency, operational flexibility, and long-term reliability.[88] In response to Data Request No. 69,[89] Empire stated that the J-Class CT has a larger capacity, which drives an estimated 60% increase in total

[86] Schedule HKP_d1
[87] EA-2025-0299, Mr. Shaen T. Rooney, Direct, Page 6, Line 14.
[88] EA-2025-0299, Mr. Shaen T. Rooney, Direct, Page 8, Lines 13-16.
[89] Attached Schedule 5.2

project costs. These additional costs would be incurred to install ** [redacted] ** of capacity five years ahead of schedule. Empire also added that "accelerating this investment would not align with stakeholder priorities, particularly regarding affordability given Empire's existing firm load."[90]

Empire filed Supplemental Direct Testimony on March 12, 2026, and reported an escalated CAPEX of ** [redacted] . **[91] Empire initially filed a proposal for a ** 250 MW ** simple cycle CT natural gas plant with an estimated CAPEX of ** [redacted] ** on October 24, 2025. Empire's witness, Mr. Rooney, stated in his supplemental direct testimony that the OEM price escalated from approximately ** [redacted] ** in September 2025 to over $150 million (or about $625 per kW) by January 2026.[92] He stated that the updated $/kW, inclusive of overheads and AFUDC, is approximately ** [redacted] ** per kW.[93] The table on the following page provides an analysis of the current project cost breakdown comparing the direct filing and supplemental filing workpapers. The comparison highlights key differences and provides explanations for significant variances across major cost categories.

[90] Staff Data Request No. 0074 attached as Schedule 6.5
[91] Staff Data Request No. 0073 attached as Schedule 6.4
[92] EA-2025-0299, Mr. Shaen T. Rooney, Supplemental Direct, Page 7, Lines 1-6.
[93] EA-2025-0299, Mr. Shaen T. Rooney, Supplemental Direct, Page 9, Lines 1-2.

** [redacted] **

The above table demonstrates that ** [redacted] . ** The overall project cost is ** [redacted] ** in the Company's supplemental direct filing than it was with Empire's initial Application.

According to Empire,[94] the following are the major reasons attributed to the escalated turbine costs:

- There are severe short-term limitations in turbine availability, driven by high global demand and restricted manufacturing capacity. The significant increase in turbine prices within the last 6 months contributed to a highly volatile and supply-constrained market.
- OEMs are shifting more risk to buyers by including contract terms that allow for price increases and flexible delivery schedules.
- There are fewer competing offers, resulting in a highly competitive procurement environment, which is pushing prices up and limiting supply.[95] [96]

The combination of market constraints and contractual risks has led to a significant increase in costs for the proposed project, that could affect its economic feasibility.

[94] EA-2025-0299, Mr. Shaen T. Rooney, Direct and Supplemental Direct.
[95] https://www.woodmac.com/press-releases/gas-turbine-prices-soar-195-as-market-faces-supply-demand-crisis/
[96] https://gridlab.org/wp-content/uploads/2025/09/GridLab_Gas-Turbine-Costs-Report-1.pdf

ii. LCOE

Empire considered the LCOE[97] as the first measure of economic viability[98] and levelized cost of capacity ("LCOC")[99] as a second measure of economic viability.[100] A strong body of research[101,102] provides evidence against the use of these measures as reliable economic analysis tools. These two metrics are not specifically useful for utility generation cost comparison purposes. Staff has also offered criticism of both metrics as justification for economic analyses in the previous filings.[103]

LCOE is defined as the net present value of the total cost of building and operating a generating resource over its lifetime, divided by the total electricity generated over that period. The 2025 IRP provides estimates of the LCOE ($/MWh) for the gas CT-frame. For 2025, 2030, and 2035, the LCOE is **[redacted]**, respectively.[104] Staff compared these estimates with the current filing's LCOE estimates. The figure 2[105] illustrates the projected LCOE for various generation technologies in this

[97] LCOE is defined as the net present value of the unit cost of electricity over the lifetime of the generating resource of the various supply-side resource candidates and ranking them to determine whether any options were commercially unviable relative to other resources under consideration.
[98] EO-2024-0280 Volume 4 Supply-Side Resource Analysis Vol. 4-27.
[99] LCOC helps utilities plan for how to meet peak demand and ensure grid stability, focusing on the costs to provide capacity rather than just energy. For example, a solar generation resource may have a low LCOE, but a high LCOC if it can't provide electricity reliably at night. A gas peaker generation resource may have a higher LCOE but a low LCOC, since it can provide needed capacity during peak hours.
[100] EO-2024-0280 Volume 4 Supply-Side Resource Analysis Vol. 4-27.
[101] https://docs.nlr.gov/docs/fy21osti/72549.pdf
[102] https://esca.epri.com/pdf/Back-Pocket-Insights/EPRI-P201-LCOE-Brief.pdf
[103] EA-2024-0292 Staff Report, Page 32 Lines 22-24.
[104] EO-2024-0280 Volume 4_Supply-Side Parameters_Workpapers_Confidential.
[105] LCOE in dollars per MWh) on the y-axis and dollars per kW-year summer accredited capacity (ACAP) for the levelized cost of capacity on the x-axis. LCOE represents the average cost to produce one megawatt-hour of electricity over the plant's lifetime. LCOE uses an assumed annual average capacity factor when spreading costs over the anticipated energy generation. LCOC reflects the annualized cost per kilowatt of providing reliable capacity.

filing. The CT frame has the highest LCOE (** [redacted] **) whereas the gas CC stands out with a much lower LCOE (** [redacted] **) and one of the lowest capacity costs.

** [redacted][106]

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According to Empire's 2025 IRP, "Minimization of the present worth of long-run utility costs, as measured by the PVRR, was the primary selection criterion for the Preferred Plan, with all remaining planning objectives given consideration."[107] Empire's Witness, Shaen Rooney's direct testimony stated that F-Class gas CTs are known for their reliability, efficiency, and operational flexibility.[108] Staff Witness, Trevor Rucker noted that it is unclear whether Empire fully evaluated the potential benefits of a larger J-Class CT in relation to the required transmission system upgrades. Empire's own analysis (see Figure 2) demonstrates

[106] 2025 IRP EA-2024-0280 Supply-Side Resource Analysis Vol.4-34.
[107] 2022 IRP Vol. 7-4 Confidential and 2025 IRP.
[108] EA-2025-0299 Direct Mr. Rooney Direct Page 6 Lines 14-23.

that combined cycle gas projects are the most cost-effective to operate, offering lower energy and capacity costs.

iii. Conclusion on capital cost and LCOE

Relying on generic cost assumptions in the IRP analysis that Empire provided in support of its Application might not reflect factors that could impact the outcome of the IRP's NPVRR analysis.

Empire's reliance on generic assumptions in its IRP does not adequately replace the need for project-specific performance projections or thorough risk assessments. The generic cost assumptions in the IRP can lead to inaccurate budgeting, underestimated project risks, and ultimately, suboptimal investment decisions. The Commission may require more quantitative evidence to demonstrate that the F-Class CT option is the most cost-effective supply-side resource compared to other alternatives resources. In a response to Staff Data Request No. 95,[109] Empire states that J-Class CT was not considered in its 2025 IRP. In a response to OPC's Data Request No. 8530,[110] Empire stated that "[t]he Company did not request budgetary proposals for supply of a J-class turbine, as the F-class turbine was the most cost-effective generator to meet the Company's capacity need as identified in its 2025 IRP Preferred Plan."

Staff recommends that if Empire continues to rely on IRP analysis in future CCN applications, Empire should be required to perform cost analysis on an individual project basis. This will ensure that all relevant factors – both direct and indirect – are considered so

[109] Attached as Schedule 6.2.
[110] Attached as Schedule 6.3.

that revenue requirements are properly calculated. Staff presents several recommended conditions to address its concerns to be applied to future CCN applications.

Staff Witness: Hari Poudel

5. Whether the proposal is in the Public Interest

a) Site of Construction and Public Engagement

i. Site of Construction

Empire hired 1898 & Co., which is a component of the Burns & McDonnell Engineering Company, Inc., to evaluate various sites for their suitability to locate an approximate 250 MW Simple Cycle Gas Turbine electrical generating facility. ** [redacted] ** based off four areas of interest that Empire provided and thought offered the best potential in finding preferred points of interconnection.

The 1898 & Co. Site Evaluation Study used five criteria that were agreed to by Empire as being important siting criteria:

1. Electric Transmission – For proximity to electric transmission lines rated to carry at least 115 kV.
2. Fuel Supply Delivery – The proximity of a studied site to the Southern Star natural gas infrastructure providing access to pipelines with a minimum diameter of 12-inches.
3. Developability – The factors and site features which would contribute to the ease or complication of developing a particular site for the proposed use.

4. Environmental Factors – The range of environmental aspects particular to each site, and their effect on the project's success.

5. Permitting – What permits would be required per proposed site, and how would they impact the project's success.

** [redacted]

[redacted]

[redacted] **.

As discussed in the** [redacted]

[redacted]

[redacted]

[redacted]

[redacted][111]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted] **.[112]

[111] Confidential DR No. 0014 attached as Schedule 2.2
[112] Confidential DR No. 0099 attached as Schedule 2.4

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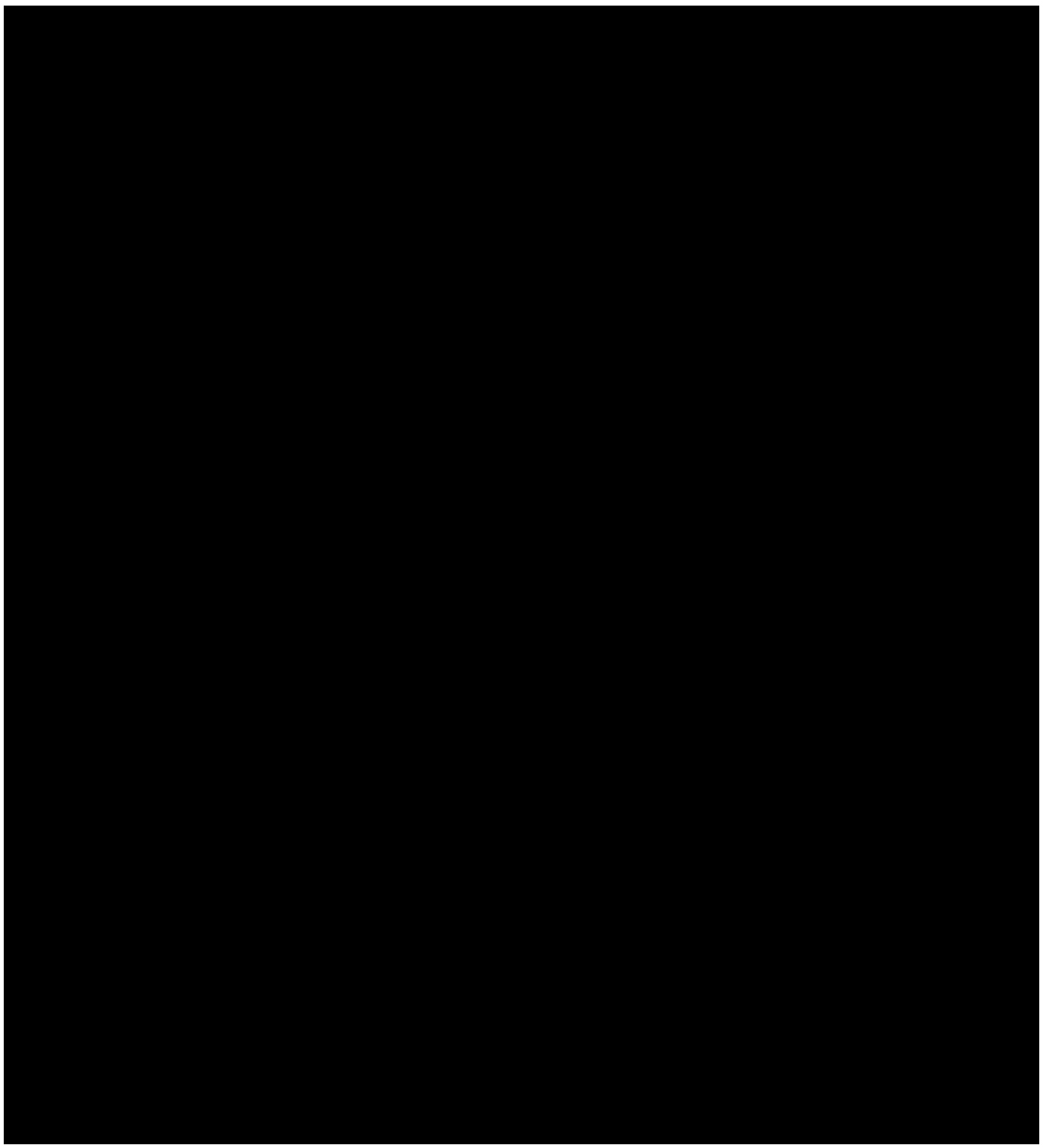

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ii. Public Engagement

As of April 29, 2026, the Commission received twenty-six comments on its Electronic Filing and Information System (EFIS) regarding this CCN application. Very few of the comments were in favor of the project. Two of the comments specifically wanted to see

additions of renewable generation capacity, and the remainder were opposed to the project due to concerns of costs; past billing issues with Empire; and concerns that the project is to support a new data center planned for construction in Joplin and worry that the costs will be passed to consumers, resulting in subsidization of power for a data center. There was also a request for an in-person Local Public Hearing in addition to the planned Virtual Local Public Hearing.

Support for new renewable generation from solar and wind instead of the addition of new fossil fuel generation was expressed. Several comments discussed concerns from the ratepayers that their rates will go up long before they see any benefit from the proposed project. Several comments referenced the removal of the Asbury coal plant as baseload generation, and do not feel that rate payers should have to pay for Asbury's removal and replacement by the proposed project. Additionally, there have been several comments submitted in EFIS that are related to a transmission line project that Empire is planning but are not related to this case.

Staff respectfully request the Commissioners read the comments which have been received in EFIS for this case to get a better understanding of the public's sentiment.

A Virtual Local Public Hearing was held on April 16, 2026. Concerns and comments were voiced about the effects of pollution; greenhouse gas emissions; noise, given that the site will be located adjacent to the current State Line electricity generation infrastructure and will be located within approximately ¼ mile more or less of existing residential structures; and, concerns about the expense of the project and fear of those costs being passed on to the rate payers. There is widespread skepticism that the proposed project will not fully

benefit ratepayers or will instead be used to support a new proposed data center development. Additionally, there was concern voiced regarding notification within a 50-mile radius of the project, and it was stated that representatives of various Indigenous peoples, residents of Kansas and residents of Oklahoma had not been given notice of the project.

Staff Witness: Donald A. Fontana, P.E.

b) Cost of service projections

This section describes the inputs to Staff's modeling of the annual revenue requirements and estimated allocated rate impacts of the CTG Project. This modeling is not a prediction of future rate impacts, in that Empire's managerial decisions, actual inflation levels, actual rate case timing, future commission determinations, and future energy and fuel costs cannot be exactly predicted, nor should Staff's reliance on a particular input or use of a particular modeling approach should not be interpreted as an endorsement or recommendation of that approach or outcome.

For allocations of cost of service to the rate classes, Staff relied on Empire's determinants, methods, and calculations as requested in File No. ER-2024-0261. Staff's modeling also relied on the following positions from ER-2024-0261:

- ROE%: 10.00% (Company requested authorized ROE, Daniel Dane direct testimony, ER-2024-0261)
- Capital Structure: 53.00% (Daniel Dane True-Up Rebuttal Testimony, ER-2024-0261 (53/47 Equity/Debt))
- Income Tax %: 25.00% (PSC Staff Accounting Schedules-True-Up, ER-2024-0261)
- Pretax ROR %: 7.01% (Non-Unanimous Global Stip & Agreement, ER-2024-0261)

Staff relied on depreciation lives of 30 years and 50 years, for the CTG and the interconnection assets, respectively, and a general inflation factor of 2% per year. Staff's modeling reflects the following inputs from the Empire Responses to DR 73 attached as Schedule 9.1.

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For scenarios reflecting the addition of a large load, Staff incorporated a new 100 MW customer with an 85% load factor into the allocator calculation. The variation of these projections to actual results and variables such as rate case timing and the pass through of fuel and energy revenues through the FAC will alter actual customer impacts.

The year-by-year modeling is included as Schedule 9.1, and illustrations of the modeling results are included in the following section.

Staff witness: Sarah L.K. Lange.

c) Cost allocation and rate impacts

In considering the need, economic feasibility, and public interest of the proposed Project, Staff recommends the Commission consider the potential rate impacts to be expected in future cases under the class cost of service allocation approach taken by Liberty in its most recent rate case, and Liberty's allocator calculations.[113]

[113] *See* Case No. ER-2024-0261.

Staff witness Sarah Lange allocated the annual revenue requirement for the Project as provided in Liberty's supplemental response to Staff Data Request 73 attached as Schedule 8.1 and used the class allocators from the most recent general rate case (Case No. ER-2024-0261).

It is important to note that scenarios discussed in this section do not address rate case timing, rate increases for any reason over the life of the plant and rely solely upon workpapers provided by Liberty in response to Data Request No. 73. The figure below models the rate impact by class without additional customers:

**

**

If the Project is completed but no additional customers are added, the Residential rate class would pay approximately ** [redacted] ** in additional rate charges over the lifespan of the project or ** [redacted] **% of the total additional rate charges this Project will

cause during that time frame. Each hypothetical residential customer would pay an additional ** [redacted] ** over the life of the plant.

The figure below models the rate impact by class with 100 MW of Large Load Customers being added. In this hypothetical model, the Residential rate class would still pay approximately ** [redacted] ** in additional rate charges over the lifespan of the project. While this amount is ** [redacted] **% less than if no Large Load Customers are added, it still represents an increase in rates for each customer within the Residential rate class of ** [redacted] ** over the lifespan of the project.

**

[redacted]

**

Other rate classes will also be affected by inclusion of the Project. The table below (Table 1) lists the number of customers in each rate class, the total amount paid by each customer in the respective rate classes over the lifespan of the Project based upon an

estimated average power usage, whether or not 100 MW of new LLC is added, and the totals for each rate class.[114] Schedule 8.1 filed with this report contains additional detail.

** [redacted] **

For example, if the project is completed but no additional customers are added, the Residential rate class will pay approximately ** [redacted] ** % of the total project costs. If 100 MW of new LLC is added, the percentage of costs paid by the Residential rate class will be reduced to ** [redacted] ** % of the total project costs.

Table 1 represents the annual bill impact on a single residential customer[115] over the life of the plant. This hypothetical residential customer would pay an additional ** [redacted] ** over the life of the plant depending on whether no new load or whether 100 MW of LLC load is added, respectively. The annual impact on each of the ** [redacted] ** hypothetical residential customer ranges from ** [redacted] ** to ** [redacted] ** over the 30-year life span of the generating plant.[116]

[114] This table does not address rate case timing, rate increases for any reason over the life of the plant and relies solely upon workpapers provided by Liberty in a supplemental response to Staff Data Request 73.
[115] Assuming the residential customer uses 1,124.5 kWh each month.
[116] These figures do not address rate case timing, rate increases for any reason over the life of the plant relies solely upon workpapers provided by Liberty in its supplemental response to Staff Data Request 73.

**  **

Liberty's allocators[117] were used for the purpose of illustrating the potential bill impact to a residential customer. However, Staff is not recommending that the Commission make a determination on the allocation of the cost of service of the Project in this case. Such a determination is appropriate for subsequent rate cases in which recovery for these assets is sought so that the Commission may consider all relevant factors in place at that time.

Staff Witness: Randall Jennings

[117] Attached as Schedule 9.1.

IV. Ratemaking considerations

The proposed generating facility could be eligible for both Construction Work In Progress ("CWIP") and Plant In Service Accounting ("PISA") ratemaking recovery subject to review in a future general rate proceeding. Staff also addresses sales and property tax impacts.

a) Construction Work In Progress ("CWIP")

Missouri Senate Bill 4 authorized CWIP for new natural gas-generating units in lieu of AFUDC that would have accrued until the entire plant was complete and placed in service. RSMo Section 393.135, Subsection 2 includes language that the commission shall determine in a CCN case, the amount of CWIP that may be included in rate base, limited by: a) the estimated cost of such project; and b) project expenditures made within the estimated construction period for such project.

Staff recommends that the Commission set the CWIP limits at the estimated and ** [redacted] ** budget amount[118] of ** [redacted] ** which are the project expenditures projected to be made within the estimated construction period of late 2026 through no later than October 2, 2030.[119] The budget amount includes a ** [redacted] ** estimate for SCR equipment, if needed, which will be known once environmental testing and MDNR review is complete. Staff recommends that the Commission approved CWIP amount that may be included in rate base be further limited and reduced by ** [redacted] ** if the SCR equipment is determined not to be required.

[118] Staff data request No. 60, attached as Schedule 10.1

[119] Staff data request No. 27, attached as Schedule 10.2

The budgeted amount that should be used to set the limit of CWIP that may be included in rate base also includes a contingency estimate, estimate for startup testing costs, estimate for internal labor and overheads, estimate for initial backup fuel oil inventory and inventory of spare operating parts. Specifically, the contingency estimate alone is ** [redacted] **. The contingency amount included in the budget is a buffer for future cost increases and for any change orders that may be needed.

Final amounts for CWIP to be included in rate base during a future general rate proceeding will be further limited by the jurisdictional allocation. Liberty confirmed in their response to Staff data request number 9 attached as Schedule 10.3 that the proposed generating facility will be allocated among all jurisdictional customers. As of September 2025, the 12-month average coincidental peak allocator provided by Liberty, which generally compare with the allocators used for generation plant during Empire's previous rate case ER-2024-0261, shows the allocations would be approximately:

Missouri	Kansas	Oklahoma	Arkansas
87.54%	4.71%	4.35%	3.27%
The remaining immaterial allocator difference from 100% is for the FERC Generation Formula Rate (GFR-Resale) that Liberty excepts to eventually decline to zero unless additional customers are added.			

Since the average coincidental peak changes over time, the allocation to each State also changes. It is not known and not measurable what the allocator will be in the future. The allocator determined during the general rate proceeding that includes a request for CWIP to be included in rate base, should be used to appropriately allocate CWIP to Missouri ratepayers. The same allocation process will also be reviewed during the general

rate proceeding once the entire facility is complete and requested by Liberty to be included as plant investment in rate base.

Staff recommends that Liberty should provide supporting analysis that utilization of CWIP will be less costly than traditional deferral of AFUDC, as part of testimony and workpapers included with any and all requests for CWIP to be included in rate base in a future general rate proceeding.

b) Plant In Service Accounting ("PISA")

PISA allows for 85% of depreciation expense and return on investment to be deferred to a regulatory asset beginning with the in-service date of the generating facility. Missouri Senate Bill 4 revised RSMo Section 393.1400 effective August 28, 2025, to remove the prohibition of new natural gas generating units from qualifying as electric plant for PISA purposes, thus allowing PISA deferral for new natural gas generating units.

Staff recommends that Liberty clearly identify in workpapers in the first general rate proceeding where PISA deferral for Missouri's allocated portion is requested for this generating unit that the 85% of the return component for PISA calculations is not calculated on any CWIP amounts already being recovered in rate base. In other words, Liberty should demonstrate the return component for Missouri's allocated portion of the plant for PISA calculations only includes 85% of the return on investment from the facility in-service date on amounts not already receiving a return on investment through CWIP according to RSMo Section 393.135.2(1).

Staff will review in a future general rate proceeding where any PISA treatment is requested for this proposed facility, whether and how much of the facility qualifies for PISA treatment

which could include a review of whether any increased revenues resulting from adding service to new customer premises are attributable to the generating facility.

c) Sales and Property taxes

RSMo Section 144.058 provides an exemption for utilities for equipment and materials used to generate electricity.

Staff issued discovery[120] to determine the amount of sales and use tax exemption applicable to the Project. Staff recommends that Liberty utilize the sales tax exemption to every extent possible on any qualifying items for the construction of this generating facility and provide the required savings notification in Liberty's next general rate proceeding.

Staff issued discovery[121] to determine the estimated annual increase to property tax that would result for this generating facility and to determine whether Liberty sought any property tax alternatives such as Missouri Chapter 100 development incentives. Liberty indicated that property tax expense will increase during construction, but not at the full assessed value until construction is complete. Liberty estimates an annual increase in property tax expense upon completion of the facility of approximately $10 million. Liberty indicated in response to Staff Data Request No. 84 attached as Schedule 10.5 that "Missouri Chapter 100 development incentives have not been pursued or evaluated in detail for this project to date; however, Empire may consider the potential availability of such incentives in the future, subject to further evaluation and local governmental approval."

[120] Staff data request No. 85, attached as Schedule 10.4
[121] Staff data request No. 84, attached as Schedule 10.5

Staff recommends that Liberty evaluate and pursue any Missouri Chapter 100 development incentives available and Payments In Lieu Of Taxes ("PILOT") options and provide notice in this docket of such evaluations once complete. Staff further recommends that if Liberty elects to utilize development incentives or PILOTs, that notice be made in this docket as soon as practical and to also file in this docket a copy of any such development incentive or PILOT agreement executed within 30 days of execution along with a quantification of the resulting estimated property tax savings.

Staff Witness: Jared Giacone

V. Request for Decisional Prudence

The Commission may, by its order, make a determination on the prudence of the decision to operate or construct an asset subject to a subsequent review of costs and applicable timelines.[122] Staff recommends the Commission consider the concerns raised by Staff witnesses throughout this recommendation report and find that the granting of decisional prudence in this instance is not justified based on the evidence presented by Empire.

Staff witness Trevor Rucker concludes this Project is needed to support resource adequacy. However, Mr. Rucker's analysis demonstrates that Empire may have underestimated its capacity needs and has not fully considered a possible alternative to its long-term capacity needs.

Staff witness Hari Poudel presents an analysis of the resource options available to Empire concluding that Empire may have selected a more costly option on a per MW basis.

[122] 20 CSR 4240-20.045(2)(C).

However, Empire's decision to request ERAS treatment at a lower MW threshold, eliminated the other resource type as a viable option. While Staff witness Hari Poudel acknowledges that much of the cost increase presented in Empire's supplemental direct is driven by the limited turbine supply market, Staff witness Justin Tevie questions the reasonableness of Empire's decision to change its ** [redacted] .**

Staff recommends the Commission reject Empire's request for decisional prudence in this case and instead consider it in a future general rate case where all factors can be reviewed.

Staff Witness: J Luebbert

VI. Summary of Staff Recommendation and Recommended Conditions

In summary and based on Staff's review of the Tartan Criteria: 1) the Project is needed; 2) Empire is qualified to construct, install, own, operate, maintain, and otherwise manage the Project; 3) Empire has the financial ability to undertake the Project; 4) the Project is economically feasible; and, 5) the Project is in the public interest with the inclusion of conditions that Staff recommends the Commission order as a condition of any CCN granted in this case:

Reporting Requirements

1. Empire shall provide monthly updates on the progress of the development and execution of an RFP process for subcontractors. Empire's monthly updates shall include information on key components of the RFP process including but not limited to bid packages, bid solicitation, subcontractor prequalification and criteria, bid evaluation and criteria, and bid selection. Empire shall provide documentation when each key component of the RFP process is developed, and when each key component of the RFP process is executed.
2. Empire shall provide monthly reporting of construction progress for the project. The monthly progress report shall include, but not be limited to: reports on permitting, plans, specifications, construction progress, and any cost increases / cost over-runs for the Project. Additionally, Staff recommends the Commission require Empire to submit a site-specific Emergency Action Plan and an Operations and Maintenance Plan within 60-days of the facility being placed into service.
3. Throughout the construction process, Empire and/or its EPC contractor shall provide monthly construction monitoring reports. At a minimum, these reports shall state the names and trades of all subcontractors employed by the EPC for the particular reporting time period; Description of work and timeframe until expected completion

of the particular work component is anticipated to be completed; Supply chain issues; Weather delays and durations; Injuries; and, Anticipated future issues that could impact construction.

4. Empire shall provide quarterly updates on the progress of upgrades to natural gas pipeline facilities necessary to deliver sufficient natural gas for the Project. The quarterly updates shall include information on all major milestones.
5. Empire and the EPC shall prepare and provide monthly budget reports by construction component/category and if applicable, shall submit projections of impacts on costs for fuel, material or equipment that may exceed any estimated contingency accounts.

Agreements

6. Empire shall provide the completed ERAS GIA for the Project in this case within 30 days of a signed, executed GIA.
7. Empire shall provide a copy of the procurement agreement with the primary contractor for the Project once the agreement is finalized and signed and is encouraged to include a guaranteed Commercial Operation Date ("COD") and not to exceed amount as contract provisions.
8. Empire shall provide a copy of the EPC agreement with the primary contractor for the Project once the agreement is finalized and signed

and is encouraged to include a guaranteed COD and not to exceed amount as contract provisions.

Plans

9. Empire shall provide a site-specific Emergency Action Plan within 60 days of the facility being placed into service.
10. Empire shall submit a site-specific Operations and Maintenance Plan and a Restoration Plan within 60 days of the facility being placed into service.
11. Empire shall submit a Restoration Plan for unplanned outages within 60 days of the facility being placed into service.

Permits

12. Empire shall notify staff when it is known that an SCR will be required at which time Staff and Company shall develop in-service criteria for the SCR. If an SCR is not required, Empire shall notify Staff and provide supporting documentation to that effect.
13. Empire shall obtain the necessary permit that will allow for tuning of the CTG on any back-up fuel.

Process

14. Empire shall provide Staff the winter tuning process for the CTG.

Other

15. Empire shall use the in-service criteria in Schedule 7.2 and the in-service criteria for the SCR in Schedule 7.3, if the SCR is required, to determine if the proposed unit meets them.

16. For future CCN applications, if Empire relies on IRP analysis, Empire should be required to perform cost analysis on an individual project basis to ensure that all relevant factors – both direct and indirect considered. The cost analysis shall include:

    a) If the expected cost of a future CCN application project on a $/kWh basis exceeds both the assumed cost in the IRP analysis and the assumed cost of another resource type that is capable of satisfying the need identified for the CCN application, Empire shall provide an updated IRP analysis utilizing updated cost assumptions.

    b) Comprehensive market risk assessments and economic modeling for alternative resources and technologies.

    c) Sensitivity analyses in future IRP dockets that model different market scenarios in resource planning to understand the impact of market power[123] on a project's economic feasibility. Feasibility studies should assess whether a proposed project or solution is economically feasible and cost-effective with respect to given alternative solutions.

    d) Identification of all cost mitigation techniques.

[123] Market power is the ability of a company to control prices in a particular industry. (Source: https://dictionary.cambridge.org/us/dictionary/english/market-power)

e) Detailed risk mitigation plan addressing supply chain risk, contingency plans for potential delays, and strategies for managing dependence on a single supplier in future CCN filings.

17. The Commission should set the CWIP limits at the estimated and ** [redacted] ** budget amount[124] of ** [redacted] ** which are the project expenditures projected to be made within the estimated construction period of late 2026 through no later than October 2, 2030, with the CWIP amount limited and reduced by ** [redacted] ** if the SCR equipment is determined not to be required and with the CWIP amount further limited by jurisdictional allocations determined during the general rate proceeding where CWIP is requested to be included in rates.

18. Empire should provide supporting analysis that utilization of CWIP will be less costly than traditional deferral of AFUDC, as part of testimony and workpapers included with any and all requests for CWIP to be included in rate base in a future general rate proceeding.

19. Empire should clearly identify in workpapers in the first general rate proceeding where PISA deferral for Missouri's allocated portion is requested for this generating unit that the 85% of the return component for PISA calculations is not calculated on any CWIP amounts already being recovered in rate base.

[124] Schedule 10.1

20. Empire should identify in a future general rate proceeding where any PISA treatment is requested for this proposed facility, whether and how much of the facility qualifies for PISA treatment which should identify whether any increased revenues resulting from adding service to new customer premises are attributable to the generating facility.

21. Empire should utilize the sales tax exemption per RSMo 144.058 to every extent possible on any qualifying items for the construction of this generating facility and provide the required savings notification in Liberty's next general rate proceeding.

22. Empire should evaluate and pursue any Missouri Chapter 100 development incentives available and Payments In Lieu Of Taxes ("PILOT") options and provide notice in this docket of such evaluations once complete. Staff further recommends that if Liberty elects to utilize development incentives or PILOTs, that notice be made in this docket as soon as practical and to also file in this docket a copy of any such development incentive or PILOT agreement executed within 30 days of execution along with a quantification of the resulting estimated property tax savings.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of	)	
The Empire District Electric Company	)	Case No. EA-2025-0299
d/b/a Liberty for a Certificate of	)	
Convenience and Necessity to Support	)	
Resource Adequacy	)	

AFFIDAVIT OF DONALD A. FONTANA, PE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

Donald A. Fontana, P.E.

DONALD A. FONTANA, 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 5th day of May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of The Empire District Electric Company d/b/a Liberty for a Certificate of Convenience and Necessity to Support Resource Adequacy	)))))	Case No. EA-2025-0299

AFFIDAVIT OF JARED GIACONE

STATE OF MISSOURI)
) ss.
COUNTY OF Jackson)

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

Further the Affiant sayeth not.

JARED GIACONE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Belton, on this 6 day of May 2026.

THERESA BELLAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES FEBRUARY 12, 2027
JACKSON COUNTY
COMMISSION #00414027

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of	)	
The Empire District Electric Company	)	Case No. EA-2025-0299
d/b/a Liberty for a Certificate of	)	
Convenience and Necessity to Support	)	
Resource Adequacy	)	

AFFIDAVIT OF RANDALL T. JENNINGS

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

RANDALL T. JENNINGS

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 May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of	)	
The Empire District Electric Company	)	Case No. EA-2025-0299
d/b/a Liberty for a Certificate of	)	
Convenience and Necessity to Support	)	
Resource Adequacy	)	

AFFIDAVIT OF SARAH L.K. LANGE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

Sarah L.K. Lange

SARAH L.K. LANGE

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 May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of The Empire District Electric Company d/b/a Liberty for a Certificate of Convenience and Necessity to Support Resource Adequacy	)))))	Case No. EA-2025-0299

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 Rebuttal 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 5th day of May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of The Empire District Electric Company d/b/a Liberty for a Certificate of Convenience and Necessity to Support Resource Adequacy	)))))	Case No. EA-2025-0299

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 Rebuttal 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 5th day of May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
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Notary Public

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Resource Adequacy	)	

AFFIDAVIT OF HARI K. POUDEL, PhD

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

HARI K. 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 5th day of May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

Notary Public

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AFFIDAVIT OF TREVOR RUCKER

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

TREVOR RUCKER

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 6th day of May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
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Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of The Empire District Electric Company d/b/a Liberty for a Certificate of Convenience and Necessity to Support Resource Adequacy	)))))	Case No. EA-2025-0299

AFFIDAVIT OF JUSTIN TEVIE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

JUSTIN TEVIE

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 May 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
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Notary Public

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Resource Adequacy	)	

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 Rebuttal 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 5th day of May 2026.

D. SUZIE MANKIN
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Notary Public