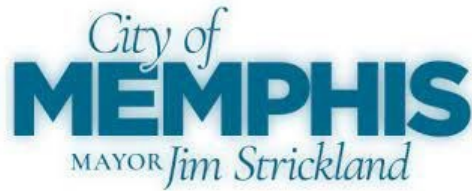


Assessment of MLGW RFP Process

For



By



February 15, 2023



4170 Ashford Dunwoody Road
Suite 550
Atlanta, GA 30319
www.enervision-inc.com

Table of Contents

Executive Summary	3
MLGW/GDS Analysis and Review	3
EnerVision Assessment and Recommendations	9
Introduction	14
Directive	14
Approach	14
Part I. Assessment of MLGW/GDS RFP Process	16
Chronology of Events	16
Siemens IRP Results	18
RFP Documents	18
Analysis of Bids	21
Shortlist	24
Repricing	25
GDS Scorecards	26
Part II. EnerVision Approach to Analyze MLGW RFP Bids	34
Scorecard	34
TVA Long Term Agreement Baseline	37
Thermal Generation Bids	38
Renewable and Other Bids	39
Combined Portfolios and Full Requirements	39
Analysis Results Compared to TVA	44
Potential Problem Analysis	48
EnerVision Assessment and Recommendations	54
Appendices	57

Executive Summary

EnerVision, Inc. (EnerVision) was contracted by the City of Memphis to conduct an independent assessment of Memphis Light, Gas & Water's (MLGW) Power Supply Request for Proposals (RFP) process. The goals included:

1. Validate or rebut the executed RFP process,
2. Assess the results and recommendations resulting from the RFP process, and
3. Identify other relevant considerations.

This report contains two main sections: **MLGW/GDS Analysis and Review** and **EnerVision Assessment and Recommendations**. The section in the report, labeled **MLGW/GDS Analysis and Review**, consists of an assessment of the MLGW/GDS RFP process using the data and assumptions that could be confirmed. This includes a review of the Siemens's Integrated Resource Plan (IRP) and RFP documents, the analysis of the bids received, and factors impacting the results of the reprice. The subsequent section, labeled **EnerVision Assessment and Recommendations**, consists of EnerVision's independent assessment of the MLGW/GDS process and an evaluation of the bids received by MLGW. In the evaluation process, assumptions were adjusted to model an apples-to-apples comparison between the portfolios and the TVA Long Term Agreement (LTA, the baseline). This evaluation process tested the soundness of the MLGW/GDS recommendation to execute the TVA Long Term Agreement.

EnerVision acknowledges that it is easier to dissect a process once it is complete, having the full benefits of hindsight and adjustments of perspective. Further, we do not know the constraints and direction GDS received as they executed the RFP process and performed their analysis.

MLGW/GDS Analysis and Review

Observations

The GDS RFP process relied heavily on data presented in the Siemens IRP completed in July 2020. The RFP conclusions were released based on August 2022 real-world data provided by the bidders. The timeframe between these two releases covered a particularly volatile period in the energy industry. For example, the following events occurred or began between July 2020 and September 2022: COVID and resulting supply-chain issues, Winter Storm Uri, the Russia-Ukraine conflict, and the Freeport Liquid Natural Gas fire in Louisiana. Because of the interval between the IRP release and the conclusion of the RFP, the input data from the IRP that influenced the analysis is

dated and mismatched to the real-world data provided by the bidders.

The TVA LTA (baseline) developed by GDS relied upon data from the Siemens IRP. These data assumptions were not updated when the RFP bidders repriced their bids. Thus, we do not believe the analysis presents a truly apples-to-apples comparison among the bids and TVA.

Transmission RFP

It was clear from the Transmission RFP that MLGW's strong preference was for ownership of the newly constructed transmission system. While this is not a poor decision, it is a missed opportunity to assess the market and learn if non-ownership options could be beneficial. As the RFP progressed, assumptions and costs changed, impacting the total cost of an exit scenario compared to the TVA LTA (baseline). For example, the IRP assumed that the bidder would construct the full path from MLGW to MISO. When the RFP was released, Entergy, with Right of First Refusal, determined they would construct portions of the transmission through its territories in Arkansas and Mississippi. Ownership would then transfer to MLGW upon completion. This change impacted the RFP scope by reducing the length of the required transmission build and costs assumed from that of the IRP.

Thermal Generation RFP

The Thermal Generation RFP only had three respondents. From those bids, two of the respondents only provided one portfolio solution each, and the third provided three individual bid options. Of the five collective bids, two conformed to Portfolio 6, one conformed to Portfolio 9, and two were non-conforming. The limited number of responses triggers concern on whether the RFP should be reevaluated and/or reconstructed to encourage more competitive options for consideration.

Renewables and Other RFP

Per the RFP language, local and MISO solar locations were requested and alternative solutions outside of the RFP requirements were allowed. Of the three RFPs, this RFP was intended to be a "catch- all" for alternate bids that fell outside the prescribed scope of the IRP Portfolios 6 and 9. The response to this RFP included eleven local solar bids (three non-conforming), seven MISO solar bids, three Full Requirements bids, and two non-renewable bids.

Data Requests from EnerVision to GDS

In two separate requests dated June 9, 2022, and November 2, 2022, EnerVision submitted questions and data requests to GDS to review, assess, and validate GDS' RFP process and analysis. GDS responded initially to some of the questions posed, but many of the detailed requests were evaded with non-numerical responses, referrals to the IRP analysis, or responsibility identified as MLGW's. This limited EnerVision's ability to fully validate the GDS analysis and left many aspects unverifiable. On December 20, 2022, GDS responded with more information from EnerVision data requests, excluding details relating to transmission. Appendix A contains the detailed questions and data requests submitted in June and November 2022, noting which responses were received from GDS.

Shortlist and Repricing

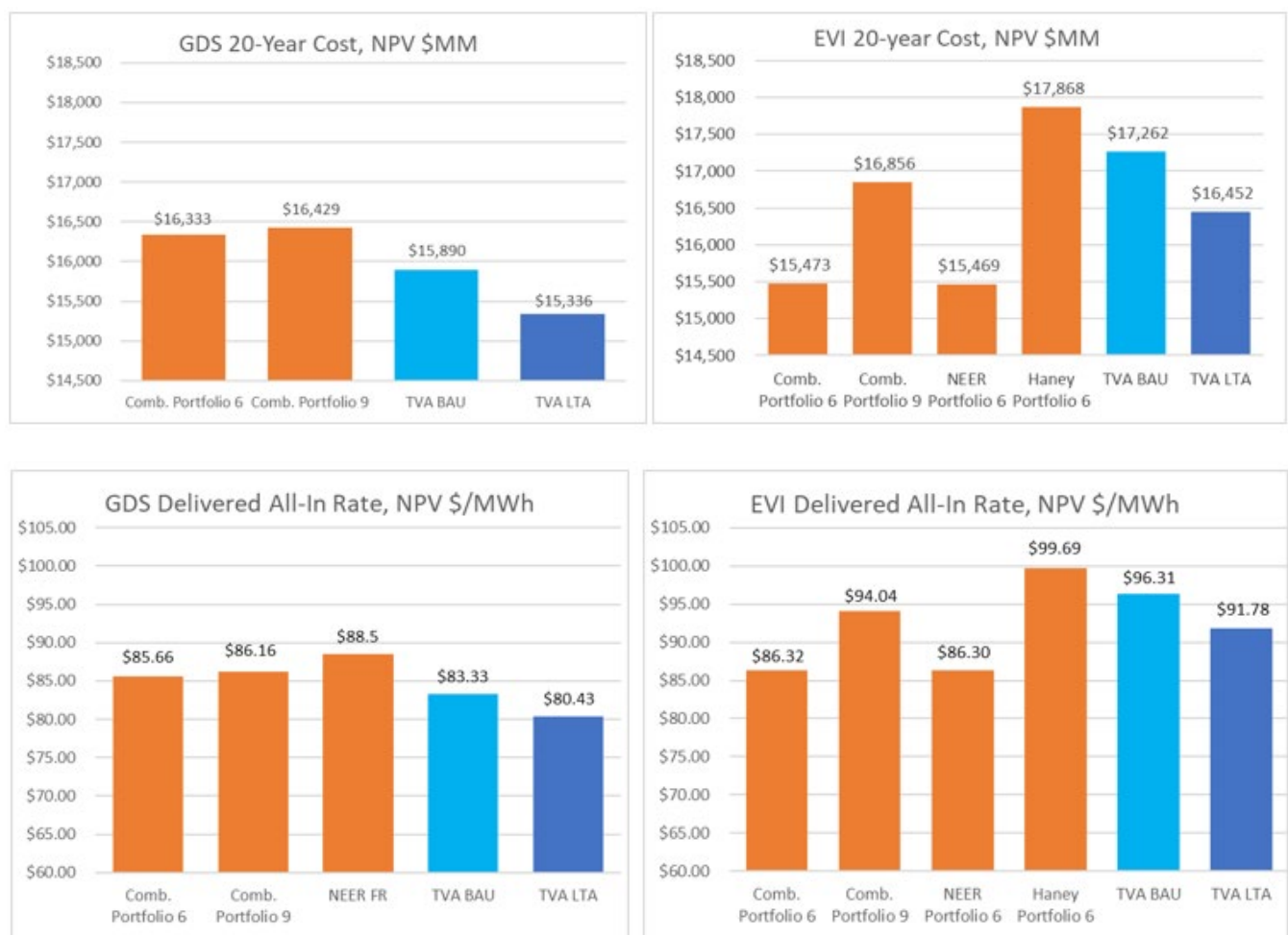
Ultimately, GDS shortlisted the top three Thermal Generation bids, top two Transmission bids, top five Local Solar bids, and top four MISO Solar bids. GDS also continued NextEra and TVA's Full Requirements bids, though the TVA Full Requirements bid is the baseline for the analysis. All shortlisted bidders were invited to reprice their bids in August 2022, and all except Ecoplexus and TVA submitted revised pricing.

The reprice in August 2022 was not the best time to reprice. In fact, it couldn't have been worse. The costs across all bids increased from the initial submission due to unprecedented spikes and volatility in the natural gas market and supply chain infrastructure limitations which reflected both thermal and renewable generation prices. In addition, the Inflation Reduction Act had not yet been approved; therefore, there is no reflection of federal tax benefits in the repriced bids – specifically those proposing solar generation.

EnerVision's independent evaluation (section in report labeled EnerVision's Assessment and Recommendations) followed a similar overall process to the GDS process, however, EnerVision applied some specific changes to the GDS assumptions. For example, the TVA LTA (baseline) was updated from the outdated IRP data by updating the load and demand forecast, and the total costs were updated to reflect an updated natural gas forecast and projected generation mix. GDS' transmission-related costs were retained in the analysis, despite skepticism of the total magnitude being accurate. Transmission rates, capacity rates, and reserve requirements were updated. EnerVision developed a new scorecard based on most important categories identified: Economics,

MISO Experience, Construction Experience, Commercial Terms, and how closely the bid satisfied the RFP terms. The body of this report explains in detail EnerVision’s independent evaluation.

Below is a comparison of GDS analysis and EnerVision’s independent evaluation of MLGW’s total 20-year NPV cost and the associated delivered All-In Rate. EnerVision compiled the data from the GDS September 1, 2022, presentation and December 20, 2022, GDS data request response and placed it next to the EnerVision analysis. The Full Requirements 20-Year Cost data was not provided and was therefore omitted from the 20-Year Cost chart. Similarly, the Haney All-In Rate is left off the GDS all-in rate chart due to lack of information. The EVI All-In Rate chart utilizes the lowest cost NEER and Haney Full Requirements each of their respective bids. This was Portfolio 6 for both bidders.



The GDS Costs and All-In Rate charts show the TVA LTA as the lowest cost option; however, the EnerVision analysis resulted in Costs and All-In Rate charts that identify Portfolio 6 as the lowest cost option. The GDS results support their recommendation to the MLGW Board to choose the TVA LTA as the new power supply arrangement, while the EnerVision results do not support the same conclusion based on economics alone.

Scorecard and Lack of Potential Problem Analysis

The objective of a scorecard is to be consistent across all options. While scorecards put science behind subjectivity, the objectives of the RFP process listed for each scorecard communicates the order of importance in quantitative and qualitative analyses. While EnerVision did not partake in the MLGW-GDS team discussions regarding the scorecard development, EnerVision developed its own version of the scorecard which emphasize different criteria from the MLGW-GDS scorecards. Below is an example comparison between GDS and EnerVision's completed scorecards:

GDS Thermal and Solar Scorecards

Thermal Generation PPA Evaluation Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Example Score
	PPA Pricing Structure	30%	Fixed Cost / Charge (e.g. \$/kW-mo rate)	30
			Non-Fuel Variable Cost / Charge (e.g. \$/MWh rate)	
			Start-Up Cost / Charge (e.g. \$/Start)	
			Payment Terms	
	Performance Guarantees	30%	Heat Rate	30
			Availability	
			Emissions	
			Ramp Rate / Start-Up Time	
	Viability	20%	Capacity / Capability	20
			Minimum Run-Time / Down-Time	
			Technical	
			Water & Wastewater Supply	
	Experience	20%	Environmental	20
			Financial / Creditworthiness	
			Design	
			Construction Management	
O&M				
Safety	20			
Asset Management				
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity	Local firm and MBWE participation*		5
Total Maximum Score After Supplier Diversity Bonus Points				105

Solar Generation PPA Evaluation Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Example Score
	Pricing Structure	30%	PPA Rate Cost / Charge (\$/MWh)	30
			Land Lease Estimated Cost / Charge	
			Pricing Structure	
			Payment Terms	
	Commercial	30%	Commercial Operating Date	30
			Environmental Attributes	
			Delay Damages ("if applicable")	
			Availability & Guaranteed Energy Production	
	Viability	20%	MISO Queue Position ("if applicable")	20
			Financial / Creditworthiness	
			Technical Design	
			Modules and Racking System Quality	
	Experience	20%	Inverter and Balance of Plant Quality	20
			Land Use and Footprint (Local Solar)	
			Operating Constraints (i.e. permits)	
			Engineering and Construction	
Procurement			20	
O&M				
Safety Record				
Asset Management	20			
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity	Local firm and MBWE participation*		5
Total Score After Supplier Diversity Bonus Points				105

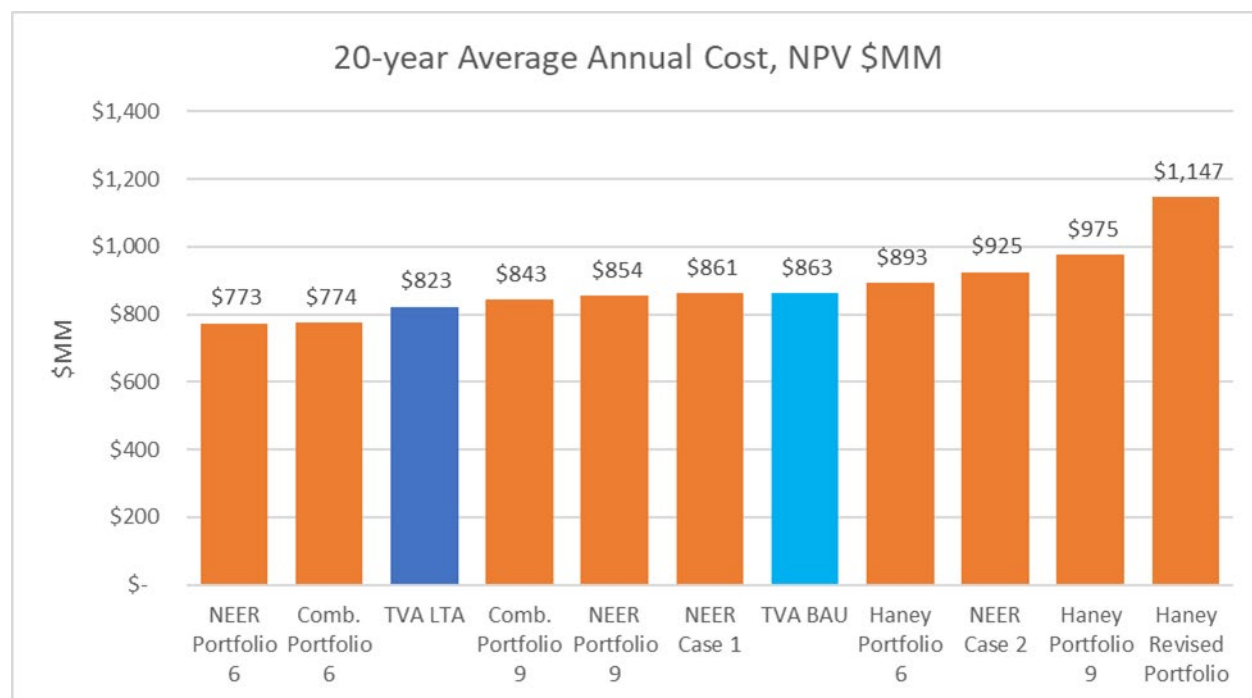
EnerVision Scorecard

<u>Weight</u>	<u>Wants</u>	<u>Description</u>	<u>Metric</u>
10	Economics	Cost impact	\$/MWh, cents/kWh, \$
8	Experience – MISO	Market participation, Generation and Transmission operations	Current experience, How much generation and transmission in MISO
8	Experience – Building Generation/Transmission	Successful experience, Reliability, Construction reputation	Number of projects built, Project sizes
5	Commercial Terms	Creditworthiness, Market/Transactional reputation, ESG, Terms	Credit Rating, In the news/lawsuits, Environmental stewardship
1	Meeting RFP Terms	Term length, Capacity, Location, COD	Yes/No

In addition, when using scorecards for decision analysis, one must recognize manipulation of outcomes can happen in how objectives are weighted and how options are scored for each objective. Therefore, scorecards are not the only item that should be used in any decision-making process. A Potential Problem Analysis should be conducted on top bids or the winning bid at the end of the process to validate the scorecard conclusions. This produces an assessment of weaknesses highlighting the probability of occurrence and magnitude of impact to establish awareness of ultimate decisions made and to better establish any future negotiation positions. In the section labeled **EnerVision Assessment and Recommendations**, we demonstrate a detailed Potential Problem Analysis.

EnerVision Assessment and Recommendations

The main objective in a competitive bidding process like an RFP is to compare alternatives on an economic basis (Objective #1 on the Scorecards). The following graphics summarize EnerVision's economic evaluation of the bids, shown as the average NPV over the twenty-year term in millions of dollars, and as the delivered all-in rate in \$/MWh. The totals shown represent the all-in cost inclusive of all adders such as transmission construction, market purchases/sales, capacity purchases.



Other Factors Observed and Considered

A quantifiable analysis is a clear way to define a hierarchy of options, however, the non-quantifiable influences must be considered to make a holistic decision. A variety of other factors have been discussed during the MLGW IRP and RFP processes including:

- **TVA's MLGW One-Pager (Appendix B)**

In June 2020, TVA responded by creating an MLGW "One-pager" that was intended to counter the annual savings potential of \$122 million identified in the IRP. With each point made, TVA adjusted various cost components of the IRP's bottom line calculation such that, instead of net savings from a TVA exit, there were actually significant cost increases from a TVA exit. Where the IRP calculated a net savings of \$122 million per year should MLGW exit TVA, the MLGW

One-Pager adjusted that value to a net cost of \$261 million per year should MLGW exit TVA. The following table highlights the high-level potential of costs or savings under an exit from TVA at various points of the IRP and RFP process:

IRP	TVA One-Pager	GDS Round 1	GDS Round 2	EnerVision evaluation
\$122 million annual savings	-\$261 million annual savings	\$8.2 to \$55.3 million annual savings	-\$70.1 to -\$108.0 million annual savings	\$49 million annual savings

This difference in reported savings and costs highlights the importance of an unbiased assessment made at beneficial time in the market. Each stakeholder brings its own perspective and priorities, thus maintaining an unbiased analysis that identifies the impact of risk in its assumptions will best suit MLGW and the related stakeholders.

- **Mayor's 4 Points**

In August 2021, the Mayor's office recommended the following four points be integrated into the RFP process. All four points were successfully adopted into the RFP process. Below are the Mayor's 4 Points:

- ✓ MLGW will make it clear in the RFPs issued that the three recommended portfolios from the IRP are the desired scenarios but that bidders may include proposals for other methods of providing transmission and generation to Memphis and Shelby County.
- ✓ GDS and MLGW shall, at a minimum, consider the following in evaluating bids: Reliability of transmission and generation compared with present experience, Economics, Relevant risks, Counterparty creditworthiness and counterparty market credibility, and Past performance, etc.
- ✓ At Task 8 "Bid Evaluation and Short List" in the Proposal Work Plan, GDS will present to the Board (for informational purposes only) a cost comparison analysis of the most competitive and viable bidder proposals to the estimated costs presented in the IRP Portfolio(s) and update the estimated savings compared to MLGW's expected power cost from TVA. Members of the Board will have an opportunity to provide feedback on additional areas for evaluation and information requested to be included in any final recommendation to be made to the Board for approval following negotiation and final offers with the short list of bidders. Following the presentation to the MLGW Board, GDS

will make a similar presentation to the City Council for a similar purpose.

- ✓ To preserve the integrity of the bid process, the identity of all bidders and the details of individual proposals shall not be shared as part of the presentations in Paragraph 3 above.

EnerVision Recommendations

If a 20-year evergreen contract is attractive, then MLGW should ensure flexibility is built into the contract terms of the new agreement because electric usage by the end-consumer is already changing and will continue to change in the future. This flexibility should include removing the evergreen clause in the term, incorporating significant (>>5%) carve-outs, adding control over its own generating and renewable resources, providing open access to transmission, and having transparent unbundled rates, etc.

TVA has stated that the LTA is **not negotiable**. Also, the LTA contains a **most favored nations clause** in which TVA must provide the same or better terms and conditions to all LPCs who have already executed the LTA. Thus, if MLGW is able to negotiate more favorable terms like those described above, TVA may be held to the most favored nations clause for all LPCs with executed LTAs (Long Term Agreement). EnerVision is not aware if TVA has changed from this non-negotiable position; in our opinion, MLGW has nothing to lose to ask for the flexibilities defined above.

If a 20-year evergreen contract is not desirable, then a ‘do nothing’ approach is preferable for now. MLGW should stay in its current TVA BAU contract to maintain the ability to exit when so desired to take advantage of future market opportunities and lower MLGW electric costs in future years. The cost differential between TVA BAU and TVA LTA is on average \$40 million per year to stay in the current TVA BAU contract, or approximately a 4.8% premium to keep options open for future opportunities. Staying in the TVA BAU also preserves MLGW’s right to exit without paying for stranded costs. Any cost shifts to other LPCs if MLGW exits could be mitigated because the Valley’s growth is increasingly healthy, and the cost of TVA purchases from MISO and surrounding utilities for power could be eliminated or reduced in response to the loss of load with five-year notice.

EnerVision recommends MLGW follow the ‘do nothing’ approach for now and revisit the market when market conditions improve. To close the door on the ability to pursue competitive power supply and reduce consumer electric costs is not prudent nor a display of servant leadership. An improvement would be considered when:

1. Natural gas prices stabilize or finds a new normal,
2. The supply chain crisis no longer grossly impacts thermal generation and renewable components, and
3. Power markets stabilize and/or settle from such impacts as Storm Uri and the Russia-Ukraine conflict.

EnerVision further recommends that when MLGW revisits the market, it has a less complicated approach so that market economies can be captured quickly. In addition, based upon the results of the GDS RFP analysis and EnerVision’s independent evaluation, we suggest reissuing an RFP concentrating on Portfolio 6 only (“Revised RFP”) as Portfolio 9 was not better economically than TVA LTA. The Revised RFP should also be open to alternative options and solutions. After the optimal power supply options are determined, the Transmission RFP should be revised to fit the transmission needs required by those power supply options, not necessarily defined for MLGW ownership and open to alternative transmission solutions.

EnerVision supports the use of scorecards; however, our recommendation is to define the scope/needs, desired technology and determine most consistent scoring of bids.

At the time of this report, we recommend MLGW watch the natural gas market, utility generation and renewable supply chain markets and the effects of the Russia-Ukraine war, evolution of the Inflation Reduction Act’s tax benefits and other influencing political/weather events, possibly stabilizing power markets so MLGW can rebid Portfolio 6.

Finally, EnerVision recommends that MLGW ensures and communicates a fair, consistent bidding and evaluation process in any subsequent RFP. Bidders must be confident that MLGW intends to execute a contract given a viable alternate solution, otherwise they may not dedicate time and effort to provide meaningful bids to future RFPs. Also, MLGW should consider any restrictions that limit solutions for MLGW could result in more expensive power supply and transmission

alternatives. Finally, the evaluation process must involve true apples-to-apples comparisons.

The distribution utility industry is changing as technologies allow customers to control and/or contribute to their energy usage. Signing the TVA evergreen Long Term Agreement limits MLGW's ability to work with customers on renewable initiatives, limits MLGW's ability to incorporate new power technologies as they evolve and most importantly, limits MLGW's access to surrounding competitive power supply. When TVA costs are **75-80%** of MLGW's total electric bill to its consumers, any savings achieved from competitively priced power supply positively affects the bottom line and thus, positively affects what Memphians must pay for the basic need of electricity.

Introduction

EnerVision, Inc. (EnerVision) is an independent consulting firm located in Atlanta, Georgia that provides business, management, marketing and technical consulting services for electric utilities and other clients. EnerVision has been advising the Mayor Strickland's office since November 2020 on topics related to power supply, including but not limited to the MLGW Request for Proposal (RFP) process and results.

Directive

Following the release of the GDS Associates (GDS) power supply recommendation to MLGW in September 2022, the City of Memphis tasked EnerVision with conducting an independent assessment of the RFP process. The goals of this assessment were:

1. Validate or rebut the executed RFP process,
2. Assess the results and recommendation resulting from the RFP process,
3. Identify other relevant considerations

Approach

To meet the directives, EnerVision collected and reviewed publicly available documentation related to the RFP (including bid documents, presentations, etc.), requested detailed assessment data from GDS and MLGW, and considered factors discussed at the various MLGW Board and City Council meetings regarding the RFP and power supply decision. Using the data available, EnerVision mirrored the GDS process to determine whether the final conclusions could be replicated and validated. Since key data related to the RFP process were never made available after questions were sent to GDS, EnerVision also developed its own assessment of the RFP to validate whether an independent analysis would result in the same or differing conclusions.

MLGW/GDS RFP Analysis and Review

Using the data available, EnerVision modeled the GDS RFP process from receipt of the bids through final recommendation. This included a review of all publicly available information, including the Integrated Resource Plan (IRP), RFPs and bid documents via the MLGW website. Then, EnerVision performed analysis following the process steps outlined by GDS in the various presentations to the City Council and MLGW Board, and examination of assumptions and conclusions made as a result of the process.

To complete a thorough evaluation of the GDS RFP process, EnerVision provided two lists of questions to GDS requesting answers to specific questions derived from the presentations and a variety of specific analysis detail not included in the public disclosure. Because EnerVision did not receive all the requested detail until the end of the analysis process, assumptions were made based on industry knowledge and other publicly available data sources. This only allowed EnerVision to validate the process where possible, though specific assumptions made will be noted herein.

Part II. EnerVision Approach to Analyze MLGW RFP Bids

Without the requested key data that GDS used in the process, the only alternative to validate the GDS RFP process was to complete a high-level assessment using EnerVision's quantitative and qualitative approaches to an RFP. These included creating a scorecard to compare the bids, evaluating the bids by RFP category (thermal, transmission, renewable/other), creating a shortlist, compiling the best options into full requirements Portfolio 6 and 9 configurations as outlined by the IRP and RFP, and comparing the full requirements portfolios with the full requirements bids and TVA LTA (baseline).

Ultimately, these two approaches allow EnerVision to determine the GDS RFP process and provide an independent recommendation to the Mayor's office that includes considerations outside the strict RFP scope.

Part I. Assessment of MLGW/GDS RFP Process

Chronology of Events

MLGW's process started with the Siemen's IRP, completed and published in July 2020. The IRP is considered an independent evaluation of MLGW's power supply options, with key objectives including¹:

- Affordability, Least Cost, Rate Impact
- Reliability, Resource Adequacy
- Sustainability, CO₂, Water Use, RPS
- Stability, Price Risk Mitigation, Reliance on Market
- Economic Impact, Local Capital Investment

The key findings of the IRP indicated roughly \$99 to \$122 million of savings associated with exiting the current contract with TVA and recommended that “an RFP should be undertaken by MLGW to confirm all estimated savings before making a final decision.”²

Based on this conclusion, MLGW's consultant, GDS, recommended that MLGW confirm savings before making a final determination by undertaking a power supply RFP. This RFP would foster competition for MLGW's power supply service, yielding the best price and solution. MLGW ultimately decided to undertake the RFP process to validate the results of the IRP. MLGW contracted with GDS and Stanley Consultants to facilitate the three RFPs for Transmission, Thermal Generation, and Renewable and Other bids.

The Transmission RFP was open for submissions between July 12, 2021, and February 4, 2022, the Thermal Generation RFP between August 6, 2021, and December 9, 2021, and the Renewable and Other RFP from September 14, 2021, to December 6, 2021. Each RFP contained its own scope, template forms, and scoring metrics. In addition, the Renewable and Other RFP was adjusted in August 2021, before it was released, to allow for bids nonconforming to the portfolios defined in the IRP.

¹ Page 6, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://www.mlgw.com/images/content/files/pdf/IRP%20Board%20Presentation_081920.pdf

² IRP page 29

Once the RFPs were closed, GDS, in partnership with Stanley Consultants, scored the bids based on the scorecards provided in each RFP. These scores were used to determine the shortlist under each RFP which presented using anonymous bidder IDs in an update to the MLGW Board of Commissioners and the Memphis City Council on June 9, 2022. In the June 9th presentation, GDS also highlighted cost components, namely the updated total transmission integration costs, estimated at approximately \$1.2 billion up from an estimated \$736 million in the IRP. Despite the significant increases to the transmission cost bucket, the real-world pricing received in the bids continued to indicate that savings could be realized from a TVA exit. Because of this, GDS' next steps were to finalize their evaluation and conduct negotiations with the shortlist of bidders, presenting a final update and recommendation with the MLGW Executive Staff to the MLGW Board.

The final presentation took place on September 1, 2022. It covered the final analysis of the shortlisted bids and included revised pricing provided in August 2022 from the bidders. All the previously reported savings disappeared. GDS accredited the loss of any savings to the timing of the bidders reprice during the volatile 2022 energy market which was driven by supply chain issues and natural gas price volatility. Because the TVA Long Term Agreement was the lowest cost option, the ultimate recommendation presented by MLGW Executive Management to the MLGW Board was to sign the TVA Long Term Agreement.

Hindsight Observations

It must first be acknowledged that it is easier to dissect a process once it is complete, having the full benefits of hindsight, adjustments of perspective, and additional history to rely upon. EnerVision's task of assessing the RFP process, as opposed to performing the RFP process, adds the benefit of understanding the repercussions of decisions GDS made, releases us from any limitations of a prescribed IRP direction or forecasts tied directly to an incredibly expensive market timeframe.

Because of EnerVision's 'Monday Morning Quarterbacking', we can identify process breakdowns that, with hindsight, could be altered to improve the overall RFP process and ultimate conclusions. While this hindsight is helpful, it is not intended to discredit GDS or the process that was followed.

Instead, it is intended to allow us to evaluate the process, identify efficiencies, validate recommendations, and establish lessons learned.

Siemens IRP Results

The GDS RFP process relied heavily on data presented in the Siemens IRP. While the IRP did a thorough review of MLGW's options, the span of time between the IRP results and the final round of RFP pricing updates covered a particularly volatile period for the energy market and Memphis, let alone the rest of the world. The IRP was released in July 2020, and the data used to develop its content came from 2019 or earlier. In March of 2020, COVID disrupted nearly every aspect of life, including the energy market and MLGW's load and energy usage profile. On top of the ongoing global pandemic, in February 2021 Winter Storm Uri hit the central U.S., and notoriously Texas, causing major blackouts throughout the state. Such devastation sparked fundamental changes to the structure of ERCOT, Texas' energy market. This upending continued into 2022 with the repercussions of the Russia-Ukraine conflict deeply impacting the fuel supply resulting in high natural gas prices around the world. Because of these events and other factors, such as a fire at Freeport LNG facility in Louisiana, the natural gas market saw unprecedented volatility while supply chain issues continued to impact availability of required generation and transmission components at the time the bidders were asked to reprice development of natural gas, renewable, and other generation for MLGW's power supply.

Because the IRP was based on information available only through 2019, it is mismatched to the 2022 real-world data provided by the RFP. The bids to the RFP are based on a later timeframe and repriced during the RFP process. Further, the TVA LTA (baseline) used for economic comparison came from the 2-year-old IRP, updated only by substituting solar for thermal generation to reflect the renewable flexibility option available through TVA. The natural gas price forecast update did not impact the IRP-derived baseline, and baseline rates were not updated when the other bids were repriced. Since the TVA LTA (baseline) was not repriced, it reflected lower supply chain costs and natural gas prices and thus produced artificial savings compared to the bids.

RFP Documents

The complete power supply solution was organized into three separate RFPs: Transmission, Thermal Generation, and Renewables and Other. Scorecards were defined for each RFP, to assess and articulate specific components and expectations of bids. Each RFP outlined the scope of

request as prescribed by the IRP and included specific details required in a conforming bid. Bidders were required to submit information in specific formats and templates provided with each RFP, though the bids received ultimately still contained quite a bit of variance in format and detail provided. MLGW/GDS identified non-conforming bids and allowed the bidders to “cure” their incomplete bids within a certain timeframe before the shortlist scoring was completed. It is unclear whether all the supplemental responses from bidders following the cure letter distribution were included in the publicly available bid files.

Transmission RFP

The Transmission RFP followed the framework of the transmission plans laid out in the IRP with one main difference. While the IRP assumed the bidder would construct the full path from MLGW to MISO interconnections points, the RFP assumed Entergy Arkansas and Entergy Mississippi will construct the portions of transmission through their service territories. Following construction, the Transmission RFP required that ownership of the transmission infrastructure be transferred to MLGW. Respondents were to submit bids to the following three specific interconnection projects with an expected in-service date of January 2, 2028:

1. Entergy MISO (Point 1) to Shelby-MLGW Interconnection (500 kV, 13.9 mi)
2. Entergy MISO (Point 2) to New Allen-MLGW Interconnection (500 kV, 6.3 mi)
3. Entergy MISO (Point 3) to New Allen-MLGW Interconnection (230 kV, 2.5 mi)

MLGW received three bids in response to the Transmission RFP. Two of which met the MLGW ownership requirement, while the third proposed a 30-year lease option which was considered “nonconforming.”

Thermal Generation RFP

The Thermal Generation RFP followed the thermal capacity scope outlined by the IRP under Portfolio 6 and Portfolio 9. This included energy and capacity from Combustion Turbines and Combined Cycle natural gas plants to be constructed within the Shelby County limits and owned and operated by MLGW. The thermal component of these Portfolios required

- Portfolio 6 – Total Thermal capacity of 1,137 MW
 - Two 450 MW Combined Cycle gas turbines

- One 237 MW Simple Cycle combustion turbine
- Portfolio 9 – Total Thermal capacity of 1,398 MW
 - One 450 MW Combined Cycle gas turbine
 - Four 237 MW Simple Cycle combustion turbines

MLGW received bids from three Respondents, which included one configuration that conformed to the Portfolio 9 scope, two configurations that conformed to the Portfolio 6 scope, and two configurations that offered alternative, non-conforming configurations. EnerVision considers only having two bids for Portfolio 6, but in particular, only one bid for Portfolio 9 would bring into question if the Thermal Generation RFP was too restrictive to produce more interest from the market.

Renewable and Other RFP

The RFP requested renewable bids to be sited within the Memphis/Shelby County footprint and the MISO footprint of 1,000 MW and 2,200 to 3,450 MW, respectively. All renewable bids received were solar providers and about half of the bids included additional capacity from Battery Energy Storage System (BESS) options. In total, there were eleven (11) local solar bids including three (3) non-conforming bids and seven (7) MISO solar bids including zero (0) non-conforming bids.

The RFP also allowed for an ‘Other’ category as a “catch-all” with the intention of allowing bidders to propose alternative solutions outside of the prescribed IRP portfolios. The ‘Other’ portion of the RFP was added after the primary draft of the RFP was written as a result of outcry from stakeholders of the process. Because of the haste to expand the scope of the Renewables and Other RFP, the final version of this RFP was not thoroughly thought out in terms of how the received bids would be scored against the prescribed portfolios. The final RFP included five separate scorecards based on what type of bid was submitted, and each was slightly different from each other. The thermal scorecard under the Renewables and Other RFP was also weighted differently than bids submitted under the Thermal RFP.

Under the Other category, one bidder provided an alternate thermal solution, one bidder provided a partial requirements/block of power solution, and three bidders proposed a full requirements solution, including TVA’s Long Term Agreement.

Analysis of Bids

EnerVision requested specific data and details related to GDS' analysis of the RFP bids. GDS provided complete answers to 12 of 33 total questions; however, 21 of the 33 questions, many requesting specific analysis details, were evaded with partial responses, non-numerical responses, referrals to the IRP analysis, or responsibility pushed to MLGW which never was addressed. The lack of numerical data limited EnerVision's ability to fully validate the GDS analysis and left many aspects unverifiable until the supplemental response provided on December 20, 2022.

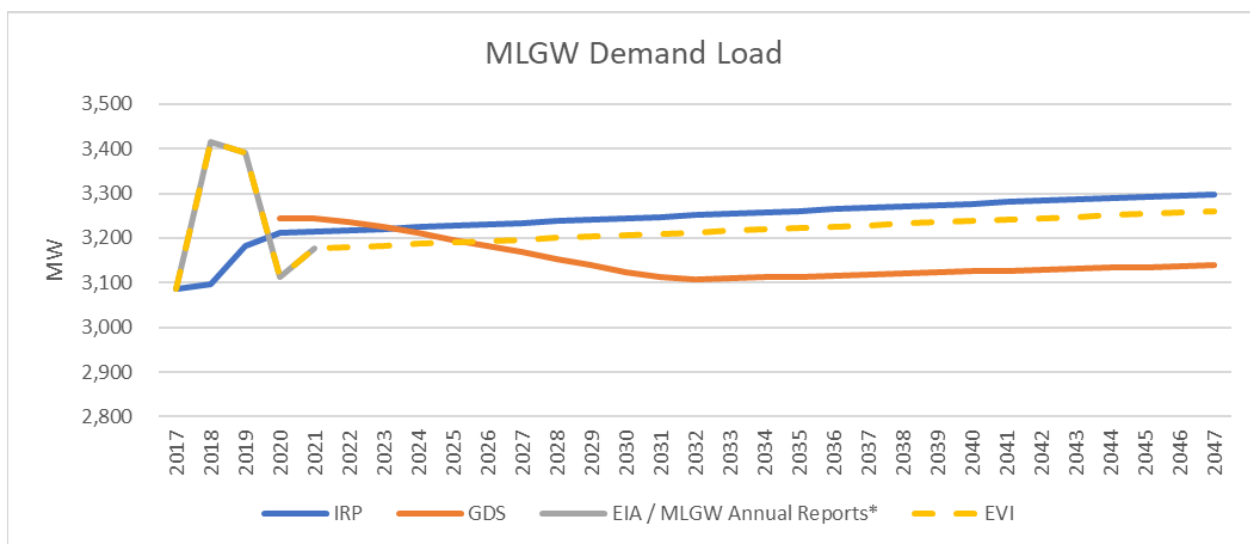
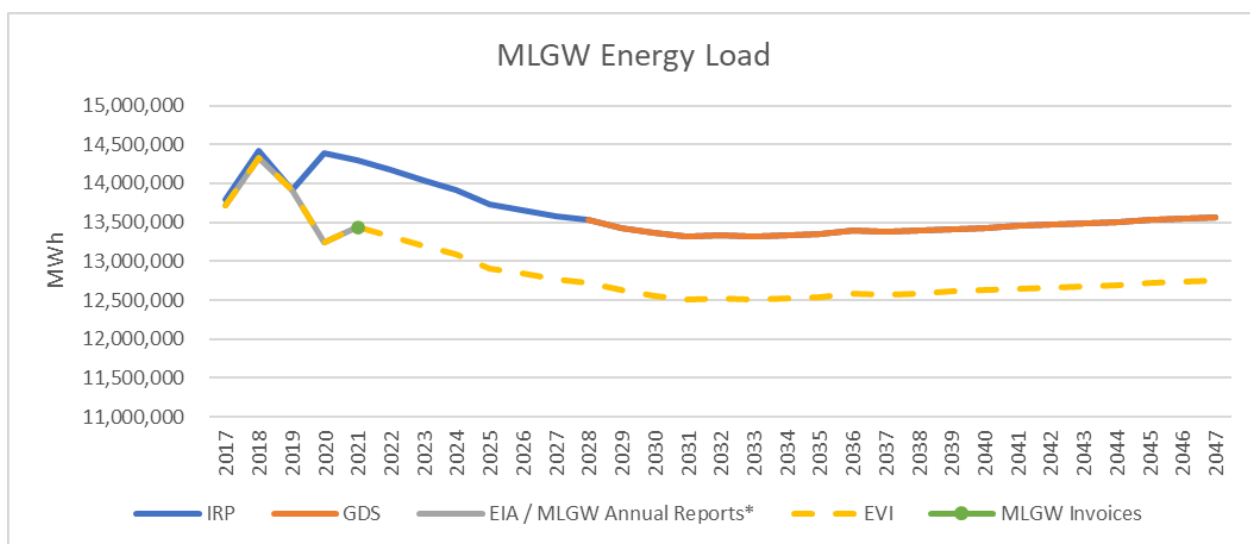
EnerVision's requests included specific data and details such as

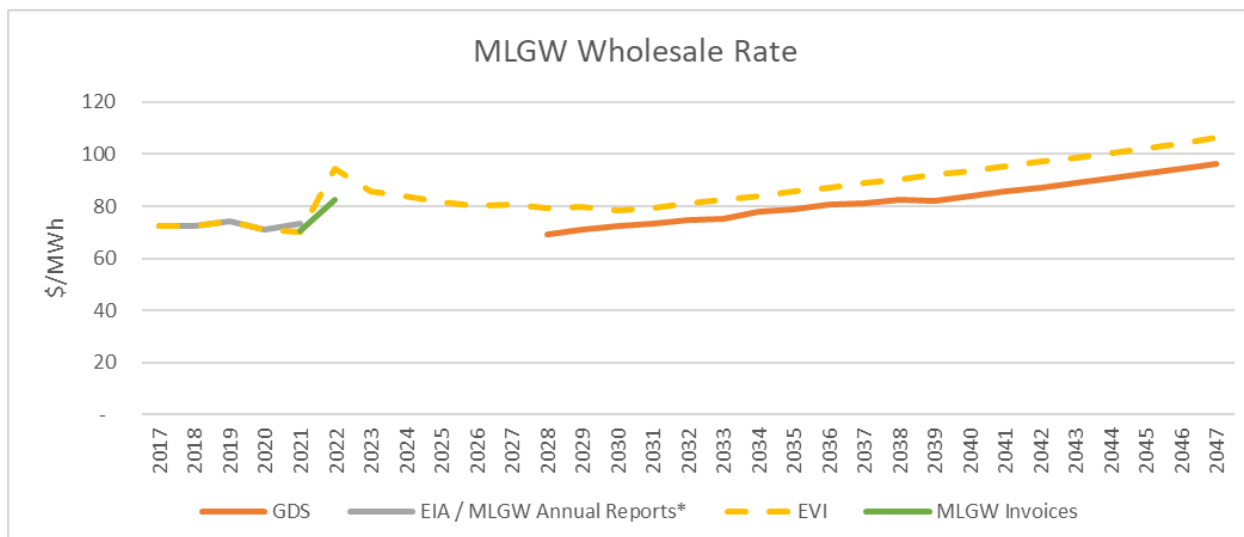
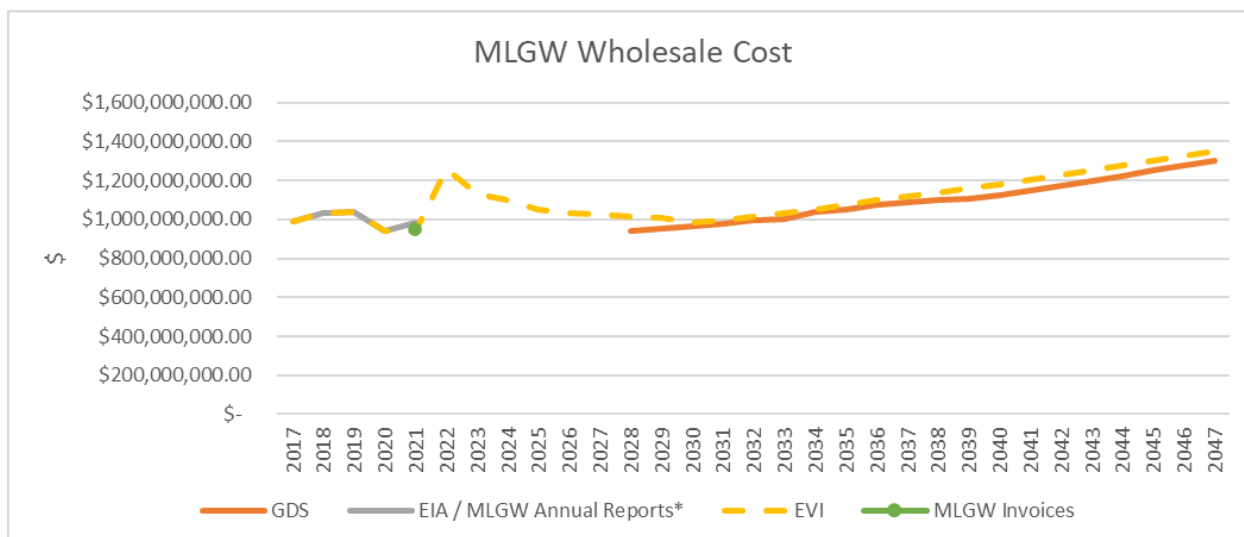
- GDS' scoring sheet for each bidder (all provided except Transmission, Full Requirements, and 'Other' non-solar bids)
- Solar profiles (answered)
- TVA forecast and annual total credits applied (answered)
- MLGW's Engineering Review and line-item breakout of \$511MM identified for upgrades for new generation impacts and reinforcements to the existing network, as referenced during the GDS presentation on June 9 (unanswered)
- All missing documentation related to Notices of Non-Conforming issues and cure responses
 - GDS indicated all information was available via MLGW's website, but subsequently provided additional detail. Still, specific bid packages did not include expected documentation responding to non-conforming letters.
- Analysis details by line for each forecast year (answered)
 - Natural Gas Price
 - MLGW's Load and Peak Demand
 - Credit given for the TVA Solar Flexibility option
 - All TVA rate components, broken out by base charge, fuel charge, transmission charge, etc. (transmission charge was not broken out separately)
 - MISO Capacity price
 - TVA credits for Continuation of Services
 - MISO membership costs
 - All transitional costs, such as capital costs of Infrastructure Upgrades, annual O&M costs, Annual transmission/generation planning and procurement resources, and additional resources required to support the personnel involved in the transition

- Total Market Purchases and Sales expected under each bid, and the rate applied to sales and purchases in each year (net Market Purchases/Sales by Portfolio only)

The full list of questions and responses are provided in Appendix A.

With the additional evaluation detail provided by GDS on December 20, the following graphics outline specific MLGW forecast assumptions used based on the various data sources available. This includes a view of the MLGW energy and demand load, and the MLGW wholesale cost and wholesale rate under TVA's LTA (baseline). This view is intended to demonstrate the differences from each analysis and how those differences drive the TVA LTA baseline for ultimate determination of savings options.





Note, MLGW Invoice data point for 2022 is based on invoices through September 2022.

Of particular note, GDS used the same MLGW Energy Load as the IRP, which was defined in 2019. With the inclusion of additional load data in 2020 and 2021 as compiled from EIA and MLGW Annual Reports, EnerVision's Energy Load forecast is lower than the GDS forecast. The MLGW Wholesale Costs were very similar between GDS and EnerVision's analysis, but because the costs are spread over different total loads, the final graphic showing MLGW Wholesale Rates slightly diverge. GDS' rate has similar escalation but is lower than that projected by EnerVision.

In conclusion thus far, GDS relied heavily on the Siemens IRP inputs and supplemental analysis provided by MLGW to develop the costs involved, including informing the TVA LTA (baseline).

It is unclear to what extent GDS could verify and update these inputs independently of the sources EnerVision, Inc.

used by Siemens, and GDS' response to EnerVision's questions indicate that data assumptions were not updated at the same time the bids were repriced in 2022, and instead continued to rely on the IRP data.

Shortlist

GDS narrowed the list of bids to a shortlist based on each bid's score on the corresponding RFP scorecard. The shortlist narrowed the total list down to the top two Transmission bids, top three Thermal Generation bids, top five Local Solar bids, and top four MISO Solar bids. In addition, GDS included NextEra and TVA Long Term Agreement full requirements bids in the shortlist; TVA Long Term Agreement bid was considered the baseline scenario in the final comparison. The complete GDS shortlist of bidders by RFP included:

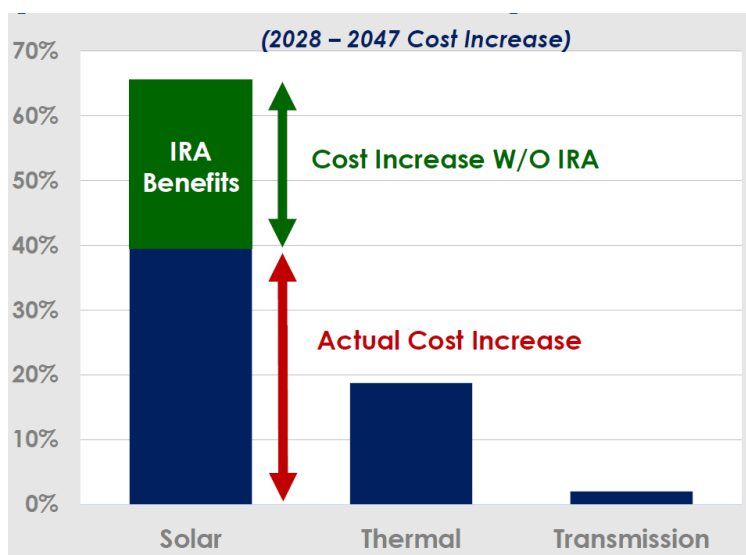
- Great Southwestern Construction; Transmission
- Quanta Infrastructure Solutions Group; Transmission
- Kindle; Thermal
- Starwood; Thermal
- NextEra; Thermal / Renewable and Other
- Clearway Renew; Renewable and Other
- Community Energy; Renewable and Other
- Ecoplexus; Renewable and Other
- EDF; Renewable and Other
- Today's Power; Renewable and Other
- TVA Long Term Agreement; Renewable and Other

EnerVision agreed with the short-list compiled by GDS and continued the analysis with the same or expanded list of bids.

Repricing

Those on the shortlist were asked to submit updated pricing in August 2022. Based on the responses included in the publicly available bid files from MLGW, all bidders except Ecoplexus and TVA provided an update to their bid. Also, NextEra provided thermal pricing but did not update the All-In prices of its full-requirements bids.

GDS presented to the MLGW Board on the impacts of the repricing and continued analysis on September 1. In this presentation, the following graphic³ was used to highlight how the bid pricing had increased across all the shortlist bids – a key factor that drove the resulting conclusion that savings were no longer available upon an exit from TVA and switch to an Alternate Provider.



It is vital to note the timing of the reprice with the state of the energy market, supply chain status, and direct actions of the Biden Administration. In August 2022 and earlier, the United States saw unprecedented spikes and volatility in the natural gas market. This was a key factor of the increased prices received from the shortlist. Secondly, the world's supply chain infrastructure had been noticeably disrupted due to the COVID-19 pandemic. These events impacted the Renewable bidders' ability to acquire the necessary solar panels and inverters in a timely and cost-effective manner. The result was an increase particularly to the solar bid costs between the initial and revised pricing rounds. Lastly, the reprice was requested at the same time the Biden Administration was contemplating, but had not yet approved, the Inflation Reduction Act. Prices,

³ Slide 13, "MLGW Power Supply RFP Update & Management Recommendation" presentation to MLGW Board of Commissioners, September 1, 2022

primarily for solar projects, did not necessarily or consistently reflect the federal benefits that were confirmed and available later in the year.

It is EnerVision's opinion that with more time and distance from the volatile-inducing factors of 2022, the bids should be repriced which may reflect better market conditions.

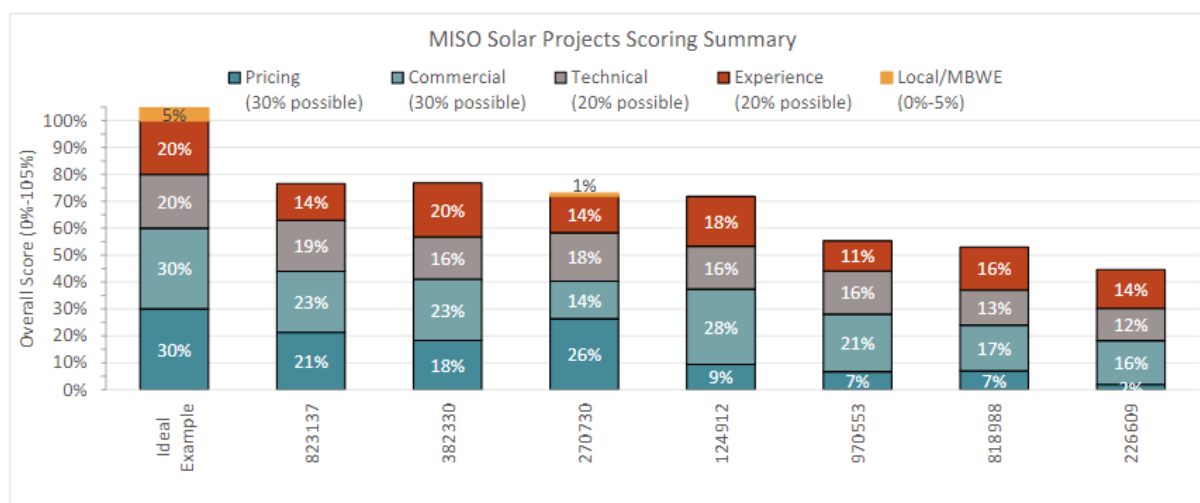
GDS Scorecards

GDS developed specific scorecards called "Evaluation Criteria" for each RFP and for each product in the Renewable and Other RFP. Cost and Experience categories comprised 50% to 60% of the total weighting for each scorecard. The remaining categories (40% to 50% of weights) varied based on project type. EnerVision received completed scorecards for each RFP except for the Transmission RFP and the non-renewable 'Other' products under the Renewable and Other RFP from GDS.

Below are the completed scorecards by MLGW/GDS.

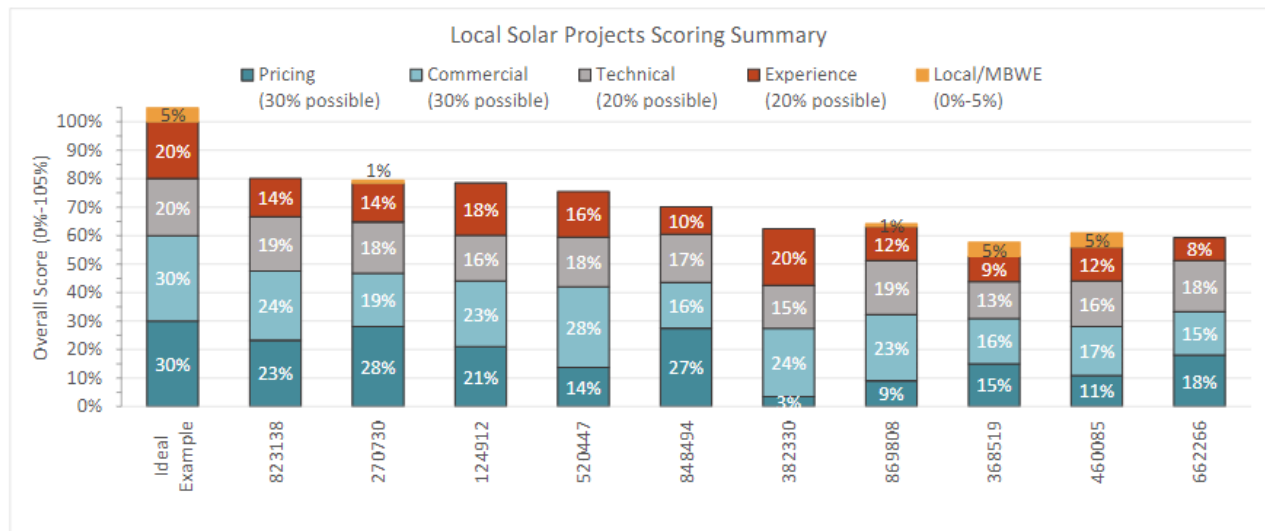
Renewable and Other Bids

Solar Generation PPA Evaluation Metrics/Criteria			
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria	Sub-criteria	Example Score
	Pricing Structure	PPA Rate Cost / Charge (\$/MWh)	30
		Land Lease Estimated Cost / Charge	
		Pricing Structure	
		Payment Terms	
	Commercial	Commercial Operating Date	30
		Environmental Attributes	
		Delay Damages ("if applicable")	
		Availability & Guaranteed Energy Production	
	Viability	MISO Queue Position ("If applicable")	20
		Financial / Creditworthiness	
		Technical Design	
		Modules and Racking System Quality	
	Experience	Inverter and Balance of Plant Quality	20
		Land Use and Footprint (Local Solar)	
		Operating Constraints (i.e. permits)	
Engineering and Construction			
Procurement			
	O&M	20	
	Safety Record		
	Asset Management		
Sub-Total Score Before Supplier Diversity Bonus Points			100
Bonus Points	Supplier Diversity	Local firm and MBWE participation*	5
Total Score After Supplier Diversity Bonus Points			105



MISO Solar Scored RFPs

823137 - Clearway
 382330 - NextEra
 270730 - EcoPlexus
 124912 - EDF
 970553 - SunChase
 818988 - APEX
 226609 - PineGate



Local Solar Scored RFPs

823138	Clearway
270730	EcoPlexus
124912	EDF
520447	Community
848494	Today's Power
382330	NextEra
869808	REV Renewables
368519	Whetstone
460085	NTE
662266	BrightNight

Given that EnerVision did not have access to the rationale behind the scoring of the non-renewable Other bids under the Renewable and Other RFP, EnerVision could not make a complete assessment of the GDS evaluation process of the non-renewable bids, only compare the scorecard metrics.

MISO Energy Only Blocks Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Example Score
	Cost	60%	PPA Rate / Charge (\$/MWh)	60
			Payment Terms	
	Commercial	40%	Environmental Attributes	40
			Term of Agreement	
			Financial / Creditworthiness	
			Delivery Point	
			Market Product & Conformity	
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity	Local firm and MBWE participation *		5
Total Maximum Score After Supplier Diversity Bonus Points				105

Non-Renewable Thermal PPA Evaluation Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Example Score
	PPA Pricing Structure	40%	Fixed Cost / Charge (\$/kW-mo rate)	40
			Non-Fuel Variable Cost / Charge (\$/MWh rate)	
			Start-Up Cost / Charge (\$/Start)	
			Fuel Pricing Structure (e.g. index plus basis)	
			Payment Terms	
	Performance Guarantees	20%	Heat Rate	20
			Availability	
			Emissions	
			Ramp Rate / Start-Up Time	
			Capacity / Capability	
			Minimum Run-Time / Down-Time	
	Viability	20%	MISO Queue Position	20
			Technical	
			Environmental	
	Experience	20%	Financial / Creditworthiness	20
			Design	
Construction Management				
O&M				
Safety				
Asset Management				
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity	Local firm and MBWE participation*		5
Total Maximum Score After Supplier Diversity Bonus Points				105

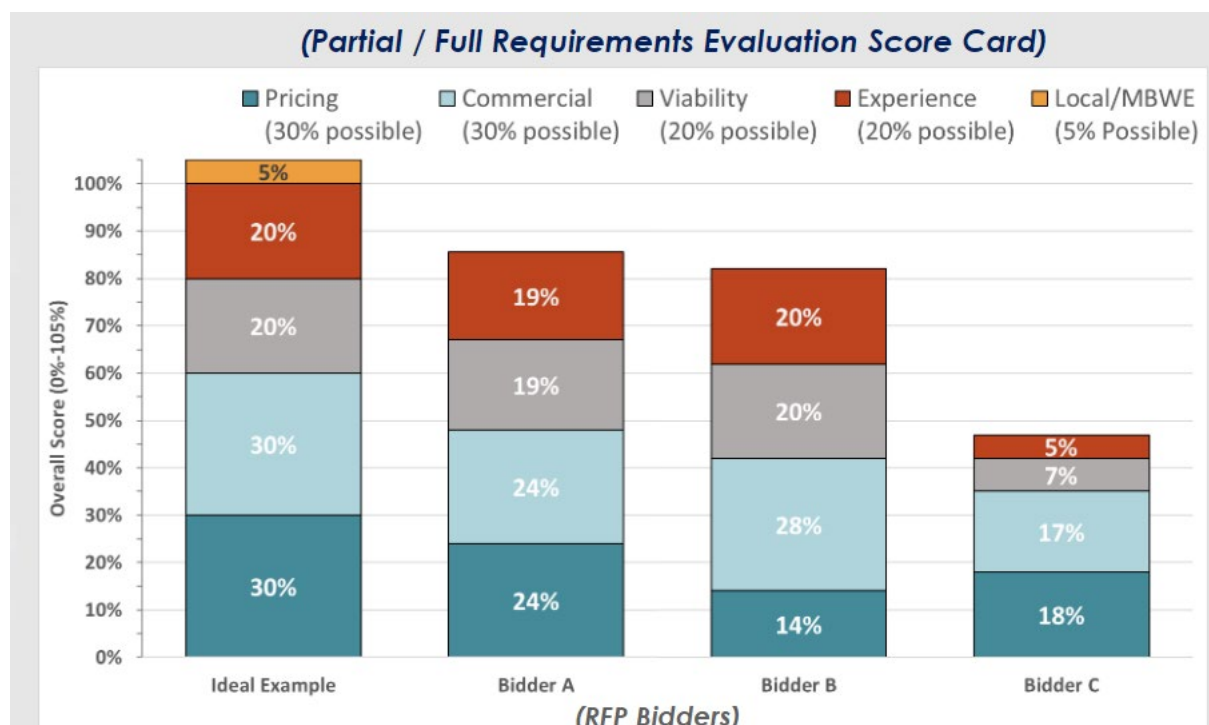
Partial and Full Requirements Bids

It is EnerVision’s observations that GDS did not evaluate the Full Requirements bids in accordance with the Renewables and Other RFP Full Requirements scorecard. Bidders were penalized for excluding certain information from the bids that the RFP did not explicitly require. Bidders were also penalized for providing bids outside the scope of an intentionally “open” RFP.

The Renewable and Other RFP scorecard also included a “Rationale” subsection for the three Full Requirements bids. From this, EnerVision discerned several items to note on the Full Requirements bids:

- NextEra and Haney bids had 2 points deducted (2% total weight) each for not stating “Payment Terms”. This was not an explicit question in the Renewable and Other RFP – Full and Partial Requirements bid form.
- GDS scored TVA 4 out of 5 points (8% total weight) and NextEra 3 out of 5 points (6% total weight) in the “Term of Agreement” category. The full requirements section of the RFP states a 10-year minimum contract term requirement. Both bids meet the specification, yet they were each penalized for not proposing fixed 20-year terms.

Partial and Full-Requirements PPA Evaluation Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Score
	Pricing Structure	30%	Capacity Cost / Charge (\$/kW-mo)	30
			Energy Cost / Charge (\$/MWh)	
			Pricing Structure (i.e. fixed capacity price, fixed heat rate, etc.)	
			Payment Terms	
	Commercial	30%	Term of Agreement	30
			Energy Management & LBA Services	
			Credit Support	
			Non-Performance Damages & Guarantees	
	Viability	20%	Technical Capability	20
			Back / Mid / Front Office Structure & Support	
			Risk Management Structure / Policies	
			Financial / Creditworthiness	
Experience	20%	MISO Market Participant	20	
		Partial / Full Requirements Service		
		MISO Market Integration		
		Asset Management		
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity			5
		Local firm and MBWE participation*		
Total Maximum Score After Supplier Diversity Bonus Points				105

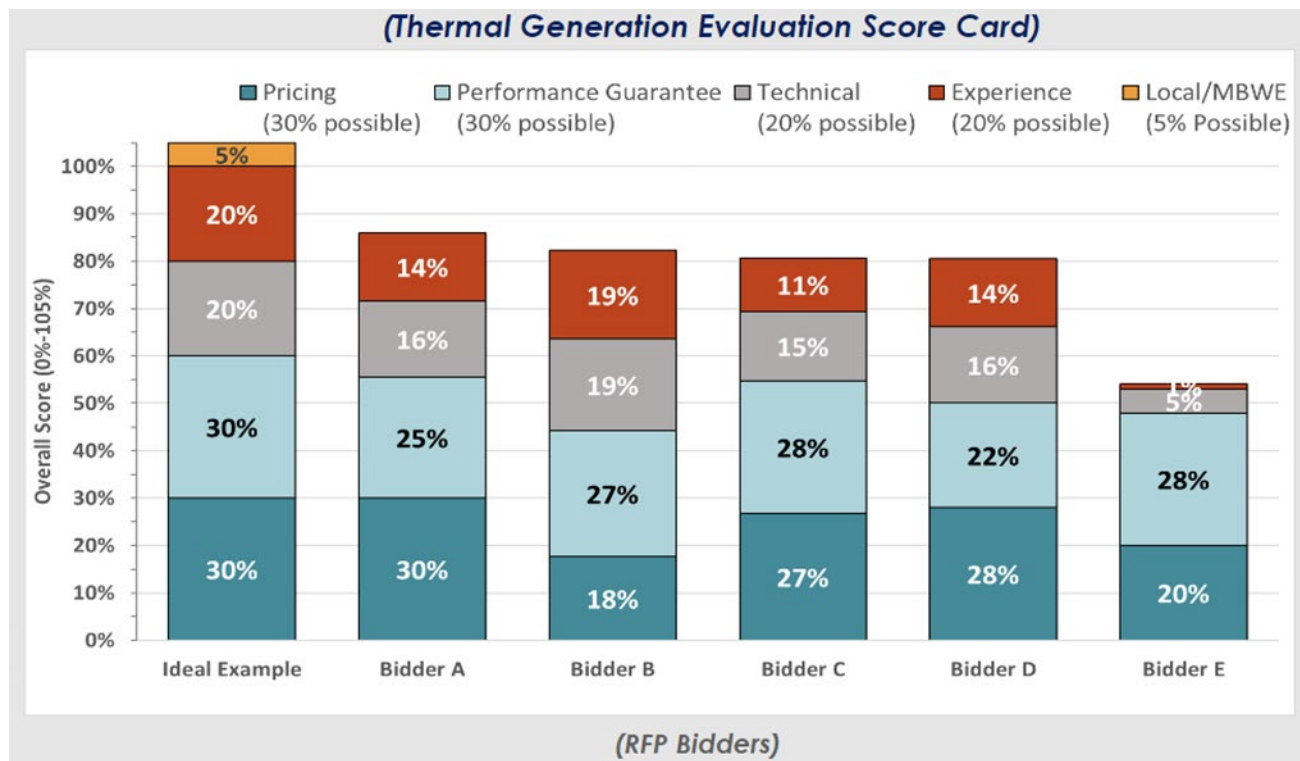


Thermal Generation Bids

These bids and the associated Evaluation Metrics/Criteria were arguably the most standard bids that would be expected in the industry. Because of the standard nature of these bids, the rationale of GDS' evaluation was discernable and straightforward to verify.

Thermal Generation PPA Evaluation Metrics/Criteria				
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specificity)	Criteria		Sub-criteria	Example Score
	PPA Pricing Structure	30%	Fixed Cost / Charge (e.g. \$/kW-mo rate)	30
			Non-Fuel Variable Cost / Charge (e.g. \$/MWh rate)	
			Start-Up Cost / Charge (e.g. \$/Start)	
			Payment Terms	
	Performance Guarantees	30%	Heat Rate	30
			Availability	
			Emissions	
			Ramp Rate / Start-Up Time	
			Capacity / Capability	
	Viability	20%	Minimum Run-Time / Down-Time	20
			Technical	
			Water & Wastewater Supply	
			Environmental	
	Experience	20%	Financial / Creditworthiness	20
Design				
Construction Management				
O&M				
Safety				
Asset Management				
Sub-Total Score Before Supplier Diversity Bonus Points				100
Bonus Points	Supplier Diversity	Local firm and MBWE participation*		5
Total Maximum Score After Supplier Diversity Bonus Points				105

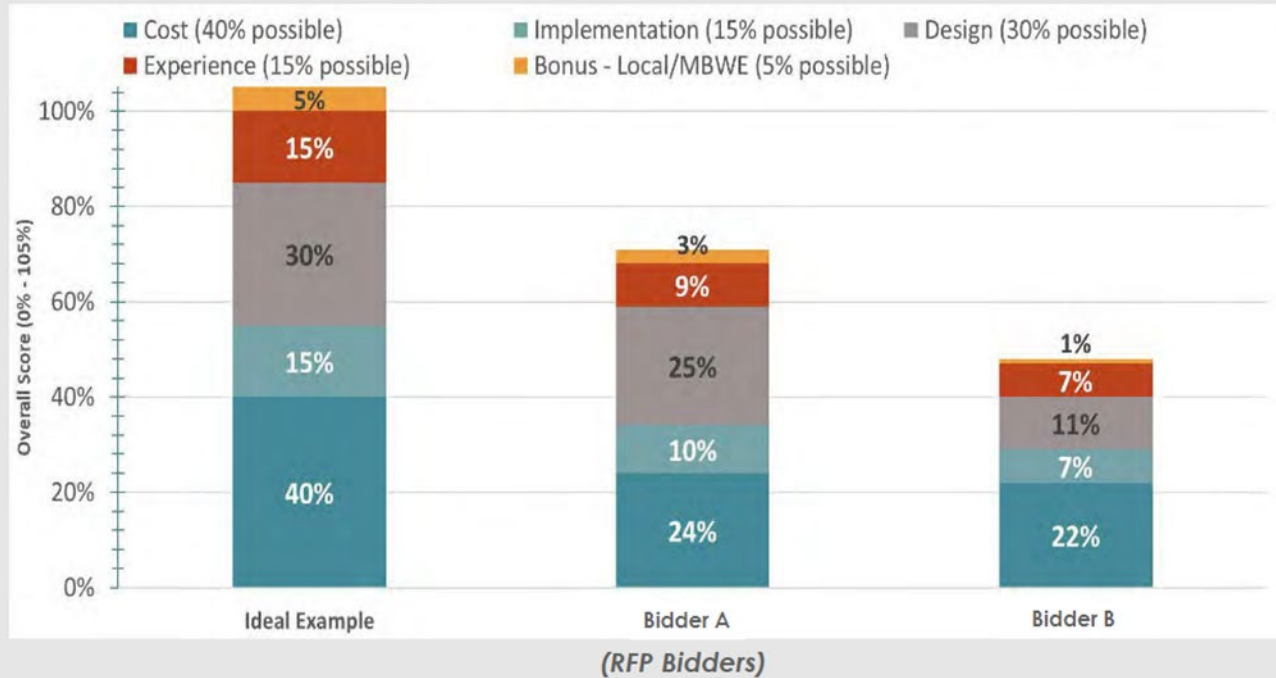
Evaluation Scorecard														
Thermal Generation PPA Evaluation Metrics/Criteria														
Evaluation Principles Applied (Certainty, Risk Mitigation, Cost & Specifications)	Category	Category Weight	Sub-category	Sub-category Weight	NextEra P6	NextEra P9	NextEra Other	Kindle	Starwood	NTE	NTE	NTE	NTE	Responsible for evaluation:
	PPA Pricing Structure	30%	Total PPA Charges (\$/MWH)	95%	23.9	28.5	24.4	26.4	17.0	19.1	19.1	19.1	19.1	
	Performance Guarantees	30%	Payment Terms	5%	1.5	1.5	1.5	0.3	0.9	0.9	0.9	0.9	0.9	Stanley
			Heat Rate ¹	33%	9.0	9.0	9.7	9.9	9.6	8.9	9.0	9.5	9.1	
			Availability ²	47%	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	
			Emissions ⁴	5%	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
			Ramp Rate / Start-Up Time ⁵	5%	0.6	0.6	0.6	1.3	0.3	0.8	1.5	1.4	1.0	
			Capacity / Capability ⁶	5%	0.8	0.8	0.0	1.4	1.0	0.9	0.0	1.5	1.0	
	Viability	20%	Minimum Run-Time / Down-Time ⁷	5%	0.2	0.2	0.2	1.5	0.8	0.2	0.2	0.2	0.2	Stanley
			Technical ⁸	40%	6.6	6.6	6.6	7.5	8.0	3.1	3.1	3.1	3.1	
			Water & Wastewater Supply ⁹	20%	2.7	2.7	2.7	4.0	2.7	0.0	0.0	0.0	0.0	
Environmental ¹⁰			20%	3.5	3.5	3.5	0.8	4.0	0.0	0.0	0.0	0.0		
Experience	20%	Financial / Creditworthiness ¹¹	20%	4.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0	Stanley	
		Design ¹²	30%	1.1	1.1	1.1	1.8	6.0	0.0	0.0	0.0	0.0		
		Construction Management ¹³	30%	5.8	5.8	5.8	3.2	6.0	0.1	0.1	0.1	0.1		
		O&M ¹⁴	30%	6.0	6.0	6.0	4.6	4.8	0.0	0.0	0.0	0.0		
		Safety ¹⁵	5%	1.0	1.0	1.0	0.8	0.8	1.0	1.0	1.0	1.0		
		Asset Management ¹⁶	5%	0.5	0.5	0.5	1.0	1.0	0.0	0.0	0.0	0.0		
Sub-Total Score Before Supplier Diversity Bonus Points					82.4	87.0	83.0	83.7	82.2	52.2	52.1	54.1	52.7	
Bonus Points	Supplier Diversity	Local firm and MBWE participation	100%	0	0	0	0	0	0	0	0	0	0	MLGW
	Total Maximum Score After Supplier Diversity Bonus Points				82.4	87.0	83.0	83.7	82.2	52.2	52.1	54.1	52.7	



Transmission RFP Bids

EnerVision did not receive completed scorecards for the Transmission RFP bids from GDS. Without the completed GDS scorecards, EnerVision cannot verify the scores granted by GDS other than providing the graphics presented in various presentations.

(Transmission Evaluation Score Card)



Part II. EnerVision Approach to Analyze MLGW RFP Bids

Scorecard

EnerVision's bid evaluation followed a similar overall process to the GDS process. First, EnerVision identified the most important categories as Economics, MISO Experience, Construction Experience, Commercial Terms, and how closely the bid satisfied the RFP terms. These categories served to quantify key metrics like cost, reliability, financial credibility across each bid to ultimately determine final scores and in turn the shortlists. For the Renewables and Other RFP, EnerVision did not score bids on how closely they satisfied the RFP terms since the RFP was open to alternate terms.

Since EnerVision's shortlist matched GDS' shortlist, the same bids were further analyzed. Therefore, any discrepancies in EnerVision's and GDS' approach was not ultimately significant to any differences in the final findings.

<u>Weight</u>	<u>Wants</u>	<u>Description</u>	<u>Metric</u>
10	Economics	Cost impact	\$/MWh, cents/kWh, \$
8	Experience – MISO	Market participation, Generation and Transmission operations	Current experience, How much generation and transmission in MISO
8	Experience – Building Generation/Transmission	Successful experience, Reliability, Construction reputation	Number of projects built, Project sizes
5	Commercial Terms	Creditworthiness, Market/Transactional reputation, ESG, Terms	Credit Rating, In the news/lawsuits, Environmental stewardship
1	Meeting RFP Terms	Term length, Capacity, Location, COD	Yes/No

For comparison to the RFP process, EnerVision’s scorecard and the GDS scorecard resulted in the following weights allotted to each category.

Transmission Scorecard breakout by percentage of total:

EnerVision Scorecard	GDS Scorecard
• Economics (42%)	• Cost (40%)
• Experience – Building Transmission (33%)	• Project Schedule & Implementation (15%)
• Commercial Terms (21%)	• Facility Design Quality (30%)
• Meeting RFP Terms (4%)	• Experience (15%)
	• Bonus: Supplier Diversity (5%)

Thermal Generation breakout by percentage of total:

EnerVision Scorecard	GDS Scorecard
• Economics (42%)	• PPA Pricing Structure (30%)
• Experience – Building Generation (33%)	• Performance Guarantees (30%)
• Commercial Terms (21%)	• Viability (20%)
• Meeting RFP Terms (4%)	• Experience (20%)
	• Bonus: Supplier Diversity (5%)

Renewables and Other breakout by percentage of total:

EnerVision Scorecard	GDS Scorecard – varied by bid type
• Economics (31%)	• Solar
• Experience – MISO (25%)	• Wind
• Experience – Building Generation (25%)	• Thermal
• Commercial Terms (16%)	• MISO Energy Only Block
• Meeting RFP Terms (3%)	• Partial & Full Requirements

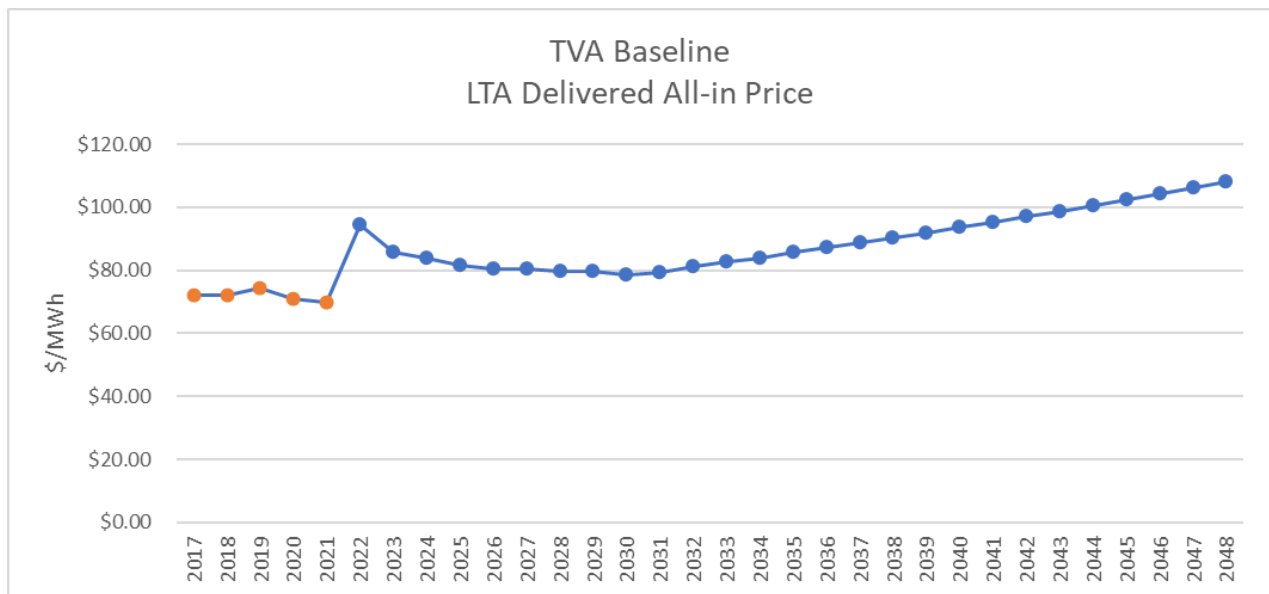
Though EnerVision's distribution and absolute final scores did not match GDS' exactly, both evaluations resulted in the same shortlist finalists.

TVA Long Term Agreement Baseline

The TVA Baseline is based off the terms of the TVA Long Term Agreement and includes credits highlighted from that bid, including the 3.1% base rate credit and 5% renewable flexibility. Without specific details from GDS' analysis, EnerVision calculated the MLGW forecast for load and peak demand based on historical EIA data reported by TVA and MLGW. The forecast's escalation was kept consistent with that used in the IRP, however EnerVision considered additional historical data available given that the assessment is taking place several years past the publication of the IRP. This additional history data impacted the total energy load and peak demand forecast where the GDS assessment relied on the forecast from the IRP.

Next, EnerVision calculated the historical costs MLGW has paid to TVA for its full requirements service using data provided by the TVA SEC 10k and MLGW's Annual Reports. Using TVA's historical split between revenue from base and fuel sources, as well as a breakdown of revenues, costs, and total generation from TVA's various generation sources, EnerVision was able to estimate MLGW's costs between base and fuel. Taking that a step further, EnerVision projected the shift of TVA's generation mix in the next 20 years and its impact on the total fuel required coupled with natural gas and coal price forecasts over the same period to project the fluctuation of TVA's fuel cost component. This is particularly relevant given the high fuel cost reported in 2022 by TVA's LPCs and the fact that the primary credit for signing the LTA is limited to the base rate component. The same fuel forecasts were used in the analysis of bids for consistency of approach.

Various adjustments and credits were applied to MLGW's forecasted rate, including maintaining a flat base rate through 2028, discounting the base rate by 3.1% in each year, and providing credit for the 5% renewable flexibility opportunity based on solar prices received in the Renewables and Other RFP minus estimated interconnection costs. TVA's Baseline calculation culminated in the following projected rates, where orange points are historical and blue points are forecast:



It is worth noting that while TVA describes their rate based upon a base and fuel rate, it is considered a bundled rate that does not elaborate on other line-item costs that contribute to the total base rates, such as transmission service, economic development, PILOT, and compliance costs.

Transmission Bids

Transmission RFP construction cost data was collected from bidders via a bid form. This uniform format made analysis of the construction costs relatively straightforward. Two out of the three bids received conformed to the MLGW-ownership requirement, and construction costs were the only cost component of the bids. The third bid, however, was non-conforming because it proposed a third-party ownership arrangement after construction and a 30-year term length. Since the infrastructure would be owned by a third-party, a revenue requirement had to be incorporated into the total cost. EnerVision estimated the total Transmission RFP bucket of cost for each bid by adding the provided construction costs and debt service calculated using a 4.50% interest rate applied over 20 years. The revenue requirement for the non-conforming bid was also included in consideration.

Thermal Generation Bids

Without the detailed analysis from GDS, it was not possible to fully vet the forecasts, adders, and escalation factors used to determine the shortlist and final economic analysis. Therefore, EnerVision evaluated the bids available based on the information provided by each Bidder coupled

with consistent, updated forecasts for gas, load, demand, and other related adders such as gas transportation charges and consistent heat rates.

To ensure an apples-to-apples comparison, EnerVision applied a consistent capacity factor on each combined cycle plant, and a consistent capacity factor on each combustion turbine plant. A common fuel forecast, based on the NYMEX Henry Hub Futures forecast on October 19, 2022, was applied to each thermal bid to model realistic fuel prices over the forecast term. This natural gas forecast is shown in Appendix C. Adders such as Gas transport, Fixed Fired charges, and Start Charge costs were also applied consistently across all Thermal bids in each portfolio configuration and thermal components of full-requirements proposals including TVA's proposals.

Given the time constraints on this analysis, EnerVision did not perform a natural gas sensitivity analysis.

Renewable and Other Bids

EnerVision evaluated the bids that were made public by breaking down each bid to have as many common elements as possible to make for a viable comparison. For instance, for the solar evaluation EnerVision used a common industry capacity factor for solar farms located in the region to ensure there was a consistent apples-to-apples comparison factored in for the capacity of the proposed solar farms. The evaluation did not address deliverability from the solar farm to the Memphis load center as that would take additional modeling from a sophisticated transmission congestion/power flow model. The factors considered were pricing, term, commercial operations date, any options for battery electric storage systems (BESS) associated with the project, interconnection point (location), technology used, operational factors, any additional factors that may have added cost. Once the initial evaluation was performed, the updated terms and pricing of the GDS shortlist bids were evaluated.

Once all bids were evaluated, EnerVision then compared each bid and determined if there was alignment between the GDS and the EnerVision shortlists.

Combined Portfolios and Full Requirements

Once the bids for each individual RFP were assessed, the top options were compiled into larger

portfolios that matched the IRP's defined Portfolios 6 and 9. This allowed the comparison of the individual bids to the two full requirements bids, TVA's LTA (baseline), and TVA's Business-as-Usual case. The bids utilized in the combined portfolio cases were:

- Portfolio 6
 - Thermal Generation - NextEra
 - MISO Solar Generation – NextEra
 - Local Solar Generation – Today’s Power, Clearway Renew, EDF, Community Energy, Ecoplexus, Bright Night
 - Transmission Construction – Southwestern
- Portfolio 9
 - Thermal Generation – NextEra
 - MISO Solar Generation – NextEra (solar and wind)
 - Local Solar Generation – Today’s Power, Clearway Renew, EDF, Community Energy, Ecoplexus, Bright Night
 - Battery Storage – Ecoplexus
 - Transmission Construction – Southwestern

In addition to combining the information from the bids, the following additional costs were considered in each Combined Portfolio as well as incorporated into the full requirements bids for apples-to-apples comparison of total costs:

- Market Purchases and Sales, to ensure the load balanced to the forecast
- Capacity Purchases, that reflect the latest MISO reserves requirement of 21.1%
- Transmission Service, for projected cost to be served by MISO transmission
- Additional Transmission Costs identified by GDS/MLGW, including
 - Entergy Constructed Interties
 - MLGW Upgrades & Other
 - Local and State PILOT
 - New Facility O&M
- MISO O&M identified by GDS/MLGW
- Economic Development and other Community Investments identified by GDS/MLGW to reflect cost of additional benefits that TVA provides

Market Purchases and Sales are incorporated to reflect the load that would be bought from the market when the available generation did not meet the peak load required, or when it was economically beneficial to run generation plants and sell excess power into the market. The proxy rate used is in line with rates provided from NextEra Energy and escalates in the same manner as the natural gas forecast used.

Capacity Purchases reflect the cost of purchasing any additionally required capacity up to the forecast coincident peak plus MISO's 21.1% reserve requirement that is not already accounted for in the portfolio's firm capacity amount.

Transmission service is forecasted based on historical rates in MISO's Entergy Arkansas Zone 28. Since transmission service is charged based on monthly peak, and not annual peak, the MLGW annual peak has been decreased by approximately 25% in this calculation to better reflect the reality that the system peak will not occur in every month.

Additional Transmission costs identified by GDS/MLGW reflect the costs shared in the June 9 presentation. While there was notable outcry about the increase in these costs by \$480 million

from the IRP transmission integration estimation, EnerVision included the full costs as presented to ensure the portfolio costs were considered conservative in their comparison to the TVA LTA (baseline). It should be noted that while an insufficiently explained increase of \$480 million of one-time cost is not insignificant, it is only a fraction of the total power supply cost which totals around \$1 billion or more per year.

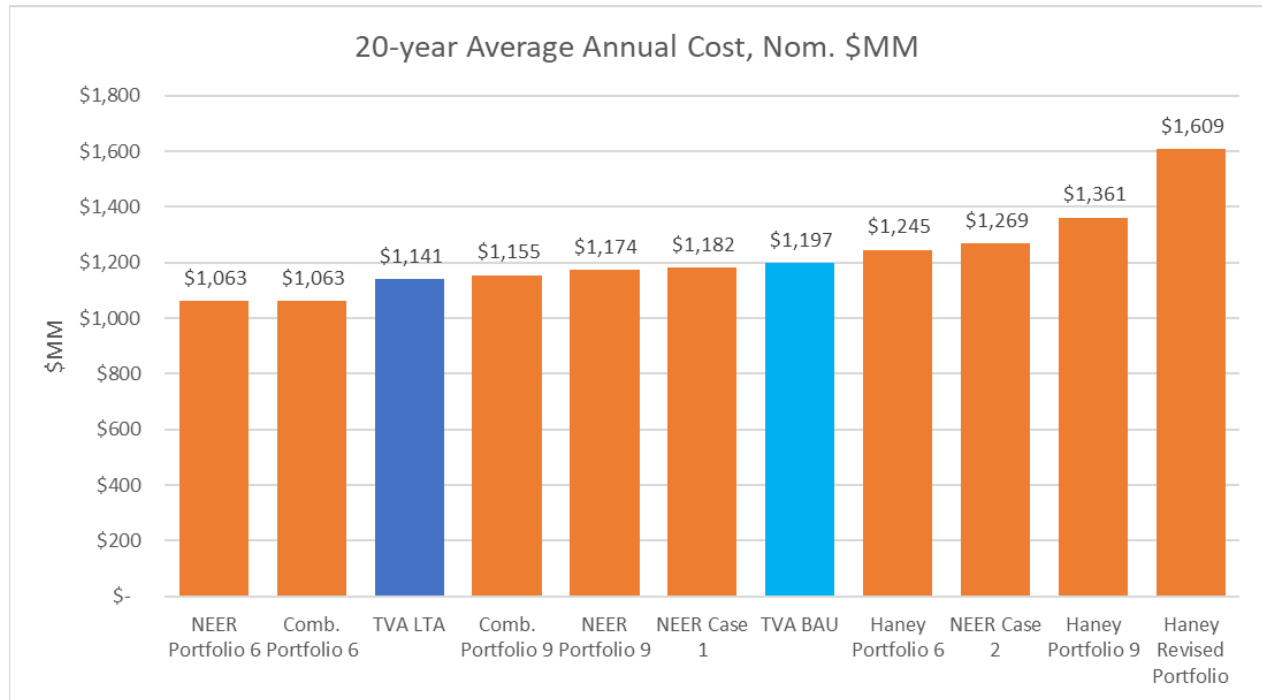
MISO O&M costs match that identified by GDS and were originally developed and provided by MISO. As with the Additional Transmission Costs noted by GDS, EnerVision also directly applied this cost to the bids.

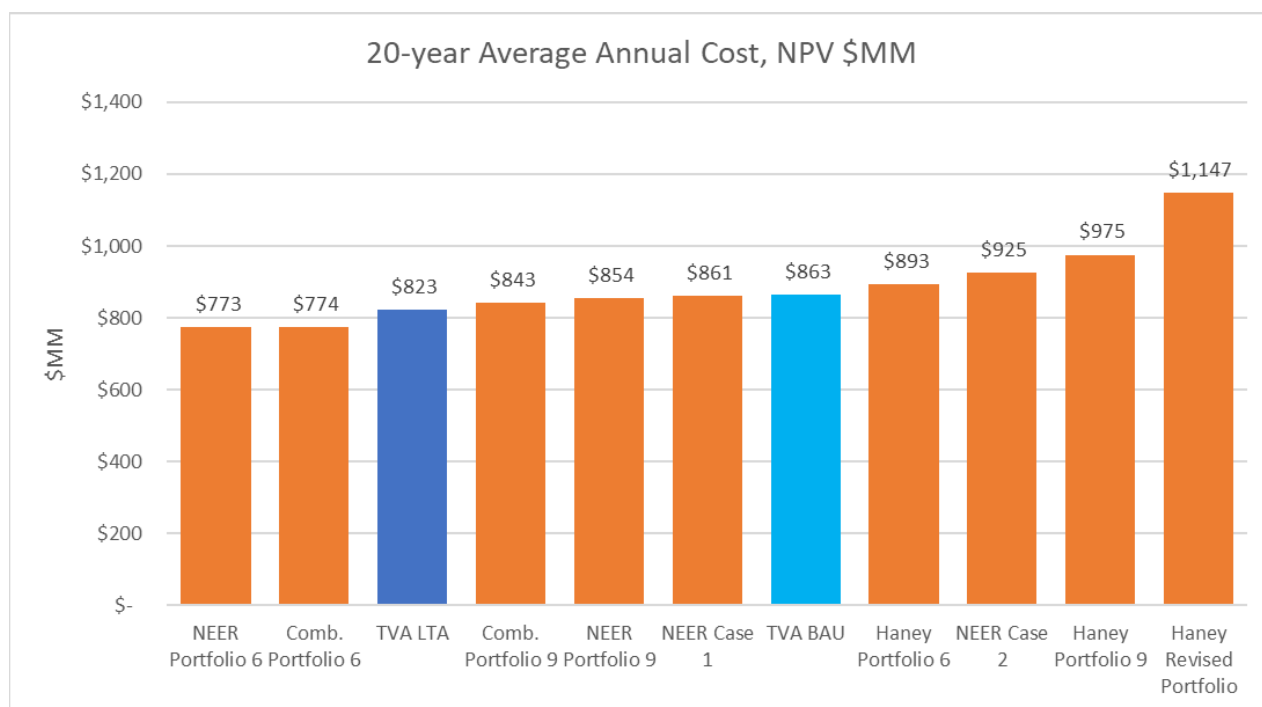
Economic Development and Community Investment costs are added to the combined portfolios to reflect the expense required to replace TVA's investment in the Memphis area outside of power supply. This ensures that the bid portfolios are apples-to-apples with all the services included in the TVA LTA (baseline).

The combined portfolios and two full requirements bids were individually assessed with consistent adders and adjustments to calculate total cost and equivalent total rate. These totals were then compared to the TVA LTA (baseline) and each other.

Analysis Results Compared to TVA

The culmination of the individual bid analysis is to compare the Combined Portfolios and Full Requirements bids to the TVA LTA (baseline) to determine whether savings are possible given the real-world pricing received. The below graphics shows the average annual cost, in nominal dollars and net present value, of each portfolio compared to the TVA LTA (baseline) based on EnerVision's analysis.

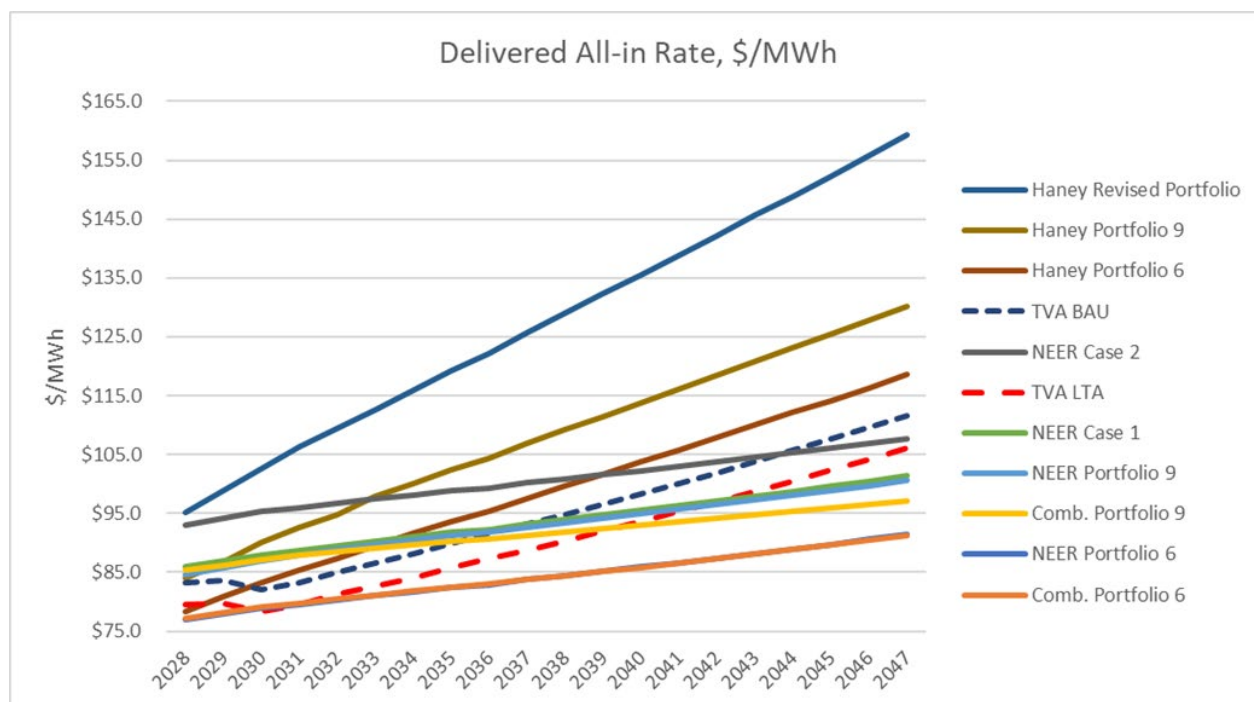




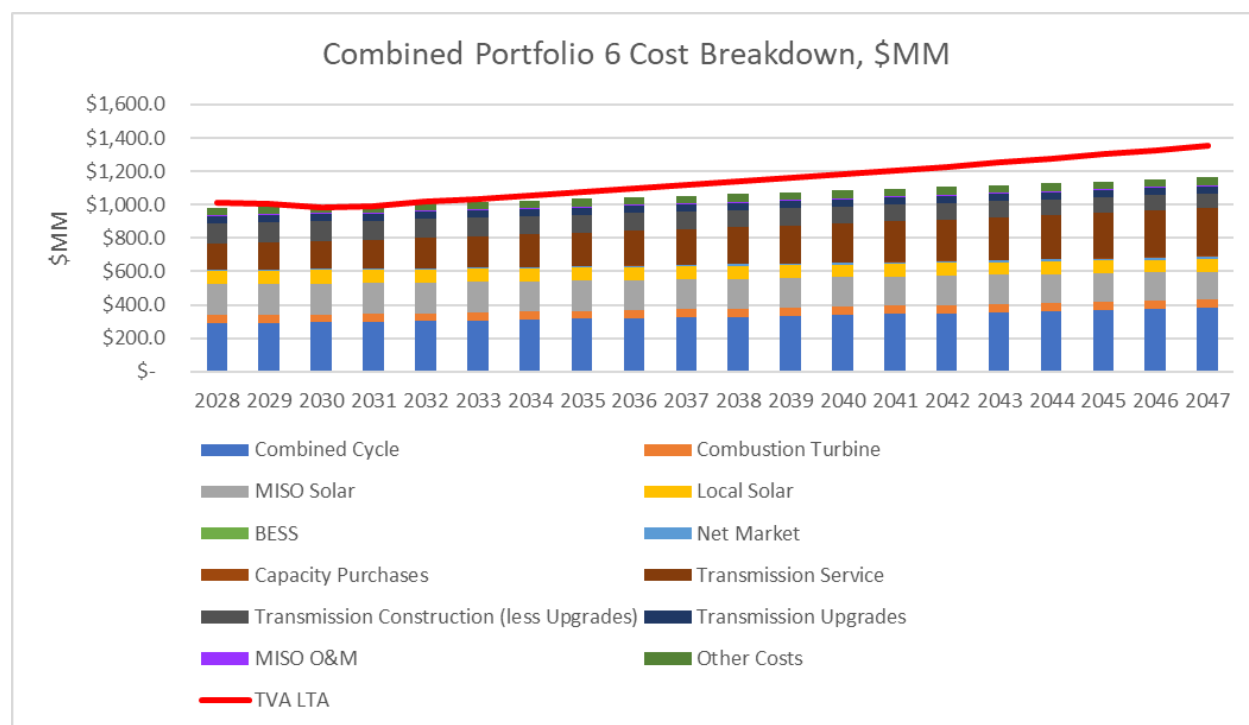
Note: the light blue bar represents the current TVA contract, labeled as TVA Business As Usual (BAU).

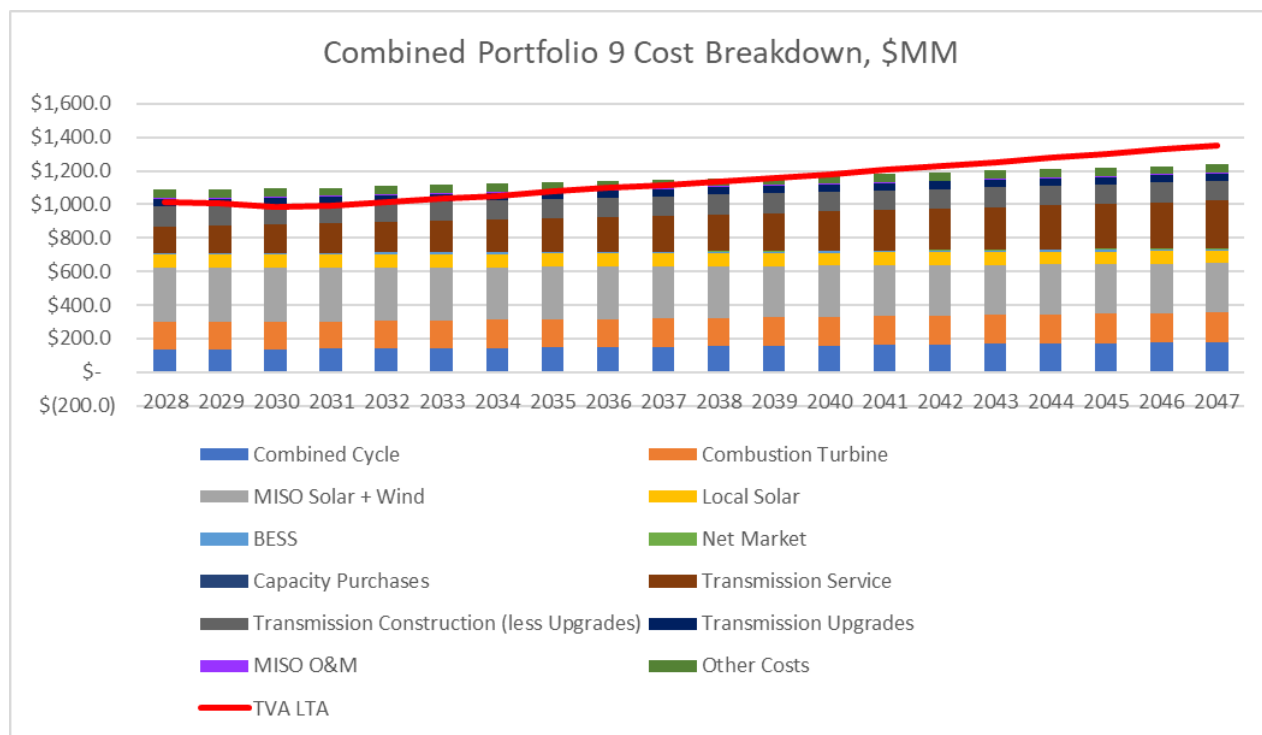
Of primary note, EnerVision's analysis differs from GDS' analysis in that it indicates two portfolios do show savings over the TVA LTA: NEER Portfolio 6 and the Combination Portfolio 6. The Combination Portfolio 6 pulls much of its data from the NEER Portfolio 6, so it is not unexpected that both portfolios have very similar results.

For a view over the length of the term, the graphic below shows the rates of each portfolio over the 20-year term compared to TVA LTA.



To better understand the components that go into the Combined Portfolio view, the following graphics break out the cost of Combined Portfolio 6 and 9 compared to the TVA LTA total cost on a yearly basis.





Ultimately, these graphics show that even with unavoidable assumptions and estimates used where firm data was not provided, there is potential that the bids could return an option that results in more savings for MLGW than the TVA LTA.

Potential Problem Analysis

To further validate the economic analysis and the scorecard results, a Potential Problem Analysis addresses outside factors that may influence a final decision. The first core decision in front of MLGW is between staying with TVA or exiting. The following list highlights the potential problems with either decision, and the probability of occurrence and magnitude impact that situation would cause.

Stay in Current TVA Contract

- TVA costs go up
 - Probability Occurrence – High
 - Magnitude Impact – High

TVA's base rates are not contractually guaranteed to stay flat for the decade period promised by TVA staff. Additionally, 2022 has shown that even if base rates remain constant, the fuel rate component can greatly fluctuate total costs of wholesale power to the LPC. TVA base rate has been projected with a conservative growth rate, but there is a high risk that TVA costs increase over time, which would have a large impact on MLGW's bottom line.

- Market opportunities lacking
 - Probability Occurrence – Low/Medium
 - Magnitude Impact – Low

As the energy landscape changes, more opportunities and solutions are becoming available to distribution utilities outside of the traditional TVA model of the past many decades. Distributed Energy Resources (DERs), such as rooftop solar, wireless thermostats, etc., are effecting distribution utilities as the typical consumer is now a Prosumer. A Prosumer is a consumer of energy as well as a producer of energy. The likelihood that MLGW under the current TVA contract would not have ability to capitalize on DER effects today and in the future is low.

- Legislation to bring down the Fence
 - Probability Occurrence – Low/Medium
 - Magnitude Impact – High

The TVA Fence, as defined in the Federal Power Act and the TVA Act, has historically been unchallenged and unquestioned. Any changes to this TVA structure would take an act of Congress and has not historically been on Congress' radar. However, it is relevant to note that Shelby County's US Representative has presented legislation that would impact TVA's fence – either by bringing down the Fence or creating a 'gate' in which non-TVA wholesale power could be moved across the TVA border. Because that effort is already underway, albeit still expected to take significant time and effort to result in change, EnerVision rated the probability of occurrence to Low/Medium, although EnerVision expects this scenario may take some years to come. This structural change would have wide-reaching impacts.

Exit the Current TVA Contract

- Market/Costs go down after contracts signed
 - Probability Occurrence – Medium
 - Magnitude Impact – Medium/High

If MLGW exits TVA today, MLGW will not be able to take advantage of potential additional savings if the market or costs decrease after the new wholesale power contracts are signed. Given the timing of the latest reprice with the state of the market in mid-2022, there is a reasonable probability that the potential costs could go down within the next few months to near term. The magnitude of this problem would be high for MLGW's bottom line, as economics are a primary driver of the decision.

- Actual Transmission Construction costs >=\$480 million increase since IRP
 - Probability Occurrence – Low
 - Magnitude of Impact – High

Upon exit, MLGW would need to build additional transmission to interconnect with MISO with enough capacity. The RFP process produced real-world costs for specific construction of these lines, and GDS presented the additional costs associated with the complete transmission upgrades needed. Given everything included in the additional costs noted by GDS, it's not likely that the total transmission costs would exceed this amount. However, should these costs be even higher than expected, the magnitude impact on total actual costs would be high.

- Legislation to bring down Fence
 - Probability Occurrence – Low/Medium
 - Magnitude Impact – High

As noted above, a change in the TVA Fence structure would have a high impact on MLGW, whether it decides to stay with or exit TVA. The probability of occurrence would typically be considered low, however the Shelby County Congressman has already introduced language challenging the existence of the TVA Fence as it is currently defined. Thus, the probability of occurrence is low/medium.

Of the potential problems noted above, those with a combination of High/High, Medium/High, or High/Medium Probability of Occurrence and Magnitude of Impact are noted for MLGW to address as it moves forward with its decision.

Other Factors Observed and Considered

A quantifiable analysis is a clear way to define a hierarchy of options, however, the non-quantifiable influences must be considered to make a holistic decision. A variety of other factors have been discussed during the MLGW IRP and RFP processes including:

- **TVA’s MLGW One-Pager (Appendix B)**

In June 2020, TVA responded by creating an MLGW “One-pager” that was intended to counter the annual savings potential of \$122 million identified in the IRP. With each point made, TVA adjusted various cost components of the IRP’s bottom line calculation such that, instead of net savings from a TVA exit, there were significant cost increases from a TVA exit. Where the IRP calculated a net savings of \$122 million per year should MLGW exit TVA, the MLGW One-Pager adjusted that value to a net cost of \$261 million per year should MLGW exit TVA. The following table highlights the high-level potential of costs or savings under an exit from TVA at various points of the IRP and RFP process:

IRP	TVA One-Pager	GDS Round 1	GDS Round 2	EnerVision evaluation
\$122 million annual savings	-\$261 million annual savings	\$8.2 to \$55.3 million annual savings	-\$70.1 to -\$108.0 million annual savings	\$49 million annual savings

This difference in reported savings and costs highlights the importance of an unbiased assessment. Each stakeholder brings its own perspective and priorities, thus maintaining an unbiased analysis that identifies the impact of risk in its assumptions will best suit MLGW and the related stakeholders.

EnerVision is not validating the points or costs TVA claims in this One-pager, but it is worth noting the areas that TVA has historically rejected the IRP, RFP, and options that include an exit from TVA. The points identified by TVA include:

- The IRP’s projection of TVA’s cost
 - The IRP should include no base rate increases for a decade and savings from self-

generation flexibility.

- Asset cost recovery term
 - The asset cost recovery should be measured over 20 years, not 30 years.
- Realistic costs for asset construction
 - The IRP's construction cost estimates are inaccurate and could be exceeded by 20% to 50%.
- Construction timeline realities
 - Transmission construction would likely take eight years, not five years.
- Building standards
 - The IRP's proposed transmission system does not match the power quality requirements demanded by industrial customers, which helps secure continued economic growth.

- **Mayor's 4 Points**

In August 2021, Mayor Strickland recommended the following four points be integrated into the RFP process. All four points were successfully adopted into the RFP process. Below are the Mayor's 4 Points:

- ✓ MLGW will make it clear in the RFPs issued that the three recommended portfolios from the IRP are the desired scenarios but that bidders may include proposals for other methods of providing transmission and generation to Memphis and Shelby County.
- ✓ GDS and MLGW shall, at a minimum, consider the following in evaluating bids: Reliability of transmission and generation compared with present experience, Economics, Relevant risks, Counterparty creditworthiness and counterparty market credibility, and Past performance, etc.
- ✓ At Task 8 "Bid Evaluation and Short List" in the Proposal Work Plan, GDS will present to the Board (for informational purposes only) a cost comparison analysis of the most competitive and viable bidder proposals to the estimated costs presented in the IRP Portfolio(s) and update the estimated savings compared to MLGW's expected power cost from TVA. Members of the Board will have an opportunity to provide feedback on additional areas for evaluation and information requested to be included in any final recommendation to be made to the Board for approval following negotiation and final offers with the short list of bidders. Following the presentation to the MLGW Board, GDS will make a similar presentation to the City Council for a similar purpose.

- ✓ To preserve the integrity of the bid process, the identity of all bidders and the details of individual proposals shall not be shared as part of the presentations in Paragraph 3 above.

EnerVision Assessment and Recommendations

If a 20-year evergreen contract is attractive, then MLGW should ensure flexibility is built into the contract terms of the new agreement because electric usage by the end-consumer is already changing and will continue to change in the future. This flexibility should include removing the evergreen clause in the term, incorporating significant (>>5%) carve-outs, adding control over its own generating and renewable resources, providing open access to transmission, and having transparent unbundled rates, etc.

TVA has stated that the LTA is **not negotiable**. Also, the LTA contains a **most favored nations clause** in which TVA must provide the same or better terms and conditions to all LPCs who have already executed the LTA. Thus, if MLGW is able to negotiate more favorable terms like those described above, TVA may be held to the most favored nations clause for all LPCs with executed LTAs (Long Term Agreement). EnerVision is not aware if TVA has changed from this non-negotiable position; in our opinion, MLGW has nothing to lose to ask for the flexibilities defined above.

If a 20-year evergreen contract is not desirable, then a ‘do nothing’ approach is preferable for now. MLGW should stay in its current TVA BAU contract to maintain the ability to exit when so desired to take advantage of future market opportunities and lower MLGW electric costs in future years. The cost differential between TVA BAU and TVA LTA is on average \$40 million per year to stay in the current TVA BAU contract, or approximately a 4.8% premium to keep options open for future opportunities. Staying in the TVA BAU also preserves MLGW’s right to exit without paying for stranded costs. In fact, the existing Power Contract with TVA contains explicit language stating that TVA cannot impose charges for stranded investments upon notice of exit. Any cost shifts to other LPCs if MLGW exits could be mitigated because the Valley’s growth is increasingly healthy, the cost of TVA purchases from MISO and surrounding utilities for power could be eliminated or reduced in response to the loss of load with five-year notice.

EnerVision recommends MLGW to follow the ‘do nothing’ approach for now and revisit the market when market conditions improve. To close the door on the ability to pursue competitive power supply and reduce consumer electric costs is not prudent nor a display of servant leadership. An improvement would be considered when:

1. Natural gas prices stabilize or finds a new normal,

2. The supply chain crisis no longer grossly impacts thermal generation and renewable components, and
3. Power markets stabilize and/or settle from such impacts as Storm Uri and the Russia-Ukraine conflict.

EnerVision further recommends that when MLGW revisits the market, it has a less complicated approach so that market economies can be captured quickly. In addition, based upon the results of the GDS RFP analysis and EnerVision's independent evaluation, we suggest reissuing an RFP concentrating on Portfolio 6 only ("Revised RFP") as Portfolio 9 was not better economically than TVA LTA. The Revised RFP should also be open to alternative options and solutions. After the optimal power supply options are determined, the Transmission RFP should be revised to fit the transmission needs required by those power supply options, not necessarily defined for MLGW ownership and open to alternative transmission solutions.

EnerVision supports the use of scorecards; however, our recommendation is to define the scope/needs, desired technology and determine most consistent scoring of bids.

At the time of this report, we recommend MLGW to watch the natural gas market, utility generation and renewable supply chain markets and the effects of the Russia-Ukraine war, evolution of the Inflation Reduction Act's tax benefits and other influencing political/weather events, possibly stabilizing power markets so MLGW can rebid Portfolio 6.

Finally, EnerVision recommends that MLGW ensures and communicates a fair, consistent bidding and evaluation process in any subsequent RFP. Bidders must be confident that MLGW intends to execute a contract given a viable alternate solution, otherwise they may not dedicate time and effort to provide meaningful bids to future RFPs. Also, MLGW should consider any restrictions that limit solutions for MLGW could result in more expensive power supply and transmission alternatives. Finally, the evaluation process must involve true apples-to-apples comparisons.

The distribution utility industry is changing as technologies allow customers to control and/or contribute to their energy usage. Signing the TVA evergreen Long Term Agreement limits MLGW's ability to work with customers on renewable initiatives, limits MLGW's ability to

EnerVision, Inc. 55 February 15, 2023

incorporate new power technologies as they evolve and most importantly, limits MLGW's access to surrounding competitive power supply. When TVA costs are **75-80%** of MLGW's total electric bill to its consumers, any savings achieved from competitively priced power supply positively affects the bottom line and thus, positively affects what Memphians must pay for the basic need of electricity.

Appendices

Confidential

**EnerVision Review of
MLGW RFP Evaluation & Savings Validation Presentation
on June 9th by GDS**

After reviewing the presentation by GDS to the Memphis City Council and the MLGW Board, there are several items requiring additional information to enable a better review of the proposals. EnerVision has compiled questions below pertaining to the presentation, accompanied by brief explanations for some questions.

TVA Long-Term Partnership Agreement (LTPA) – Slide 6

Question 1: Please confirm the 3.1% decrease is only applied to the base rate.

RESPONSE: Confirmed.

Question 2: What other line items were considered and impacted the TVA Baseline calculation? Specifically,

- Did GDS give credit for TVA Additional Services that TVA currently provides but an Alternate Provider would not?
- Does the pandemic credit or any sort of performance credit impact the assessment?
- How is solar flexibility option considered in the baseline, including the estimated price, other costs, timing of impact to base rate, etc.?
- Did GDS adjust for existing SEPA contracts?
- Did GDS account for PILOT costs currently paid by TVA? Any other adjustments made to the TVA baseline?

RESPONSE: GDS made minor adjustments to the original TVA power cost projections prepared by Siemens during the 2020 IRP. GDS' most significant adjustment to Siemens' TVA cost projections was to reduce energy purchases from TVA by 5%, pursuant to the LTPA provisions, and replace that TVA-supplied energy with purchases of local solar generation resources from third-party providers. Pricing for the local solar generation was based on responses received in the Renewables & Other RFP. All other aspects of the Siemens TVA cost projections were utilized by GDS in the savings comparisons, including the non-direct power cost items, such as PILOT costs currently paid by TVA. Siemens documented these elements in Section 9 "Other Cost" in its July 2020 IRP Report.

Question 3: Is the LTPA base rate protection from 2020 to 2029 assumption reasonable?

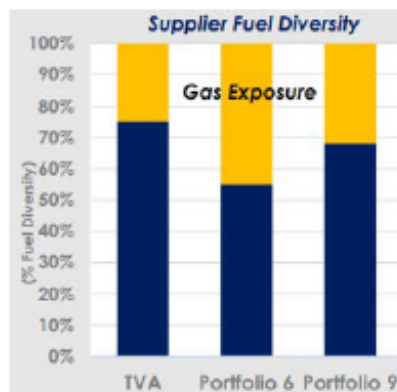
TVA will not put this in writing in the LTPA contract. This is a verbal commitment by Mr. Lyash, TVA's CEO, not a contractual commitment from TVA. With changeover at the board level, and a history of senior management turnover every 5-6 years, did GDS consider a shortened term for the base rate protection?

RESPONSE: GDS did not consider a shorter term for the TVA base rate protection.

Natural Gas – Slide 10

Question 4: How was TVA's future natural gas exposure incorporated in the natural gas price volatility comparison?

In the portion of the study discussing exposure to natural gas price increases, TVA's current exposure is shown with approximately 26-28% of their generation coming from natural gas generators. It also shows portfolios 6 and 9 gas exposure at approximately 45% and 32% respectively. The study should have also included TVA's future natural gas exposure. TVA plans to increase its natural gas generation to approximately 38% of their total generation, the same range as the other two providers. TVA has already announced the closure of Bull Run, Kingston and Cumberland coal fired plants over the next three to four years and plans to replace them with combined cycle gas plants. This could increase TVA's natural gas generation by over 3,000 MW, or 10-12% of their generation fleet. The net result is that TVA's natural gas exposure will be in the same range as companies in portfolios 6 and 9 in about three years.



RESPONSE: The chart referenced from Slide 10 in the presentation is TVA's projected natural gas exposure for the study period (2028 – 2047) and accounts for TVA's future natural gas resource additions and/or expected coal plant retirements, along with TVA's future plans for adding renewable resources.

MISO Capacity Prices – Slide 11

Question 5: Why were MISO North Capacity Auction Prices used instead of MISO South Capacity Auction Prices?

If MLGW joins MISO, they would be transacting with MISO South. The use of MISO North Capacity Prices on slide 11 then, is confusing. A graph showing MISO South Capacity Prices would be more relevant.

Confidential

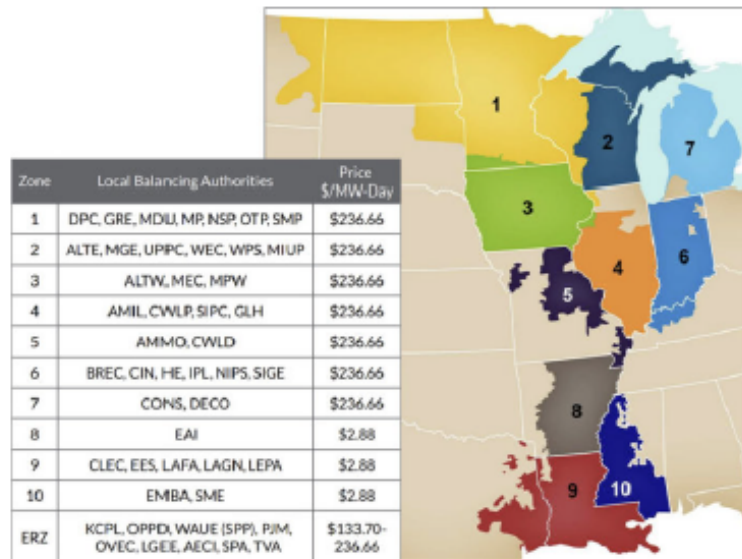


Exhibit 3: MISO Historical Capacity Auction Results

The 2022-23 PRA cleared at \$236.66/MW-day for Zones 1-7

Planning Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Clearing Price (\$/MW-day)										
Zone 1	\$1.05	\$3.29	\$3.48	\$19.72	\$1.50	\$1.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 2	\$1.05	\$16.75	\$3.48	\$71.00	\$1.50	\$10.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 3	\$1.05	\$16.75	\$3.48	\$71.00	\$1.50	\$10.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 4	\$1.05	\$16.75	\$150.00	\$71.00	\$1.50	\$10.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 5	\$1.05	\$16.75	\$3.48	\$71.00	\$1.50	\$10.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 6	\$1.05	\$16.75	\$3.48	\$71.00	\$1.50	\$10.00	\$2.99	\$5.00	\$5.00	\$236.66
Zone 7	\$1.05	\$16.75	\$3.48	\$71.00	\$1.50	\$10.00	\$24.30	\$257.53	\$5.00	\$236.66
Zone 8		\$16.44	\$3.29	\$2.99	\$1.50	\$10.00	\$2.99	\$4.75	\$0.01	\$2.88
Zone 9		\$16.44	\$3.29	\$2.99	\$1.50	\$10.00	\$2.99	\$6.88	\$0.01	\$2.88
Zone 10		\$16.44	\$3.29	\$2.99	\$1.50	\$10.00	\$2.99	\$4.75	\$0.01	\$2.88

Sources: BofA Global Research, MISO

BofA GLOBAL RESEARCH

RESPONSE: Slide 11 demonstrated recent auction capacity price volatility in the MISO Central/North region (see note at bottom of slide). The estimated savings for Portfolios 6 and 9, as compared to the TVA LTPA, is based on projected MISO South capacity prices – this is the same MISO capacity price projection that was used in the 2019 Siemens IRP analysis.

RFP Evaluation – Slide 19-23

Question 6: It would seem an RFP for wholesale power should have pricing weighted higher than 30-40% of the total evaluation of vendors.

The scoring system used by GDS only allocated 30-40 points to the pricing portion of the evaluation. Please elaborate on the rubric weighting decisions and drivers.

RESPONSE: The RFP proposal scoring system is explicitly detailed in all three of MLGW's RFPs that were issued last year and demonstrates the weighting of the various categories: price, financial creditworthiness / commercial, viability, and experience. The function of the scoring rubric was to obtain a short-list of viable proposals. Pricing is further analyzed through the subsequent bidder updates. More specifically, the RFP rubric weighting was based on the MLGW Board's "4 Points" approved in April 2021.

Question 7: Please confirm that the full-requirements proposals were judged fully by the Renewables and Other RFP full-requirements evaluation criteria.

RESPONSE: Confirmed.

MLGW Upgrades & Other Capital Costs – Slide 31

Question 8: How was the \$511M for upgrades for new generation impacts & reinforcements to existing 161kV network– an increase of \$327M (170%) determined? Please elaborate on the major line-item drivers for the change, and how the estimates were tabulated.

The IRP estimated cost was \$184M. MLGW engineering staff increased this to \$511M - an increase of \$327M (170%). The difference came from “construction related outages and potential regulatory requirements.” This is a very large increase based on the factors listed. For that large of an increase, it would be beneficial to see the details behind the MLGW estimate.

RESPONSE: It should be noted the Siemens had estimated \$3M for substation equipment upgrades. The proposed upgrades will require several major transmission outages. Consideration of the impact to the MLGW electric system issues and potential NERC regulatory constraints were considered. This produced a higher estimate than the Siemens estimate which did not include any reliability issues or construction constraints. The higher estimate reflects a detailed analysis and practical approach that takes does not sacrifice system reliability and service to MLGW customers during the time of construction.

MLGW Transmission cost estimates for the required new circuits and reconductoring/structure replacement that was first identified in the Siemens July 2020 IRP Report were developed based upon: (1) structural analysis of the actual existing structures requiring uprated conductors, and (2) RS Means unit cost estimation adjusted for MLGW historical experience and inflation. Substation cost estimates were based upon MLGW historical experience of similar projects.

Question 9: Why is MLGW obligated to reimburse TVA for Allen Switchyard Changes? What is TVA’s share of this upgrade? Why did the cost associated with this item increase from \$47M in the IRP to \$54.7M (2020\$) in the GDS presentation?

This is a significant cost assigned to MLGW. Please elaborate on the responsibilities for this charge.

RESPONSE: Once the MLGW New Allen Substation and its associated 161kV lines are in-service, the TVA Allen Plant will no longer be connected to the TVA Transmission System and will require reconnection. There are no upgrades associated with this reconnection effort.

Question 10: The three “MLGW Upgrade & Other Capital Costs” added together in the table on slide 39 are represented in 2022\$, 2020\$, and 2018\$. Should they have been converted to the same year before being summed?

RESPONSE: The three sets of transmission capital costs were recalculated for the future nominal dollars in the GDS NPV analysis.

RFP Power Cost vs. TVA – Slide 45-46

Question 11: How much business transition time and cost are incorporated into the leaving TVA scenarios? What are the specific line items considered for the transitional costs?

RESPONSE: Business transition time is the 5-year termination notice under MLGW's existing TVA agreement. Specific line items for transitional cost are the same items that Siemens included in its 2020 IRP analysis and detailed descriptions of those items are provided in Section 10 "Gap Analysis" of Siemens' July 2020 IRP Report.

Question 12: Why were full-requirements proposals left off the analysis on slides 45 and 46? Full-requirements proposals were compared to Portfolio 6 and 9 savings until this point.

RESPONSE: Slide 45 evaluates MLGW's benefits under the LTPA arrangement versus its current contract with TVA. Slide 46 compared Portfolios 6 and 9 power cost to the TVA LTPA for the 2023 – 2047 study period. Due to the confidential nature of the procurement process, MLGW cannot address any particular proposals at this time.

Sensitivity Analysis Assumptions – Slide 49

Question 13: How did GDS arrive at \$7.55 as the future natural gas price in the sensitivity? Please elaborate on the natural gas forecast escalation, particularly whether it is a flat value or grows.

RESPONSE: The natural gas price sensitivity of \$7.55/mmBtu is based on a 12-month forward price as of May 2022. The sensitivity uses this flat price over the 20-year study period.

Question 14: Between now and August, is GDS continuing to do more sensitivity analysis on gas price, load fluctuations, and other major risk influences?

Load was not included in the sensitivity analysis of this presentation and is too significant to be omitted. For example, what if the suburban mayors exercise their rights to leave MLGW and stay with TVA? Or, what happens if load growth is much higher than anticipated, coupled with higher peak days? Will that negate the savings realized under any of the proposals?

RESPONSE: GDS is not performing any other sensitivity analysis as that was not in the scope of work for this project.

Question 15: In portfolios 6 and 9 is GDS assuming MLGW is planning to buy market products in the day-ahead market or real-time market? If so, how much MLGW energy and capacity purchases were modeled in each analysis, and what is the remaining exposure in MW and %?

RESPONSE: MISO's energy and ancillary services markets operate based on a tariff requirement that all generation that qualifies for capacity credits have a "must offer" requirement. All load serving entities submit a day-ahead demand bid. The GDS evaluation process, like the Siemens IRP analysis, utilizes a day-ahead energy modeling approach for the load and MLGW generation resources. Likewise, both GDS and Siemens modeled capacity purchases on an annual basis.

Additional Questions That Have Been Received

Question 16: What does the outlook of renewables look like? For example, what is the contribution to reliability as well as any MLGW plans for carbon-neutrality?

RESPONSE: These issues are not applicable to MLGW's RFP process or the updated savings analysis.

Question 17: On the peak day, do the alternate providers have enough dispatchable power to ensure MLGW's needs are met? What happens if MISO South can't deliver?

RESPONSE: MISO is fully responsible for ensuring that enough capacity, energy, and ancillary resources are available, subject to transmission constraints, on a forward -looking and real-time basis (see MISO Energy and Operating Reserve Markets Business Practices Manual BPM-002-r22, Section 2.3 Roles & Responsibilities).

Question 18: MISO South is retiring 4,000 MW of thermal generation, and MLGW proposes to add 1,500 MW of thermal generation. This seems inconsistent for capacity continuity. What is the risk?

RESPONSE: Currently, there is over 30,000 MW of new generation resources in the MISO South interconnection queue. MLGW is evaluating the possibility of adding 1,500 MW of thermal generation, which is necessary for reliability purposes, pursuant to the results of the 2020 Siemens IRP and the 2020 MISO Membership Assessment.

Question 19: Do the natural gas costs of the proposals and analysis reflect firm contracts? What is the risk of limited pipeline capacity? Is the only gas flow from Texas to MISO South to Memphis?

RESPONSE: The RFP evaluation assumes that MLGW will be supplying gas to the proposed thermal generation resources.

Question 20: Please address the credit support needed for the generation and transmission plans. Could Memphis become another Brazos?

RESPONSE: MLGW would contract for renewable and thermal generation under purchased power agreements with third-party suppliers. Those third-party suppliers will have to maintain specific credit / financial thresholds or have to post collateral /credit sufficient to MLGW (per the agreements). MLGW will finance, own, and operate the new transmission internal upgrades as well as the MISO interconnection facilities (excluding those facilities owned and operated by Entergy in Arkansas and Mississippi), so there is no credit support necessary for the transmission facilities.

**EnerVision Initial Review of
MLGW Power Supply Proposals and Process**

After reviewing the presentation by GDS to the MLGW Board on September 1, and ongoing review of the Proposals released following that meeting, there are several items requiring additional information to better validate the analysis performed and the ultimate recommendation to the MLGW Board. EnerVision has compiled the questions below, **drafted in blue**, pertaining to the Proposals and presentations.

1. Please confirm which proposals made the shortlist per RFP. Slide 31 indicates 4 MISO Solar, 5 Local Solar, 1 Thermal, and 1 Transmission proposal made the shortlist, but this is inconsistent with Slide 7 of the same September 1 presentation. Please identify each shortlist bidder by their MLGW Bidder ID # and which RFP shortlist.

RESPONSE: There are no inconsistencies in the September 1st MLGW Board presentation – one slide mentions the number of RFP short-list entities while the other slide acknowledges the short-list proposals that were used to evaluate Portfolios 6 and 9. Here is a list of the RFP bidders and their Bidder IDs.

Clearway	823137	Renewable & Other
Econexus	270730	Renewable & Other
EDF	124912	Renewable & Other
Community Energy	520447	Renewable & Other
Today's Power	848494	Renewable & Other
NextEra	382330	Renewable & Other / Thermal
TVA	438517	Renewable & Other
Starwood	647250	Thermal
Kindle	495960	Thermal
Quanta Infrastructure Solutions Group	123691	Transmission
Great Southwestern Construction	909264	Transmission

2. Please provide GDS's scoring sheet for each bidder for verification purposes.

RESPONSE: GDS is providing three PDF documents to EnerVision that include the proposal evaluation and scoring for all Thermal RFP and Renewable & Other RFP proposals.

RESPONSE: All bidders that are listed in response to EnerVision's Question #1 were invited to update their pricing prior to September 2022 and they all provided updated pricing. All RFP proposals have already been provided by MLGW and are available to the public.

8. Why are all the proposal files categorized as "SECURED" and cannot be printed?

RESPONSE: MLGW currently reviewing and will provide a response later.

9. EnerVision previously posed the below question to GDS (with response).

Question 2: What other line items were considered and impacted the TVA Baseline calculation? Specifically,

- **Did GDS give credit for TVA Additional Services that TVA currently provides but an Alternate Provider would not?**
- **Does the pandemic credit or any sort of performance credit impact the assessment?**
- **How is solar flexibility option considered in the baseline, including the estimated price, other costs, timing of impact to base rate, etc.?**
- **Did GDS adjust for existing SEPA contracts?**
- **Did GDS account for PILOT costs currently paid by TVA? Any other adjustments made to the TVA baseline?**

RESPONSE: GDS made minor adjustments to the original TVA power cost projections prepared by Siemens during the 2020 IRP. GDS' most significant adjustment to Siemens' TVA cost projections was to reduce energy purchases from TVA by 5%, pursuant to the LTPA provisions, and replace that TVA-supplied energy with purchases of local solar generation resources from third-party providers. Pricing for the local solar generation was based on responses received in the Renewables & Other RFP. All other aspects of the Siemens TVA cost projections were utilized by GDS in the savings comparisons, including the non-direct power cost items, such as PILOT costs currently paid by TVA. Siemens documented these elements in Section 9 "Other Cost" in its July 2020 IRP Report.

To be more explicit from the original question, please provide the following details of the analysis, by year:

- Natural Gas Price in each forecast year
- MLGW's Load and Peak Demand in each forecast year
- Credit given (in \$) for the solar flexibility option in each forecast year
- All TVA rate components used in each forecast year
- MISO Capacity price forecast used in each forecast year

- Credit given to TVA for Continuation of Services (including community benefits, community investments, revenue from transmission lease, comprehensive services program, etc.) in each forecast year in \$
- MISO membership costs in each forecast year
- Breakout of TVA's rates by base charge, fuel charge, transmission charge, etc. by year
- All line-item transitional costs by year, with escalation rates, including but not limited to:
 - Capital costs for Infrastructure Upgrades
 - Annual O&M costs
 - Annual Transmission/Generation Planning and Procurement Resources
 - O&M costs related to system expansion plans
 - O&M related to construction position hiring
 - Additional resources, such as buildings, required to support additional positions required for transition
- Total Market Purchases/Sales required under each proposal and market rate used, in each forecast year

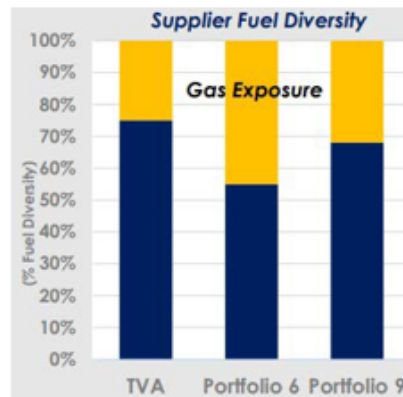
RESPONSE: This is an extensive request and GDS is still preparing the information needed to respond to this question.

10. EnerVision previously posed the below question to GDS (with response).

Question 4: How was TVA's future natural gas exposure incorporated in the natural gas price volatility comparison?

In the portion of the study discussing exposure to natural gas price increases, TVA's current exposure is shown with approximately 26-28% of their generation coming from natural gas generators. It also shows portfolios 6 and 9 gas exposure at approximately 45% and 32% respectively. The study should have also included TVA's future natural gas exposure. TVA plans to increase its natural gas generation to approximately 38% of their total generation, the same range as the other two providers. TVA has already announced the closure of Bull Run, Kingston and Cumberland coal fired plants over the next three to four years and plans to replace them with combined cycle gas plants. This could increase TVA's natural gas generation by over 3,000 MW, or 10-12% of their generation fleet. The net result is that TVA's natural gas exposure will be

in the same range as companies in portfolios 6 and 9 in about three years.



RESPONSE: The chart referenced from Slide 10 in the presentation is TVA's projected natural gas exposure for the study period (2028 – 2047) and accounts for TVA's future natural gas resource additions and/or expected coal plant retirements, along with TVA's future plans for adding renewable resources.

To supplement this response, please provide the fuel breakout in each year for TVA, Portfolio 6, and Portfolio 9 through the study period.

RESPONSE: This is an extensive request and GDS is still preparing the information needed to respond to this question.

11. EnerVision previously posed the below question to GDS (with response).

Question 6: It would seem an RFP for wholesale power should have pricing weighted higher than 30-40% of the total evaluation of vendors.

The scoring system used by GDS only allocated 30-40 points to the pricing portion of the evaluation. Please elaborate on the rubric weighting decisions and drivers.

RESPONSE: The RFP proposal scoring system is explicitly detailed in all three of MLGW's RFPs that were issued last year and demonstrates the weighting of the various categories: price, financial creditworthiness / commercial, viability, and experience. The function of the scoring rubric was to obtain a short-list of viable proposals. Pricing is further analyzed through

the subsequent bidder updates. More specifically, the RFP rubric weighting was based on the MLGW Board's "4 Points" approved in April 2021.

The MLGW Board did approve the "4 Points" but did not assign specific weights to those Points. Please elaborate on the scoring system and the decision to assign the weights listed in each RFP's rubric.

RESPONSE: The RFP rubric weightings were developed consistent with good-utility practice and industry standards, the extensive professional experience of GDS/Stanley, and in consultation with MLGW.

12. EnerVision previously posed the below question to GDS (with response).

Question 8: How was the \$511M for upgrades for new generation impacts & reinforcements to existing 161kV network– an increase of \$327M (170%) determined? Please elaborate on the major line-item drivers for the change, and how the estimates were tabulated.

The IRP estimated cost was \$184M. MLGW engineering staff increased this to \$511M - an increase of \$327M (170%). The difference came from "construction related outages and potential regulatory requirements." This is a very large increase based on the factors listed. For that large of an increase, it would be beneficial to see the details behind the MLGW estimate.

RESPONSE: It should be noted the Siemens had estimated \$3M for substation equipment upgrades. The proposed upgrades will require several major transmission outages. Consideration of the impact to the MLGW electric system issues and potential NERC regulatory constraints were considered. This produced a higher estimate than the Siemens estimate which did not include any reliability issues or construction constraints. The higher estimate reflects a detailed analysis and practical approach that takes does not sacrifice system reliability and service to MLGW customers during the time of construction.

MLGW Transmission cost estimates for the required new circuits and reconductoring/structure replacement that was first identified in the Siemens July 2020 IRP Report were developed based upon: (1) structural analysis of the actual existing structures requiring uprated conductors, and (2) RS Means unit cost estimation adjusted for MLGW historical experience and inflation.

Substation cost estimates were based upon MLGW historical experience of similar projects.

Please provide a line-item breakout of the \$511M and highlight items that drove the \$327M increase.

RESPONSE: MLGW currently reviewing and will provide a response later.

13. EnerVision previously posed the below question to GDS (with response).

Question 9: Why is MLGW obligated to reimburse TVA for Allen Switchyard Changes? What is TVA's share of this upgrade? Why did the cost associated with this item increase from \$47M in the IRP to \$54.7M (2020S) in the GDS presentation?

This is a significant cost assigned to MLGW. Please elaborate on the responsibilities for this charge.

RESPONSE: Once the MLGW New Allen Substation and its associated 161kV lines are in- service, the TVA Allen Plant will no longer be connected to the TVA Transmission System and will require reconnection. There are no upgrades associated with this reconnection effort.

This response did not address the question. Why is MLGW, and not TVA, responsible for the costs to reconnect the TVA Allen Plant to the TVA Transmission System?

RESPONSE: MLGW currently reviewing and will provide a response later.

**EnerVision Initial Review of
MLGW Power Supply Proposals and Process**

After reviewing the presentation by GDS to the MLGW Board on September 1, and ongoing review of the Proposals released following that meeting, there are several items requiring additional information to better validate the analysis performed and the ultimate recommendation to the MLGW Board. EnerVision has compiled the questions below, *drafted in blue*, pertaining to the Proposals and presentations.

1. Please confirm which proposals made the shortlist per RFP. Slide 31 indicates 4 MISO Solar, 5 Local Solar, 1 Thermal, and 1 Transmission proposal made the shortlist, but this is inconsistent with Slide 7 of the same September 1 presentation. Please identify each shortlist bidder by their MLGW Bidder ID # and which RFP shortlist.

RESPONSE: There are no inconsistencies in the September 1st MLGW Board presentation – one slide mentions the number of RFP short-list entities while the other slide acknowledges the short-list proposals that were used to evaluate Portfolios 6 and 9. Here is a list of the RFP bidders and their Bidder IDs.

Clearway	823137	Renewable & Other
Ecoplexus	270730	Renewable & Other
EDF	124912	Renewable & Other
Community Energy	520447	Renewable & Other
Today's Power	848494	Renewable & Other
NextEra	382330	Renewable & Other / Thermal
TVA	438517	Renewable & Other
Starwood	647250	Thermal
Kindle	495960	Thermal
Quanta Infrastructure Solutions Group	123691	Transmission
Great Southwestern Construction	909264	Transmission

2. Please provide GDS's scoring sheet for each bidder for verification purposes.

RESPONSE: GDS is providing three PDF documents to EnerVision that include the proposal evaluation and scoring for all Thermal RFP and Renewable & Other RFP proposals.

3. The Ecoplexus Solar Proposal includes a page titled “Initial Screening and Shortlisting of Proposals.” The scoring and process outlined here does not match the rubric scoring provided in the RFP. Please elaborate on the differences, GDS’ screening and scoring process, and the detailed criteria used to decide and assign points under each rubric category. Additionally, provide the final rubric scores for each proposal (with bidder identified) as described in the June presentation starting at Slide 18.

RESPONSE: GDS cannot explain Ecoplexus’ scoring process and GDS did not use that as a basis for evaluating the solar proposals received in the Renewable & Other RFP. GDS utilized the rubric scoring methodology as outlined in each of the three RFPs for all proposals received under those RFPs. The scoring process is demonstrated in more detail in the three PDF documents that have been provided to EnerVision in response to Question #2.

4. How did GDS assign cost for interconnection and transmission with TVA for the 5% renewable flexibility program? Provide the line-item rates and cost to MLGW used in the analysis in each forecast year for the solar power, construction costs, interconnection and transmission costs, etc.

RESPONSE: GDS did NOT assign interconnection and transmission cost for the 5% renewable flexibility program, instead, GDS used the average RFP PPA cost for the “Local Solar” short-list proposals received in the Renewable & Other RFP as the basis for the estimated power cost under the 5% renewable flexibility program. The PPA prices included a certain amount of interconnection and transmission cost to interconnect those solar projects.

5. Please provide a copy of the MLGW Engineering Review which was referenced in discussion of the total transmission costs, under the Local Reliability Reinforcement Cost increases category.

RESPONSE: There was not a formal engineering review document prepared by MLGW. However, in response to EnerVision’s question #12, MLGW is providing a breakdown of the internal transmission upgrades necessary to disconnect from TVA and integrate with MISO.

6. Please provide Bidder responses and additional documentation for any Notices of Non-Conforming issues and cures that MLGW issued.

CONFIDENTIAL

RESPONSE: Excluding revised Bidder proposals (which MLGW has made publicly available), attached are eight PDFs that represent all of the “additional documentation” that Bidders’ provided in response to MLGW’s deficiency notices in the Renewable & Other RFP.

7. Please confirm which bidders were invited to update their pricing prior to the September 2022 presentation. Provide all updated pricing information for each bidder, and confirm which, if any, bidders elected not to update their pricing.

RESPONSE: All bidders that are listed in response to EnerVision’s Question #1 were invited to update their pricing prior to September 2022 and they all provided updated pricing. All RFP proposals have already been provided by MLGW and are available to the public.

8. Why are all the proposal files categorized as “SECURED” and cannot be printed?

RESPONSE: MLGW is providing EnerVision with PDF copies of all the RFP proposals that have been made available on MLGW’s website. These files will be provided to EnerVision via an MLGW FTP site.

9. EnerVision previously posed the below question to GDS (with response).

Question 2: What other line items were considered and impacted the TVA Baseline calculation? Specifically,

- Did GDS give credit for TVA Additional Services that TVA currently provides but an Alternate Provider would not?
- Does the pandemic credit or any sort of performance credit impact the assessment?
- How is solar flexibility option considered in the baseline, including the estimated price, other costs, timing of impact to base rate, etc.?
- Did GDS adjust for existing SEPA contracts?
- Did GDS account for PILOT costs currently paid by TVA? Any other adjustments made to the TVA baseline?

RESPONSE: GDS made minor adjustments to the original TVA power cost projections prepared by Siemens during the 2020 IRP. GDS’ most significant adjustment to Siemens’ TVA cost projections was to reduce energy purchases from TVA by 5%, pursuant to the LTPA provisions, and replace that TVA-supplied energy with purchases of local solar generation resources from third-party providers. Pricing for the local solar generation was based on responses received in the Renewables & Other RFP. All other aspects of the Siemens TVA cost projections were utilized by GDS in the savings comparisons, including the non-direct power cost items, such as PILOT costs currently paid by TVA. Siemens documented these elements in Section 9 “Other Cost” in its July 2020 IRP Report.

To be more explicit from the original question, please provide the following details of the analysis, by year:

- Natural Gas Price in each forecast year
- MLGW's Load and Peak Demand in each forecast year
- Credit given (in \$) for the solar flexibility option in each forecast year
- All TVA rate components used in each forecast year
- MISO Capacity price forecast used in each forecast year
- Credit given to TVA for Continuation of Services (including community benefits, community investments, revenue from transmission lease, comprehensive services program, etc.) in each forecast year in \$
- MISO membership costs in each forecast year
- Breakout of TVA's rates by base charge, fuel charge, transmission charge, etc. by year
- All line-item transitional costs by year, with escalation rates, including but not limited to:
 - Capital costs for Infrastructure Upgrades
 - Annual O&M costs
 - Annual Transmission/Generation Planning and Procurement Resources
 - O&M costs related to system expansion plans
 - O&M related to construction position hiring
 - Additional resources, such as buildings, required to support additional positions required for transition
- Total Market Purchases/Sales required under each proposal and market rate used, in each forecast year

UPDATED RESPONSE: In response to the specific information requested in this question, GDS is providing its evaluation file ("MLGW RFP Savings Validation (Aug 2022).xls") that includes TVA rate projections, IRP/RFP assumptions, evaluation of IRP Portfolios 6 and 9, and pertinent RFP cost information. In addition to the Excel file, here are some clarifying comments regarding the information requested:

1. The natural gas price, MISO capacity price, MLGW load / peak demand, MISO membership costs, and market purchases / sales are all based on the 2020 Siemens IRP analysis – NONE of these assumptions were revised by GDS as part of the RFP analysis and updated savings validation.
2. The TVA revenue requirements and rate projections were also prepared as part of the 2020 Siemens IRP analysis and were only modified slightly by GDS as part of the RFP analysis and

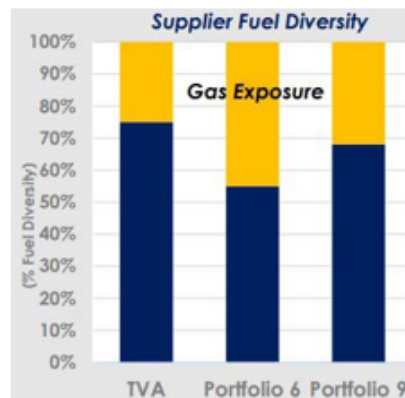
IRP savings validation (e.g. extending the rate projections for the 20 year RFP planning horizon);

3. MLGW does not understand the specific information being requested in the section labeled “All line-item transitional costs by year, with escalation rates, ...” If EnerVision is referring to “Gap” related expenses, those items were identified and estimated as part of the 2020 Siemens IRP analysis and are included in the attached Excel file under the “Assumptions” worksheet. These estimated expenses have not been updated as part of GDS’ RFP analysis and updated savings validation.

10. EnerVision previously posed the below question to GDS (with response).

Question 4: How was TVA’s future natural gas exposure incorporated in the natural gas price volatility comparison?

In the portion of the study discussing exposure to natural gas price increases, TVA’s current exposure is shown with approximately 26-28% of their generation coming from natural gas generators. It also shows portfolios 6 and 9 gas exposure at approximately 45% and 32% respectively. The study should have also included TVA’s future natural gas exposure. TVA plans to increase its natural gas generation to approximately 38% of their total generation, the same range as the other two providers. TVA has already announced the closure of Bull Run, Kingston and Cumberland coal fired plants over the next three to four years and plans to replace them with combined cycle gas plants. This could increase TVA’s natural gas generation by over 3,000 MW, or 10-12% of their generation fleet. The net result is that TVA’s natural gas exposure will be in the same range as companies in portfolios 6 and 9 in about three years.



RESPONSE: The chart referenced from Slide 10 in the presentation is TVA's projected natural gas exposure for the study period (2028 – 2047) and accounts for TVA's future natural gas resource additions and/or expected coal plant retirements, along with TVA's future plans for adding renewable resources.

To supplement this response, please provide the fuel breakout in each year for TVA, Portfolio 6, and Portfolio 9 through the study period.

UPDATED RESPONSE: In response to the specific information requested in this question, GDS is providing its evaluation file ("MLGW RFP Savings Validation (Aug 2022).xls").

11. EnerVision previously posed the below question to GDS (with response).

Question 6: It would seem an RFP for wholesale power should have pricing weighted higher than 30-40% of the total evaluation of vendors.

The scoring system used by GDS only allocated 30-40 points to the pricing portion of the evaluation. Please elaborate on the rubric weighting decisions and drivers.

RESPONSE: The RFP proposal scoring system is explicitly detailed in all three of MLGW's RFPs that were issued last year and demonstrates the weighting of the various categories: price, financial creditworthiness / commercial, viability, and experience. The function of the scoring rubric was to obtain a short-list of viable proposals. Pricing is further analyzed through the subsequent bidder updates. More specifically, the RFP rubric weighting was based on the MLGW Board's "4 Points" approved in April 2021.

The MLGW Board did approve the "4 Points" but did not assign specific weights to those Points. Please elaborate on the scoring system and the decision to assign the weights listed in each RFP's rubric.

RESPONSE: The RFP rubric weightings were developed consistent with good-utility practice and industry standards, the extensive professional experience of GDS/Stamley, and in consultation with MLGW.

12. EnerVision previously posed the below question to GDS (with response).

Question 8: How was the \$511M for upgrades for new generation impacts & reinforcements to existing 161kV network– an increase of \$327M (170%) determined? Please elaborate on the major line-item drivers for the change, and how the estimates were tabulated.

The IRP estimated cost was \$184M. MLGW engineering staff increased this to \$511M - an increase of \$327M (170%). The difference came from “construction related outages and potential regulatory requirements.” This is a very large increase based on the factors listed. For that large of an increase, it would be beneficial to see the details behind the MLGW estimate.

RESPONSE: It should be noted the Siemens had estimated \$3M for substation equipment upgrades. The proposed upgrades will require several major transmission outages. Consideration of the impact to the MLGW electric system issues and potential NERC regulatory constraints were considered. This produced a higher estimate than the Siemens estimate which did not include any reliability issues or construction constraints. The higher estimate reflects a detailed analysis and practical approach that takes does not sacrifice system reliability and service to MLGW customers during the time of construction.

MLGW Transmission cost estimates for the required new circuits and reconductoring/structure replacement that was first identified in the Siemens July 2020 IRP Report were developed based upon: (1) structural analysis of the actual existing structures requiring uprated conductors, and (2) RS Means unit cost estimation adjusted for MLGW historical experience and inflation. Substation cost estimates were based upon MLGW historical experience of similar projects.

Please provide a line-item breakout of the \$511M and highlight items that drove the \$327M increase.

RESPONSE: MLGW is providing a summary of the new transmission infrastructure that would be necessary to separate the MLGW system from TVA’s transmission system and operate reliably in MISO. The total cost of these upgrades is estimated to be \$511M and was included in the MLGW savings analysis that was shared with the MLGW Board on June 9th and September 1st.

MLGW Internal Reliability Upgrades

- Reconductor ~5 miles of 115 kV HPFF underground transmission with 1000 ~~kcmil~~ CU LPP with new terminations, splices, splice cases, ~~spreaderheads & arresters~~.
- Install 40 miles new 161 kV transmission lines w/1590 ACSR with associated 150' ROW width & crushed rock access road for installation/access.
- Reconductor 83 miles of 161 transmission line to Cumberland ACCR. Reconductor 60 miles of 161 transmission line to Bittern ACCR. Install 20 new 161 kV transmission tower stem extensions. Install 487 new 161 kV tangent transmission structures. Install 115 new 161 kV medium angle transmission structures. Install 345 new 161 kV ~~deadend~~ transmission structures.
- Replace 79 existing 161 kV disconnect switches (three-phase switches). Replace 17 existing 161 kV circuit breakers. Reconductor 8,195' of 161 kV strain bus/jumpers. Upgrade 3,470' of 161 kV substation rigid bus.
- Install new 161 kV switching station with 13 transmission circuit breaker bays with two (2) 161/115 kV autotransformers and two (2) 161/23 power transformers.
- Install new 161 kV switching station with 16 transmission circuit breaker bays and two (2) 161/115 kV autotransformers. Install new 115 kV switch yard with 7 transmission circuit breaker bays and one (1) 115 kV capacitor bank.
- Install new 161 kV switching station with 20 transmission circuit breaker bays with two (2) 161/115 kV autotransformers and one (1) 161 kV capacitor bank. Install new 115 kV switch yard with 7 transmission circuit breaker bays and one (1) 115 kV capacitor bank.
- Install new 161 kV switching station with 4 transmission circuit breaker bays.
- Install new 161 kV switching station with 7 transmission circuit breaker bays.

13. [EnerVision previously posed the below question to GDS \(with response\).](#)

Question 9: Why is MLGW obligated to reimburse TVA for Allen Switchyard Changes? What is TVA's share of this upgrade? Why did the cost associated with this item increase from \$47M in the IRP to \$54.7M (2020\$) in the GDS presentation?

This is a significant cost assigned to MLGW. Please elaborate on the responsibilities for this charge.

RESPONSE: Once the MLGW New Allen Substation and its associated 161kV lines are in- service, the TVA Allen Plant will no longer be connected to the TVA Transmission System and will require reconnection. There are no upgrades associated with this reconnection effort.

[This response did not address the question. Why is MLGW, and not TVA, responsible for the costs to reconnect the TVA Allen Plant to the TVA Transmission System?](#)

CONFIDENTIAL

RESPONSE: Based on NERC reliability standards and compliance requirements, MLGW is not allowed to disconnect TVA's Allen Plant or make the necessary infrastructure changes (to integrate to MISO) within the Allen Switchyard unless TVA agrees. As such, any changes would require TVA's agreement and MLGW has assumed that TVA will require adequate compensation to complete these changes.

IRP Claims \$122M of Savings But Actually Delivers \$261M of Additional Costs



The Draft IRP considered several hypothetical portfolios to provide MLGW’s customers with an energy provider other than TVA.

Although the Draft IRP in general used a valid methodology to determine potential future cost, there are specific assumptions related to TVA and considerations on cost, risk, reliability, and environment that are incorrect.

Areas Needing Correction

Start with the Draft IRP’s Portfolio 9, the preferred option (IRP p. 18)

Correct the IRP’s projection of TVA’s cost

Remove the additional costs projected by the IRP (TVA projects no base rate increases for a decade) and include savings available to MLGW as a long-term partner from self-generation flexibility.

Change asset cost recovery to 20 years from 30 years



Incorporate realistic cost for asset construction

Draft IRP utilizes inaccurate cost estimates that could be exceeded by 20% to 50% (IRP p.72)



The IRP calls for building 5 gas plants, large solar installations, and 3 major transmission lines. This is a difficult and complex undertaking and carries with it a great deal of execution risk. This incorporates realistic cost for asset construction based on industry experience.

Extend the construction timeline from 5 years to 8 years

Major transmission lines are the biggest risk to Siemens’ proposed timeline



Acquiring the property rights from Tennessee and Arkansas landowners and obtaining the environmental approvals necessary to build power lines across the Mississippi River would likely take 5-7 years, followed by 1-2 years of construction.

Obtaining necessary environmental permits would be time-consuming, and completing the required upgrades to existing lines while maintaining service would take extensive planning and likely more than five years.

Build above the minimum reliability standard

To reliably meet peak demand and handle extreme weather and other risks, more investment in local generation would be needed. The transmission system proposed in the Draft IRP does not match the power quality requirements demanded by industrial customers, which helps to secure continued economic growth.

These corrections transform \$122M in annual savings into \$261M in extra annual costs to MLGW’s customers. This translates to more than a 20% increase in electric bills.

Hypothetical Annual Savings

\$122M

-\$55M

-\$150M

-\$107M

-\$50M

-\$21M

Total Potential Cost
-\$261M

Figures in 2018\$

Calculations based on detail available in Siemens’ Draft IRP

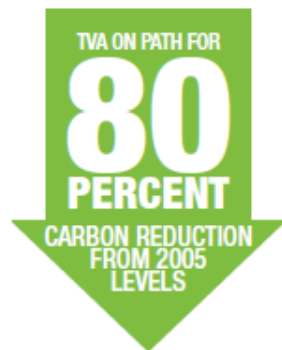
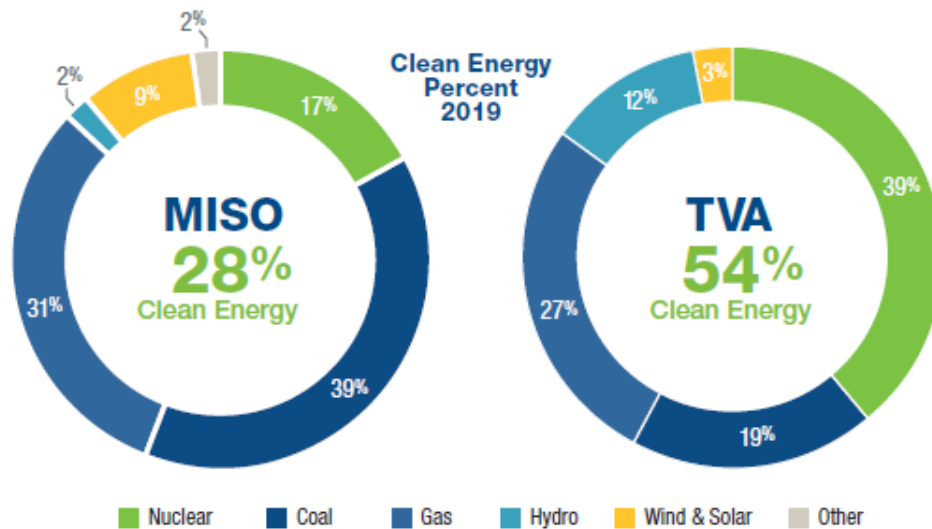
TVA's Energy is 60% Cleaner than IRP Preferred Option



TVA represents a significantly cleaner choice than the IRP preferred option that relies heavily on MISO.

TVA's energy supply almost twice as clean as MISO

In addition to TVA's clean energy percentage being almost twice that of MISO, TVA's renewable generation was 15% compared to only 11% for MISO in 2019.



TVA carbon emissions to be 60% better than IRP preferred option

The Draft IRP overstates TVA carbon emissions and understates TVA renewable generation that includes large hydro. TVA is the Southeast leader in clean and renewable energy and is currently on a path to an 80% reduction in carbon emissions rate from 2005 baseline.

Siemens' analysis included some inaccurate assumptions about MLGW's future carbon emissions – too low for MISO and too high for TVA. With almost double the rate, MISO's carbon emission lags TVA's progress by 15 years.

IRP states carbon rate of 200 lbs/MWh for Portfolio 9. We believe the correct number is 4X that amount (~800 lbs/MWh) in 2025 on a comparable basis and remains more than 2X the estimated amounts over the planning period.

4X
~800 lbs/MWh

11.2 BILLION
POUNDS OF CARBON IN 2025

If the proposed IRP portfolio is used, MLGW's power supply would generate 11.2 billion pounds of carbon in 2025 alone.

tva.com | facebook.com/TVA | @TVAnews | @TVA

Calculations based on detail available in Siemens' Draft IRP

20-3477 0620

Appendix C – NYMX Henry Hub Futures forecast, dated October 19, 2022

Year	Gas Rate (\$/MMBtu)
2028	4.287
2029	4.366
2030	4.475
2031	4.517
2032	4.719
2033	4.842
2034	4.984
2035	5.134
2036	5.288
2037	5.447
2038	5.610
2039	5.778
2040	5.952
2041	6.130
2042	6.314
2043	6.504
2044	6.699
2045	6.900
2046	7.107
2047	7.320